

Securing Victoria's Future Prosperity: A Reform Agenda

**Inquiry into a State-based
reform agenda**

A draft report for further consultation and input

November 2011



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About the Victorian Competition and Efficiency Commission

The Victorian Competition and Efficiency Commission, which is supported by a secretariat, provides the Victorian Government with independent advice on business regulation reform and opportunities for improving Victoria's competitive position.

VCEC has three core functions:

- reviewing regulatory impact statements, measurements of the administrative burden of regulation and business impact assessments of significant new legislation
- undertaking inquiries referred to it by the Treasurer, and
- operating Victoria's Competitive Neutrality Unit.

For more information on the Victorian Competition and Efficiency Commission, visit our website at: www.vcec.vic.gov.au

Disclosure of interest

The Commissioners have declared to the Victorian Government all personal interests that could have a bearing on current and future work. The Commissioners confirm their belief that they have no personal conflicts of interest in regard to this inquiry.

Opportunity for further comment

You are invited to examine this draft report and provide comment on it within the Commission's public inquiry process. The Commission will be accepting submissions commenting on this report and will be undertaking further consultation before delivering a final report to the Government.

The Commission should receive all submissions by **16 December 2011**.

Submissions may be sent by mail, fax, or email; in electronic, paper or audio format.

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Terms of reference

Inquiry into A State-Based Reform Agenda

I, Kim Wells MP, Treasurer, pursuant to section 4 of the *State Owned Enterprises (State Body — Victorian Competition and Efficiency Commission) Order* (“the Order”), hereby direct the Victorian Competition and Efficiency Commission (“the Commission”) to conduct an inquiry into a State-Based Reform Agenda

Background

Victoria faces significant challenges to maintain its competitiveness, both globally and relative to the rest of Australia. While recent growth in Victoria has been stronger than the other non-resource states, this has been partly driven by strong population growth, masking dwindling growth in productivity and in per capita GDP – the main determinants of growth in living standards. Further challenges are posed by the prospect of a sustained commodities boom maintaining a high Australian dollar and upward pressure on domestic prices, threatening the competitiveness of Victorian exports. These factors intensify the need to pursue a reform program to enhance the State’s competitiveness.

To help inform its strategy to improve the competitiveness of the Victorian economy, the Government is asking the Commission to undertake an inquiry that will identify the main elements of a state-based reform agenda. This inquiry will focus on promoting productivity, competitiveness and labour force participation, and will incorporate a benchmarking of Victoria’s competitiveness in areas including state taxes and regulation, infrastructure services and the education and skills base of the population.

Scope of the inquiry

This inquiry will identify the key reform areas that the State Government should target to improve productivity, labour force participation and Victoria’s overall economic competitiveness. While the potential scope of policy actions is broad, the recommendations on the inquiry should target the key areas that would yield the greatest potential benefit in light of Victoria’s relative competitive strengths and weaknesses, and in the context of projected national and global economic trends.

The inquiry should focus predominantly on the priorities for state-based action. However it is recognised that some areas of competitiveness have an inter-jurisdictional dimension, including interaction with the Commonwealth Government. In such cases, the Commission is asked to identify those areas

where reform effort would yield the greatest returns to Victoria in terms of its competitiveness.

In undertaking this inquiry, the Commission should be cognisant of other relevant work underway, including reforms being progressed under the auspices of the Council of Australian Governments. Similarly, because they are subject to different review processes, a detailed examination of state finances, public sector service delivery and specific state taxation measures falls outside the scope of this inquiry.

The Commission's advice should be informed by two broad elements of work:

(1) A benchmarking of Victoria's competitive position relative to other Australian and key overseas competitor jurisdictions, including in relation to the:

- a) state taxes on business and investment;
- b) efficiency and effectiveness of regulatory settings and the rigour of regulation making processes;
- c) quality and price-competitiveness of economic infrastructure (e.g. roads, ports, rail and energy);
- d) innovation;
- e) the education and skills base of the population; and
- f) labour force participation rates.

This benchmarking study will:

- i) nominate key indicators of competitiveness drawing on the above elements and other relevant elements identified in international studies (such as the World Economic Forum's competitiveness framework);
- ii) compare Victoria's performance in relation to these elements with other Australian jurisdictions and key overseas competitor jurisdictions, where appropriate, comparable non-Australian jurisdictions; and
- iii) provide a baseline against which to monitor trends in Victoria's competitiveness over time.

Given the scope of this benchmarking study, and having regard for the resources at the Commission's disposal, this analysis may be commissioned from suitably qualified external providers.

(2) An investigation of the most advantageous package of policy reforms that the Victorian Government can undertake to improve productivity, participation and the competitiveness of the Victorian economy, including identification of:

- a) strategies to foster the best general business environment, including in relation to the general level of state taxes, the general regulatory environment and any significant areas of unnecessary regulatory burden, the education and skills of the population, innovation capabilities, and the price, quality and adequacy of key infrastructure services; and
- b) any industry and/or regional sector specific factors, or impediments, which might need to be addressed in order to enhance the State's overall competitiveness; and
- c) the role of State Government (vis-à-vis the Commonwealth Government and the private sector) in developing strategies to boost labour force participation.

In developing this policy package, Commission should draw on the evidence with regard to:

- i) Victoria's relative strengths and weaknesses, as identified in the benchmarking study;
- ii) the composition of the Victoria economy and the key drivers of trends in productivity, participation and competitiveness within key sectors;
- iii) consideration of how Victoria's future competitiveness may be impacted by emerging sectors and by impending medium- and long-term challenges; and
- iv) key areas of competition and regulatory reform that remain relevant to enhancing Victoria's competitiveness and the productivity of key sectors as identified in current or previous inquiries undertaken by the Commission. This may potentially include findings from:
 - best practice regulatory frameworks as identified in the current inquiry into Victoria's regulatory framework; and
 - findings of the Commission's concurrent inquiry into Victoria's manufacturing sector.

Inquiry process

In undertaking this inquiry, the Commission is to have regard to the objectives and operating principles of the Commission, as set out in section 3 of the Order. The Commission must also conduct the inquiry in accordance with section 4 of the Order.

The Commission should draw on the knowledge and expertise of relevant Victorian Government departments and agencies, and key interest groups, including relevant industry organisations and economists.

The Commission is expected to produce the following documents:

- an issues paper at the beginning of the inquiry process;
- a draft report containing analysis and draft recommendations after the receipt of public submissions; and
- a final report to be provided to me as soon as possible, but no later than nine months after receipt of these terms of reference.

KIM WELLS MP

Treasurer

Received: 29 April 2011

Preface

The release of this draft report gives interested participants the opportunity to comment on the Commission's analysis in relation to its inquiry into a state-based reform agenda. The Commission will consider comments received prior to developing and presenting the final report to government.

In preparing this draft report, the Commission invited public submissions and consulted widely with a range of individuals, businesses, organisations, government departments and local councils.

The Commission invites written submissions on the draft report. These submissions may address any of the issues covered by the terms of reference. In light of the submissions received, the Commission will hold further consultations as necessary.

At the conclusion of consultation on the draft report, the Commission will prepare a final report to be presented to the Victorian Government by 29 January 2012. The Order in Council establishing the Commission says that the Treasurer should publicly release the final report and that the Victorian Government should publicly release a response to the final report within six months of the Treasurer receiving the report.

The Commission looks forward to receiving feedback on the draft report.

Dr Matthew Butlin
Chair

Deborah Cope
Commissioner

Bill Mountford
Commissioner

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Abbreviations

ABS	Australian Bureau of Statistics
AEDI	Australian Early Development Index
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
AiG	Australian Industry Group
BCA	Business Council of Australia
BITRE	Bureau of Infrastructure, Transport and Regional Economics
CBD	Central business district
CGE	Computable General Equilibrium
CIE	Centre for International Economics
COAG	Council of Australian Governments
DBI	Department of Business and Innovation
DEECD	Department of Education and Early Childhood Development
DOT	Department of Transport
DPC	Department of Premier and Cabinet
DPCD	Department of Planning and Community Development
DTF	Department of Treasury and Finance
ECD	Early childhood development
EES	Environmental Effects Statement
ENRC	Environment and Natural Resources Committee
EPA	Environment Protection Authority
GBE	Government business enterprise
GDP	Gross domestic product

GSP	Gross state product
GST	Goods and Services Tax
IA	Infrastructure Australia
ICT	Information and communications technology
IMD	International Institute for Management Development
INSEAD	INStitut Européen d'ADministration des Affaires or European Institute of Business Administration
IPART	Independent Pricing and Regulatory Tribunal of NSW
MFP	Multifactor productivity
MVP	Market Validation Program
NBN	National broadband network
NGOs	Non-government organisations
NSW	New South Wales
NWC	National Water Commission
NZ	New Zealand
OECD	Organisation for Economic Co-operation and Development
PC	Productivity Commission
R&D	Research and development
RGF	Regional Growth Fund
RIS	Regulatory impact statement
RRAC	Risk and Regulation Advisory Council
RTOs	Registered training organisations
SA	South Australia
SME	Small and medium enterprises
SPAC	Strategic Projects Approvals Committee

TAFE	Technical and further education institute
UK	United Kingdom
VCAL	Victorian Certificate of Applied Learning
VCEC	Victorian Competition and Efficiency Commission
VCOSS	Victorian Council of Social Service
VECCI	Victorian Employers Chamber of Commerce and Industry
VET	Vocational education and training
VGR	Victorian Guide to Regulation
VSC	Victorian Skills Commission
WEF	World Economic Forum

Glossary

Act	A Bill that has been passed by Parliament, received Royal Assent and become law.
Benchmarking	The systematic collection and comparison of data across regions in order to develop competitive advantages through the identification and adaptation of best practices.
Commercialisation	'Commercialisation, as a generic term, refers to the transfer of knowledge created in a University or research organisation to an external user in the form of the licensing or sale of Intellectual Property. That transfer may take place through a direct transaction or through the vehicle of a start-up company.' Commercialisation might also include consultancies and research contracts of various forms (Knowledge Commercialisation Australasia 2011, p. 1).
Competitiveness	The ability of a location to attract and retain mobile inputs of production such as investment and human capital, and use these resources effectively to maintain high levels of economic and social prosperity.
Core skills	See Foundation skills.
Early childhood	A critical period in a child's physical, emotional and cognitive development. Often defined as the period in a child's life from zero to 6–8 years of age.
Early childhood services	Education, childcare, health and family support services for young children. These services, along with other factors such as family environment, influence children's development.
Effectiveness	Extent of achievement of the stated objectives.

Efficiency	An essential ingredient of productivity, and can be thought of as comprising three principal elements: <ul style="list-style-type: none"> • technical efficiency — is achieved when the maximum number (and quality) of goods and services are produced using a given quantity of inputs • allocative efficiency — is achieved when goods and services are produced and distributed according to customers' preferences, as revealed through the operation of prices, and when certain other conditions are satisfied • dynamic efficiency — refers to efficiency over time, including the ability to balance short term concerns (static efficiency) and long term concerns (such as investments in innovation, insurance), and also, the ability to adapt quickly to changing circumstances and at low cost.
Entrepreneurship	A key aspect of capitalist economies. Entrepreneurs identify unmet opportunities and mobilise resources to transform innovations into valuable goods and services, with a view to profit. The entrepreneurial entry of new firms into a market is essentially speculative and aspirational, and is crucial for productivity, competitiveness and wealth creation. Social entrepreneurs (such as those in the not-for-profit sector) recognise social problems and uses entrepreneurial principles to achieve social change.
Evaluation	The systematic and analytical assessment of important aspects of an activity and its value, with a view to enhancing the efficiency and effectiveness of meeting Government objectives.
Foundation skills	The core skills of reading, writing, oral communication, numeracy and learning and employability skills, such as problem solving. Also referred to as Core or General skills.
General skills	See Foundation skills.
GSP per capita	A state's output divided by its population. Used as a proxy for living standards.

Human capital	The stock of knowledge, skills and expertise acquired by workers — through education and training and on-the-job experience — which contributes to their productivity and market-based earnings. There are also non-market or social returns from investing in human capital.
Implementation	A process by which an intention is transformed into operating reality. The implementation process is focused on change, but implementation is not necessarily confined to a fixed timeframe.
Innovation	The process of generating new value by creating and implementing new or significantly improved products (goods or services), processes, marketing and organisational methods. An innovation can be new to the firm, new to the market or new to the world. (OECD and Eurostat 2005, p. 1). Innovation can be undertaken by individuals, firms, governments, non-government organisations, research institutions, and even decentralised virtual communities.
Knowledge spillovers	Externalities that arise from the creation and diffusion of knowledge. Because it is sometimes impossible, inefficient, or socially undesirable to prevent others from accessing and using certain ideas, information or ‘intangible’ goods, the creation of such goods by an individual can create flow-on benefits for others who can also use this knowledge.
Labour force participation	That part of the population actively working or seeking work.
Labour productivity growth	The change in the value of output divided by the change in the quantity of labour inputs (such as hours worked).
Liveability	A measure of the attractiveness of a location as a place to live and work. Economic, social and environmental factors all influence liveability, such as the quality of the natural and built environments; amenity; access to educational and health services; and cultural vibrancy.

Multifactor productivity growth	The Commission’s preferred measure of productivity. Measures the change in the ratio of outputs to inputs, using a bundle of inputs (usually labour and capital).
Regional Victoria	The area outside metropolitan Melbourne.
Regulation	The rules made by Parliament and government, and their administration and enforcement by government authority, to influence behaviour and achieve identified outcomes and objectives.
Research and development (R&D)	Primarily a creative activity undertaken on a systematic basis to increase the stock of knowledge and the use of this to devise new applications such as new technologies, products and processes. It is often scientific and conducted by corporate and government entities.
Risk	The possibility that some hazard will cause harm; that is, that an undesirable event will occur. Innovative and entrepreneurial activity also carries risk—for example, the risk of failure of R&D investments, business ventures, adoption of new technologies, and implementation of organisational change.
School system	Victoria’s school education system includes government, catholic and independent schools.
Skill gaps	Where existing employees lack the required qualifications, experience and/or specialised skills to meet the firm’s skill needs for an occupation.
Skills shortages	When employers are unable to fill or have considerable difficulty filling vacancies for an occupation, or significant specialised skill needs within that occupation, at current levels of remuneration and conditions of employment, and in reasonably accessible locations.
Student or youth disengagement	The academic, cognitive, behavioural and/or physical detachment from school of those children or young people aged 6–17 for whom school attendance is compulsory.

Supply chains

Groups of firms that supply intermediate goods and services to another firm or group of firms. The supplying firms are connected to their customers via communications and transport links, and are sometimes loosely organised hierarchically, with ‘prime’ or ‘tier one’ suppliers receiving inputs from secondary or ‘tier two’ suppliers, and so on.

Summary report

A new State-based reform agenda

While Victoria has an important natural strength in agriculture, the State's prosperity is largely based on created advantages, namely the skills and capabilities of its people and the legacy they have built in the City of Melbourne and in regional Victoria. This has been the result of some luck and largely sound public administration over many years.

These strengths have served Victoria well as is reflected in its performance on national benchmarks for competitiveness (figure 1), where it is rated the most competitive state for business based on a range of performance indicators. In addition, Melbourne is consistently ranked as one of the most attractive cities in the world in which to live.

Figure 1 **Victoria's competitiveness ranking**

	Victoria	Australian Capital Territory	Western Australia	South Australia	New South Wales	Northern Territory	Queensland	Tasmania
Taxation	4	8	6	7	4	1	3	2
Regulation	1	6	3	1	8	5	7	4
Infrastructure	1	4	2	3	7	8	5	6
Education	2	1	3	6	4	7	5	8
Innovation	2	3	4	6	1	7	5	8
Participation	3	1	4	7	5	2	6	8
Wellbeing	2	1	7	3	5	4	6	8
SUM OF SECTIONAL RANKINGS	15	24	29	33	34	34	37	44
OVERALL COMPETITIVENESS RANKING	1	2	3	4	5	5	7	8

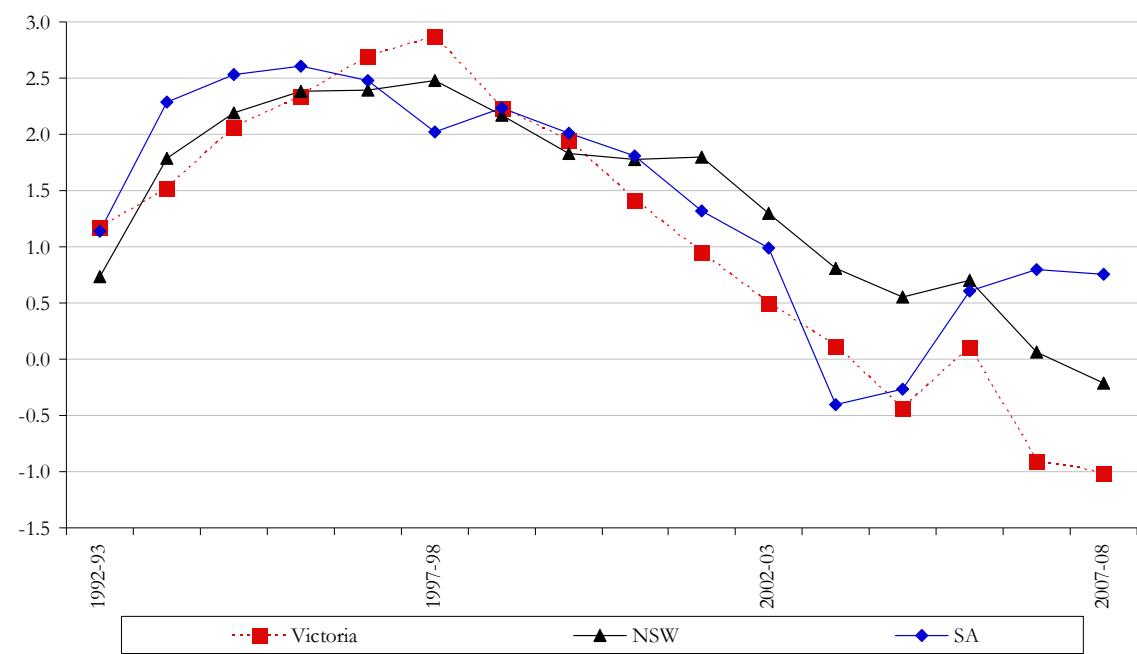
Source: VCEC Benchmarking information paper.

The State's performance over the last two decades has been strong, starting from a low base and achieving relatively high economic growth underpinned by strong investment and population growth. Moreover, in the past decade, participation in the workforce has increased, offsetting the effects of the ageing of the Victorian population, and sharing the growth in living standards more broadly.

However, as in the rest of Australia, the resources boom, and its positive impact on Australia's terms of trade and national income, has disguised what appears to be a significant decline in productivity growth. Labour productivity growth fell

sharply over the period, as did the growth in multifactor productivity to the point of declining in absolute terms in the last few years of the past decade. Victoria's recent productivity performance has also lagged that of the structurally similar economies of New South Wales and South Australia (figure 2).

Figure 2 Multifactor productivity growth rates (five-year moving average, per cent per annum)



Source: VCEC Productivity information paper.

The decline in Victoria's productivity growth is a matter of real concern for a number of reasons. First, productivity is ultimately the major determinant of Victoria's material standard of living. The productivity trend over the latter half of the previous decade, if continued, would greatly constrain the potential to increase Victorian living standards.

Second, in the face of what is projected to be a sustained boom in demand for Australia's natural resources, Victoria's non-resource based industries, especially manufacturing and service industries such as education and tourism, need to lift their competitiveness to meet the high Australian dollar. Slow productivity growth makes structural adjustment more difficult to manage. And for some businesses, rapidly lifting their productivity is imperative for their ability to survive.

Third, after the strong growth of recent decades, the critical infrastructure assets that make the State (and Melbourne in particular) work, in areas such as transport and energy, need to be used more efficiently and need well-timed and efficient investment if they are to continue to serve the State's needs well.

Shifting to a low-carbon economy will place further pressure on some of this infrastructure.

There are challenges in responding to this situation. The first and most significant is that, absent a major external crisis to galvanise action, the underlying adjustment process may be gradual and easy to ignore. Apathy in the face of gradual real and relative decline in productivity is a very real prospect.

Another challenge in responding to this situation is that the State Government does not control all the levers that are relevant to the task of reigniting productivity growth. The private sector is critical in this process and other levels of government have important roles to play. Nevertheless, it is also true that there is much the State Government can do to improve Victoria's productivity and labour force participation, and it is to these things that this report is directed.

In addition to these long-term challenges, the Commission regards Victoria's current high living standards as fragile and vulnerable to a range of plausible external shocks in the shorter term. These include a further crisis in international financial markets and a premature unwinding of the resources boom. For all these reasons, the Commission's view is that lifting Victoria's productivity growth rate is a high priority for protecting and advancing the living standards of Victorians.

It is in this context that the Victorian Government has committed to developing a comprehensive strategy for boosting productivity, competitiveness and labour force participation and commissioned this inquiry to assist in mapping out that strategy.

This draft report outlines broad actions that the Commission considers are needed for this strategy to be effective. The terms of reference require the Commission to identify the best overall package of reforms to increase productivity and labour force participation. In most instances, the resulting draft recommendations focus on the outcomes rather than the precise means for achievement.

While there are many recommended actions in the proposed agenda, three areas of potential reform stand out: education and training, land-use and infrastructure, and taxation. The common characteristics of these three areas are that:

- changes in these areas will have a **large impact** on productivity, competitiveness and participation
- the Government has a **high capacity** to influence these areas
- the relevant **solutions are well understood** and there are **clear pathways** to achieving reform.

The Commission considers that adopting — and effectively implementing — its proposed reform agenda would materially contribute to building higher living

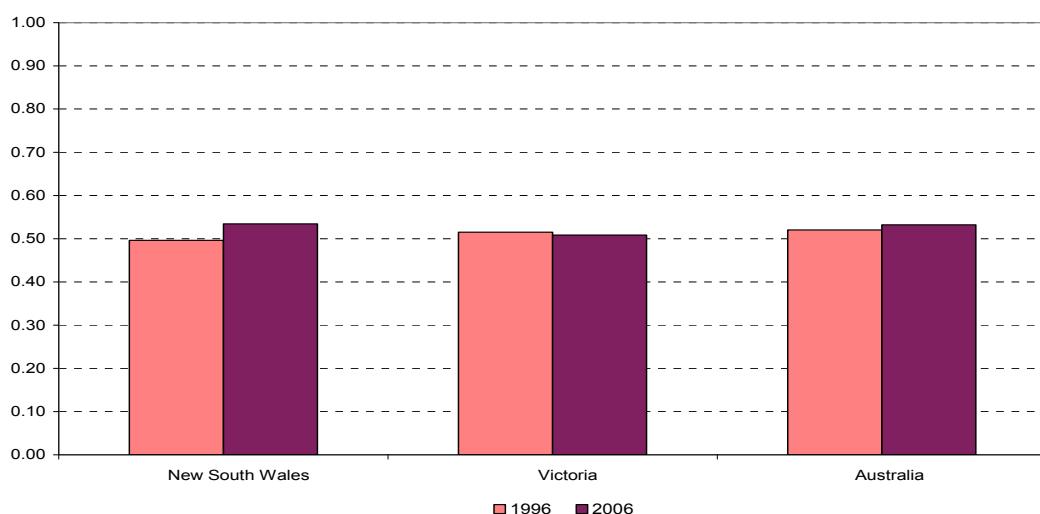
standards and stronger participation in Victoria. This reform agenda would help to strengthen Victoria's position as an attractive knowledge-based centre servicing the rapidly growing demand for high value services from the increased wealth in Asia and Australia. In more concrete terms, if Victoria could achieve an increase in multifactor productivity of one per cent, the Commission estimates this would lift State output by more than \$7.5 billion.

Human capital — education and training

The quality of human capital produced by our education and training system is critical to labour force participation and productivity. The State has a major role in key areas of the education and training system — early childhood, primary and secondary education, and vocational education and training. These systems are important to the productivity of Victoria's workforce and education is also the State's major export earner.

Although Victoria's education and training system has generally produced good quality outcomes, the Commission's consultations and research have identified opportunities for improvement. International data, for example, indicate that only half of Victoria's workforce has the 'core' literacy and numeracy skills essential to their employability. This proportion is slightly lower than other states (including New South Wales) and has fallen slightly over a ten-year period (figure 3). Moreover, despite increased investment in school education in the past decade or so, Australian and international test results indicate that student performance in Victorian schools has remained largely static, while student performance in some other countries in our region has improved.

Figure 3 Proportion of working age people with adequate literacy skills



Source: Chapter 3.

In the area of school education, the quality of teachers and school leadership/management are key determinants of student outcomes. Despite some initiatives intended to lift teacher performance in government schools, little progress has been made. Current arrangements — including a relatively flat salary structure, salary progression based mainly on years of service, and a lack of recognition and reward for high-quality work — are not conducive to promoting high performance. Moreover, principals face significant constraints in effectively managing the teacher workforce.

Land-use and infrastructure

Melbourne is Victoria's biggest, most complex and most important economic and social asset. It is the major location of production and is an important source of productivity improvement arising from the co-location and specialisation of business activities and job opportunities (referred to as agglomeration economies). Its liveability is also critical for attracting businesses and labour to the State. How Melbourne operates has a considerable impact on the capacity of its inhabitants to participate in the workforce.

The Commission considers there are clear signs that the city is struggling with the results of its success. Strong pressures from population growth, traffic congestion, freight bottlenecks and the pattern of urban development are evident to varying degrees.

Retaining the city's productivity and attractiveness requires some major transport infrastructure investments as well as steps to manage demand for use of this infrastructure, more co-ordinated long-term planning, and the elimination of distortion to price signals in the property market. All of these are predominantly State Government responsibilities. While some progress has been made in co-ordinating planning, previous attempts to implement an overall structure for the city and its infrastructure have fallen short of expectations.

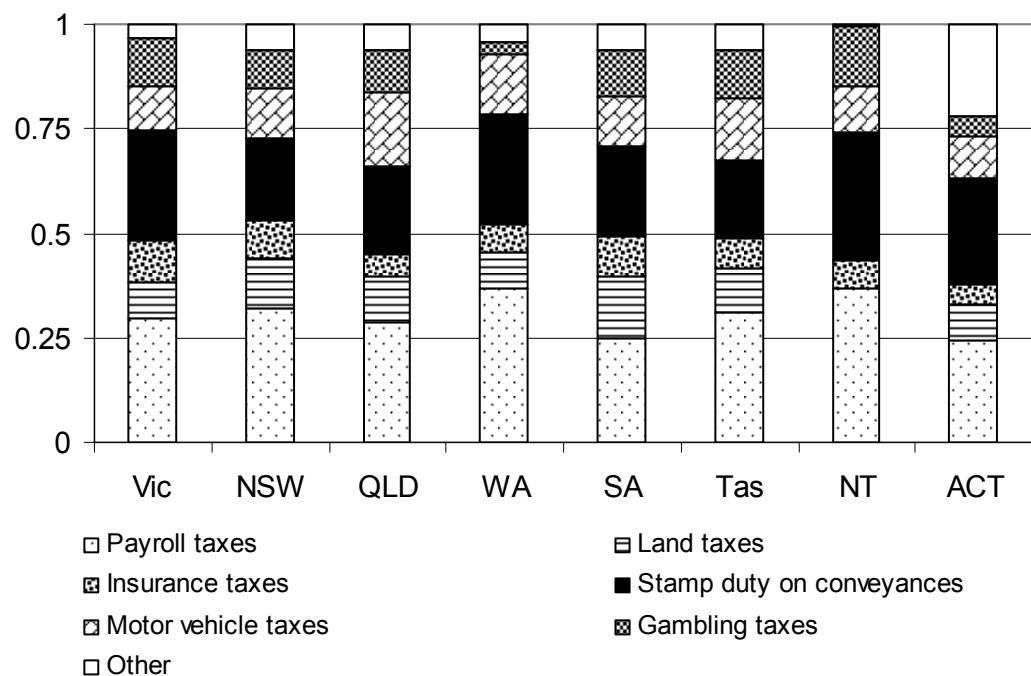
State taxation

State governments have a range of taxes to collect the revenue required to partially fund their activities. The range of the taxes that states use is reasonably uniform. It is also a source of ongoing complaint about their drain on the productivity and competitiveness of businesses, and on employment. There appear to be some renewed efforts to find ways to eliminate or reduce the most inefficient of these taxes through national tax reform but experience suggests this may take some time to bear fruit.

In the interim, Victoria stands out among the States as relying most heavily on the least efficient of these taxes, namely stamp duties, and least heavily on the most efficient, namely land tax (figure 4). The costs of the inefficiencies imposed on the economy as a result are reasonably well known, as are the progressive

reforms that could reasonably be expected to eliminate them. The Commission proposes that the Victorian Government begin a process to reform fundamentally Victoria's tax mix, by reducing the State's reliance on stamp duties and increasing the reliance on more efficient taxes.

Figure 4 Sources of revenue by state, 2009–10



Source: ACIL Tasman 2011, p. 139.

Implementation of a State-based reform agenda

The Commission acknowledges that implementing its proposed State-based reform agenda would be challenging. The three areas outlined above provide ample evidence of this. However, in the absence of this reform agenda, Victoria's slow productivity growth rate will result in the living standards of Victorians falling behind other jurisdictions over time.

The big enemy in the face of this difficulty is overcoming apathy in the absence of a clear and immediate threat to prosperity. The Commission considers a well-conceived implementation plan is essential to advancing the agenda. At the core of successful implementation there needs to be a strong and persuasive case for reform, and effective engagement of the community and community leaders on the need for change. This would appear to be within the realms of possibility if the importance and potential benefits of the strategy are clearly communicated.

Conclusions

In undertaking the inquiry, the Commission has sought to avoid duplicating the work of concurrent reviews, including the *Independent Review of State Finances*. Accordingly, although the draft report deals with some areas of government service provision (primarily education), the Commission has largely steered away from identifying opportunities to improve the delivery of government services in areas such as health and community services.

The remainder of this summary report briefly outlines the major conclusions from each chapter of the report.

Part I: Introduction

Why is a productivity, competitiveness and participation agenda required?

Productivity and participation are important to living standards. In the last 20 years, about 54 per cent of the growth in output per capita in Victoria (a proxy for living standards) can be attributed to productivity growth. However, Victoria's productivity growth has slowed significantly over the past decade. This has precipitated a vigorous debate on the causes of this decline and, although a number of potential candidates have been identified, there is no definitive answer.

This adverse trend, together with the challenge of structural adjustment faced by many trade-exposed Victorian businesses, has put the issues of productivity, competitiveness and participation on the Government's agenda. When all is said and done, the prize from returning to strong productivity growth and further participation growth is to lock in, and further build on, Victoria's current high living standards.

Part II: Education and innovation

Further reform of the education system can improve productivity and participation

Increases in the quality of Victoria's labour force, which stem predominantly from education and training, have contributed 40 per cent of the State's productivity growth over the past two decades. This reflects Victoria's strengths in education and training, as evidenced by the fact that the sector is now the State's largest export earner. Education is also the most important state-based policy lever to increase participation in Victoria's workforce.

However, there are clear signs the system can and must be improved. There are opportunities for improvement along the education and training chain from the earliest years to high school, and on to vocational education and training (VET).¹

Early childhood development is recognised as an important foundation for skills development but data measuring the quality of early childhood services or children's outcomes are limited. Those that exist indicate that Victorian children performed relatively well, but around 20 per cent of children in the first year of school are vulnerable on one or more developmental domains. Currently, responsibility for the sector is fragmented across three levels of government and various service providers. This needs to be remedied and clear accountabilities established. Beyond this, better information is needed to target efforts in this area as overseas evidence suggests the payoffs from investment at this level may be long term but are very large.

In school education, Victoria has historically performed well compared with other jurisdictions in Australia and internationally. However, despite significant investment in school education over the past decade, there has been little if any improvement in average literacy and numeracy achievement across age groups; for example, international tests of Victorian 15-year-old students' reading, mathematical and scientific literacy show no significant improvement (table 1). Several steps need to be taken to reverse this trend. The Commission considers a clear strategy needs to be articulated for improving the performance of the government school system, identifying the actions required to implement it and how it will be evaluated.

Table 1 Changes in PISA mean scores for reading, mathematical and scientific literacy, Victoria

	Period	Change in mean score		Statistically significant
		points	%	
Reading literacy	2000 – 2009	-2.6	-0.5	no
Mathematical literacy	2003 – 2009	+1.3	+0.3	no
Scientific literacy	2006 – 2009	+8.2	+1.6	no

Source: Thomson et al. 2011.

Second, the governance of government schools needs to be devolved further and more effectively from the department to the principals and school councils to allow them to lead and manage their schools effectively and flexibly in response

¹ The Commission has not looked closely at issues in the higher education sector, mainly because the major funding and policy levers rest with the Commonwealth Government.

to local needs. As part of this change, schools need to have the authority to play a more significant role in improving the quality of teaching within them. After socio-economic status, teacher quality is the strongest predictor of student education outcomes. In addition to increasing authority at the school level for managing and developing teacher performance, the education system needs to attract, develop and retain good teachers by treating, and recognising and rewarding them, as professionals.

Victoria is a national leader in VET reforms and in creating a more market-driven system. Further steps need to be taken as this market evolves. The most important of these relates to strengthening the performance of the market and institutions' responsiveness to it by:

- putting TAFEs on a more commercial footing to enable them to compete more effectively in the training market
- freeing public and private providers from unnecessary and overlapping regulation
- eliminating information gaps, particularly around the performance of private providers
- removing barriers to more flexible and rapid approaches to training, for example by allowing competency-based completion of apprenticeships.

Finally, despite Victoria's apparent good performance in education and training, the available official statistics show that nearly half of the existing workforce lacks the core skills in literacy and numeracy to function effectively at work. This result is not only surprisingly bad but marginally worse than in some other Australian jurisdictions (including New South Wales), and the gap appears to have widened over the ten years to 2006 (figure 3). The Commission considers an explicit strategy with greater targeting of programs and resources is needed to redress this shortfall.

More effective innovation and entrepreneurship will boost productivity

Innovation is a key ingredient to sustained productivity growth and Victoria has some strength in this area. However, international benchmarking indicates that Australia underperforms overall relative to most other developed countries, and this underperformance likely extends to Victoria. There are several explanations for this, including that state and Commonwealth governments have been too focused on science-based technology 'push' rather than more demand-based market 'pull' innovation policies. That said, one of the problems in this area is the limited data on how innovation works in practice and the impact of different policy initiatives on its success.

Apart from its direct influence on public sector innovation, the Victorian Government might be able to increase business-sector innovation by providing a

more enabling business environment for innovation and addressing particular market failures. The Commission's specific recommendations fall into a number of categories. One is to create a more enabling environment for innovation by helping to deepen the linkages among businesses and business linkages with sources of expertise in universities and research institutes.

The Commission proposes the State's innovative capability could be increased in two ways.

The first initiative is to establish a world-class institute of innovation and entrepreneurship. The Institute would provide a focal point for innovation and entrepreneurship and help build them more strongly into the thinking and skills of Victorian businesses. It would also play a critical role in developing an understanding of how innovation works, the extent to which government can influence private sector innovation, and what types of government programs are cost-effective. Such information is essential to the development of effective innovation policies.

Second, innovative capability could be increased by funding more post graduate positions to attract additional early-stage researchers, development engineers and scientists. This is a relatively inexpensive initiative that could attract professional people with the skills and motivation that add to the State's innovative capacity.

Drawing these elements together, the Commission considers these initiatives could be brought together in an innovation agenda for the State, which would also emphasise an ongoing evidence-based approach to lifting the contribution to Victoria from innovation.

Part II: Tax and regulation

Improve the investment climate by reforming taxation

State taxes and charges can have a significant impact on productivity and participation. From an economic perspective, inefficient taxes distort relative prices and, as such, the decisions of businesses and individuals to work, invest and consume. The cost of such distortions in Victoria, on the evidence currently available to the Commission, appears to be significant.

Stamp duties on land, motor vehicles and insurance are the most distorting. Evidence suggests that payroll tax and land tax are more efficient types of tax. User charges, which operate in many ways like a tax, can also be highly efficient. The efficiency of a tax is also affected by the breadth of its application. Broadly based taxes are generally more efficient than taxes that apply to a narrow base.

Notwithstanding improvements to the efficiency and equity of the Victorian tax system over the past decade, the ongoing aim of State taxation reform should be to shift the State's reliance from inefficient taxes to efficient taxes to improve

productivity and participation. The Commission recommends that the Government begin the process with a Green Paper to explain the need and key options for major reform of the Victorian tax system.

Improving the investment climate by reforming regulation

While regulation is essential to a modern economy, it also imposes costs on business and can constrain productivity, innovation and employment. Victoria's regulatory system has a number of strengths and is highly ranked nationally and internationally. However, despite continued attempts to reduce the regulatory burden and red tape, it appears that the cost of regulation continues to grow.

The Commission identified three areas of regulatory reform that it considers have the potential to produce a breakthrough reduction in the regulatory burden and subsequent increases in Victoria's productivity, competitiveness and participation:

- (1) Establish and promote a risk policy based on more rigorous analysis, and ensuring a more appropriate balance among the magnitude of risk, the cost of risk-reduction activity, and aggregate regulatory burden on business and its impact on productivity.
- (2) Create a new approvals process for all major public and private projects to streamline the approval of environmental, planning and other requirements. This process would be managed by an appropriately authorised inter-agency committee.
- (3) Examine the roles and responsibilities of the 68 regulatory bodies in Victoria, with a view to rationalising their regulatory tasks, minimising the regulatory burden and reducing the number of regulators.

Finally, the Commission identified several industries that are subject to particularly high regulatory burdens which, while not significant enough to individually have a material impact on productivity and participation, should be addressed by the Government as it pursues its target of reducing regulatory burdens on business by 25 per cent.

Part IV: Melbourne, regional Victoria and infrastructure

Strengthen Melbourne as a high-skill, high-income engine for growth

Cities are increasingly recognised as drivers of productivity. Victoria is very fortunate that Melbourne has attributes that make it the key asset for the State and a centre for high value-adding, knowledge-based businesses. However, the capacity to continue to improve productivity and participation in Melbourne is

under increasing pressure due to a combination of population growth, transport congestion and crowding, and restrictive and inefficient land-use planning controls.

In the Commission's view, meeting these challenges, and protecting Melbourne's position as a high-skill, high-income engine for growth calls for action on several fronts. Some key pieces of transport infrastructure need to be funded and delivered in the relatively near term. Beyond these the city requires:

- more integrated planning, particularly long-term land-use and transport planning
- reform of policies that distort location decisions of households and businesses
- strategies to make better use of existing infrastructure, by making ongoing selected investments in capacity (including in public transport), incorporating additional technology to increase capacity, and, ultimately, making more use of price signals to manage transport demand.

Embed regional Victoria in the high-productivity, high-participation Victorian economy

Regional Victoria is important to productivity and participation. Important parts of it, such as Geelong, are closely integrated with Melbourne and play important complementary roles to the city. Other regional cities further afield are important centres for their immediate regions. At the same time, there are pockets of relative disadvantage across the State that the benefits of economic growth do not appear to have reached.

The Commission considers there are two key sets of opportunities to improve productivity in the regions. The first is by increasing efficiency through improved linkages across sub-regions and with Melbourne, particularly in transport and communications. In regional Victoria the National Broadband Network (NBN) will likely improve communication and may promote innovation in the way education, health and other services are delivered.

The second set of opportunities is to improve the quality of the factors of production, including labour (through better access to training and education), land (through better planning and environmental management), and capital (such as water infrastructure).

Infrastructure

Electricity, water and communications and other forms of economic infrastructure represent an important part of the operating environment for businesses. International benchmarking presents a mixed report card on Australia's infrastructure. For example, the KPMG Competitive Alternatives

report ranked Australia's ICT infrastructure at sixth out of 10 high-income countries, while its distribution infrastructure rated eighth.

The inquiry identified opportunities to improve innovation and productivity in urban water by: clarifying objectives, roles and responsibilities of the water utilities; aligning incentives to ensure efficient supply and demand balance; and reforming the water sector to encourage greater competition, innovation and productivity growth.

In energy, the concerns are somewhat different. Declining productivity growth and strong expected price growth threaten to erode Victoria's competitive advantage in energy costs. The proposed introduction of carbon pricing will place further upward pressure on energy costs. While the Victorian Government no longer plays a direct role in supplying energy or in regulating private providers, it can advocate for national reform and ensure that its regulation and policies are efficient in light of national carbon pricing.

According to the OECD, Australia lags behind comparable jurisdictions in its broadband internet services. The NBN is therefore very relevant to the reform agenda and raises a number of issues for the Government. The required State legislation supporting the roll out of the NBN could affect adoption rates and, therefore, the benefits Victoria derives from this large investment. The NBN itself may also provide opportunities to significantly reduce the cost of State Government service delivery, especially in regional areas, and generally to connect those areas more closely to Melbourne.

Part V: Implementation

Develop and implement a program for delivering the agenda

Many of the barriers to improving productivity and participation are well known, and so are many of the solutions, yet they have failed to be accepted and successfully implemented over many years. There is a reason for this – they are hard for governments to do.

If the obstacles can be overcome, the prize from reform is likely to be substantial. The Commission has not yet analysed the implications for the Victorian economy of the proposed agenda in detail. However, as an illustration of the importance of productivity improvement a one per cent improvement in multifactor productivity in Victoria could improve the State's real gross state product by 2.5 per cent. This is equivalent to a \$7.5 billion improvement. Importantly, reform would ensure the continued prosperity and liveability of the State into the future.

The Commission considers that a compelling case for reform is essential to overcome apathy or resistance to change. Such a case exists, based on the

opportunities for, and threats to, further improving living standards in Victoria. The key elements of this approach are first to deal with the agenda in a holistic way and ‘paint the picture’ of the benefits for the entire population that successful implementation would provide. Second, the Government will need to communicate this case and engage with the community on the more detailed arguments for specific reforms that affect them. Third, the Government will need to focus on the key priorities, implement them effectively, and measure progress and impact to ensure benefits are maximised for the State.

Draft recommendations

The 26 draft recommendations are listed in the order they appear in the draft report, and need to be understood in the context of the discussion in the relevant chapter.

Chapter 3: Further reform of the education system can improve productivity and participation

Draft recommendation 1

That the Victorian Government build the capacity and flexibility of the Victorian workforce by developing and implementing a workforce skills strategy, that:

- sets clear and measurable objectives, with timeframes, performance monitoring and evaluation
- targets funding to areas of greatest potential benefit, recognising impact and need
- builds on proven, existing cost-effective State and Commonwealth programs.

Draft recommendation 2

That the Victorian Government strengthen competition in vocational training markets by:

- implementing a corporatised structure for TAFEs and removing constraints on public and private providers' ability to compete locally and internationally
- ensuring the ongoing delivery of important community services provided through TAFEs by articulating these responsibilities clearly, and providing contestable funding for them as community service obligations
- publishing timely performance information on outcomes and quality for all registered training organisations receiving training guarantee funding.

Draft recommendation 3

That the Victorian Government reform the State's institutional arrangements governing Victoria's training market by:

- clarifying the core roles and responsibilities of the regulatory, policy and service delivery organisations
- removing overlap and duplication in registration, accreditation and reporting.

In making these reforms, have regard to the approach set out in draft recommendation 15.

Draft recommendation 4

That the Victorian Government further encourage competency-based training and participation in apprenticeships and traineeships by:

- removing barriers such as excessive prescription in training packages, mutual consent requirements in apprenticeship contracts, and State regulatory and licensing barriers to competency-based entry to professions
- deeming registered training organisations eligible to take on apprentices and trainees as group training organisations
- advocating for the removal of Commonwealth regulatory and licensing barriers to competency-based entry to professions.

Draft recommendation 5

That the Victorian Government develop a medium-term strategy to improve student education outcomes from Victoria's school system, including:

- setting best international performance in educational outcomes as the aspirational goal
- implementing actions to improve the capacity of the school system to achieve such outcomes, including through teacher quality, school leadership and performance information.

Draft recommendation 6

That the Victorian Government move further towards an outcomes-focused and devolved Victorian government school system by:

- identifying and implementing best practice models for the governance of devolved schools
- strengthening school leadership, governance and management, ensuring principals have the authority and support to make substantive local management decisions
- improving school performance information, especially on student outcomes
- prioritising funding and resourcing to students with the greatest need.

Draft recommendation 7

That the Victorian Government improve the quality of teachers and teaching by pursuing strategies that:

- enhance the attractiveness of teaching as a profession
- create more flexible career paths (including competency-based entry) and encourage more teachers to take up professional development opportunities, including feedback from mentors and expert teachers
- appropriately recognise and reward performance, especially high-performing teachers, and address underperformance.

Draft recommendation 8

That the Victorian Government adopt a focused strategy to achieve a breakthrough reduction in youth disengagement from education by:

- clearly establishing the extent and dimensions of disengagement, and the means of identifying students at risk of disengagement
- simplifying and focusing programs to address disengagement, emphasising early intervention and follow up.

Draft recommendation 9

That the Victorian Government elevate the role of early childhood development in achieving better school education outcomes by:

- developing and applying an evidence-based strategic framework to reform policy on early childhood development and collecting data to evaluate and improve that policy
- advocating for greater clarity, coherence and accountability in funding, providing and regulating early childhood development at the national, state and local levels.

Chapter 4: More effective innovation and entrepreneurship will boost productivity

Draft recommendation 10

That the Victorian Government enhance the links between industry and the research sector, and within industry, by:

- reviewing and removing impediments to engagement and collaboration
- providing seed funding to encourage innovation-focussed, business driven communities of practice.

Draft recommendation 11

That the Victorian Government address information gaps and enhance the State's capacity for innovation by:

- establishing a world-class Institute for innovation and entrepreneurship
- attracting and retaining leading early career researchers, development engineers and scientists.

Draft recommendation 12

That the Victorian Government encourage public sector innovation by:

- identifying and addressing barriers to innovation in the Victorian public sector

- building on existing initiatives and exploiting emerging opportunities to test and evaluate innovative methods of finding solutions to public sector problems.

Draft recommendation 13

That, drawing on the proposals in draft recommendations 10, 11 and 12, the Victorian Government set out an innovation agenda that outlines:

- key strategies for enhancing innovation, with specific measurable objectives
- principles to guide the development, implementation and evaluation of programs
- a data collection, monitoring and evaluation framework for all innovation programs.

Chapter 5: Improve the investment climate by reforming taxation

Draft recommendation 14

That the Victorian Government develop and implement an agenda for reforming State taxes by releasing a Green Paper that:

- outlines options for shifting the State's revenue base toward more efficient, productivity enhancing taxes
- explains the benefits and costs of reforming State taxes and charges
- sets out a timetable for taxation reform.

Chapter 6: Improving the investment climate by reforming regulation

Draft recommendation 15

That the Victorian Government improve Victoria's overall business environment by developing and implementing a new regulatory risk policy to guide policy-makers and regulators on the balance between risks individuals should self-manage and those the government should seek to mitigate through regulation.

That the current practice of Victorian regulators be reviewed against the risk policy, with each regulator to develop a strategy for implementation.

That the Victorian Government promote understanding of, and support for the risk policy.

Draft recommendation 16

That the Victorian Government improve the overall business environment in Victoria by reforming major project approval processes to:

- minimise the required number of project approvals and approvals bodies, and run approval processes concurrently
- reform the Environment Effects Statement (EES) process, having regard to the Commission’s recommendations in *A Sustainable Future for Victoria* and the report of the Parliamentary Environment and Natural Resources Committee into the EES process
- integrate and streamline approvals for all major public and private projects by creating an inter-agency strategic project approvals committee with the authority to issue all relevant approvals.

Draft recommendation 17

That the Victorian Government improve the overall business environment by:

- developing a structured process for reviewing the regulatory work in key areas, having regard to the risk policy set out in draft recommendation 15
- assessing the structure of relevant Victorian regulators in light of these priorities
- responding to recommendations on improving governance, performance reporting by regulators and evaluation contained in the Commission’s final report on Victoria’s regulatory framework *Part 1 — Strengthening Foundations for the Next Decade*.

Draft recommendation 18

That the Victorian Government improve the overall business environment in Victoria by reviewing and reforming the following areas of regulation against a risk-based approach:

- waste policy
- liquor licensing
- transport safety (cross-border bus services and livestock transport)
- consumer protection.

Draft recommendation 19

That the Victorian Government require agencies to consider the Commission’s draft report, *An Inquiry into Victoria’s Regulatory Framework: Part 2 — Priorities for Regulatory Reform*, and the information paper for this inquiry on areas of regulatory reform in developing options for meeting the Government’s regulatory burden reduction target.

That the Victorian Government ensure the ongoing competitiveness of the Victorian regulatory system by establishing a process for public reporting on implementation of the government-supported recommendations of Commission inquiries.

Chapter 7: Position Melbourne as a high-skill, high-income engine for growth

Draft recommendation 20

That the Victorian Government strengthen Melbourne's position as a key asset for the State and a high-skill, high-income centre that is attractive to knowledge-based businesses by:

- developing and implementing a long-term strategic planning framework for Melbourne which is supported by the community and that:
 - enables the city to grow in ways that respond to the demands of the market
 - invests in and uses infrastructure efficiently
- identifying short-term opportunities to improve the implementation of the strategy for Melbourne
- identifying and reforming policies that unnecessarily encourage urban sprawl.

Draft recommendation 21

That the Victorian Government develop a reform agenda for transport that:

- examines opportunities to improve the efficiency of existing transport infrastructure through use of technology and regulation, and tests the use of demand-management responses to road transport bottlenecks around key nodes
- identifies alternative ways to fund major transport infrastructure
- re-examines institutional reform of transport policy, planning and service delivery to clarify roles, improve accountability and integrate decision-making.

Chapter 8: Embed regional Victoria in the high-productivity, high-participation Victorian economy

Draft recommendation 22

That the Victorian Government strengthen links between Regional Victoria and Melbourne, and among regions outside Melbourne, including by:

- supporting industries, skills providers and local government to develop regional workforce initiatives
- giving priority in infrastructure spending to improving road and rail connections that have the largest impact on productivity

- responding to the recommendations on Victoria’s planning system in the Commission’s inquiry *Local Government for a Better Victoria* and implementing proposed draft recommendation 19.

Chapter 9: Infrastructure

Draft recommendation 23

That to optimise the use of Victoria’s urban water supplies and infrastructure, the Victorian Government set a reform agenda for urban water that includes:

- setting clear, commercially-focussed objectives, roles and responsibilities for water businesses, with non-commercial objectives funded as community services obligations
- establishing unambiguous property rights for alternative water sources, unpooled bulk entitlements, an access regime and more flexible tariff structures
- commencing research and community consultation on low-cost water supply augmentation options, including on circumstances where their use might be warranted, with a view to reconsidering existing bans on such options in appropriate circumstances.

Draft recommendation 24

That the Victorian Government respond to declining energy sector productivity and minimise the reduction in Victoria’s cost-competitiveness of energy by:

- supporting a review of the national electricity market by the Ministerial Council for Energy, including reforms to network price regulation and reviewing the framework for assessing transmission investment
- reviewing and reforming State-based climate change and energy efficiency regulations and programs to take account of a price on carbon and ensure such programs have benefits that outweigh their costs.

Draft recommendation 25

That the Victorian Government conduct a cost-benefit analysis of legislating an opt-out default setting that requires connection of premises to the NBN unless a customer requests otherwise to ensure that Victorian businesses and households derive maximum benefits from the Commonwealth Government’s investment in broadband technology.

Chapter 10: Develop and implement a program for delivering the agenda

Draft recommendation 26

That in developing the State-based reform strategy, the Victorian Government incorporate an implementation plan that:

- specifies the outcomes the government expects from the strategy
- establishes clear accountabilities for overseeing implementation, ensuring delivery and, within three to five years, evaluating all elements of the strategy
- includes broad community consultation to engender support for the strategy and its implementation.

1 Introduction

A strong, resilient economy is essential to sustain and grow living standards, employment, and investment in education, health, culture and services to address social disadvantage. In the face of national and global challenges, maintaining the health of the economy depends on ensuring a highly productive, flexible and dynamic economy. Unlike the resource-rich states of Australia, Victoria's prosperity depends largely on its created strengths. These strengths include the quality of the workforce, good infrastructure and highly liveable cities. These assets have served Victoria well and could continue to provide the basis for a prosperous future.

However, the bases of some of these strengths are threatened on a number of fronts, and without action, challenge Victoria's future prosperity. Having weathered the recent global financial crisis well, there is a concern the Victorian economy has entered a period of slower growth due to a combination of factors, including the need to adjust to changes in prices caused by the strong Australian dollar. In response to these concerns, the Victorian Government committed to developing a comprehensive strategy for boosting productivity, competitiveness and labour force participation (Victorian Government 2011a, p. 8).

To assist in the development of this strategy, in April 2011 the Victorian Government directed the Victorian Competition and Efficiency Commission (the Commission) to undertake an inquiry into a state-based reform agenda for Victoria. The terms of reference require the Commission to benchmark Victoria's performance in relation to key areas of competitiveness, including state taxes on business and investment, regulation, economic infrastructure, innovation, education and skills, and labour force participation, and to recommend an agenda of measures for state-based reform in these and other areas.

This draft report outlines the Commission's preliminary findings and draft recommendations to encourage further consultation and debate. In approaching this task the Commission examined Victoria's recent productivity record, benchmarked its competitive position and used this information, as well as analysis and information from its consultations, to outline the key elements of a reform agenda. In some cases the Commission identified specific actions to improve productivity, whilst in other instances, the actions outlined are necessarily broad. Reflecting the limited role of the State in influencing labour force participation, the Commission focussed on identifying the key elements of a productivity agenda. Implementing some of the reforms identified in this draft report will also assist in lifting the participation rate.

The Commission invites interested parties to make written submissions on this draft report by **Friday 16 December 2011**. The Commission will also consult further on the draft report before finalising the report and submitting it to the Victorian Treasurer by the end of January 2012.

1.1 About this draft report

This draft report has several parts:

- Part I identifies the need for a state-based reform agenda, as well as broad areas for action to improve productivity, competitiveness and participation. It highlights key drivers of Victoria's recent productivity performance, draws on the analysis of productivity trends and benchmarking of Victoria's competitive position, and identifies the need for a reform agenda in the areas of human capital and innovation, state taxes, state regulation, the efficiency of Melbourne and regional Victoria as key state assets.
- Part II lays out the elements of a reform agenda designed to increase productivity, competitiveness and participation by improving human capital and innovation. The focus is on key elements of Victoria's education system (early childhood, schools and vocational education and training), and the State's role in promoting innovation and entrepreneurship.
- Part III examines actions the Victorian Government can take to improve the overall environment for investment in the Victorian economy by implementing reforms to state taxes and regulation. Reflecting the large amount of work previously undertaken in these areas, the Commission's focus has been on how to achieve a breakthrough in reform of state taxes and regulation.
- Part IV identifies key reforms to improve the operation of Melbourne, the productivity of Victoria's infrastructure, and regional Victoria. National and state policy makers are increasingly recognising the role of cities as drivers of productivity and the Commission has explored opportunities to improve the operation of Melbourne and regional Victorian cities, and linkages between them.
- Reflecting the challenges of implementing reform, including the importance of community engagement, Part V considers important implementation issues.

The draft report is supported by several information papers containing further analysis and discussion on:

- benchmarking of Victoria's competitive position
- Victoria's productivity performance
- Victorian labour force participation.

These information papers are available on the Commission's website: www.vcec.vic.gov.au. Other supporting material, including papers by AECOM on transport reform and by the Centre of Policy Studies on the benefits of reform, can also be found on the Commission's website.

The Commission has taken account of the *Charter of Human Rights and Responsibilities Act 2006* (Vic) and considers that this report is consistent with the human rights set out in the Charter.

1.2 Acknowledgements

In undertaking this inquiry, the Commission has sought to avoid duplicating the work of other reviews, including the Independent Review of State Finances. The Independent Review has been tasked by the Victorian Government with identifying strategies to strengthen the finances of the State and improve the efficiency of government service delivery. Although this draft report deals with some areas of government service provision (primarily education), the Commission has largely steered away from identifying opportunities to improve productivity in the delivery of government services.

During the inquiry the Commission benefited from discussions with a large number of government, business and not-for-profit stakeholders as well as input from contractors and consultants. The inquiry also received over 80 written submissions. Further details on the Commission's consultations and the work of its contractors and consultants are provided in appendix A. The Commission would like to thank all of the stakeholders, and contractors and consultants who have assisted it to date.

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Part I: Productivity, participation and competitiveness

Part I identifies the need for a State-based reform agenda, as well as broad areas for action to improve productivity, competitiveness and participation. It highlights key drivers of Victoria's recent productivity performance, draws on the analysis of productivity trends and benchmarking of Victoria's competitive position, and identifies the need for a reform agenda in the areas of human capital and innovation, state taxes, state regulation, the efficiency of Melbourne and regional Victoria as key state assets.

2 Why is a productivity, competitiveness and participation agenda required?

2.1 Productivity, competitiveness and participation underpin living standards

Productivity, competitiveness and participation are fundamental to the health of the Victorian economy and to peoples' material, physical and emotional well-being.

Productivity — the ratio of output to inputs — isn't everything, but in the long-term it is a key determinant of living standards (Krugman 1992, p. 9). While some equate productivity with working harder, it is mainly about working smarter. Increasing productivity gives society more choices, about whether to increase leisure time, or to invest in reducing disadvantage, improving education and infrastructure, and repairing or conserving the natural environment. Looking back over history highlights how improvements in productivity have enabled people in the developed world to enjoy unprecedented levels of material, physical and emotional well-being.

Unlike productivity, competitiveness can have a range of meanings. For the purpose of this inquiry, the term is taken to refer to the ability of a location to attract and retain mobile inputs of production such as investment and human capital. Accepting that regions are in competition for capital and talent, competitiveness can be directly linked to productivity: more productive locations are more successful in attracting capital and talent, and thus more able to sustain continuing growth in productivity and ultimately, living standards. In the following discussion, competitiveness and productivity are treated as synonymous.

Labour force participation — the share of the population that is actively working or seeking work — is also an important determinant of living standards. Increasing participation in the labour force is an important source of economic growth and well-being, as the larger the proportion of the population contributing to producing output, the more output there will be to share amongst the population. Increasing participation also provides the means to support important social welfare and equity goals.

2.1.1 Productivity has been a key driver of improved living standards

Productivity growth is important to an economy because it enables increased standards of living (through increased economic growth), resulting in a higher level of community wellbeing. It can in turn increase the choices available to individuals and society, providing the means to boost social and economic infrastructure, environmental standards, crime prevention, and other aspects of non-material well-being. Productivity growth plays an important role in boosting the economy's competitiveness and responding to longer-term challenges such as population ageing and climate change.

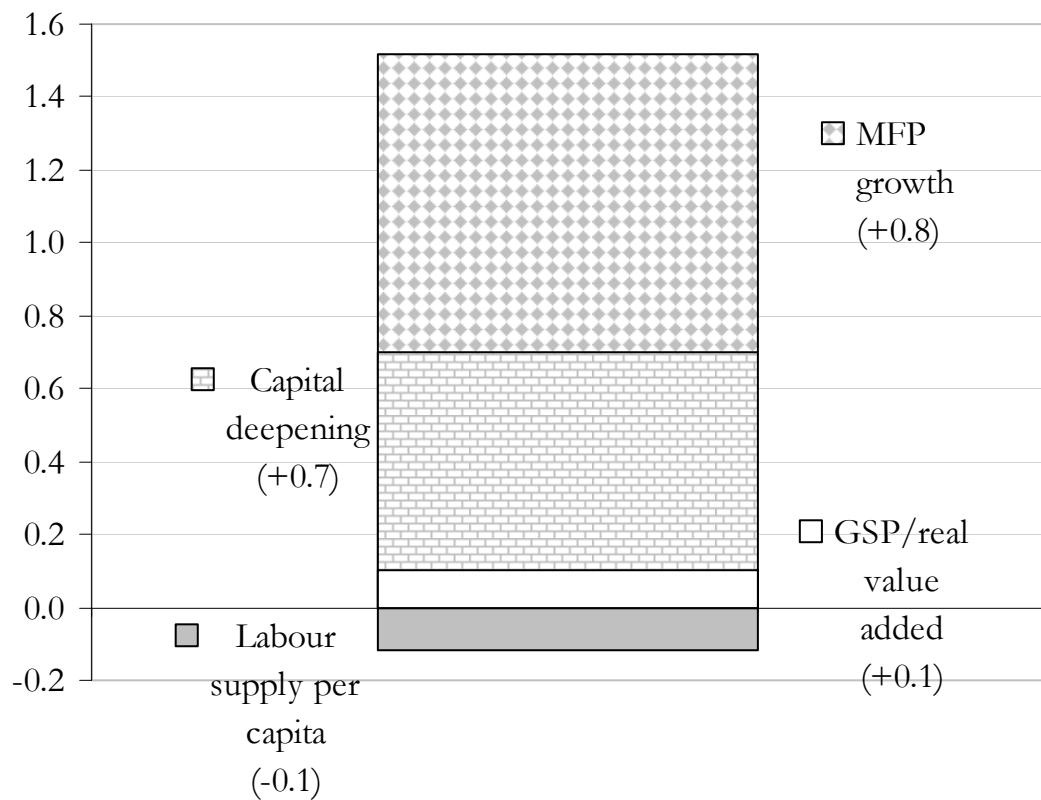
Estimating productivity is challenging, particularly at the sub-national level. There are different measures of productivity growth, with the two key ones being labour productivity¹ and multifactor productivity (MFP)². The different types of productivity measures and their limitations are discussed in an information paper available on the Commission's website: www.vcec.vic.gov.au.

Estimates produced by the Commission indicate that nearly 54 per cent of the growth in per capita gross state product (GSP) (a proxy for living standards) in Victoria can be attributed to productivity growth, with much of the remainder due to increased capital per worker (capital deepening) (figure 2.1). This shows that productivity growth has been a key driver of improvements in the living standards of Victorians over the last 20 years.

¹ The change in the value of output divided by the change in the quantity of labour inputs (total hours worked).

² MFP is a broader (and the Commission's preferred) measure of productivity. It measures the change in outputs, not explained by changes in inputs of capital and labour. Estimating MFP for Victoria is particularly challenging because the value of Victoria's capital is not separately reported by the Australian Bureau of Statistics. The Commission's MFP estimates are provided in an information paper accompanying this report (available at: www.vcec.vic.gov.au).

Figure 2.1 Productivity growth has boosted Victorians' living standards (percentage points)



Notes: This figure shows the contributions of various factors to growth in output per capita. The average growth in GSP per capita between 1991 and 2010 was around 1.5 per cent per annum. MFP growth contributed nearly 54 per cent (an average of 0.8 percentage points per annum), with capital deepening contributing just under 0.7 percentage points. Changes in the ratio of GSP/real value added (a measure of statistical error in estimates of GSP and the ownership of dwellings sector) accounted for the remainder (0.1 percentage points per annum). Changes in the supply of labour detracted from growth in GSP per capita due to changes in hours worked (which decreased over the period), more than offsetting a slight increase in labour force participation.

Source: VCEC.

2.1.2 There is growing concern that Australia and Victoria have experienced a major productivity growth slowdown

The prevailing consensus is that after a period of very strong growth through the 1990s, Victoria's and Australia's productivity has declined. According to Eslake, for example:

Although Australia's economic performance during the 2000s has been impressive on many dimensions, especially by comparison with that of other 'advanced' economies, productivity is not among them. Australia's productivity performance over the past decade has been, to put it mildly, poor — both by

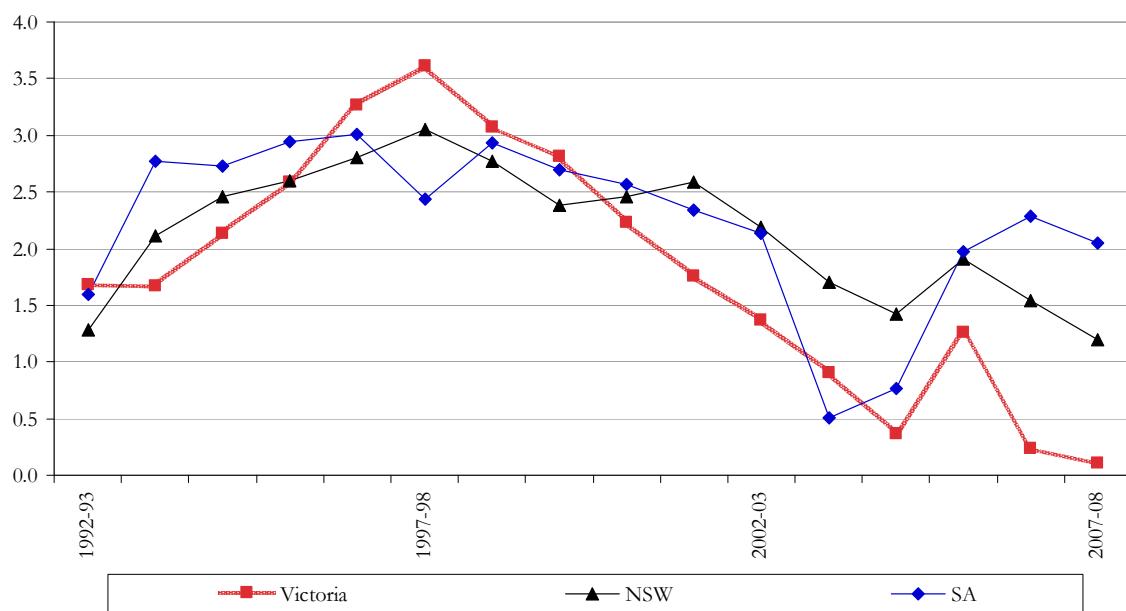
Australia's own historical standards, and by contemporary international standards. (Eslake 2011, pp. 24–25)

The State Government also highlighted a slowdown in the growth of labour productivity in Victoria:

Productivity growth is the main driver of higher living standards and economic prosperity. But on an average annual basis, Victoria's productivity growth has been falling in the past decade. In the five years to 1999-2000, average annual productivity growth of 2.8 per cent was achieved, but this dropped to an average annual rate of 0.7 per cent in the five years to 2009-10 – well below the national average. (Victorian Government 2011a, p. 9)

The Commission's analysis of labour productivity broadly confirms these views. Victoria's labour productivity growth averaged 2.2 per cent over the fifteen years from 1990-91 to 2004-05. This was similar to the national average over this period. Between 2005-06 to 2009-10, Victoria's labour productivity increased by an average of only 0.1 per cent per annum.³ While interstate comparisons are difficult because of the different industry structures, Victoria's average rate of labour productivity growth in the last five years was below the rate for most other jurisdictions, and well below New South Wales (NSW) and South Australia (SA), which have the most similar industry structures (figure 2.2).

Figure 2.2 Labour productivity growth rates (five-year moving average, per cent per annum)

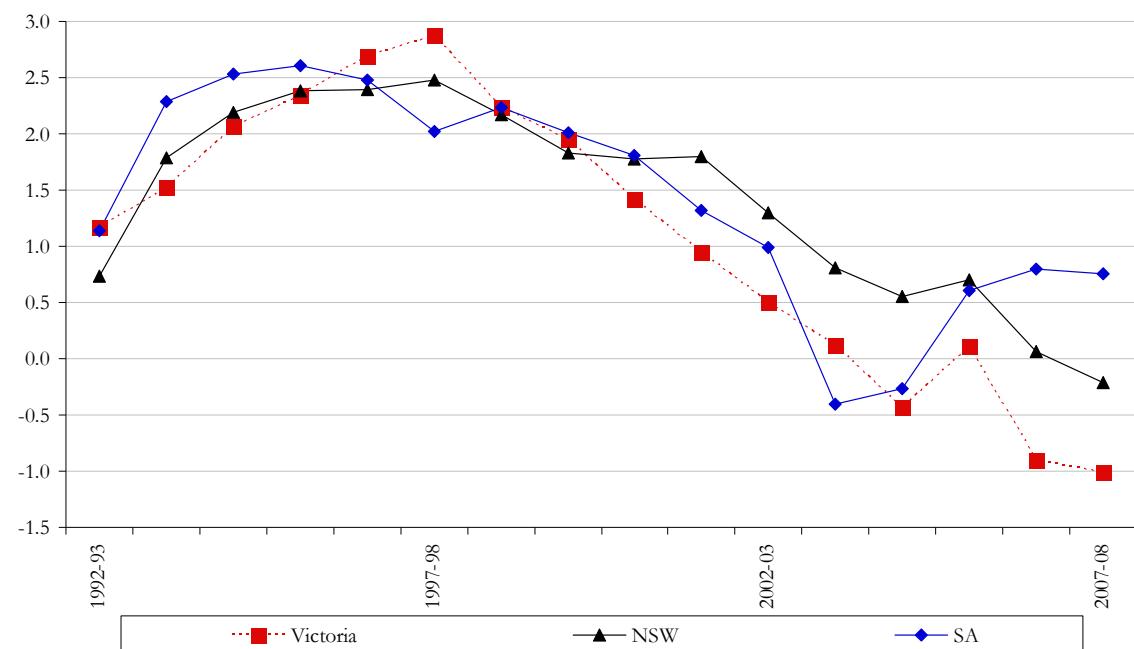


Source: VCEC, see Productivity information paper.

³ The Commission averaged changes in productivity over five years to smooth out year-to-year volatility. Therefore, the data used to construct the productivity time series figures is between 1990-91 and 2009-10.

Looking at a broader measure of productivity, MFP, the productivity story for Victoria is very similar: MFP growth has slowed recently and by a larger amount than other jurisdictions, particularly SA (figure 2.3).

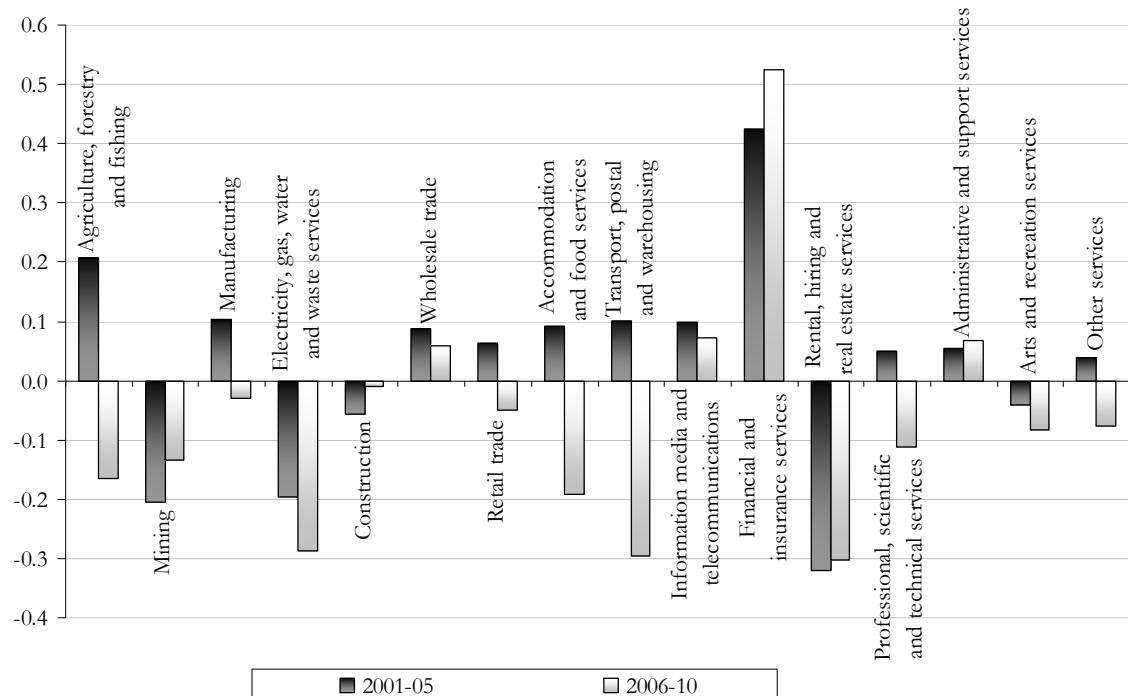
Figure 2.3 MFP growth rates (five-year moving average, per cent per annum)



Source: VCEC, see Productivity information paper.

The slowdown in Victorian MFP has been uneven, with some sectors making a more significant contribution (figure 2.4). It appears that several sectors explain a large part of the recent downturn in Victoria's MFP growth rates. Figure 2.4 shows the average rate of MFP growth declined by 1.5 percentage points between the periods 2001–2005 and 2006–2010. Six industry sectors accounted for nearly all of this: transport, postal and warehousing (26 per cent); agriculture, forestry and fishing (24 per cent); accommodation and food services (19 per cent); professional, scientific and technical services (11 per cent); manufacturing (nine per cent); and retail trade (eight per cent).

**Figure 2.4 Industry contributions to Victorian MFP growth
(percentage points, average per annum)**



Source: VCEC.

The reasons for Victoria's falling productivity growth rates are the subject of vigorous debate. Various causes identified in the literature include the effect of the recent drought, cyclical factors (productivity growth tends to accelerate as economies come out of downturns, and slow as full capacity is reached) and high levels of investment in buildings, infrastructure and other long-lived assets that take time before they boost output and thus productivity. Measurement issues such as difficulties in measuring the capital stock and productivity in services may have a large influence. Some have also suggested the slowdown in productivity growth can be partly attributed to a reduced focus on productivity among policymakers and business. In discussing possible causes Eslake argued that:

... the broader economic and political environment (one in which there has been little pressure on either policy-makers or individual firms to pursue productivity-enhancing structural or organizational change) has been of critical importance. (Eslake 2011, p. 18)

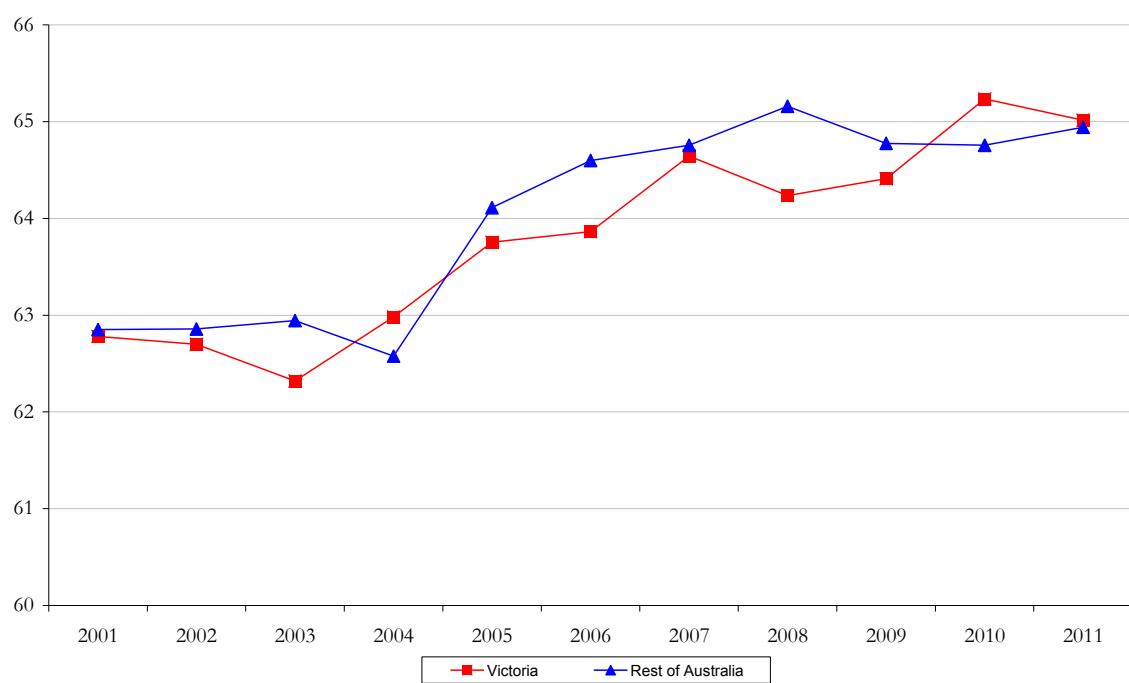
2.1.3 Labour force participation and living standards

As noted, living standards are also influenced by labour force participation. A rise in the share of the Victorian population in the workforce would normally increase the output of goods and services thereby also increasing output per capita, the most commonly used measure of living standards.

Labour force participation in Victoria has risen almost in line with the national labour force participation rate over the last decade (figure 2.5). The Commission's analysis finds the increasing participation rate across Victoria, over the last 10 years, contributed 40 per cent per annum to Victoria's GSP per capita growth (see Productivity information paper).

Victoria has experienced similar trends in labour force participation compared to the rest of Australia. Participation rates tend to be lower in Victoria, however, for people aged 15–19, immigrants, and lone parents (see Labour Force Participation information paper).

Figure 2.5 Labour force participation (per cent)



Source: VCEC, see Labour Force Participation information paper.

Labour force participation can be influenced by the State and Commonwealth governments through a variety of policy levers. These measures are designed to boost participation either by:

- (1) increasing the capacity of individuals to join the labour force, or
- (2) increasing peoples' incentive to participate in the labour force.

While incentives refer to factors that affect the relative return to individuals from participating in the labour force compared with engaging in alternative activities, capacity focuses on ensuring individuals are healthy enough to work, providing them with the necessary skills and addressing other barriers to employment. Reflecting the current division of government responsibilities in Australia, the influence of the Victorian Government is confined to affecting individuals' capacity to participate in the labour force (table 2.1).

Table 2.1 Policies for promoting labour force participation by level of government

	<i>Commonwealth</i>	<i>State</i>
<i>Capacity</i>	Education and training	Education and training
	Health and well-being	Health and well-being
	Childcare	Childcare
	Workplace flexibility and diversity	Workplace flexibility and diversity
	Homelessness	Homelessness
	Active labour market policy	Active labour market policy
	Society's attitudes	Society's attitudes
<i>Incentives</i>	Superannuation and retirement policies	
	Tax and welfare policies	

Source: VCEC, see Labour Force Participation information paper.

One of the barriers to participation highlighted in a number of submissions was access to education, which is a policy lever for both levels of government. The Brotherhood of St Laurence and VCOSS also highlighted the importance of disadvantage as a barrier to participation in the workforce (box 2.1).

Box 2.1 Barriers to workforce participation

The Brotherhood of St Laurence identified the following factors impeding workforce participation, particularly amongst disadvantaged groups:

- lack of support to obtain and retain work, particularly for highly disadvantaged jobseekers who require better engagement, case management and post-placement support of employment outcomes
- traditional employment opportunities (providing job security and certainty about working hours) are increasingly uncommon, especially for young people entering, and older people re-entering, the job market
- student disengagement, particularly in the middle years (ages 10-14)
- an ageing workforce ... requiring policies encouraging employers to retain older workers
- outer urban growth which provides low-cost housing but reduces access to employment
- disincentives to taking up employment or increasing working hours such as increased taxation, reduced income support, loss of concession and increased rent for those in public housing
- poor connections between training and employment services especially for refugees
- need to strengthen workplace diversity and reduce demand side barriers to participation for disadvantaged jobseekers including Indigenous Australians, people with disabilities, people experiencing homelessness, and people from non-English speaking backgrounds
- childcare costs are increasingly borne by individuals which dissuade lower income families from using early childhood education and care services and, in turn, reduce their workforce participation.

The Victorian Council of Social Services (VCOSS) considered that entrenched disadvantage is a barrier to labour force participation and as such needs to be addressed by a combination of:

- reducing the abuse and neglect of children
- better protecting women and children from family violence
- investing in early childhood education and early interventions for children with additional learning needs
- reducing and better managing chronic illness
- delivering more affordable housing.

Sources: The Brotherhood of St Laurence, sub. 57, pp. 14–19; VCOSS, sub. 74, pp. 11–13.

2.1.4 A number of threats to productivity and participation need to be addressed

Notwithstanding difficulties in isolating the reasons for Victoria's recent lacklustre productivity performance, the case for developing a productivity and participation reform agenda also depends on views about the outlook for the Victorian economy.

Looking ahead, Victoria is facing a more difficult environment for structural adjustment, in a context of high income for the Australian economy as a whole, both of which are the consequences of the mining resources boom and the resulting high real exchange rate. While Australians enjoy a higher standard of living from the mining boom, its impact on the competitiveness of Victoria's key trade exposed industries (education, tourism and manufacturing) through its effect on the real exchange rate is already being felt. In addition, a carbon constrained economy will further raise power prices in the state with a particular impact on parts of the manufacturing sector. The ageing of Victoria's population will also place pressure on labour force participation rates.

The challenge for Victorian businesses is to respond to these changes by improving productivity and competitiveness. Businesses will need to innovate and take risks, develop new products, find new markets and reduce their cost of doing business.

At the same time there is a danger that businesses, lobby groups and policy makers will overstate the magnitude and impact of this challenge. The two speed economy that is used as a shorthand for this challenge is not a new phenomenon. And opportunities exist in the increased demand for high income goods and services coming from middle income growth in Asia, and increases wealth in Australia. There have been differences in the rates of growth of Australian states over the past twenty years with Western Australia and Queensland experiencing higher growth for most of the period, while other states and territories were somewhat lower. Victoria, not surprisingly given its size, was around average for most of this time.

This pattern is likely to continue over the next decade. The high real exchange rate, ageing population and the introduction of carbon pricing will make life more difficult for some businesses. These trends will not, however, spell the end of trade-exposed industries like manufacturing or tourism. In aggregate some of these sectors will grow more slowly if at all, and some may even decline but other businesses will grow. There will also be new opportunities for business and the State Government's role is to ensure the overall environment for business in Victoria is conducive to entrepreneurship, risk-taking and new investment.

Reforms that enhance productivity, competitiveness and participation are essential to generating such an environment. These reforms equip business and

the economy to take advantage of opportunities and respond to future challenges. They will, therefore, benefit Victoria and Victorians regardless of the future challenges facing the State.

2.2 Actions across a range of areas are needed to increase productivity and participation

Having put productivity, competitiveness and participation on the agenda, the Victorian Government asked the Commission to report on actions the Government could take to ‘yield the greatest potential benefit in light of Victoria’s relative competitive strengths and weaknesses, and in the context of projected national and global economic trends’.

Benchmarking of Victoria’s competitive position, submissions, and the Commission’s analysis of Victoria’s recent economic performance suggest that the key future drivers of productivity growth will come from:

- improving the quality of the Victorian labour force
- boosting the innovative capacity of the business sector
- improving the business environment by reforming state taxation and regulation
- improving infrastructure and the way Melbourne and regional Victoria operate.

The importance of education to future productivity performance is highlighted by the estimate that improvements in the quality of labour contributed around 40 per cent of Victoria’s average productivity growth between 1991 and 2010. Benchmarking of Victoria’s competitive position on education and skills also found that although Victoria performs well compared with other states and territories, the State is at risk of slipping behind the global leaders (chapter 3).

Innovation by the private sector is also vital to sustaining high rates of productivity growth. Innovation is about developing and applying knowledge to create additional value and wealth. Recent research found a positive and statistically significant association for Australia between different types of innovation and higher productivity reported by the firm. The Commission therefore examined the role the State Government can play in boosting the innovation capabilities of the business sector (chapter 4).

The major drivers of business innovation, such as international and domestic economic conditions, and technological and consumer trends, are well beyond the control of state governments. The Victorian Government can, however, influence the operating environment for business through the way it raises the revenue necessary to support investment in infrastructure and public services, and the way it regulates business activities. Imposition of taxes that unnecessarily distort business and individual decisions and poorly designed or administered regulation can hinder productivity growth. A reform agenda for the State should

therefore cover improvements in the way the State funds vital public services and the way it regulates economic activity (chapter 5 and 6).

Looking at the distribution of population and activity in Victoria it is apparent that Melbourne is a vital asset for the State. Melbourne's assets (high quality public and private infrastructure, the large pool of skilled labour and its all round liveability) make it an attractive location for businesses, especially in knowledge-based service sectors such as finance and insurance, and professional, scientific and technical services. This attractiveness is under pressure from population growth, increasing transport congestion and declining housing affordability. Because Melbourne's very success as a city is threatening to undermine its attractiveness, the Commission has examined reforms that the State Government can implement to enable Melbourne to continue to prosper (chapter 7).

The challenges facing regional Victoria share some similarities and differences to those facing Melbourne. Parts of regional Victoria, particularly the cities of Geelong, Ballarat and Bendigo are also experiencing rapid population growth. The structure of regional economies is also changing rapidly due to strong growth in sectors such as retail, property and other service-oriented sectors and lower growth and, in some regions, declines in more traditional regional sectors such as manufacturing. Future prosperity and productivity growth in regional Victoria will be founded on access to education and skills, infrastructure linkages to Melbourne and regional centres, and flexibility in the way land, water and other natural resources (including flora and fauna) are used (chapter 8).

This draft report argues that a reform agenda focused on building human capital, innovation, tax and regulatory reform and improving infrastructure in Melbourne and regional Victoria will assist in reversing Victoria's declining productivity performance, thereby strengthening the Victorian economy and supporting higher living standards. The possible gains to productivity are substantial. While the Commission will look more closely at the size of these benefits, an indication of their potential size is provided by modelling the impact of increased productivity. Chapter 10 reports that a one per cent increase in productivity (MFP) could increase state output by nearly 2.5 per cent (\$7.5 billion), and employment by around 1.4 per cent (40 500 jobs).

Addressing these issues could also raise participation rates. Even though the major levers for increasing participation reside with the Commonwealth Government (see Labour Force Participation information paper), reforms to education and training can help improve rates of school and training completions for young people and hence, their labour market prospects. Likewise, improving urban and regional infrastructure can strengthen and widen labour markets, thereby boosting job opportunities and participation in the labour force.

An important feature of the agenda identified by the Commission is that many of the reform areas identified have been debated and discussed for many years. Despite this, progress in advancing many of these reforms has been slow or non-existent. The success of any reform agenda will critically depend on the community's support for the reforms, which in turn will reflect how they are developed and implemented. Because of this, the Commission has identified a number of implementation issues that it considers important to address (chapter 10).

Part II: Education and innovation

Part II lays out the elements of a reform agenda designed to increase productivity, competitiveness and participation by improving human capital and innovation. The focus is on key elements of Victoria's education system (early childhood, schools and vocational education and training), and the State's role in promoting innovation and entrepreneurship.

3 Further reform of the education system can improve productivity and participation

3.1 Building human capital is critical to driving productivity, competitiveness and participation

Education and training build human capital which is strongly linked to productivity and participation which, in turn, drive economic performance. SGS Economics & Planning stated that ‘human capital can be expanded by investment ... which will increase the worker’s skill, and hence productivity’ (sub. 56, p. 30). The research evidence indicates that increasing the educational participation and attainment of Victorians through early childhood, primary and secondary schooling, and vocational education and training (VET) would generally lead to increased productivity and labour force participation (box 3.1).¹

Increases in the quality of Victoria’s labour force stemming from on-the-job experience and education and training, have contributed a large proportion of the State’s productivity growth. The Commission’s analysis suggests that labour quality improvements were responsible for about 40 per cent of Victoria’s average productivity growth from 1990 to 2010 (VCEC 2011j, p. 1). As well as boosting productivity, education can help build a more cohesive society, including by improving the life chances of the disadvantaged and those at risk of disengagement. Addressing youth disengagement can increase participation in education and the workforce but also in the broader community.

Victoria’s economy depends largely on created strengths, such as human capital and innovation, which are key underpinnings of its prosperity. As this will continue, the State will require more high- and medium-skilled workers, and more flexible workers, with strong general skills that can move between jobs and industries. The contribution of the education and training system in building these skills and individuals’ capacity to adapt and adjust skills over their working lives are central to Victoria’s future productivity performance and, ultimately, to living standards.

¹ In this chapter the Commission focuses on three key elements of the education system: early childhood education and care, primary and secondary schooling, and VET. The Commission has not examined opportunities to improve the management of the university system because the major policy responsibility rests with the Commonwealth Government.

Box 3.1 Links between educational attainment and participation and productivity

There is a substantial body of research that suggests that increased educational attainment generally improves labour force participation, productivity and economic growth.

Labour force participation

Australian and international studies have found a positive link between educational attainment and participation in the labour force (Kennedy, Stoney, and Vance 2009; IES 2001; Kenyon and Wooden 1996). One Australian study estimated that an additional year of schooling increases the labour force participation rate by around 0.5 per cent for males and four per cent for females (Chiswick, Lee, and Miller 2003). The participation outcomes of people who complete year 12 or obtain higher qualifications are generally better than those of early school leavers (Kennedy, Stoney, and Vance 2009; Breusch and Gray 2004). Other studies found that higher rates of education reduce the probability of unemployment (OECD 2009a; Access Economics 2005).

Productivity and economic growth

A study examining growth in 14 OECD countries found that human capital indicators, based on literacy scores, have a positive and significant effect on long-run levels of GDP per capita and labour productivity (Coulombe, Tremblay, and Marchand 2004). A subsequent study estimated that a one per cent increase in a country's literacy scores relative to the international average is associated with a 2.5 per cent rise in labour productivity and a 1.5 per cent rise in GDP per capita (Coulombe and Tremblay 2005).

OECD analysis, based on data from 21 OECD countries, suggests that an additional year of education would increase GDP per capita by between four and seven per cent in the long run (OECD 2003). Improvements in productivity and/or participation can flow into higher economic growth. Access Economics estimated that, if an additional 50 000 students are retained in education each year, the combined effects of the boost to productivity and participation would increase Australia's GDP by 1.1 per cent by 2040 (Access Economics 2005).

Notwithstanding the strengths referred to above, there is substantial potential for a step-change improvement in the overall level of skills and productivity of Victoria's workforce. The policy challenges are to:

- improve the skill levels of the existing workforce
- maximise the number of appropriately educated and skilled people entering the workforce.

This chapter addresses these two themes, broadly focusing on the VET sector's role in skilling up the existing workforce, and the school system's role in preparing students for future employment. There is also an important link between the two sectors through the Victorian Certificate of Applied Learning

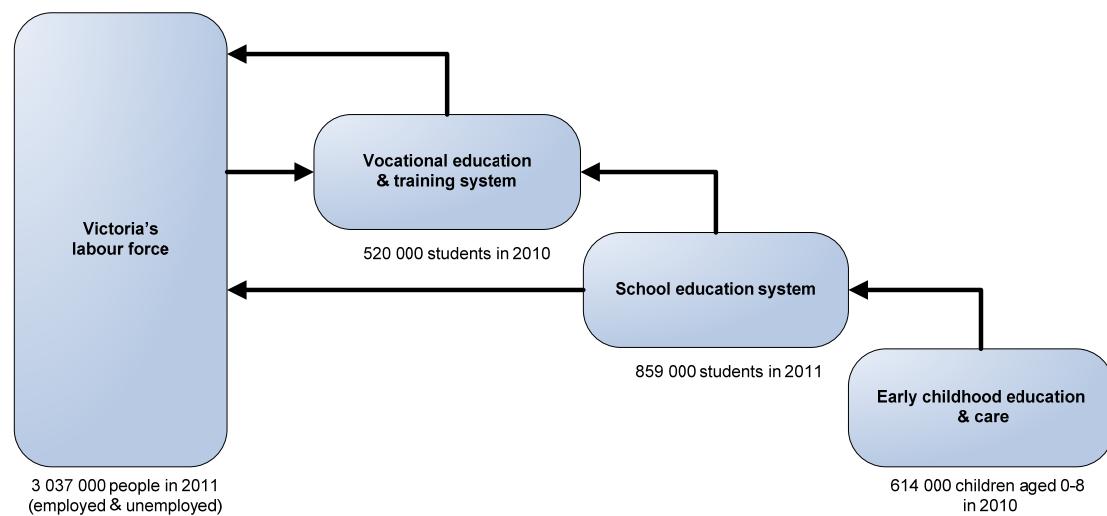
(VCAL) and other programs that seek to optimise student or youth engagement with the education system and their participation in the workforce.

3.2 Victoria's education system can be improved

The Commission examined the available information on outcomes from Victoria's education and training system (figure 3.1), including workforce core skills, student outcomes from school education, and children's outcomes in early childhood. Although Victoria's education and training system is generally producing good quality outcomes, consultations and benchmarking of Victoria's relative performance highlighted opportunities to improve:

- the core skills of the existing workforce
- the market for VET services
- school student achievement
- early childhood development.

Figure 3.1 **Key components of Victoria's education and training system^a**



^a The figure does not include the higher education system, as the university system was not a focus of this inquiry.

Sources: ABS 2011e; ABS 2011d; DEECD 2011d; NCVER 2011a.

The Victorian Government's policies can play an important role in improving the skills base of the existing and future workforce. This role arises from the State's involvement in the regulation, funding, management and provision of education and training services in Victoria. Given the scope for improvement discussed in the next section, and the potential impact of skills improvement on

productivity and participation, this area should be a key priority for a State-based reform agenda.

3.3 Improving core skills of the workforce

The available evidence suggests that the core skills of the adult population in Victoria are below those in some other states and have shown no improvement over a 10-year period. This has the potential to affect the workforce's ability to adapt to ongoing changes in the structure of the economy.

3.3.1 Literacy and numeracy skills

Literacy and numeracy are core skills that workers need to solve problems and undertake more complex tasks. One way to define and measure literacy and numeracy is to take a functional skills approach, which relates literacy and numeracy skills to people's ability to engage in particular activities and participate in the labour market and society. In general, people with high functional literacy are likely to be more productive than those with low functional literacy.

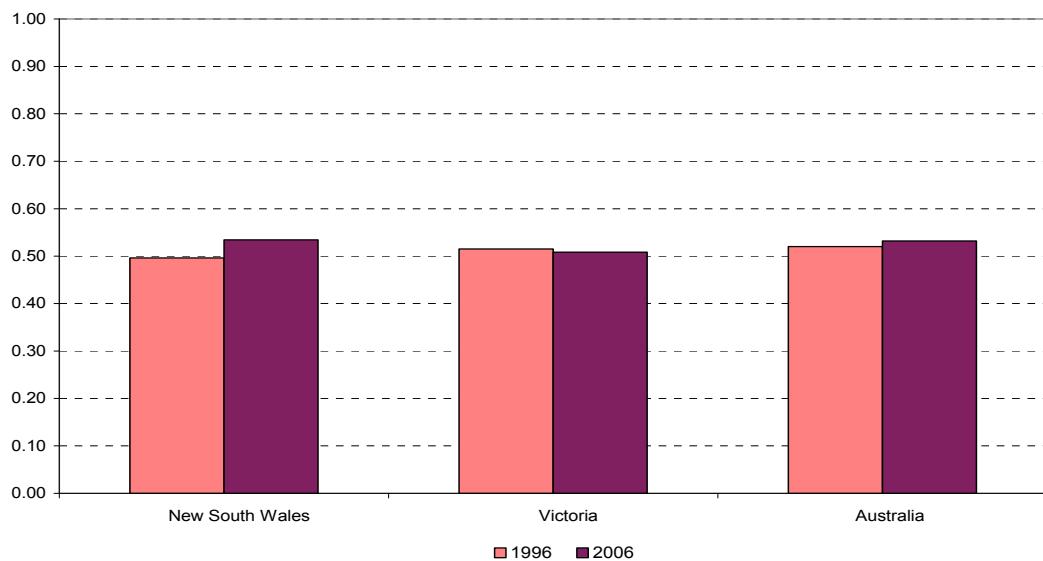
The most recent evidence indicates that in Victoria the proportion of working age people with adequate literacy skills (51 per cent) is lower than for New South Wales (NSW) (53 per cent) and Australia as a whole (53 per cent), with the situation deteriorating slightly between 1996 and 2006 (figure 3.2).² This finding is based on the Adult Literacy and Life Skills Survey (ALLS) which assesses the adequacy of literacy and numeracy skills to meet everyday work and life challenges.

For Victoria, the performance of 20–24 year olds on document literacy³ was particularly poor, with 40.7 per cent in the lowest two levels (below all other states except Tasmania) (ABS 2008a). Such poor performance was recorded even though in 2006, 85.5 per cent of 20–24 year-old Victorians held year 12 or equivalent qualifications (DEECD and DIIRD 2010, p. 9).

² The Adult Literacy and Life Skills Survey provides information on the knowledge and skills of 15 to 74 year olds in four domains, three of which are of particular interest to this inquiry: (1) prose literacy; (2) document literacy; and (3) numeracy. Performance is rated across five levels, with Level 3 regarded by the researchers as the minimum required for individuals 'to meet the complex demands of everyday life and work in the emerging knowledge-based economy' (ABS 2008a, p. 5). This level approximates the level required to complete secondary school and enter tertiary education (OECD 2000, p. xi).

³ Document literacy refers to knowledge and skills required to locate and use information contained in various formats including job applications, payroll forms, transport schedules, maps, tables and charts.

Figure 3.2 Proportion of working age people with adequate reading literacy skills, 1996 and 2006



Source: ABS 2008a.

If performance on ALLS is examined more closely against the demographic characteristics of the Australian population, some key factors emerge as possible explanations of Victoria's relatively low skill base. Between the 1996 and 2006 surveys, the performance of Australians whose first language was not English in the under-35 age group had improved to be in line with the general population. However, for those older than 35 years, there had been only slight improvement compared with the performance of the general population (ABS 2008a).

ALLS also provided information on performance by the industry in which participants were working and whether participants perceived their skills as adequate for the job. Some industries, such as manufacturing, had a lower skill base than others, and overall, people perceived their skill level to be superior to the level they actually achieved on ALLS. Only 10 per cent of people with the poorest skills (Level 1) believed that their literacy skills were inadequate for their job (ABS 2008a). This suggests that there is some way to go to achieve broad recognition of the need to improve core skills in the workforce.

While Victoria's results to some degree reflect the lower skills of older immigrants, industries with low skilled workforces and employees' inaccurate perceptions of the adequacy of their own literacy skills for their work, the results also raise broader questions about the performance of Victoria's education and training system.

3.3.2 Improving core skills

To improve productivity, participation and resilience in the face of structural changes in the economy, there needs to be a significant improvement in the core skills of the Victorian workforce. The available evidence suggests Victoria has more to gain from addressing this issue than some other states, given its lower starting base and reliance on a high-skill workforce for future prosperity.

A number of Commonwealth and State programs are in place to improve the core skills of the workforce but they lack coordination and robust evaluation of their effectiveness. However, the Commission's research and consultation suggest that locally delivered, workplace-based programs are an effective mechanism when supported by high-quality teaching staff. The Commission considers that the Victorian Government needs to develop a strategy that builds on current programs, involves systematic measurement, monitoring and evaluation and directs funding to areas where the greatest gains are feasible. This strategy would involve targeting vulnerable workers and job seekers, funding efficient programs that deliver improved outcomes, and reassessing funding based on evidence of program effectiveness.

As well as emphasising the need for improved adult core skill development, the Commission considers that a comprehensive strategy would include sustained effort at all levels of the education and training system to tackle literacy and numeracy skills over the longer term. Opportunities for improvement in the school education and early childhood systems are discussed below.

Draft recommendation 1

That the Victorian Government build the capacity and flexibility of the Victorian workforce by developing and implementing a workforce skills strategy, that:

- sets clear and measurable objectives, with timeframes, performance monitoring and evaluation
- targets funding to areas of greatest potential benefit, recognising impact and need
- builds on proven, existing cost-effective State and Commonwealth programs.

3.4 Strengthening the VET system

Victoria has been a leader in VET reform, implementing a more demand-driven funding system which attaches Victorian Government funding to students rather than directly to registered training providers (RTOs). That said, State and national reforms have placed increased pressure on Victoria's VET system,

highlighting some weaknesses and raising questions about whether institutional and regulatory frameworks need to be adapted to meet the needs of the new environment. The Commission's consultation and research, including its recent inquiry into manufacturing (VCEC 2011i), and the review of VET fees and funding (ESC 2011) have highlighted opportunities for further improvement.

- Strengthening competition between public and private VET providers. A number of differences in funding and regulatory arrangements prevent public and private providers competing on a 'level playing field', thus weakening competition.
- Modernising institutional arrangements. There are examples of duplication, overlap and complexity in institutional arrangements among Victorian bodies and with the Commonwealth Government.
- Improving information for students on the quality of providers. Information on the quality of VET is limited, especially for RTOs. The availability of such information can help drive quality improvements over time.
- The flexibility and efficiency of apprenticeships and traineeships could be improved to increase the rate of completions by ensuring the full operation of the competency-based system. This would require reforms such as removing mutual consent requirements and some provisions in modern awards that impede competency-based completion, allowing RTOs to take on apprentices and trainees, and reviewing professional regulation to ensure competency-based entry into professions is encouraged.
- There are thin demand and supply markets, where small numbers of students or suppliers can affect the viability of training delivery. The Commission examined this issue in its recent inquiry into Victoria's manufacturing industry (VCEC 2011i) but similar issues appear to arise in other industries.

Addressing these issues in the VET system could improve productivity and participation by improving the quality and availability of training. Broad changes that would contribute to addressing these issues include:

- strengthening the competitive environment
- strengthening institutions
- removing barriers to up-skilling the workforce.

3.4.1 Strengthening the competitive environment

Technical and Further Education (TAFE) institutes have long been an important part of the training landscape in Victoria. Victoria's publicly-funded TAFEs have traditionally accounted for the largest share of student enrolments in government-funded training (Skills Victoria 2009) and perform an important role in supplying training in niche areas, and in rural and regional centres

(sub. 59, pp. 15, 17). The Commission was told that the best of Victoria's TAFEs are considered to be world class.

However, the training market is in the midst of a restructure following the implementation of demand-driven funding, and private providers have substantially increased their share of government-funded enrolments (Skills Victoria 2011a). The structure and operation of the new training market in Victoria raise questions about whether:

- the current funding and governance structure for TAFEs creates the commercial incentives and freedoms TAFEs need to respond to the demands of Victoria's new training market, and puts pressure on private providers to perform
- there is sufficient information available on the performance of RTOs to allow students to make informed choices (such information is essential for a demand-driven training market to work).

TAFEs are treated very differently from private RTOs, receiving additional per hour and capital funding from government. However, TAFEs are expected to deliver non-commercial services (such as training in some regions and assisting higher-needs students). In addition, the Commission heard that unclear obligations and onerous administrative requirements made it difficult for TAFEs to make sound commercial decisions to operate efficiently in the training market. This raises concerns about competitive neutrality — both the advantages and disadvantages to TAFEs over private providers.⁴

Victoria's TAFEs are strategically important for the future of VET. They need to operate in a policy environment that allows them to compete effectively, and to their full potential, and that provides strong incentives for private providers to compete alongside TAFEs. The Commission considers that a new operational model is needed to deliver these incentives.

While the specifics of such a model would need to be worked through in some detail, the optimal model may involve the following.

- (1) Implementing a commercial governance model for TAFEs, along the lines of a government business enterprise (GBE), including strengthening the flexibility of TAFEs to make commercial decisions and offer competitive services, and simplifying reporting requirements. Action should be taken with the objective of converting the leading TAFEs that are commercially competitive to a GBE status within 12 months. This would include an appropriate governance arrangement, including for capital spending.

⁴ The establishment of a training market likely brings public providers into the scope of Victoria's competitive neutrality policy, as the reforms create a contestable market for training. Competitive neutrality is an important part of facilitating an efficient and effective market.

- (2) Reducing differential funding, including hourly rate differentials and infrastructure payments, for publicly- and privately-funded RTOs.
- (3) Identifying those non-commercial services that are provided by TAFEs, and introducing explicit contestability funding to secure their ongoing delivery.

Recognising the diversity among TAFEs, it may be appropriate to tailor the timeframes for transition to the new commercial governance model, and allow additional time for some TAFEs to implement commercial governance and operational arrangements. In addition, privatisation of TAFEs is a longer-term option for the Government to consider. While not ruling this option out, the Commission considers that the priority should be improving contestability in training markets by addressing the advantages and disadvantages facing TAFEs.

For a demand-driven market to work effectively, it is essential that there is sound information on student outcomes and the service quality of RTOs to help students and businesses make informed decisions about who to engage with for training (Karmel 2011). The Australian Industry Group (AiG) and the University of Technology Sydney (UTS) have called for the provision of information on RTO performance as part of driving improved RTO quality (AiG and UTS 2011).

The National Centre for Vocational Education and Research (NCVER) collects and publishes useful data, such as the student outcomes survey, that can be disaggregated by state and industry. However, although this information is useful for policy development, it does not provide detail about the quality of specific RTOs which would help students make informed choices about training providers. Similarly, Skills Victoria collects information on RTOs' capacity to deliver government-subsidised training as well as information on publicly-funded TAFEs for the *TAFE Selected Measures* report. However, there is little information available in a format that would assist students and businesses to compare individual RTO performance and select a training provider. The Commission is also aware that some RTOs are individually reporting information on their quality, although this is not widespread.

Work is underway to address this aspect of the operation of the training market. The Commonwealth Government allocated funding through the 2010–11 budget for the development of the MySkills website to provide information on employer and student views of training services, levels of commencements and completions, and the training that the RTOs are registered to deliver. As well, the Victorian Government committed prior to the 2010 election to establish a Victorian Public Register of training providers. The Commission is supportive of the development of better information on RTO quality that would help students and businesses make better training decisions.

Draft recommendation 2

That the Victorian Government strengthen competition in vocational training markets by:

- implementing a corporatised structure for TAFEs and removing constraints on public and private providers' ability to compete locally and internationally
- ensuring the ongoing delivery of important community services provided through TAFEs by articulating these responsibilities clearly, and providing contestable funding for them as community service obligations
- publishing timely performance information on outcomes and quality for all registered training organisations receiving training guarantee funding.

3.4.2 Strengthening institutions

Training in Victoria has changed substantially, with the introduction of demand-driven funding, and a change in the functions performed by the Commonwealth Government. The Victorian institutional structure has adapted to these changes in an ad hoc way.

Complaints about complexity of the system, duplication, and overlap (VCEC 2011g) suggest that the present institutional structure is not working seamlessly. Skills Australia, for example, believes the system is 'characterised by complexity and inconsistency' (Skills Australia 2010, p. 47), with each Australian jurisdiction having legislative responsibility for the regulation of apprenticeships and traineeships, and industry partners with diverse requirements and demands. At the State level, there appears to be a lack of clarity in the role of various institutions. For example, the Victorian Skills Commission (VSC) is responsible for regulating apprenticeships and traineeships in Victoria, as it approves training contracts between employers and apprentices/trainees, resolves disputes in contract termination, and is responsible for conducting compliance audits through 'apprenticeship field officers'. In practice, these responsibilities are delegated and carried out by Skills Victoria. The State Services Authority was critical of this, suggesting that it seemed inconsistent with the intent of vesting these responsibilities in an independent authority (SSA 2009a, p. 35).

In addition, 16 Industry Training Advisory Bodies (ITABs) perform a variety of functions, including providing authoritative information, promoting skills development and contributing to the development of training products. Given training products are now mostly developed and improved nationally, through the Australian Qualifications Framework, the role of state-based ITABs has significantly diminished, raising questions about their future.

The Commission's regulatory frameworks inquiry identified a number of areas that appeared to involve overlap and duplication between the funding and regulatory obligations of VET providers (VCEC 2011g). The Commission accepts Skills Victoria's explanation that efforts have been made to reduce the administrative burdens on training providers, but considers that more needs to be done to allow the system to run optimally.

Moreover, dual-sector TAFE providers are already subject to Commonwealth and State regulations. This leads to duplication of effort as providers need to maintain two books of account to demonstrate the use of resources from both Commonwealth and State funding.

The available evidence indicates some overlapping and potentially confused roles and accountabilities in the current system. This suggests the need for a thorough examination of the institutional framework for the training market. A better functioning institutional structure would make the training market work more efficiently (by reducing duplication and overlap) and more effectively (by more quickly identifying and responding to changing needs and system failures).

Draft recommendation 3

That the Victorian Government reform the State's institutional arrangements governing Victoria's training market by:

- clarifying the core roles and responsibilities of the regulatory, policy and service delivery organisations
- removing overlap and duplication in registration, accreditation and reporting.

In making these reforms, have regard to the approach set out in draft recommendation 15.

3.4.3 Removing barriers to up-skilling the workforce

The apprenticeship and traineeship system plays an important role in an economy that is responsive to employers' skill needs. While most businesses that employ apprentices or trainees are satisfied with the operation of Victoria's VET system, others have pointed to the need to improve the operation of apprenticeships and traineeships, given the pressures of the changing economy and the existence of skills shortages in various trades, despite the numbers of people participating in training (Skills Victoria 2011b).

An inflexible, time-based apprenticeship system for all apprentices (including mature-age people) exacerbates skills shortages, and is a barrier to people being fully-contributing employees faster. Moving further toward a more competency-based system for apprentices, and removing complexity in the

system, could assist in strengthening its capacity to meet the State's long-term skill needs.

Ensure full operation of the competency-based system

While significant progress has been made towards a fully competency-based system, a number of barriers still exist. Time served acts as a proxy for competencies that can be difficult to measure, particularly the broader 'employability' type skills, such as following directions, communication, and managing time and other processes. Such considerations may be important for younger apprentices who do not have the experience and life skills of older apprentices. When examining the barriers that exist to competency-based completion, the Commission recognises that it will be important to review the competencies assessed so that the quality of apprenticeships is not diminished.

Many modern awards still contain provisions that impede the operation of a flexible and competency-based system. While high wages incentivise the achievement of competencies at a faster rate, 'award provisions governing the vast majority of apprenticeships continue to base wage progression ... on duration of service' (NCVER 2011b, p. 48). Some awards also specify that the term of the apprenticeship must be four years. These provisions are restrictive and can contribute to low completion rates, as apprentices who develop their skills quickly may prefer to cancel their training contract to work unqualified for a higher wage. Some awards also prohibit the hiring of unapprenticed juniors, preventing young workers from gaining work experience or arranging training-based employment outside the apprenticeship system.

Industry-based regulation also complicates the move to competency-based completion, particularly in the plumbing and electrical industries. Under the *Building Act 1993* (Vic), there is no impediment to apprentices who complete their apprenticeship in three years obtaining their plumbing licence. However, the *Plumbing and Fire Sprinklers Award 2010* requires all plumbing apprentices to be apprenticed for four years full-time (clauses 15.3 and 15.5). The Plumbing Industry Commission also generally requires applicants to complete four years of work experience before attempting the licence exam. Moreover, various State and Commonwealth government funding initiatives still endorse time-served completion of training. An example of this is the Victorian Government's Apprentice Trade Bonus program, which provides two payments of \$250 each to all apprentices who commenced training on or after 1 January 2006, after completing six and 12 months of an apprenticeship (Skills Victoria 2011c).

A key constraint on greater adoption of competency-based completion appears to be scepticism that competency-based measures can adequately prepare an apprentice to be fully qualified. Concerns are expressed that in the absence of a time-based element to completion, apprentices could be 'qualified' before they are ready. While addressing the above barriers is important to improving

competency-based completion, ensuring that the measures of competency are sound is vital to ensuring that the integrity of qualifications is maintained, and there is confidence in the system. That said, the Commission considers that moves to reduce the cycle time for skill formation would improve the flexibility of labour markets and the Victorian economy's capacity for adjustment.

Improving flexibility

In addition to allowing for competency-based completions, other efforts to improve the flexibility of apprenticeships are important. More flexibility can help to deliver cost-effective and timely training, and can encourage more workers and employers to take part in the system, and complete training.

In Victoria, the decision to vary, extend or cancel an apprenticeship contract requires mutual agreement from both parties to the contract (employer and apprentice) or an order of the VSC. Apprentices are therefore prevented from leaving their training without the consent of the employer. Mutual consent essentially ensures employers can recoup the high costs of training unskilled apprentices at the commencement of a contract; the payoffs are only experienced near the end of training when the apprentice is highly skilled but still working on an award wage.

Without mutual consent, there is likely to be some greater level of 'churn' in apprentice training, and it may increase the level of non-completions. However, increasing the flexibility of apprenticeship contracts also makes it easier for businesses to terminate agreements (when the arrangement is not working out or when the business is facing financial difficulties), which may make businesses more amenable to taking on an apprentice in the first place. Removing mutual consent requirements could also help apprentices to develop skills more quickly by moving between businesses that offered the range of competencies required. Unfair dismissal laws would continue to protect apprentices from harsh, unjust or unreasonable dismissal.

The current apprenticeship and traineeship system allows little scope for tailored, individualised or flexible training. The VSC (via Skills Victoria) determines if training shall be carried out as an apprenticeship or traineeship. Employers and apprentices have little scope to indicate a preference for either framework. Furthermore, 'traineeship' and 'trainee' are not defined in the *Education and Training Reform Act 2006* (Vic) leading to ambiguity in the distinction between apprentices and trainees.

Inflexibility is also evident in the training program, with restrictions on how training can be delivered. On-the-job tasks can also be repetitive with a narrow focus, with some apprentices complaining of learning more in their RTO training than in the workplace (Fair Work Australia 2011, p. 166). This lack of flexibility contrasts strongly with the broader VET system which allows for a mix of

on-the-job and off-the-job training, recognition of prior learning, and tailored training packages that meet individual and workplace needs.

A more flexible model of training delivery could also include contracts between apprentices/trainees and RTOs, who could operate as group training organisations. Such a model is more flexible in how training is undertaken, facilitates the continuation of training during times of economic uncertainty (when businesses are reluctant to take on apprentices and trainees), and potentially also provides greater support for apprentices and trainees (through a classroom environment of peers).

Given that vocational training more generally increasingly involves work placements and recognition of prior learning, the reasons for institutional, regulatory and industrial relations differences between apprenticeships and other types of training become difficult to understand.

Draft recommendation 4

That the Victorian Government further encourage competency-based training and participation in apprenticeships and traineeships by:

- removing barriers such as excessive prescription in training packages, mutual consent requirements in apprenticeship contracts, and State regulatory and licensing barriers to competency-based entry to professions
- deeming registered training organisations eligible to take on apprentices and trainees as group training organisations
- advocating for the removal of Commonwealth regulatory and licensing barriers to competency-based entry to professions.

3.5 Reinvigorating the school system

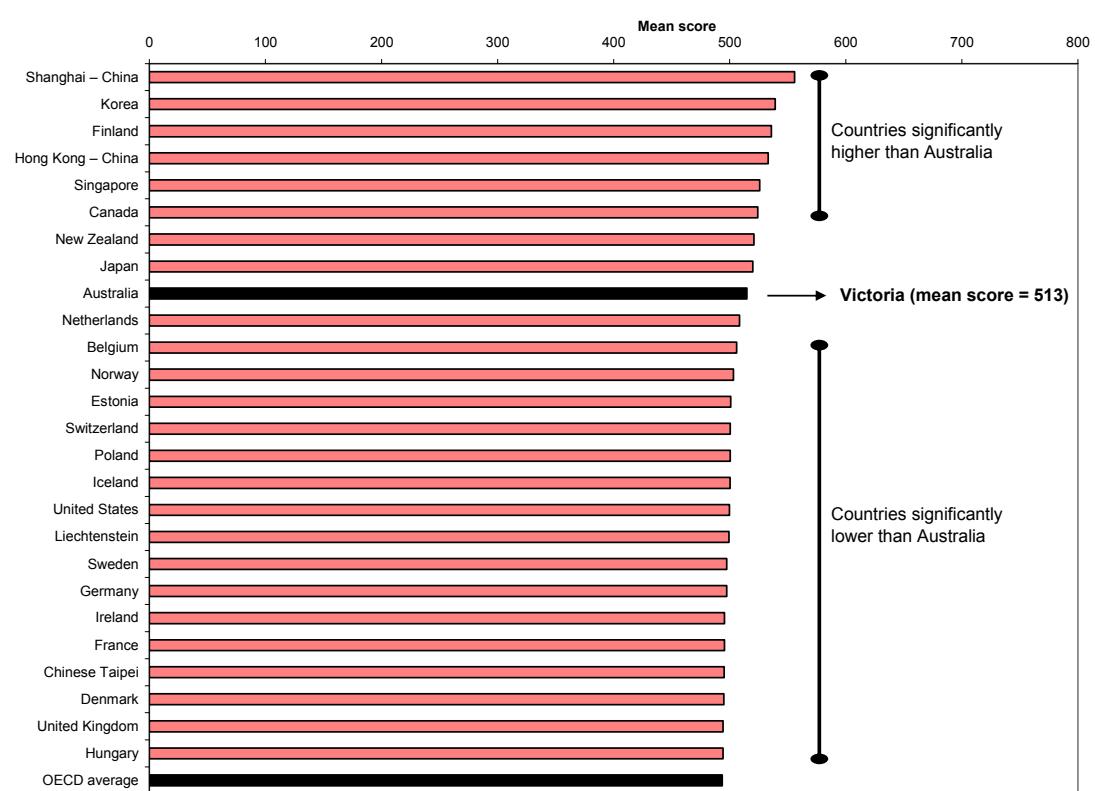
Victoria has a high-quality school education system by national and international standards. Nonetheless, there is potential for the system to make a stronger contribution to labour force participation and productivity by achieving better outcomes for students, more effectively and efficiently.

3.5.1 Student outcomes from school education

Victoria's school system (including government, catholic and independent schools) performs well compared with other jurisdictions in Australia on school retention and completion rates (ABS 2010d; SCRGSP 2011). Based on national test results, Victoria's academic performance in literacy and numeracy is relatively

high and generally well above the national average (ACARA 2011).⁵ Victoria also performs well internationally, with results significantly above the OECD average in reading, mathematical and scientific literacy. Figure 3.3 shows that Victoria is well above the OECD average in reading literacy.

Figure 3.3 PISA mean scores in reading literacy, Victoria and selected OECD countries, 2009^a



^a PISA is the Programme for International Student Assessment of 15-year-olds' reading, mathematical and scientific literacy. It is overseen by the OECD. The figure shows countries that are above the OECD average.

Source: Thomson et al. 2011.

Two features of Victoria's student performance are of concern. First, despite a significant real increase in expenditure on school education in the past decade or so, there has been no marked improvement in average literacy and numeracy achievement across age groups — although there have been some small to moderate gains for particular subgroups (VAGO 2009, p. 2). Recent national testing of Victorian students indicates that, while there have been some

⁵ National Assessment Program — Literacy and Numeracy (NAPLAN) results for 2011 are preliminary. Victoria performs well, compared with other jurisdictions, on mean scale scores and percentage of students above national minimum standards.

improvements in years 3 and 5, there have been no statistically significant gains in years 7 and 9 between 2008 and 2011 (ACARA 2011). International tests of Victorian 15-year-old students' reading, mathematical and scientific literacy also show no statistically significant improvement over time (table 3.1).

Second, average performance levels in Victoria mask substantial variations in student performance. The lowest-achieving students are well behind their high-achieving counterparts. The achievement gap between students from low and high socioeconomic backgrounds has been wide at all year levels for both literacy and numeracy, and the gap has not narrowed over time (VAGO 2009, pp. 38, 43). And it is the low achievers that are more likely to drop out of school early. Moreover, analysis of international test results shows that countries such as Finland, Hong Kong (China) and Canada are able to achieve better outcomes on both quality and equity than Victoria (Thomson et al. 2011, p. 284).

Table 3.1 Changes in PISA mean scores for reading, mathematical and scientific literacy, Victoria

	Period	Change in mean score		Statistically significant
		points	%	
Reading literacy	2000 – 2009	-2.6	-0.5	no
Mathematical literacy	2003 – 2009	+1.3	+0.3	no
Scientific literacy	2006 – 2009	+8.2	+1.6	no

Source: Thomson et al. 2011.

These results suggest that Victoria needs to address any existing barriers to improvement and examine different approaches. Victoria's educational performance, compared with other Australian and international jurisdictions, would be improved by effective strategies that lifted educational outcomes across the student distribution.

3.5.2 Lifting the performance of the school system

The Commission has identified elements of the school education system which, if reformed, would improve student outcomes and, in turn, lift future labour force participation and productivity. Victoria's educational outcomes could be improved by:

- developing a strategy for achieving internationally competitive performance
- encouraging more innovative and high-performing schools
- developing a high-performing teacher workforce
- addressing youth disengagement.

Achieving internationally competitive performance

The Victorian Government's objectives for school education can help shape the expectations of key stakeholders, such as the Department of Education and Early Childhood Development (DEECD), schools, principals, teachers and school communities. At present, there is no clearly articulated overarching strategy for improving the government school system in Victoria.

The Commission considers there would be value in articulating a strategy that sets goals and actions necessary to achieve improved outcomes. A strategy based on improving Victoria's educational attainment in schools — to match those at the top of international rankings — would help to focus DEECD's objectives, and those of the school education system more broadly. DEECD's current objectives would need to be aligned with the proposed strategy.

While the strategy should focus on improving the government school system, elements of the strategy (such as improved performance information and measures to enhance teacher quality) are also likely to influence outcomes in catholic and independent schools.

Draft recommendation 5

That the Victorian Government develop a medium-term strategy to improve student education outcomes from Victoria's school system, including:

- **setting best international performance in educational outcomes as the aspirational goal**
- **implementing actions to improve the capacity of the school system to achieve such outcomes, including through teacher quality, school leadership and performance information.**

Encouraging more innovative and high-performing schools

Although many factors can influence school performance, consultation and research undertaken by the Commission have indicated that several factors are particularly important, including:

- improved performance information
- devolved accountability and responsibility
- effective local leadership
- high-quality teachers.

Improved performance information

Information on the performance of Victorian schools can help parents and their children make informed choices. It also enhances transparency and accountability, and strengthens performance incentives.

School performance summaries are published on the Victorian Registration and Qualifications Authority (VRQA) website. These summaries provide parents and communities with information across a range of measures, including student learning, student engagement and wellbeing, and student pathways and transitions. The advantage of these summaries, compared with the national My School website, is that comparisons are possible across a broader range of student performance measures. A limitation, however, is that comparisons are only possible across Victorian government schools and measures of student gain are not included.

Potential areas for improvement therefore include: incorporating student gain measures into school performance summaries; improving the comparability of performance information across school sectors; and raising public awareness about the availability of school performance information on the VRQA website.

Devolved accountability and responsibility

School autonomy and accountability are key enabling factors mobilising incentives to teach and learn. These factors do not generate incentives in isolation — they are interlinked with the assessment of teaching and learning, and with teacher quality (World Bank 2011). In looking at Victoria's approach to devolution and accountability, there appear to be a number of examples, where there are unnecessary controls on local decision-making in government schools, and lines of accountability are unduly complex or unclear.

Since the 1990s, school councils and principals in Victorian government schools have had authority over budgetary decisions, staffing and the maintenance and operation of school facilities — but these decisions must meet guidelines imposed by DEECD. It appears that Victorian government schools face more externally-imposed requirements than catholic and independent schools. In addition, a single governance model applies to all Victorian government schools. In contrast, catholic and independent schools have no centralised governance model and are able to make key decisions largely or entirely at the local level.

The expertise of school council members also influences governance outcomes. The quantity and quality of training and support for government school councils varies and take-up by school council members is low. DEECD is developing online professional learning programs for school council members that are designed to address the low take-up.

The scope of matters considered by Victorian government school councils does not necessarily extend to teacher performance or student outcomes. While school councils have a broad mix of governance and operational functions as outlined in the Education and Training Reform Act, there are no explicit requirements for school councils to set priorities, monitor teacher and student performance or educational standards in the school, or monitor school achievements against objectives. In contrast, the role of school boards in New

Zealand includes setting priorities and goals for improvement of learning and achievement in the school, monitoring the school's performance against student achievement outcomes, and seeking assurance that the school's resources are being used effectively to deliver agreed outcomes.

Government schools in Victoria must contend with multiple lines of accountability. Accountability for student and learning outcomes has been devolved somewhat to the principal reporting up through regional network leaders and regional directors to DEECD central office. Accountability for some resources, such as finance and infrastructure, rests with school councils. Whilst accountability for managing teacher performance rests with DEECD central office.

Victorian government school councils are generally more restricted in their composition and scope for decision-making than their counterparts in the non-government school sector in Victoria and in some other high-performing countries. The single model for governance may also prevent schools, especially small schools, from gaining the necessary expertise to fulfil all the roles.

The monitoring, reporting and accountability relationship between principals and school councils, and DEECD central and regional offices, requires clarification. From the Commission's work to date, it appears that Victoria could improve its framework of institutions, governance structures and accountabilities for devolved management in government schools. It is not possible, however, within the scope and resources of this inquiry, for the Commission to fully research an appropriate model or models. Further work in this area is needed.

Effective local leadership

Research shows that high-performing schools generally have effective leaders. Leadership has significant effects on student learning, second only to the effects of the quality of curriculum and teaching (Leithwood and Riehl 2003, p. 3). The more decisions that are taken at the local level, the more important is the need for effective leadership.

A priority in this area is to identify and develop those teachers that have leadership potential. Although DEECD has introduced some leadership programs, the take-up of these programs has been restricted by time constraints on current and potential leaders. Moreover, the Bastow Institute of Educational Leadership is still being developed and current programs have been rolled out to relatively few participants. Effective leadership is not only a matter of skills. School leaders, and principals in particular, need to have the authority and support to make decisions. This includes assessing and managing staff performance, selecting staff, and dismissing underperforming staff who do not respond once the need to improve their performance has been identified.

The Commission was told that principals have a heavy administrative burden that can impinge on their educational leadership role. While DEECD has implemented programs, such as funding Secondary Teacher Assistants, to relieve teachers' administrative burdens, it could review the roles and responsibilities assigned to principals and school leaders (including non-teaching staff), with the aim of devolving responsibility and accountability within schools.

In addition, DEECD could consider alternative models of leadership, or more flexible pathways to attaining leadership positions in schools. For example, executive managers could be hired from outside the teaching profession to manage financial, operational and human resources aspects of schools. This would allow principals or headmasters to concentrate their efforts on educational leadership, rather than administrative stewardship.

Another improvement strategy is to redeploy effective principals to lower performing schools. This strategy has been used in some school community regeneration projects in Victoria and by some other countries that have high-performing education systems. In Singapore and Shanghai (China), principals move regularly so that the ethos, management style and teaching methods of good schools are transferred to low performing schools (OECD 2011a, p. 97). There may be value in applying such strategies more widely in the Victorian government school system.

Better targeting resources to address low performance

Funding systems play an important role in directing educational resources to address additional learning needs within school systems. All Australian jurisdictions have funding components that seek to address the additional learning needs of students from lower socioeconomic or disadvantaged backgrounds, reflecting research that socioeconomic background is a key predictor of student performance (DAE 2011; Rorris et al. 2011).

In Victoria, equity funding under the Student Resource Package (SRP) is intended to target schools with a significant number of students from low socioeconomic backgrounds and with lower than expected student outcomes in literacy and numeracy (DEECD 2011a). Equity funding is currently dispersed to about 50 per cent of Victorian government schools. It is unclear whether this funding is sufficiently focused. Good practice would suggest that funding should be appropriately targeted at students with additional learning needs.

Better targeting of educational resources, on its own, will not lead to a breakthrough improvement in student outcomes, but it can play an important role together with other strategies discussed in this draft report. In particular, teachers play a vital role in identifying learning difficulties and other factors behind low performance, and in implementing or arranging appropriate interventions.

Draft recommendation 6

That the Victorian Government move further towards an outcomes-focused and devolved Victorian government school system by:

- identifying and implementing best practice models for the governance of devolved schools
- strengthening school leadership, governance and management, ensuring principals have the authority and support to make substantive local management decisions
- improving school performance information, especially on student outcomes
- prioritising funding and resourcing to students with the greatest need.

Developing a high-performing teacher workforce

A considerable body of research shows that, after student-related factors such as socioeconomic and cultural background, teacher quality has the greatest impact on student performance. The best teachers can achieve up to twice as much with their students as less effective teachers (Jensen and Reichl 2011, p. 6). The importance of teacher quality has been recognised by DEECD which has implemented a range of initiatives in this area.

Many factors have a bearing on teacher quality and effectiveness. The focus of reform in this area should be on developing a high-performing teacher workforce by:

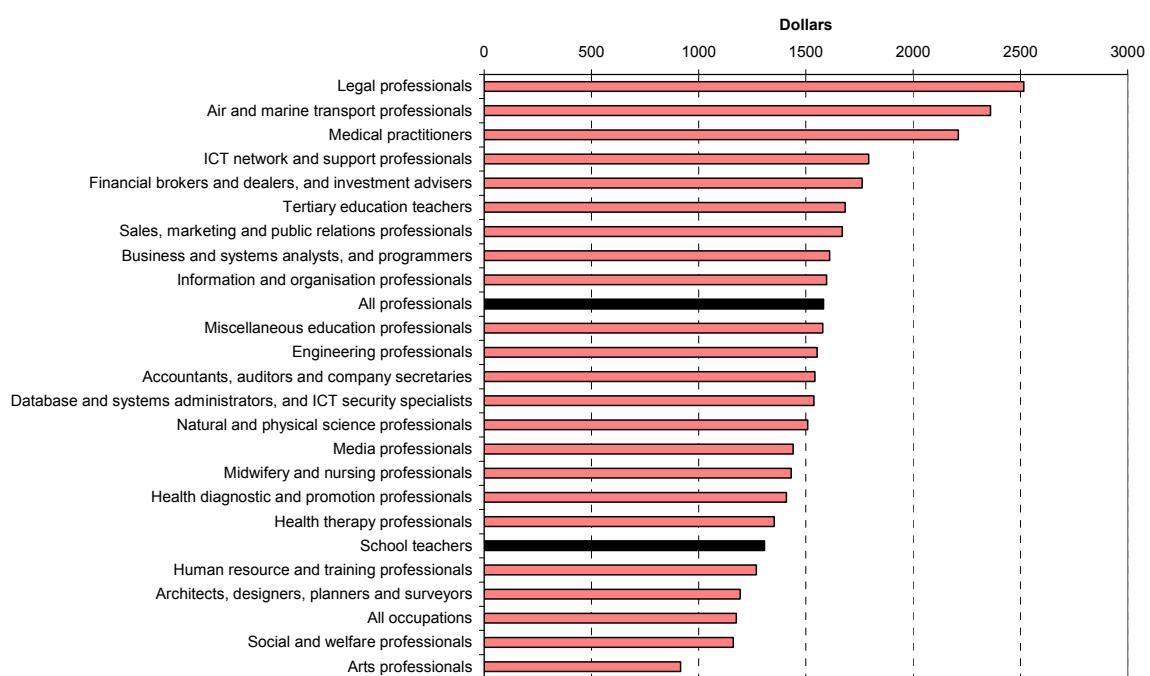
- making teaching a more attractive career option for potential new entrants and retaining high-quality teachers
- developing more flexible career paths supported by strong professional development opportunities
- recognising and rewarding teacher performance, especially high performance.

Attracting and retaining high-quality teachers

Attracting a high-quality student intake into teaching courses and retaining teacher graduates requires teaching to be an attractive career path. While improving children's lives through education is an important motivation, professional status, working conditions and remuneration are also major factors that influence career choices. A survey of high-achieving university graduates conducted in 2008 revealed that teaching had a lower status than any other career option presented, and a majority of respondents perceived unattractive pay and limited career development as the biggest detractors to entering the profession (Boston Consulting Group 2008).

Research evidence suggests that relative pay and alternative employment opportunities influence the decision to become a teacher, the decision to remain a teacher, and the decision to return to teaching (OECD 2005, p. 70). Based on average weekly (ordinary time) earnings, teachers are among the lowest-paid professions in Victoria (figure 3.4).

Figure 3.4 Average weekly (ordinary time) earnings, professionals, Victoria, May 2010



Sources: ABS 2011c; ABS and SNZ 2006.

While starting salaries for graduate teachers in Victoria are competitive with starting salaries in many other professions, as teachers progress in their careers they are confronted with a relatively flat salary scale, with many teachers reaching the top of the scale within nine years. These pay attributes diminish the attractiveness of teaching as a career choice, discourage the most talented graduates from entering teaching, and make it more difficult to retain high-quality experienced teachers.

More flexible career path supported by professional development

Most teachers enter the profession after undertaking a degree course at a teacher training institution. Once in the profession, a teacher's career typically follows a linear progression through the three teacher classification levels. Classroom teacher positions have three salary ranges — graduate, accomplished and expert. Currently, salaries within the salary schedule are the same for all subject areas and locations, and do not account for the relative scarcity of skills in certain

disciplines and locations (DEECD 2011b). As teachers gain experience, their contribution to the school program beyond the classroom increases. A typical teacher will progress to the expert teacher range after nine years of teaching and, in practice, progression is based mostly on years of service.

Education support staff (such as teacher's assistants, business managers and administration officers) are employed under a separate career structure with no opportunity to transfer to the classroom teacher positions, except through retraining at a teacher training institution and commencing at the graduate teacher level. This restriction also applies to potential entrants from other professions. DEECD noted that other possible barriers to encouraging people from other professions to change career into teaching include: loss of income to retrain and requalify; existing processes for recognition of qualifications; and lack of recognition for prior learning and experience (DEECD 2011b).

A more flexible approach to careers in teaching could be developed using competency-based training to provide alternative entry points for prospective teachers from within the education system or other professions. In consultations, the Commission was told that teachers reach a certain level and are looking for the next challenge (such as taking on more responsibility and/or a leadership role) which, it is claimed, is not available in teaching. This leads to highly-motivated teachers leaving the profession. Increasing the flexibility to move in and out of the linear career structure may help to address this issue.

Continuous professional development plays a key role in maintaining and improving teacher effectiveness. It is meant to ensure that teachers' skills are up-to-date and reflect best practice teaching methods. The *Victorian Government Schools Agreement 2008* and the *Victorian Standards for Professional Practice* indicate that teachers are expected to engage in ongoing professional learning to improve their practice.

While professional development programs for teachers are offered by DEECD, their take-up is influenced by incentives to develop skills, teaching workload and the availability of replacement teachers. Only a small proportion of teachers take professional leave to enhance their classroom practice. This may partly reflect the difficulty of finding adequate time for professional development, collaboration and reflection. There may also be rigidities in staffing formulas and budgets for replacement teachers and the scheduling of the programs that restrict the capacity of schools to release staff for professional development.

The Commission considers that professional development should be given more emphasis. In addition, professional development could be targeted to addressing the school's particular needs. There appear to be benefits for student outcomes from teachers learning from more skilled and experienced teachers on-site and from taking a team-based approach to addressing students with learning difficulties. In high-performing countries such as Finland and Japan, teachers

work together, plan their lessons jointly, observe each others' lessons and help each other improve (McKinsey & Company 2007, p. 28).

Recognising and rewarding high-performing teachers

Recognition and reward can provide powerful incentives to improve performance. Only a small proportion of Australian teachers reported that they would receive recognition if they improved the quality of their teaching or used innovative teaching methods in their classrooms (OECD 2009b, p. 188).

Victorian teachers may face weak incentives to improve their performance because there is little or no recognition or reward for performance — good or poor. Systems that could influence these incentives include performance assessment, performance-based remuneration and exit procedures for ongoing unsatisfactory performance. Once systems are in place and operating effectively, these would strengthen incentives for teachers to take up professional development opportunities and build their skills.

Although a performance assessment system is in place, it does not appear to be working well. Salary progression for teachers is predominantly based on years of service, notwithstanding the performance assessment cycle. Principals can make special payments to reward highly effective teachers but these payments are rarely used as performance incentives and are more often provided to teachers for additional duties. This suggests that the link between performance and pay is relatively weak.

While recognising good work and performance-based remuneration are ways of motivating higher performance, performance assessment is critical because it underpins salary progression and potential performance pay arrangements. There appear to be cultural barriers that are impeding the functioning of the performance assessment system. In addition, it appears that principals often lack the authority and support to make decisions relating to performance assessments.

To improve teacher quality, the Victorian Government's strategies could focus on making teaching a more attractive career option and developing systems that provide the opportunity and incentive for teachers to further develop their skills.

Draft recommendation 7

That the Victorian Government improve the quality of teachers and teaching by pursuing strategies that:

- enhance the attractiveness of teaching as a profession
- create more flexible career paths (including competency-based entry) and encourage more teachers to take up professional development opportunities, including feedback from mentors and expert teachers
- appropriately recognise and reward performance, especially high-performing teachers, and address underperformance.

Addressing youth disengagement

Given the skill levels demanded by industry, it is becoming increasingly important that students acquire appropriate foundation skills. According to the Victorian Employers' Chamber of Commerce and Industry, one of the major areas of concern for business is student disengagement and early school leaving (sub. 80, p. 4).

While Victoria has relatively high retention and completion rates, youth disengagement is of concern because of the associated personal, economic and social costs. Australian and international research shows that early school leavers are more likely to become unemployed, stay unemployed for longer, have lower earnings, accumulate less wealth and have poorer health over their lifetimes (Lamb and Rice 2008, p. 6). Disengagement with education also adversely affects participation in the workforce. These outcomes have significant implications for government and the community.

Research suggests that early intervention is a key and effective way of addressing the risk of disengagement (Lamb and Rice 2008; Butler et al. 2005). In a submission to the inquiry, the Brotherhood of St Laurence argued that there are too few programs aimed at addressing early and middle years disengagement from school (sub. 57, p. 8).

The Commission was told that there is incomplete information on the extent of the youth disengagement problem in Victoria, which impedes the design of effective interventions. Another barrier is the complexity and fragmentation of existing service delivery (DEECD 2011c). There are currently numerous programs, agencies and organisations seeking to address youth disengagement, which has led to complexity and potential for overlap, duplication and reduced effectiveness. A more systematic approach is needed in this area.

To increase participation and engagement in school education, the Victorian Government could develop a clearer strategy which gauges the extent of the youth disengagement problem in Victoria; develops systems, processes and

indicators for early identification and intervention; simplifies programs and funding arrangements; and establishes evaluation and monitoring mechanisms.

Draft recommendation 8

That the Victorian Government adopt a focused strategy to achieve a breakthrough reduction in youth disengagement from education by:

- clearly establishing the extent and dimensions of disengagement, and the means of identifying students at risk of disengagement
- simplifying and focusing programs to address disengagement, emphasising early intervention and follow up.

3.6 A stronger focus on early childhood development

Early childhood services in Victoria encompass education, child care, health and family support services. In the area of education and child care, Early Childhood Education and Care (ECEC) services offer education, recreation and child care to children mainly in the years from birth to school entry (about age six).

3.6.1 Children's outcomes in early childhood

While early childhood development is recognised as an important foundation, there are little data on the quality of early childhood services or children's outcomes. The majority of government data on early childhood services measures the inputs from funding sources and the number of children receiving services.

The Australian Early Development Index (AEDI) is the principal measure of children's outcomes in the early years and was first implemented in 2009. Administered in a child's first year of formal schooling, the AEDI quantifies teachers' perceptions of children's development in five domains: physical health and wellbeing; social competence; emotional maturity; language and cognitive skills; and communication skills and general knowledge. Victorian children performed relatively well on the AEDI, generally having the highest or equal highest scores in the five domains across Australian jurisdictions (table 3.2).

Table 3.2 Average AEDI scores, by jurisdiction, 2009

	<i>Physical health and wellbeing</i>	<i>Social competence</i>	<i>Emotional maturity</i>	<i>Language and cognitive skills</i>	<i>Communication skills and general knowledge</i>
Victoria	10.0	9.4	8.7	9.6	9.4
NSW	9.6	9.2	8.7	9.6	9.4
Queensland	9.6	9.0	8.5	8.1	8.8
WA	9.6	9.2	8.5	8.1	9.4
SA	9.6	9.2	8.7	9.6	9.4
Tasmania	9.6	9.2	8.7	9.6	9.4
NT	9.2	8.8	8.3	8.1	8.8
ACT	9.6	9.2	8.7	9.6	9.4

Source: CCCH and TICHR 2011.

The early childhood sector faces a number of challenges, including meeting the rising demand for services due to population growth, and meeting national policy commitments to expand kindergarten provision and lift quality standards in ECEC. A further challenge lies in the current patchwork of services provided by multiple levels of government and the private and community sector, which is characterised by a lack of clarity in roles and responsibilities. Institutional arrangements are shaped by all three levels of government. The Commonwealth focuses on funding and policy development but Victorian and local governments also fund and/or deliver some services (PC 2011a). This can result in ambiguity about which level of government should fund a particular service (Lovell 2011).

In addition, around 20 per cent of Victorian children in the first year of school are vulnerable on one or more developmental domains (CCCH and TICHR 2011). The highest risk of vulnerability is found in the poorest neighbourhoods but the largest number of children with developmental vulnerabilities is found across predominantly middle-class neighbourhoods.

3.6.2 A framework for investing in early childhood

To support reforms in school education, there needs to be a stronger focus on the role played by early childhood development. Research indicates that early intervention to improve a young child's environment can make a significant difference to their cognitive development and transition to school (Shonkoff and Phillips 2000; Thorpe et al. 2004). There are also broader benefits from investing in early childhood development, such as allowing more parents to participate in the workforce. Early childhood services, together with a supportive family

environment, can provide the foundation for children to grow into productive and socially engaged adults.

That said, it is unclear whether Victoria is investing adequately in early childhood development. While there is some international evidence on the returns from investing in early childhood development, particularly to alleviate the effects of child poverty and disadvantage, there is little specific evidence for Australia, let alone Victoria (PC 2011a). This gap could be addressed by the Victorian Government investing in the development of an economic framework for government involvement in early childhood development and in the supporting evidence base.

As noted above, the early childhood sector is fragmented, incorporating a patchwork of services over which no single organisation has overarching responsibility. The result is a sector without clear responsibility for child outcomes, provision planning, infrastructure, accessibility, quality or workforce supply. The Victorian Government could advocate for greater clarity and accountability in the funding, provision and regulation of early childhood development at the national, state and local levels.

Draft recommendation 9

That the Victorian Government elevate the role of early childhood development in achieving better school education outcomes by:

- **developing and applying an evidence-based strategic framework to reform policy on early childhood development and collecting data to evaluate and improve that policy**
- **advocating for greater clarity, coherence and accountability in funding, providing and regulating early childhood development at the national, state and local levels.**

4 More effective innovation and entrepreneurship will boost productivity

4.1 Productivity growth is underpinned by innovation

Innovation is the process of generating new value by creating and adopting new or significantly improved ways of doing things. Innovation can be undertaken by individuals, firms, governments, non-government organisations, research institutions, and even decentralised virtual communities.

In broad terms, innovation can be defined as the application of knowledge to create additional value and wealth. Innovation is much more important than invention, specifically it requires that knowledge is used in a way that provides benefits through additional value-add. Through the application of knowledge and technology to create new products and services and improve production processes, innovation allows us to increase our competitiveness, create high-quality jobs and achieve greater value for what we make and export. It also enables us to respond more effectively to unavoidable economic and social challenges ... (BCA 2006, p. 2)

Defined in this way, innovation encompasses a wide range of activities including research and development (R&D), organisational change, product development and testing, and changes to marketing and design (OECD and Eurostat 2005, p. 1). Innovation can include gradual and incremental changes to products, services or processes, as well as more radical change.

Ongoing productivity gains come from innovation that results in the smarter use and combination of labour, capital and other inputs. This requires improved skills and greater know-how. Investment in these intangible assets is rising, and in some countries, recent estimates of those assets ‘explain a significant portion of multi-factor productivity growth’ (OECD 2011b, p. 4). The Department of Innovation, Industry, Science and Research (DIISR) recently cited evidence showing that:

... investment in intangible capital (innovation-related activities such as skills development, design and organisational improvements) and multifactor productivity (spill-over impacts of these intangible investments) together accounted for 62% of Australia’s productivity growth between 1994-95 and 2004-05. (DIISR 2011, p. 1)

This is similar to some estimates for the United Kingdom (ACIL Tasman 2011, p. 166). At the enterprise-level, findings from a recent study by the Productivity Commission (PC) and the Australian Bureau of Statistics (ABS) based on the

ABS's Business Longitudinal Database also suggest that innovation by businesses is associated with better business productivity outcomes. The study indicated:

... a positive and statistically significant association between the four types of innovation (goods and services, organisational process, operational process, and marketing) and higher productivity reported by the firm. (Soames et al. 2011, p. 2)

Australia is considered by the World Economic Forum (WEF) to be a country in the 'innovation-driven' phase of economic development (WEF 2011, p. 11).¹ Similarly, some other commentators refer to Melbourne as being a 'post-industrial knowledge intensive economy' (SGS Economics & Planning, sub. 56, p. 1). Innovation is, therefore, particularly important to future living standards in Victoria because of the structure of the economy, especially when compared with other states and territories: 'Services and knowledge industries now play an increasingly vital role in our growth' (Victorian Government 2008, p. 5).

4.1.1 The role of government in supporting innovation

Most innovation is driven by businesses and individuals operating and interacting in competitive markets. The PC and ABS study found that 'stronger competition is associated with a higher propensity for firms to innovate'. They found 'statistically significant association[s]...between certain competition-related variables and the presence of a larger number of different types of innovation being completed and a higher degree of novelty of those innovations' (Soames et al. 2011, pp. 1–2). The Victorian Government can contribute to improving the innovation performance of Victoria's economy in essentially three respects: supporting innovative practices in the public sector; supporting the appropriate 'framework conditions' to encourage innovation and entrepreneurship; and addressing market failures and system failures in the national innovation system.²

Well-established market failures in innovation include the problems of non-excludability and non-rivalry in the production of ideas. Other potential sources of market and system failures for innovation include: barriers to market entry; capital market failures; institutional failures in areas such as universities,

¹ 'Innovation-driven' economies are those that have moved beyond 'factor-driven' and 'efficiency-driven' development phases and their focus on 'basic requirements' (institutions, infrastructure, health, primary education) and 'efficiency enhancers' (higher education, goods and labour market efficiency, developed financial markets, technological readiness). Innovation-driven economies are characterised by R&D, knowledge intensity, and expanding services sectors (GEM 2010, pp. 14–15). While 'basic requirements' and 'efficiency enhancers' continue to underpin prosperity, the growth and competitiveness of 'innovation-driven economies' depend on 'entrepreneurship conditions' (business sophistication and innovation) (GEM 2010, pp. 14–15; WEF 2011, p. 9).

² The PC describes the innovation system as consisting of: relevant institutions that pursue innovation; embedded economic and social incentives that encourage or discourage innovation; the capacity for diffusion of knowledge and innovation; a skilled and capable workforce, entrepreneurship and high-quality training and education; the stability of the financial system; and multiple feedbacks in the system that can enhance or frustrate the prospects for learning, diffusion and innovation (PC 2007, pp. 15–17).

research institutes or the patent system; network failures; framework failures (such as regulation), intellectual property rights, and other background conditions (Melbourne Institute and IPRIA. 2011, pp. 26–27).

The Melbourne Institute and IPRIA identified several categories of policies to address market or system failures that can lead to underinvestment in innovation by the private sector (table 4.1). Many Victorian and Commonwealth government policies fall into and across these categories (DIISR 2011, pp. 41, 69, 91).

The Commonwealth and Victorian governments have different instruments to support innovation. For example, the Commonwealth Government can enable or stimulate innovation through taxation, R&D grants, and legal infrastructure (intellectual property rights system, and competition law). The State Government can affect incentives to innovate through the way it manages the state economy. Innovation is also affected by state industry and innovation programs, regulation, collaboration facilitation, skills and education, city planning and (co)funding of innovation infrastructure. In addition, the State Government can influence innovation as a direct service provider (for example, in health), through publicly-funded research and public administration more broadly.

Table 4.1 Policy interventions for innovation market failures

Policy type	Market failure characteristic			
	Non-excludability (private incentives too low)	Non-rivalry (diffusion too narrow)	Coordination (broken linkages)	Risk (need to risk share)
R&D support schemes for industry				
Service provision schemes		✓	✓	
Entitlement schemes	✓			✓
Competitive schemes	✓			✓
Public research				
	✓	✓		✓
Collaboration				
University–industry linkages			✓	
R&D consortia & inter-firm networks			✓	
Industry R&D corporations		✓	✓	
Public procurement				
	✓	✓		✓
Financial support schemes				
			✓	✓
Cluster formation & networks				
	✓	✓	✓	

Note: The groupings are not precise and many government programs cut across several boundaries.

Source: Melbourne Institute and IPRIA. 2011, p. 35.

The role of government in fostering innovation can also extend to factors such as liveability, ‘critical mass of creative people’ and the design of cities (Jennings 2011). The Commission’s recommendations in other areas (such as education, infrastructure, tax and regulation), and the role of the State Government in these areas, are therefore also relevant to Victoria’s innovation performance.

4.2 While the state has strengths in innovation there is a need to improve performance

Victoria has strengths in key sources of innovation including the tertiary education sector which, according to the OECD, presents an important opportunity for Victoria’s productivity and innovation agenda:

The State of Victoria stands out among many other regions in the OECD area thanks to its efforts to make innovation and knowledge-based development a pillar of its future development. Victoria and its tertiary education sector have also made considerable strides in widening access to education, strengthening university-industry collaboration and improving the overall relevance of educational provision. (OECD 2009c, p. 3)

Victoria’s tertiary education sector ‘accounts for over 5 per cent of Victoria’s GDP and educational services are Victoria’s strongest export, worth more than \$5.4 billion, surpassing [the] tourism and automotive sectors’ (OECD 2009c, p. 3). In 2010, ‘education-related travel’ services accounted for \$5.5 billion, 43.4 per cent of Victoria’s services exports or 17.4 per cent of all exports (DFAT 2011).

RMIT University argued that education ‘is a key enabler of the innovation agenda and the State of Victoria has a major strength in higher education, with nine Victorian universities, each with particular capabilities’ (sub. 71, p. 1). ACIL Tasman similarly suggested that Victoria’s universities and research institutions are an important source of innovation capability for the state:

Victoria, and Australia more generally, possesses formidable research capabilities ... Australia was ranked 10th globally in the ‘quality of scientific research organization’ indicator of the WEF Global Competitiveness Report 2010-11 ... Victoria’s research strengths are underpinned by the capabilities and global reputation of its research-oriented universities, particularly the University of Melbourne and Monash University. The breadth of Melbourne University’s research capabilities across the various scientific fields, compared with its peer institutions in other Australian jurisdictions, is particularly noteworthy. (ACIL Tasman 2011, pp. 171–172)

The CSIRO also has globally significant research capabilities located in Victoria.

The WEF’s *World Competitiveness Report 2011-12* saw Australia’s competitiveness ranking fall from 16th position (out of 139 countries in 2010–11) to 20th (out of 142 countries in 2011–12). Innovation (which fell slightly to 22nd from 21st) and

business sophistication (unchanged at 29th) were identified as ‘two critical drivers of competitiveness for advanced economies’ contributing to Australia’s lagging performance (AiG 2011a; WEF 2011, p. 28). Notably, Australia’s ranking fell somewhat in six of seven sub-indicators making up the overall ranking on ‘innovation’ (table 4.2). The biggest falls were in ‘government procurement of advanced technology products’ and ‘availability of scientists and engineers’.

Australia also ranks low on the WEF’s business sophistication indicators of ‘state of cluster development’ and ‘value chain breadth’ (ranked 37th and 75th respectively) (WEF 2011, p. 103). This implies a low level of interconnectedness among businesses and between private and public sectors of the economy. This is consistent with the low levels of collaboration on innovation by Australian firms with other firms, universities and government relative to other OECD countries (OECD 2009f). Only a small percentage of Australian firms that innovate tend to source their ideas or information from, or collaborate with universities or higher education institutions (2.6 per cent and 2.4 per cent respectively) (ABS 2010a).

Other benchmarking studies show Australia generally ranks between 18th and 23rd in the world in its innovative environment and performance.³

Table 4.2 Australia's ranking on innovation competitiveness indicators: WEF Global Competitiveness Index

	<i>Indicator</i>	<i>WEF 2010–11</i>	<i>WEF 2011–12</i>
1	Capacity for innovation	23	27
2	Quality of scientific research institutions	10	13
3	Company spending on R&D	23	27
4	University-industry collaboration in R&D	13	14
5	Government procurement of advanced technology products	37	50
6	Availability of scientists and engineers	45	60
7	Utility patents granted/million population	17	16

Note: WEF 2010–11 includes 139 countries, WEF 2011–12 includes 142 countries.

Sources: WEF 2010, p. 85; WEF 2011, p. 103.

³ These include the Global Innovation Index Report 2009-2010; Global Competitiveness Report 2011-2012 – Innovation; Innovation: Transforming the way business creates, The Economist Intelligence Unit (May 2007); The innovative imperative in manufacturing (March 2009); The Atlantic Century Benchmarking EU and US Innovation and Competitiveness (February 2009) (VCEC adaptation of INSEAD 2010, p. 10).

The recently released *Australian Innovation System Report 2011* (DIISR 2011) provides the latest in-depth assessment of the performance of the national innovation system relative to other OECD countries. The key findings from the report were as follows:

- Australian innovation input data such as resource mobilisation, research and skills capacity, and business conditions rate relatively highly compared with other OECD countries: ‘With the exception of collaboration, the data shows Australia’s framework conditions rate relatively highly compared to other OECD countries, demonstrating a high capacity of the innovation system to produce and diffuse innovation’ (DIISR 2011, p. 1).
- Innovation output indicators suggest Australia rates relatively highly on entrepreneurship, knowledge diffusion, industrial design, trademark registrations and knowledge generation, but relatively poorly on new-to-market innovation and patenting (DIISR 2011, pp. 1–2).
- Analysis of how Australian firms innovate shows the most common approach is modification of innovations that have already been introduced to Australia. According to DIISR, ‘large Australian firms are more than twice as likely to modify and introduce to Australia innovations already developed internationally. This suggests the important role of large firms as conduits for overseas innovations reaching the domestic market’ (DIISR 2011, p. 1).
- Australia also has a high research capacity, but relatively low rates of patenting and collaboration between industry and research compared with the OECD as a whole. This suggests there is ‘a problem with research–industry partnering, or a lack of complementary markets in Australia for our research output’ (DIISR 2011, p. 2).

Previous approaches to innovation policy in Victoria have tended to emphasise supply push (rather than market pull), and underemphasise innovation in the services and public sectors. There are several issues that reduce the effectiveness of the innovation system and innovation policy (table 4.3).

Table 4.3 Observations on previous approaches to innovation policy and the Victorian innovation system

<i>Issue</i>	<i>Details</i>
Supply-push focus	Previous innovation policies have tended to focus on ‘supply-side’ factors based on a ‘technology-push’ approach. While there have been recent efforts to shift to a more ‘problem-based’ approach, there appears to be more to be done to shift the focus of innovation policy.
Neglecting innovation in services	Innovation thinking and policy has, thus far, paid little attention to innovation in the services and public sectors. Policies elevating R&D spending contribute little to service sectors that undertake little R&D but enact important organisational and workplace innovations (Royal Society 2009; Dodgson et al. 2010, p. 38).

<i>Issue</i>	<i>Details</i>
Fragmentation of the innovation system	The OECD places Australia in the lowest ranks among its members on rates of collaboration in innovation: among firms; between firms and higher education; and between firms and government. This inquiry heard that linkages between business and universities in Victoria were weaker than those overseas, and there is a need for strategies to build the long-term, trust-based relationships between business and universities that are essential for innovation.
Capability gaps	Inquiry participants and the Commission's research highlighted shortcomings in skills closely related to Victoria's innovation capacity. Greater emphasis on the development of innovation, entrepreneurship, policy evaluation, commercialisation and collaboration skills is needed. A key issue is in understanding barriers to collaboration and how these can best be overcome.
Weak evidence base	A shortage of data and evaluation of past policies impedes assessment of Victoria's overall innovation performance. This constrains the analysis of State-based and firm-level innovation and affects the capacity to develop future policies.
Unclear role of government	There is scope for the Victorian Government to provide clearer guidance on its role in innovation, based on a synthesis of current thinking on market failure and system failure. This includes a stronger focus on global and local linkages. This could then feed into the development of clearer objectives and processes for the development and evaluation of innovation policies.

Source: VCEC.

While the challenges in measuring innovation are significant, drawing on the available data, the Commission makes the following conclusions:

- Victoria has some important strengths in its innovation system, in particular, the strong research capabilities in its universities and other research establishments.
- However, there are also some significant and persistent weaknesses that may be limiting Victoria's innovative performance. These include, in particular, collaboration among the research/university and industry sectors, coordination issues, certain skills and capability gaps, and a weak evidence base for innovation policy. Certain sectors of the economy, such as the service and public sectors, also require more attention in innovation.
- As a result, the State, more broadly, may not be maximising the potential 'innovation dividend' from its key assets. This has implications for both Victoria's productivity and competitiveness as a knowledge-intensive, innovation-driven economy.

4.3 Opportunities for improvement

The Commission considers that the Victorian Government should set innovation policy as a key part of a State-based reform agenda. The Government can influence innovation in three ways:

- (1) by encouraging a more enabling environment for innovation
- (2) by addressing market and system failures that impede innovation
- (3) by developing a more innovative public sector.

Recommendations relating to these three areas are presented below. Given the uncertainties that permeate innovation policy, there is limited evidence available to determine conclusively the forms of government intervention that would successfully stimulate innovation without displacing private activity. Nevertheless, there are benefits in the Government trialling and evaluating policy approaches—based on current evidence on the types of activities that stimulate innovation—to address the identified shortcomings in the innovation system in Victoria (and Australia). The context in which government intervenes to promote innovation means that innovation policy:

... should be seen itself as an evolutionary process in which policy experimentation and the analysis of its impacts in specific contexts is used to further refine the range of innovation policy instruments (Mytelka and Smith, 2002). This requires significant policy evaluation and assessment competence, and recognition that the challenge of innovation policy is continual and changing; there is no absolute ‘solution’. (Dodgson et al. 2010, p. 38)

Future innovation policy should be embedded as an evolutionary process in Victoria. The Commission’s recommendations should be implemented, where appropriate, as pilot initiatives or on a trial basis, and always in the spirit of ‘aggressive learning’ within a robust evaluation framework. Such trials would test what works and inform future government policy and activities of others interested in innovation.

The Commission does not recommend an increase in funding for innovation policy or for industry assistance more broadly. Instead, the Commission’s recommendations would be implemented by re-ordering priorities. Innovation policy should aim to increase returns from government spending on R&D, innovation and the innovation system. The policy focus in this regard should be on innovation, not providing subsidies to businesses.

4.3.1 An enabling environment for innovation

Enterprises are the key innovators in the marketplace. However, as National Endowment for Science Technology and the Arts (NESTA) suggested, while many factors affect the opportunities to innovate, there are ‘Wider Framework Conditions’ that are ‘outside the boundaries of the firms as key innovators in the

marketplace' but 'shape the context in which firms innovate and influence their innovation performance and subsequent market success' (NESTA 2011, p. 3). NESTA identified the six framework condition categories as:

- the public research base and its propensity to work with innovating firms
- demand conditions and the degree of competition in relevant markets
- availability of finance and high-quality human resources
- infrastructure and services that facilitate flows of knowledge and people
- the degree of entrepreneurship that affects the capabilities of firms to innovate
- the wider business environment and competition for innovation (NESTA 2011, pp. 3, 35).

Importantly, these conditions 'characterise the competing environments that countries offer to innovating firms' (NESTA 2011, p. 3). Several of these conditions are outside the State Government's control but they may be influenced by government policy.

There is increasing recognition among governments, especially in 'innovation-driven' economies, that linkages, interactions and flows of skills, technology and knowledge among actors in the innovation system are crucial to an enabling environment for innovation. International and Australian research has also highlighted collaboration as an important feature of effective innovation systems in that it creates opportunities to combine ideas and capabilities, and to efficiently engage in innovative activities. Productive collaboration can occur among businesses and between researchers and businesses, and is strongly associated with higher rates of innovation:

OECD empirical research has shown that innovating enterprises are invariably collaborating enterprises, that collaboration persists over long periods, and that the publicly-supported infrastructure (such as universities and research institutes) are important collaboration partners. This is strong empirical confirmation of the idea that innovation should be seen as a collective phenomenon. (Smith and West 2007, p. 15)

Despite ongoing efforts by universities and governments to build and enhance linkages to industry, the evidence appears to indicate that Australia's innovation system still underperforms relative to other countries in business, research and government collaboration. Research by the OECD, and input from a number of participants in this and the Commission's manufacturing inquiries, suggested that increasing collaboration should be a high priority for Victoria's innovation reform agenda. Enhancing industry–research linkages is particularly important for Victoria given its strengths and investments in research. Weak or ineffective linkages reduce the 'spillovers' or the 'innovation dividend' Victoria receives from its assets.

Participants argued that any innovation agenda should focus on finding effective ways to increase collaboration, skills and knowledge flows between researchers and businesses, and on shifting from the traditional focus on technology commercialisation or ‘supply-push’ towards problem-sourcing or ‘demand-pull’ approaches. RMIT University, for example, argued for a ‘coordinated effort to build a stronger culture of collaboration between institutions, enterprises and the public sector, to reap the benefits of “critical mass”’ (sub. 71, p. 7). Monash University also noted that:

Regional and sector aligned innovation strategies are stronger, more clearly articulated and more integrated between research providers and industry in many overseas regions than in Victoria, with some regions positioning their universities as major research and workforce-skills providers in the supply-chains of their local companies. (sub. 54, p. 5)

The OECD similarly recommended enhancing the contribution of tertiary education institutions to innovation in Victoria (box 4.1).

There are, however, many impediments to stronger linkages. Participants highlighted: mismatches in expectations, risk tolerances and time-horizons; insufficient inter-sector mobility; misaligned incentives and cultural barriers (University of Melbourne, sub. 77, p. 8). They also pointed to issues of fragmentation, lack of coordination and understanding of Victoria’s research capabilities, and skills gaps in businesses for engaging the research sector (Monash University, sub. 54; RMIT University, sub. 71, p. 8). Other impediments cited included lack of risk capital and infrastructure to support spin-offs (Biosciences Victoria Collaborative, sub. 53; Swinburne University of Technology, sub. 73).

Submissions from several Victorian universities highlighted new models being implemented to improve collaboration ‘across and beyond the University’ including development of partnerships, interdisciplinary institutes, precincts and networks, and research support organisations (University of Melbourne, sub. 77; Monash University, sub. 54).

Box 4.1 OECD recommendations for enhancing tertiary institutions' contribution to innovation in Victoria

In the period 2009–11, 14 regions in 11 countries participated in the *OECD Reviews of Higher Education in Regional Development* (part of its Programme on Institutional Management in Higher Education). The Reviews involve joint regional self-evaluation by higher education institutions and stakeholders followed by an OECD-led expert review resulting in a Review Report. The following recommendations were made in the OECD's *Review of Higher Education in Regional and City Development: State of Victoria, Australia* (2010):

- That the Victorian Government:
 - commission a comprehensive review of the innovation system to better understand the levers and demands within the private sector that can be better met by new university initiatives
 - continue to encourage greater collaboration among universities
 - ensure that research on clusters and the demands of industry extend into the services sector and include clusters such as tourism. Clusters also should be conceptualised as cutting across the manufacturing–service divide.
- That Victorian universities look to develop and enhance the Unigateway project to provide a more hands-on engagement with business and a more collaborative way of referring enquiries. The State and/or Commonwealth government should encourage greater involvement by SMEs.
- The Commonwealth Government should consider the establishment of core funding for university engagement to promote knowledge transfer and the interests of industry. It should also consider reviewing the impact of the Commonwealth Government's research policies on business engagement, especially the Excellence in Research for Australia research assessment process, and making more accessible the Australian Research Council's linkage program, with a 'continuously open call and lightweight review for smaller projects'.
- Victorian universities should look to match global levels of excellence in supporting entrepreneurship in the curriculum, and build comprehensive support programs encompassing entrepreneurship training, practical experience of creating new businesses for groups of students, and 'incubation and hatchery' facilities together with seed funds for new graduate ventures.
- Victorian TAFE institutes should provide sectorally and locally focused comprehensive support for SMEs, connecting wider business improvement with training provision.

Source: OECD 2010a, pp. 19–20.

The Commission notes the recently announced strategic relationship between Cochlear Ltd and Macquarie University to establish Cochlear's new global headquarters and principal manufacturing facilities in Macquarie's North Ryde campus and new research collaboration initiatives with the university (Macquarie University 2007). Similar partnerships with world-class innovators in Victoria

could provide a variety of benefits to the State. As suggested by the University of Melbourne: ‘We are investing significant time and resources in building relationships with strategic industry partners, including as an example IBM, who in turn are investing in people and knowledge-based economic activity based in Victoria’ (sub. 77, p. 9).⁴

Linkages within the business community are also important for innovation. The Australian data suggest that this too is a problem area. The Commission heard in its manufacturing and tourism inquiries (VCEC 2011i, 2011h) that innovation in Victoria could be enhanced by more collaboration among businesses.

Consultations and research conducted in the course of the manufacturing inquiry suggested that, while a number of collaboration and networking groups are relevant to manufacturing, there is scope to improve the effectiveness of these groups to facilitate more productive relationships. In particular, the Commission considered in its draft report that there may be scope to address ‘the challenges of small and medium enterprises (SMEs) who may not have access to the resources and capacity for networking, information gathering and skill development needed to innovate effectively’ (VCEC 2011c, p. 153). It is unclear, however, to what extent the problems highlighted are applicable across all industries in the State. The Commission welcomes more information on the similarities in innovation issues in manufacturing compared with other sectors.

As part of the shift away from technology-push innovation, there may be a case for redirecting funds towards seeding new or existing networks to undertake initiatives to develop more productive collaborations within groups and between groups. The funding might extend to providing network facilitators or essential administrative support. As noted above, there is little evidence on the best design for government programs that successfully stimulate networks and generate broader economic spillovers by building innovation capacity, embedding an innovation culture and spreading innovative ideas. To build the evidence and information base it would be necessary to test and evaluate potential approaches. The Commission considers, therefore, that a process of trial and evaluation is needed. The use of a specialised Institute to support and disseminate such research is discussed in the following section.

In addition, the Commission considers that the Victorian Government should support a review of how impediments to greater collaboration between universities and business in Victoria could be addressed. To ensure impediments (and solutions) to all sides of the collaboration relationship are captured, this review could be facilitated by the Institute for innovation and entrepreneurship

⁴ IBM recently established a Global Research and Development laboratory at the University of Melbourne. This is IBM’s first lab that combines research and development in a single organisation. The lab’s focus will be on ‘smarter natural resource management’ and ‘smarter natural disaster management’. This partnership builds on existing collaborations between IBM and the university in computational life sciences (IBM 2010).

(proposed below), drawing on industry and research views and experience. Any information available from Victorian universities and research organisations on impediments to greater engagement with businesses on research, development and commercialisation should also be fed into this process. To encourage collaboration, the Government could also provide one-off seed funding (for example, for a maximum of two years) to encourage expansion or creation of self-sustaining networks and business-driven communities of practice that focus on innovation.

Draft recommendation 10

That the Victorian Government enhance the links between industry and the research sector, and within industry, by:

- reviewing and removing impediments to engagement and collaboration
- providing seed funding to encourage innovation-focussed, business driven communities of practice.

4.3.2 Addressing market and system failures in innovation

The Victorian Government has invested significant resources in supporting innovation in the State, especially in science and technology and infrastructure. However, there are some capabilities underpinning innovation that, at present, seem to be undersupplied or are inadequate for a forward-looking, evidence-based and economy-wide innovation agenda. This includes capabilities in researching innovation itself, innovation policy evaluation, innovation management and entrepreneurship.

Victoria also needs to improve the attraction and retention of talent, particularly world-class researchers. This is driven by a number of trends, including: the increasingly international nature of innovative activity, the global competition for talent, the lack of ‘critical mass’ and demographic changes in Australia’s academia. Input to the inquiry suggested there may be opportunities for Victoria to strengthen its innovation capabilities through a combination of measures to build the skills of the existing workforce and to attract especially talented workers and researchers to Victoria.

Building innovation capability is difficult and there is no ‘silver bullet’. Nevertheless, the Commission’s consultations identified two proposals, based on perceived current and impending gaps in Victoria’s innovation capability, that merit further serious attention:

- (1) a world-class centre to promote innovation and entrepreneurship
- (2) attracting and retaining early career researchers.

A world-class centre to promote innovation and entrepreneurship

Currently, Victoria's approach to innovation suffers from a weak evidence base and limited understanding of how Australian firms innovate and 'what works', including the efficiency and effectiveness of government interventions. The chances of success of future government, research and business sector initiatives would benefit greatly from a better understanding of 'downstream' innovation, at the enterprise level, and capabilities that bridge the divide between research and industry—including entrepreneurship, collaboration, and the impact of government interventions (as suggested by the OECD, box 4.1). There is currently no focal point for—or 'critical mass' among—the industry, government and research sectors to come together to research innovation to improve innovation performance in Victoria's public and private sectors.

An option for the Victorian Government is to establish—leveraging its strengths in higher education and research — a world-class, inter-disciplinary centre (the Institute) focused on how to unlock Victoria's potential for innovation and entrepreneurship. The Institute could act as a focal point for industry, research and government sectors to connect on innovation issues and progress community understanding and awareness of innovation in Victoria and more widely.

The requirements of good innovation policy can be 'technically demanding' (Banks 2008, p. 20). Creating the Institute could also provide a transparent way for rigorously evaluating and researching which types of innovation initiatives are effective, with benefits that outweigh their costs. Given the shortage of information and data on what works, the Institute could make a valuable contribution.

The Institute could have three core functions:

- (1) research (compile data, analyse and research innovation issues, and review policies and programs)
- (2) education (develop training materials, measurement tools, case studies, and provide training)
- (3) a forum for cross-sector interaction and collaboration around innovation issues.

The Institute could be tasked, at least initially, to address shortcomings identified by the Commission such as collaboration between research and industry, public sector innovation, analysis of innovation performance and innovation policy, and innovation in the service sectors. Efforts to improve the current understanding of innovation in Australia (and hence the capacity to design more effective and efficient innovation policies) are currently fragmented. While expertise exists, it is dispersed across institutions. Understanding the complex causes and effects of

innovation also requires a multi-disciplinary approach (Jensen and Webster, sub. 50, p. 4).

The United Kingdom's Innovation Research Centre (UK~IRC) initiative provides a possible model for Victoria, given the identified shortcomings, including the weak evidence base for innovation policy and the weak understanding of Australian enterprise-level innovation. The UK~IRC is a collaborative initiative focused on how innovation can make businesses more competitive and improve public services delivery. It is a joint venture between the Centre for Business Research at the University of Cambridge and Imperial College Business School, and involves a large-scale, multi-year research programme and a knowledge hub to engage policy-makers and practitioners about innovation research. It is a focal point for policy-relevant innovation research, and unites leading scholars to:

- ensure that new research on innovation in the public and private sectors has the greatest effect on policy and practice
- explore the relationship between innovation and business performance and how this affects the national economy and the individual organisation
- actively disseminating its work through a 'Knowledge Exchange Hub', which will include activities ranging from seminars to innovation podcasts (Imperial College London 2011; UK~IRC 2011).

An Institute in Victoria, linked with other groups internationally, could also help to strengthen inter-disciplinary (for example, science and technology, social sciences) and cross-boundary (for example, public sector, private sector, research sector) interaction, research, and knowledge diffusion. This approach to multi-disciplinary, problem-driven research and industry engagement would be in the same vein as the 'inter-disciplinary institutes' and 'virtual institutes' that have been established in Victoria's universities,⁵ and the strategic re-orientation of the CSIRO around multi-disciplinary solutions and 'mission-directed' research.⁶

A number of sources suggest that Australia needs to focus more on entrepreneurship and improving the management and leadership skills necessary for innovation (Dodson 2011, p. 8; Monash University, sub. 54, p. 25; Hargraves Institute, manufacturing inquiry sub. 49, p. 2). Better entrepreneurship and management skills can have a large positive impact on productivity and innovation (UTS et al. 2009, pp. 5–6). A study of the links between productivity and management capabilities in Australian workplaces found that: 'A factor that

⁵ For example, the Melbourne Sustainable Society Institute and Melbourne Energy Institute straddle engineering, land and resources, computing science and other fields (Melbourne Sustainable Society Institute 2011).

⁶ CSIRO's 2011–2015 strategic plan focuses on its 'National Flagships' and organisational development to help it 'deliver integrated solutions to complex problems at the intersection of natural and human systems (such as energy, water, climate and land use)' (CSIRO 2011).

is often overlooked or underemphasised is the role and quality of leadership, culture and management practices in encouraging and enabling workplace innovation' and that 'Australian state level initiatives directed at lifting innovation through improved leadership, culture and management practices are sporadic and where they exist, fragmented and lacking strategic coordination' (Society for Knowledge Economics 2009, pp. 8–9). The Institute, in collaboration with other training institutions, could also provide training to address gaps in innovation management and entrepreneurial skills.

Such an institute could also play a valuable role in developing the understanding of the extent to which government can influence private sector innovation and which types of government programs are cost effective. It could independently evaluate innovation initiatives and disseminate the results of those evaluations. This type of information is essential to improving innovation policy.

Attracting and retaining talent

Another way to increase innovation capability is to attract to Victoria and retain early career scientists, engineers, Masters and Doctoral students, and post-doctoral researchers. The University of Melbourne's submission argued that attracting and developing talent, is 'arguably the most important pre-requisite for a healthy innovation system' (sub. 77, p. 9).

Swinburne University of Technology strongly supported improving Victoria's innovation performance by developing programs to attract and retain early career researchers, arguing that 'the increasing mobility of workers, and ageing nature of the academic workforce in Australia is a cause of concern' (sub. 61, p. 3). As noted above, Australia's ranking in the 'availability of scientists and engineers' indicator fell from 45th to 60th between the 2010–11 and 2011–12 Global Competitiveness Index (WEF 2010, p. 85; WEF 2011, p. 103).

The University of Melbourne (sub. 77), AusBiotech (sub. 75), BioMelbourne Network (sub. 62) and BioSciences Victoria Collaborative (sub. 53) also supported schemes to attract and retain talented researchers, as well as schemes that attract experienced expatriate innovators back to Victoria and build business–research and international linkages.

The Commission considers that talent attraction and retention schemes could provide a number of benefits, such as:

- strengthening Victoria's existing comparative advantages in research
- improving national and international linkages and delivering other networking benefits
- enhancing 'knowledge spillovers' (especially if combined with collaborative scholarships with industry)

- providing a source of business start-ups (especially if combined with training in entrepreneurship and innovation management to bridge the ‘lab to market’ divide)
- helping to achieve critical mass in key industries and research fields.

Care would need to be taken in designing a talent attraction program to ensure it achieved additionality — that it does not simply displace or replace the existing efforts of companies and universities to attract early-career scientists, engineers and post graduates. Care would also be needed to ensure quality — that the participants in the scheme were genuinely high calibre and possessed sought-after capabilities. Such a program should build on other models and precedents, including:

- Australia’s skilled migration program, or the complementary Early Career Researchers Talent Attraction scheme suggested by ACIL Tasman, targeting highly-talented and high-achieving foreign early career research professionals (ACIL Tasman 2011, pp. 181–182)
- the Victorian Endowment for Science, Knowledge and Innovation (VESKI) (University of Melbourne, sub. 77, p. 9; BioSciences Victoria Collaborative, sub. 53, p. 2)
- Commonwealth schemes such as Higher Education Contribution Scheme exemption scholarships, Australian Postgraduate Awards, National Health and Medical Research Council and Australian Research Council Linkage schemes
- ACIL Tasman’s proposed ‘New Economy’ Postgraduate Scholarship scheme, which ACIL Tasman suggested should include tuition fee waivers, stipends to cover living expenses, and offers of permanent residence upon completion of courses (ACIL Tasman 2011, pp. 180–181)
- Models adopted in other OECD countries (OECD 2010b, pp. 128–136), and the European Industrial Doctorate, recently announced by the European Commission (University of Melbourne, sub. 77, p. 9).⁷

As an ongoing concern for talent attraction and retention, the University of Melbourne also noted that the Victorian Government has a role in ‘maintaining Melbourne’s position as one of the most “liveable” cities in the world (and in turn maintaining the liveability of Victoria as a whole)’ (sub. 77, p. 9).

Victorian Government support for these schemes should be through the reordering of funding priorities and advocacy at the Commonwealth level.

⁷ This is a EUR20 million pilot scheme, based on one that has operated in Denmark for 40 years (Myklebust 2011).

Draft recommendation 11

That the Victorian Government address information gaps and enhance the State's capacity for innovation by:

- establishing a world-class Institute for innovation and entrepreneurship
- attracting and retaining leading early career researchers, development engineers and scientists.

4.3.3 Developing a more innovative public sector

The public sector in total is a significant part of the economy. In Victoria, it accounts for around 21 per cent of GSP—Victorian and local government and public corporations (14 per cent) and national government and public corporations (7 per cent) (ABS 2010d).⁸ The Victorian Public Service and Victorian Public Entities employ around 260 000 people or 9 per cent of the Victorian labour force (SSA 2009b, p. 15). The size and economic contribution of the government sector provides a ‘compelling reason to ensure that its performance is maximised through innovation’ (DIISR 2011, p. 103).

The public sector may face a number of barriers and challenges to innovation, including: policy ‘silos’, risk-aversion and cultural barriers. Also, the nature and diversity of public sector policy-making and service delivery makes measuring the extent and effects of innovation more difficult (UK Department of Business, Innovation & Skills 2010, p. 36).

Although public sector innovation has largely been isolated from Victoria’s economy-wide innovation policy agenda, the Victorian Government has undertaken a number of initiatives in this area in recent years. The Department of Premier and Cabinet is driving innovation in government through the Victorian Public Sector Innovation Action Plan⁹ and the Government 2.0 Action Plan.¹⁰ Endorsed by departmental secretaries, both plans are being implemented

⁸ Estimate based on State and local general government final consumption expenditure, and gross fixed capital formation, and public corporations gross fixed capital formation, as a share of GSP in 2009-10, chain volume measures (ABS 2010d).

⁹ The plan focuses on four action areas: creating connections between people, ideas and opportunities; building innovation capability; generating ideas and rewarding good practice; and sharing information and data (DPC 2009).

¹⁰ The plan provides the Victorian Public Service with the foundations for the use of Web 2.0 applications (based on access to public sector information and new Internet-based technologies) to engage with citizens, develop policy and deliver services (DPC 2010).

across the Victorian Public Service and are underpinned by principles of collaboration, openness and engagement.¹¹

The Victorian Government could consider building on these efforts and commit to creating a more innovative public sector by:

- systematically identifying and addressing barriers to innovation in different parts of the public sector, in areas such as managing risk, ICT and collaboration infrastructure, and promoting an innovative culture
- improving measurement of public sector innovation capacity and performance
- developing skills in designing and implementing ‘pilots’, including the use of market-based approaches to address policy issues
- providing incentives and recognition for innovation
- improving engagement with the private sector, research sector and the community/not-for-profit sector
- exposing public sector leaders to the latest innovations in public service delivery and administration in Australia and elsewhere
- using demand-side policies such as public procurement, ‘open-government’ and Government 2.0 initiatives to better engage the private sector and the wider community in finding innovative solutions to public sector problems and needs.

Public procurement is one area in which public sector innovation is emerging. Victoria’s Smart SMEs Market Validation Program (MVP) is an example of the Victorian Government playing the role of ‘leading edge customer’ (VCEC 2011i). Public procurement and the MVP may be useful approaches to public sector innovation, and opportunities to improve and adjust existing programs should be further explored (including through an evaluation of the current MVP trial program).

The Victorian Spatial Council’s submission to the present inquiry noted that ‘access to information can lead to innovation and the development of new products and services, and an increase in national wealth’ (sub. 52, p. 6). For example, in 2009 the Commonwealth Government’s Government 2.0 Taskforce argued:

When information is released it creates new and powerful dynamics which can drive innovative use and re-use, allowing the commercial, research and community sectors to add value to it. ...Allowing unfettered use and re-use of government data and information more generally can add to Australia’s

¹¹ The Independent Review of State Finances (IRSF) terms of reference direct that inquiry to consider improved governance of Victoria’s public sector departments and public bodies, through reforms or improvements to efficiency, effectiveness, financial, operational and other performance accountabilities. These issues are also relevant to public sector innovation.

innovative capacity and economic prosperity. (DFD 2009, pp. 4, 54, cited in sub. 52, p. 6)

The Victorian Spatial Council cited the Cutler review of the national innovation system, which argued that information is crucial for market efficiency and consumers' ability to drive innovation by providers. The review also argued that governments can ensure that the 'information and other content that they fund is widely and freely available to be used by consumers, and to be re-used and transformed into new value-added products by firms further down the production chain' (Cutler 2008, p. 81).

There have already been examples of state governments experimenting with innovative ways to fulfil public sector needs — such as by combining competitions with releases of government-held data on web-based 'crowd-sourcing' and collaborative open-innovation platforms. In February 2010, the Victorian Government launched the 'App My State' competition to build mobile and web applications. This was accompanied by the release of over 90 Victorian Government datasets to encourage new applications to be created (Flynn 2011). The competition produced 74 valid entries and various useful applications for future use by Victorians (eGovernment Resource Centre 2010). New South Wales held a similar competition in 2010 with its 'Apps4NSW' competition (Flynn 2011). Approaches such as these may produce more innovations and better solutions — possibly at a lower cost and in shorter timeframes — than would have been possible if the public sector worked in isolation or through traditional procurement.

Draft recommendation 12

That the Victorian Government encourage public sector innovation by:

- identifying and addressing barriers to innovation in the Victorian public sector
- building on existing initiatives and exploiting emerging opportunities to test and evaluate innovative methods of finding solutions to public sector problems.

4.3.4 A new agenda for innovation

Reflecting the importance of innovation to future productivity growth, the Commission's draft recommendation is that the Victorian Government develop and publish — as part of its State-based reform agenda — a new, comprehensive and integrated Victorian Innovation Statement. The Statement would set out the Government's approach to promoting innovation and addressing some of the systemic issues, including shortcomings in the evidence base for state-based innovation performance.

The Commission considers that Victoria's innovation reform agenda should seek to strengthen the constituent parts of the innovation system, and, crucially, strengthen the links across those parts. The reform agenda could include several goals as reflected in the draft recommendations above:

- sustaining and enhancing critical linkages in the innovation system, which could include:
 - increasing business engagement with Victorian universities and other research organisations (that is, facilitating the improvement of business-research linkages)
 - encouraging the development of strong and extensive business networks with an innovation focus (that is, improving business-business linkages).
- strengthening the State's innovation capabilities, which could include:
 - creating a world-class centre to promote innovation and entrepreneurship
 - attracting and retaining early career researchers, development engineers and scientists
- promoting innovation in and through the public sector, which could include:
 - identifying and addressing barriers to public-sector innovation
 - using procurement, open-innovation and new media technologies to find innovative solutions to public sector problems and needs.

Alongside these policies to improve innovation in Victoria, the State Government should focus on maintaining and enhancing Melbourne's liveability and the way the city operates (chapter 7) and education and training that support innovation.

Draft recommendation 13

That, drawing on the proposals in draft recommendations 10, 11 and 12, the Victorian Government set out an innovation agenda that outlines:

- key strategies for enhancing innovation, with specific measurable objectives
- principles to guide the development, implementation and evaluation of programs
- a data collection, monitoring and evaluation framework for all innovation programs.

Part III: Tax and regulation

Part III examines actions the Victorian Government can take to improve the overall environment for investment in the Victorian economy by implementing reforms to state taxes and regulation. Reflecting the large amount of work previously undertaken in these areas, the Commission's focus has been on how to achieve a breakthrough in reform of state taxes and regulation.

5 Improve the investment climate by reforming taxation

State taxes are relevant to a State-based reform agenda for two main reasons. First, state taxes can impact on the business environment and thus Victoria's ability to attract investment and grow the economy. Second, the type of taxes the State collects can affect productivity and participation.

Benchmarking by the Commission suggests that Victoria's worst domestic performance is in taxation. This is largely driven by its relatively inefficient mix of state taxes, relying more heavily on stamp duties than any other Australian jurisdiction.¹ This chapter therefore examines the scope to improve productivity by reforming the structure of State taxes.²

Given that government's need to raise revenue to provide goods and services, a key challenge is to raise this revenue in a way that imposes the least cost on the economy. Raising taxes imposes direct costs on society such as the total value of the tax collected. But taxes also impose indirect costs by distorting consumption and production patterns. The term 'excess burden' is commonly used to indicate the indirect cost imposed on the economy by a tax. The higher the excess burden of a particular tax, the more harmful the tax is to the economy.

5.1 Opportunities to improve how the State raises its revenues

Victoria levies taxes across up to 23 categories. Of these nearly 80 per cent of the State Government's total state tax revenue is collected from stamp duties (36 per cent), payroll tax (30 per cent) and land tax (nine per cent) (DTF 2011b). However, stamp duties in particular have a high excess burden. A report for the *Australia's Future Tax System* review by KPMG Econtech examined the excess burden of Australian taxes (including various state taxes). The analysis of state taxes was based on a hypothetical 'average' state and territory tax system, rather than Victoria's current tax rates. However it usefully illustrates the relative efficiency of various state taxes. The KPMG Econtech analysis showed that stamp duties on land, motor vehicles and insurance were the most distorting, followed by payroll tax. Land tax was the most efficient type of state tax (table 5.1). The higher payroll tax burden reflects the thresholds and exemptions

¹ See the Benchmarking information paper, available on the Commission's website (www.vcec.vic.gov.au).

² Taxes can influence incentives to participate in the workforce by altering the return from working; higher taxes on labour can cause people to reduce the amount of hours they are willing to work. As income taxes and the welfare system have significantly larger effects on participation than state taxes, this chapter focuses on the effects of state taxes on productivity.

provided by most state governments. Compared to other states and territories, Victoria has relatively low thresholds and exemptions from payroll tax and, as a result, the excess burden of payroll tax in Victoria is likely to be lower than indicated in the table.

Table 5.1 Marginal and average excess burden of state taxes (cents of welfare loss per dollar of revenue)

Tax	Marginal excess burden ^a	Average excess burden ^b
Land tax	8	6
Payroll tax	41	22
Stamp duties:		
– transfer of land	34	31
– motor vehicle	38	38
– insurance	67	47

^a The welfare loss of each additional dollar of revenue raised above the current average level.

^b The welfare loss per dollar of revenue raised when introducing the whole tax.

Source: KPMG Econtech 2010.

User charges were not considered in the KPMG Econtech study, but like taxation they raise revenue and can be highly efficient. According to *Australia's Future Tax System* review, ‘user charges tend to provide positive work and saving incentives, while taxes do not’ (Commonwealth of Australia 2009a, p. 325). Efficient user charges reflect the full cost of the relevant activity, and provide the payer something in return. Accordingly, ‘user charging relieves the need for publicly provided private goods to be funded by taxes, which are distortionary’ (Commonwealth of Australia 2009a, p. 333).

Victoria’s reliance on relatively inefficient taxes results in a significant excess burden on business in the State (table 5.1). While land tax is a more efficient tax, it accounts for a smaller share of state tax revenue in Victoria than other jurisdictions (ACIL Tasman 2011, p. 139).³

A number of recent reviews of taxation have concluded that state tax reform should focus on shifting from inefficient to more efficient taxes. These reviews described the approach to revenue raising by state governments across Australia as being unnecessarily distorting and creating excessive burdens on business and the community. These reviews have suggested:

³ Excluding the Northern Territory — it does not levy land tax.

- land tax is a relatively efficient tax and the share of revenue collected through land tax should be increased by lowering thresholds and removing exemptions (box 5.1)
- payroll tax is a relatively efficient tax (box 5.2) and payroll tax rates should be lowered by lowering thresholds and removing exemptions
- stamp duties are inefficient taxes (box 5.3) and such transaction duties should be eliminated (ACIL Tasman 2011, pp. 145–146).

Box 5.1 Findings on land tax

Australia's Future Tax System review

Land has the potential to be an efficient tax base for the States capable of delivering significant and sustainable revenues. Land is an efficient tax base because it is immobile; unlike labour or capital, it cannot move to escape tax. This means that economic growth would be higher if governments raised more revenue from land and less revenue from other tax bases. However, this efficiency is harmed if there are significant exemptions from land tax that encourage people to change how they use land.

Victorian Review of State Business Taxes

Economic analysis suggests that land taxes ultimately are borne by landowners as a wealth tax and that there are minimal efficiency losses. ... [T]he land tax has no flow-through effects to the downstream industry using the land. The only effect is that the landlord experiences a fall in after-tax returns. ... [E]ven if the land tax is paid by the renter, the same final incidence follows.

Sources: Commonwealth of Australia 2009b, p. 249; DTF 2001, pp. 36, 38.

Box 5.2 Findings on payroll tax

Australia's Future Tax System review

... a payroll tax that reduces the after-tax income of a worker means the worker has less money to buy goods and services. The payroll tax can therefore be viewed as a tax on labour income or, equivalently, as a tax on the consumption of goods and services. In theory, a tax on goods and services and a payroll tax should therefore have similar effects on the incentive to work, since both reduce the goods and services that can be purchased through working.

IPART review of NSW state taxes

Some stakeholders criticise payroll tax on the grounds that it is a tax on employment and as such acts as a drag on economic activity. This is because the tax liability is based on employment and wages. However, in practice, the cost of paying the tax can be passed on either to employees (through lower wages) or to consumers (through higher prices). In either case, the impact of the tax is relatively efficient, being akin to that of either a flat rate income tax or broad-based consumption tax.

Sources: Commonwealth of Australia 2009b, p. 169; IPART 2008, p. 57.

Box 5.3 Findings on stamp duties

Australia's Future Tax System review

Stamp duties are a particularly inefficient tax when levied on business. This is because businesses face incentives to minimise their transactions and investment in property. For example, a business has incentive to use existing buildings rather than moving to a lower cost region and buying a new property.

...

Stamp duty encourages people to stay in houses when they would prefer to move, contributing to longer commuting times, larger average home sizes and lower labour mobility.

Stamp duty is also inequitable as people who move more regularly — such as those needing to change homes for work — pay more tax than those who do not. Stamp duties also directly reduce access to housing for people who are credit-constrained.

Victorian Review of State Business Taxes

Stamp duty on conveyancing, as a turnover tax, distorts decisions on the most appropriate ownership and use of land. It is payable only if there is a transfer of ownership. The tax barrier to transfer and change of use means some land is retained in less productive uses, for example as a retail store rather than as a hotel or vice versa.

Sources: Commonwealth of Australia 2009b, p. 255, 257; DTF 2001, p. 39.

A majority of stakeholder views are consistent with the direction of the reform proposals outlined above. However, one key point of difference is in relation to payroll tax. In its submission to the Commission's manufacturing inquiry, Australian Paper noted that payroll tax 'serves as a direct State-based disincentive to employment and local supply of goods and services'. The tax makes up over 80 per cent of the company's total state tax liability (including duties and licence fees) (Australian Paper 2011, p. 25).

AusBiotech made similar observations on payroll tax, suggesting an increase in 'the deduction threshold level above which payroll tax is payable thereby allowing small innovative companies to focus their resources on attaining proof-of-concept and other critical path outcomes in the most time and cost efficient manner possible' (sub. 75, p. 4).

In its 2011 State budget submission, the Victorian Employers' Chamber of Commerce and Industry (VECCI) called on the Victorian Government to reform payroll tax, in addition to other state business taxes. VECCI suggested that the Government:

- cut the payroll tax rate to 4.85 per cent by 1 July 2011 and 4.75 per cent by 1 July 2012, and outline a timetable of further reductions to 2015
- increase the payroll tax threshold to \$700,000, effective 1 July 2012
- reduce from 0.8 per cent to 0.5 per cent the rate of land tax applicable for total taxable landholdings valued between \$1 million and \$1.8 million

- abolish the Motor Vehicle Duty charge on new business motor vehicle registrations. (VECCI 2011, p. 3)

In its submission to this inquiry, VECCI also called for a reform agenda for taxation that:

- Considers options to reduce the overall tax burden on Victorian business.
- Simplifies state taxes and charges.
- Improves equity in the incidence of taxes.
- Critically assesses existing state tax exemptions and thresholds.
- Reviews the mix of state taxes, and the mix between taxes and charges.
- Considers the scope to more effectively align state revenue with economic growth.
- Examines trends in the Commonwealth taxing effort and implications for the design of state taxes. (sub. SB80, p. 11)

The Property Council of Australia suggested that reform of state taxation ‘should form a central part of any reform package’, particularly reform to stamp duty on commercial property and land tax, and commit to work towards harmonising business taxation across all Australian governments (sub. 55, p. 2).

The Property Council of Australia identified a number of weaknesses in stamp duty on commercial property transfers, including:

- the volatility of stamp duty as a government revenue stream, given it is based on the volume of transaction
- stamp duty taxes the total value of an asset, rather than its value add and the tax is paid multiple times on the same asset
- stamp duty distorts transactions of commercial property, artificially shifting investments to other asset classes such as shares (sub. 55, p. 10).

The Property Council submission suggested that land tax shares many of the weaknesses of stamp duty on commercial property transfers, and also notes that the aggregation provisions of land tax:

... [increase] the average and marginal rates of land tax on all properties subject to the aggregation provisions and increase the adverse competitive effect of relatively high marginal land tax rates in Victoria compared with the substantially lower marginal rates applicable in NSW. (sub. 55, p. 11)

The Housing Industry Association considered land transfer duties to be ‘a major impost on the cost of housing and housing development’ (sub. 70, p. 22). The Association argued that:

Stamp duty is imposed at three stages in the construction of a new house:

- Sale of land to developer;
- Sale of land from developer to builder; and
- Sale of house and land package to purchaser. (sub. 70, p. 21)

The Real Estate Institute of Victoria (REIV) had similar concerns with the State's reliance on land transfer duties highlighting stamp duty rate scales and the double taxation of property as the key causes of the growth in stamp duty revenue (sub. 76). The REIV calculated the stamp duty payable on the median house price in Melbourne in 1988 as 2.67 per cent, compared with 5.16 per cent on the median house price in 2011 (sub. 76, p. 4). The REIV also described a scenario where, if a home buyer spent an extra dollar on a house, taking the purchase price from \$500 000 to \$500 001, 'the state nets an extra \$3100 in stamp duty' (sub. 76, p. 5).

The Ai Group, in its submission to the Commission's manufacturing inquiry, strongly supported tax reform based on the recommendations of *Australia's Future Tax System* review. The Ai Group suggested 'the Victorian Government work with the Australian Government to implement the State tax reform recommendations in the Henry Tax Review' (AiG 2011b, p. 48).

The Commission's view

The Commission considers the primary aim of taxation reform should be to shift the State's reliance from inefficient taxes to more efficient taxes to improve productivity. Some participants called for higher thresholds and exemptions, particularly for payroll tax. Such measures would reduce the tax burden for particular businesses but would add to the inefficiencies of the State tax system. To enhance productivity, a better approach is to broaden the base of current, relatively efficient state taxes, and reduce reliance on inefficient taxes. Doing so could ultimately benefit all businesses by helping to achieve a stronger and more productive economy.

5.2 Achieve a breakthrough in taxes to boost productivity

While the desired direction of state tax reform has been outlined in several previous reviews, there has been limited progress in implementation. A number of issues may be inhibiting fundamental state tax reforms. The barriers include resistance by groups that may end up paying more tax in the transition to a new tax system, and concerns about the fiscal cost of taxation reform.

That said, the Commission acknowledges some substantial tax reform, aimed at improving the efficiency and equity of the tax system in Victoria, has been implemented over the last 10 years. These reforms include:

- over \$5.5 billion worth of tax cuts
- the abolition of eight State taxes (as agreed under the GST Agreement)
- reform of land tax and payroll tax, with a reduction in the burden such as a flattening out of the land tax scale and harmonising payroll tax administration with other jurisdictions

- ongoing implementation of a recommendation by the Victorian Bushfires Royal Commission to abolish the fire services levy in favour of a property-based levy (Victorian Government 2009; DTF 2011a).

However, further broad-based State tax reform, to improve the State's productivity is needed. Ideally this would occur in the context of national reforms to taxation and intergovernmental financial relations. Financial payments from the Commonwealth and Victoria's share of GST revenue account for more than half of the Victorian Government's revenues. With only 40 per cent of Victoria's revenue coming from state taxes, the financial capacity to implement state tax reform would clearly be enhanced if the Commonwealth Government was prepared to pursue broad tax reform. Despite this, the Commission considers that there is still value in the State pursuing tax reform independently of national developments.

State tax reform that is independent of national developments could involve implementing a revenue-neutral package of changes to tax rates, thresholds and exemptions for the main taxes (stamp duties, payroll tax and land tax). These changes could be designed to reduce the excess burden imposed by the current tax system and the impacts on particular groups could also be managed through some combination of transitional support. Options for reducing the cost of taxation reform include:

- offsetting benefits through complementary reforms
- phasing of reforms to allow businesses and consumers time to adjust
- allowing grace periods to ensure businesses and consumers who are locked in through past decisions are (at least for some time) not subject to the new rules (grandfathering)
- compensation to alleviate losses to particular groups from tax reform (may not be practical in the current economic climate).

The Commission has not attempted to design a detailed tax package that would achieve the necessary aims of reform while considering potential transitional support. However, to provide an indication of the size of the potential benefits of state tax reform, the Commission looked at the efficiency gains achievable from adopting a more efficient tax mix. The equal revenue comparison involved moving from the current tax mix, to an alternative system that relies mainly on payroll and land tax, with no exemptions, concessions or thresholds. Based on this analysis, the potential benefits to the State's economy from abolishing inefficient taxes and shifting to more efficient taxes could be \$1.3 billion per annum (0.4 per cent of Victorian GSP). Most of the gain would come from reducing reliance on stamp duties on property and insurance. This estimate is inherently imprecise and is the midpoint of a wide range. It is indicative only as it is based on a number of simplifying assumptions and should be treated with

considerable caution. Detailed modelling would be needed to estimate the savings from tax reform with greater precision.

Table 5.2 Potential efficiency gains from revenue-neutral Victorian taxation reform

	<i>Current average excess burden (cents per \$)^a</i>	<i>Estimated excess burden (\$billion)^b</i>	<i>Estimated excess burden, post-reform (\$billion)^c</i>	<i>Estimated efficiency gains (\$billion)</i>
Land tax	6	0.1	0.2 ^d	-0.1
Payroll tax	22	1.0	1.5 ^e	-0.5
Property stamp duties	31	1.2	0.3 ^f	0.9
Motor vehicle stamp duties	38	0.2	0	0.2
Insurance stamp duties	47	0.8	0	0.8
Estimated efficiency gains (\$ billion)				1.3

^a Uses the average excess burden reported in table 5.1. These figures are an average across all states and territories and Victoria's excess burdens will vary from these averages. ^b Derived by multiplying total tax revenue (based on 2011–12 Budget estimates) by the average excess burden. ^c Derived by multiplying the total revenue required by the average excess burden (post tax reform). ^d Assumes that land tax exemptions and concessions are abolished which reduces the average excess burden to five cents per dollar. The increase in the estimated excess burden of land tax (post reform) reflects the increase in total revenue collected. ^e Assumes that existing payroll tax exemptions and concession are abolished and this reduces the average excess burden to 20 cents per dollar. The increase in the estimated excess burden of payroll tax (post reform) reflects the increase in total revenue collected. In these scenarios, the increase in revenue from abolishing thresholds, exemptions and concessions is insufficient to offset the revenue lost from abolition of stamp duties. ^f In order to achieve revenue neutrality, it is assumed a small stamp duty on conveyancing collects \$851 million.

Source: VCEC estimates.

While this example highlights the potential benefits of Victoria acting independently to reform state taxes, collaborative taxation reform could produce larger benefits if it involved Victoria gaining access to revenues from more efficient Commonwealth taxes. This approach would allow the abolition of stamp duties, without the need to find state-specific alternatives through new taxes or expanded existing taxes. It could, in principle, allow greater harmonisation between taxes among states and territories.

The Commission therefore concludes it is important that the State continues to engage in a tax reform dialogue with the Commonwealth to arrive at the most efficient path to reform. Based on experience with major tax reform, this is unlikely to be a short process. However, given the large potential benefits outlined above, it is in Victoria's interests to pursue tax reform within its jurisdiction irrespective of any national processes.

While the Commission believes significant taxation reform has the potential to boost productivity, the Commission acknowledges the issues are complex and that a number of different pathways to reform may exist. These issues are best considered through a process of developing a State tax reform strategy that identifies specific reform options, including design options for taxes and tax mixes, and estimates the impacts on the Victorian economy and on taxpayers. Some of the options that should be considered in the development of a State tax reform strategy include:

- removing exemptions and concessions and lowering rates charged on stamp duties as a step towards abolishing them
- removing exemptions and concessions for payroll tax and land tax, further broadening their base by reducing thresholds, and, using the additional revenue to lower payroll tax rates or to reduce stamp duties
- making greater use of appropriate user charges, including in areas such as transport (chapter 7).

Major tax reform along these lines will be difficult to design and implement. While the Commission considers the broad direction of necessary reform is clear, it has not undertaken the essential detailed analysis of the impacts — including the incidence of any specific reform option on particular groups. The Commission considers this would best be done through a Green Paper process designed to explain the need, and key options for, major reforms of the Victorian tax system. In taking this action, the Victorian Government would be addressing the most significant weakness identified in benchmarking Victoria's performance against other states and territories (see Benchmarking information paper).

Draft Recommendation 14

That the Victorian Government develop and implement an agenda for reforming State taxes by releasing a Green Paper that:

- outlines options for shifting the State's revenue base toward more efficient, productivity enhancing taxes
- explains the benefits and costs of reforming State taxes and charges
- sets out a timetable for taxation reform.

6 Improving the investment climate by reforming regulation

Victoria's regulatory system has a number of strengths. Its processes for assessing the impact of new and amended regulation are well regarded, while the available benchmarking data rank Australia's regulatory system fourth in the world and Victoria's as the equal best in Australia.¹

Most Australian jurisdictions have policies to reduce the size of the regulatory burden on society and, in particular, on business. Current Victorian policies see reducing regulatory burdens on business as a key means of improving productivity, economic growth and employment. However, Victoria faces the same fundamental challenge as other Australian and overseas jurisdictions: that despite continued attempts to reduce regulatory burden and red tape, the cost of regulation continues to grow. The size of the problem is demonstrated by United Kingdom data showing that, in the four years since the government adopted its "Better Regulation" agenda, the annual cost of new regulation more than doubled, from £16.5 billion in 2005 to £32.8 billion in 2009 (Dayan nd, p. 5)

Concerns about the growing burden of regulation in Australia and Victoria are evident from a number of sources:

- The World Economic Forum benchmarking identifies the burden of government regulation as a weakness of Australia's regulatory system (WEF 2011, p. 103).
- A survey conducted for the Commission as part of its inquiry into Victoria's regulatory framework concluded that over half of businesses and not-for-profit organisations believed that regulation was getting more costly and only three per cent believed the cost was falling (Wallis 2011, p. 18).
- An Australian Industry Group survey of Australian business CEOs indicated that nearly 70 per cent believed that regulatory compliance costs have increased and over 70 per cent believed this would continue (AiG and Deloitte 2011, p. 21).

Available data on the costs imposed by new regulation support these perceptions.

- Over the past five years new subordinate legislation alone imposed additional costs averaging about \$60 million per year, despite the impact assessment process removing, on average, a further \$18 million per year of

¹ See the Commission's Benchmarking information paper. Available at www.vcec.vic.gov.au.

cost increases that might otherwise have occurred (VCEC 2010b, p. 3; VCEC 2011e). This figure excludes the costs of new primary legislation.

- While most regulatory impact statements (RISs) conclude that the benefits of these regulatory proposals exceed their costs, few have been able to provide quantitative evidence to prove this conclusion. In most RISs, the quantified costs of new regulations exceed the quantified benefits (VCEC 2010b, pp. 113–115).
- The RIS process has not, until recently, been applied to other ‘legislative instruments’ (for example Ministerial Orders and Codes of Practice). The additional burden associated with changes in these other instruments has, therefore, not been systematically assessed or tracked.

6.1 How regulation is linked to productivity and participation

Regulation can have positive and negative effects on productivity and participation. Regulation is necessary in any modern economy, to set the rules that make business contracts enforceable, support markets and help governments achieve environmental and social objectives.

However, the aggregate cost of regulation to business and not-for-profit organisations, particularly in relation to competitiveness and productivity, is substantial. Even where individual regulations have net benefits to society as a whole, Victoria will be a less attractive place to invest if the cumulative impost on business is high, relative to other locations. These effects on competitiveness are extremely difficult to factor into case-by-case assessments of individual regulatory proposals. This underlines the importance of a specific focus on reducing regulatory costs.

Research undertaken by the Organisation for Economic Co-operation and Development (OECD) has demonstrated statistically significant links between indicators of the quality of product market regulation and economic performance (Nicoletti and Scarpetta 2003, p. 2). Moreover, the World Bank has identified links between regulation and productivity, placing particular importance on administrative burdens. In a simulation examining the likely effects of administrative burden (i.e. red tape) reductions within regulatory systems, Gelauff and Lejour estimated that, on average, a 25 per cent reduction in red tape would lead to a 1.6 per cent increase in gross domestic product (GDP) across 25 European countries by 2040 (Gelauff and Lejour 2006, p. 29).

Participants in this and previous Commission inquiries have also emphasised the impact of regulatory delays on business costs and productivity. An Allen Consulting Group report prepared for the Commission’s local government inquiry estimated that delays in planning approvals cost Victorian businesses around \$183 million annually (ACG 2010, p. vii). The Master Builders

Association highlighted the impact of these costs in its submission to this inquiry (sub. 67, p. 3).

The indirect costs of regulation can also be significant. In fact, Crafts (2006) argued that the indirect costs of UK regulation are more strongly associated with productivity effects than direct costs — citing examples such as planning controls, and the stifling of innovation in the UK retail sector by restrictions on store opening hours, labour laws and land-use regulations (Crafts 2006, pp. 191-192).

The Commission analysed ways to reduce the impact of regulatory costs on Victoria's productivity and competitiveness in several previous inquiries. The Commission's inquiry into Victoria's regulatory system recommended enhancing Victoria's productivity by improving the effectiveness of all aspects of the Victorian regulatory framework, including the design, implementation, administration and enforcement of regulation, as well as the subsequent evaluation and reform of existing regulation.² Those recommendations are being considered by the Government.

The Commission considers that the adoption of the recommendations made in the earlier report would make an important contribution to ensuring that Victoria's regulatory system is well designed, efficient and effective. This draft report takes that analysis a step further and explores the potential of four specific areas of regulatory reform to achieve a sustainable reduction in the regulatory burden and, as a result, to increase Victoria's productivity, competitiveness and participation rates. These areas are:

- (1) re-evaluating how risk is managed and the role of regulation and regulators in risk management
- (2) implementing new initiatives to improve the timeliness and reduce the complexity of major project approvals processes
- (3) seeking out opportunities to enhance the effectiveness of regulatory bodies, and simultaneously reduce the complexity of the regulatory process, by a consolidation of regulators
- (4) targeting burden reduction by addressing individual regulations or industries identified as having high regulatory costs.

² The Commission's draft report (VCEC 2011f) is available on the VCEC website and the final report will be published once it is released by the Government.

6.2 Risk and regulation

The 2006 *Rethinking Regulation* report to the Federal Government documented indicators of rapidly rising regulatory activity in Australia and cited increasing risk aversion as a major driver of this trend (Regulation Taskforce 2006, p. 14). Internationally, the OECD has argued that managing risk in the public interest is an essential task of government yet, given that assessing risk and determining which management practices work best is difficult, risk is often not well managed. Risks are said to be ‘both over-regulated and under-regulated, reflecting a public syndrome of paranoia and neglect’ (OECD 2010c, p. 238).

Few governments have adopted explicit risk management policies, while even fewer provide detailed practical guidance on risk management to regulatory agencies. In the absence of such guidance, approaches to risk are inconsistent and unpredictable and regulatory resources are often misdirected. Conversely, adopting consistent approaches to risk management, informed by sound research, can improve the effectiveness of regulation while reducing regulatory costs. Good risk policy is needed at all stages of the regulatory cycle, from initial policy development, through to regulatory design, implementation and enforcement (box 6.1).

Box 6.1 Defining risk

Risk is defined by the Australia/New Zealand Standard for Risk Management (AS/NZS 4360:2004) as:

... the possibility of something happening that impacts on your objectives. It is the chance to either make a gain or a loss. It is measured in terms of likelihood and consequence.

In the regulatory context, consequences are most often measured by deaths and injuries associated with particular activities (for example driving a car or working in a particular occupation). Likelihood is measured as the probability of the consequence occurring, multiplied by ‘exposure’ — that is the number of people subject to the risk.

The public discussion of risk focuses unduly on consequence, with inadequate regard to the likelihood of those consequences. (The combination of consequences and likelihood is the expected outcome.) To the extent this occurs, risk reduction activity is likely to be skewed toward risks with high consequence but low probability, with lost opportunities to achieve greater risk reduction by shifting the focus to different more prevalent risks being the result.

Sources: OECD 2010c, pp. 104–105, 119.

6.2.1 Assessing the case for intervention

Several recent developments have increased the costs to the economy and society of poor risk management practices and, hence, the potential gains from improvements in this area. These include the impact of new industries and technologies in expanding the range of risks being addressed in regulation and the role of technology in increasing our ability to detect chemical or other exposures — thus increasing awareness of, and concern with, existing risks.

As discussed above, despite the policies of successive governments of reducing regulatory burdens, burdens appear to be increasing. Attitudes to risk appear to be a key driver of these trends. The Federal Government's 2006 *Rethinking Regulation* report argued that increasing risk aversion in society was driving rapid and unsustainable increases in the scope and cost of regulation. As that report highlights, this view was strongly held by the former British government, which adopted a suite of policy initiatives to address this issue (Regulation Taskforce 2006, pp. i–ii).

While other bodies have adopted a different analysis of the issue they still conclude that the treatment of risk needs to be improved. For example, a House of Lords report found little evidence of increased risk aversion among the public, but argued that regulation of minor risks may arise because public sector reward and assessment systems emphasise the costs of failure rather than the gains from success, and so encourage excessive risk-aversion among policy advisers (House of Lords, Select Committee on Economic Affairs 2006).

The British Government's Risk and Regulation Advisory Council (RRAC) endorsed this view and highlighted pressures on governments to act with undue haste. Other key drivers of the problem identified by the RRAC were the role of 'risk mongers', who may distort perceptions of risk for self-interested reasons and an 'overload of data and opinion on risk issues', which discourage people from managing risk themselves and push governments to take an undue degree of responsibility (Risk and Regulation Advisory Council 2009).

Despite pressure on governments to intervene to reduce risk, it is clear that the public often resents government interference in daily life and complains about a growing 'nanny state'. Moreover, in addition to concerns about the acceptability of increasing government intervention, government has limited capacity. Regulatory capacities are constrained by the supply of regulators to develop, implement, administer and enforce regulation. Thus, there are limits to both the practicability and acceptability of continually increasing regulation.

Given these limits, governments must optimise their use of regulatory resources by taking account of the opportunity cost of regulation and other forms of government intervention. This implies acting only where:

- risks are large enough to merit intervention
- non-government entities are unable effectively to manage the risks
- government intervention is likely to be effective in reducing risk at an acceptable cost.

Responding to these concerns requires greater public understanding of risk issues, including the omni-present nature of risk in everyday life and the constant trade-offs between risk and return that characterise daily decision-making. Public understanding of the limits to government intervention is essential, together with an appreciation of the size of the costs that can be involved and the fact that these costs inevitably permeate society, rather than affecting only regulated businesses.

6.2.2 Regulatory design and development

A carefully designed and detailed risk management policy, together with processes to ensure such a policy is integrated with policy-making, should lead government agencies to better decisions on when government intervention is justified and the appropriate form and extent of intervention.

On one view, conducting regulatory impact analysis (RIA) for all significant Victorian regulation could remove the need for a separate risk management policy. Properly applied RIA, based on cost/benefit analysis, should ensure that only regulation with net benefits is adopted. In practice, however, RIA has limitations — in part reflecting the inherent limitations of cost/benefit analysis — and cannot deal effectively with the above issues in the absence of a detailed risk management policy.

Most importantly, RIA provides little guidance if there are insufficient regulatory resources available to effectively implement all of the regulations assessed as potentially having net benefits. In such cases regulators must choose which regulations to implement. These choices, if made unconditionally, early in the policy process, are unlikely to be systematic, rigorous or informed by a full assessment of the costs and benefits. Moreover, data limitations and uncertainty mean that RIA will not necessarily identify regulatory proposals that cannot be implemented or enforced effectively and will therefore have relatively few benefits in practice.

The *Victorian Guide to Regulation* (Victorian Government 2011b) recognises that RIA and quantitative risk assessment are complementary, but has historically provided little practical guidance on how to implement risk assessments. While the 2011 edition contains some material drawn from the Australian/New Zealand risk standard, the guide still provides limited practical assistance to regulators (Victorian Government 2011b, pp. 9–11). In this context, a risk management perspective remains likely to have limited influence on regulatory

decision-making. A substantial impact will only result if the risk management policy is detailed and practical.

A detailed risk management policy should be founded on the concept of ‘acceptable risk’ (box 6.2) — that is, the identification of quantitative thresholds of risk below which policy intervention is unlikely to be warranted. This approach is consistent with the view of Viscusi in *Rational Risk Policy* (1998), who argued that reducing a ‘target risk’ to zero is rarely optimal, even where it is possible, for several reasons:

- costs are likely to be too high
 - disincentives to valuable innovation may be created
 - other risks may arise as a by-product of the risk reduction activity
 - the focus on eliminating, rather than addressing, certain risks may divert policy-makers’ attention and resources from managing more serious risks
- (cited in OECD 2010c, p. 239).

Box 6.2 **Acceptable risk**

The concept of ‘acceptable risk’ is based on two key facts. First, virtually all aspects of daily life involve risk and, while these risks can often be limited, they can rarely be eliminated. Second, individual behaviour is generally based on understanding this fact of omni-present risk, and willingness to make explicit or implicit trade-offs between risks and benefits in a range of contexts.

Government policies on risk must recognise basic facts about the risk environment and people’s responses to it. In particular, minor risks that are generally accepted by people in their day-to-day lives, and are the subject of voluntary risk/benefit trade-offs, are unlikely to be appropriate targets for government intervention. Thus, government should adopt a presumption against intervention for low-level risks. This presumption does not rule out action if intervention could achieve a significant risk reduction at low cost. However, in practice, such opportunities are likely to be relatively few.

Source: Adapted from HSE 2001.

Acceptable risk thresholds published by the Health and Safety Executive (HSE) have guided regulatory decision-making in the UK for a decade (HSE 2001, pp. 44–45). They are accompanied by detailed guidance on how to apply and interpret the quantitative thresholds.

Box 6.3 The HSE risk thresholds

The HSE identifies three acceptable risk thresholds, which it proposes should guide decisions on government to intervene in different circumstances. These are:

- Fatality risks of one in 1 million years should be regarded as broadly acceptable.
- Fatality risks of one in 10 000 years should be regarded as at the boundary between tolerable and unacceptable risks for members of the public who have a risk imposed on them in the broader interests of society.
- Fatality risks of one in 1000 years should be regarded as the boundary between tolerable and unacceptable risks for workers to voluntarily assume a risk.³

Source: HSE 2001.

In relation to the one in 1 million years threshold, the HSE notes that:

The levels of risk characterising this region are comparable to those that people regard as insignificant or trivial in their daily lives. They are typical of the risk from activities that are inherently not very hazardous or from hazardous activities that can be, and are, readily controlled to produce very low risks. (HSE 2001, p. 43)

The implication of the HSE approach is that the primacy of individual responsibility should be recognised in the management of these low-level risks, particularly where the nature of the risks is widely understood. The OECD endorsed this approach:

It can be argued that the requirement to conduct risk analysis itself functions as some degree of assurance that regulatory responses will not be adopted where risks are so low as to be arguably ‘acceptable’. In this view, the existence of a requirement to conduct an objective assessment of the risk will help to address the danger of regulation being adopted in response to highly inaccurate risk perceptions. However, without a clear set of statements about how the acceptability of various levels of risk is to be judged, subjective – or at least inconsistent – judgements would appear to be the inevitable result. (OECD 2009d, p. 70)

In addition to providing objective and quantitative guidance, a successful risk policy must also recognise the factors that determine people’s perceptions of the acceptability of different kinds of risks. These include the familiarity of the risk, the ability of the individual to influence or control the risk, the distribution of harms, the voluntariness of exposure, and the extent of offsetting benefits.

³ The HSE notes, however, that legislation requires duty-holders to implement any ‘reasonable practicable’ further risk reductions where these exist.

Guidance is needed on how policy-makers should respond to different views of the acceptability of risks that may have similar objective magnitudes. While RIA guidance has, in the past, recommended a focus on ‘objective risk’, this advice is inconsistent with the research literature on risk management and fails to recognise the realities facing policy-makers. From an economic perspective, it is subjective risk weightings that determine people’s utility, suggesting that these should be at the core of risk policy. However, as illustrated by increasing risk aversion, these subjective perceptions are not fixed. They can be changed by information and persuasion. Thus, risk policy should include public education on risk issues to raise understanding of the objective reality of different risks and comparisons among them.

Overall, a risk policy and related guidelines are necessary to guide policy-makers and regulators on how to decide when the government should regulate to reduce risk to individuals or the community. While the RIA process could, theoretically, cover some risk issues, in practice limitations on its use and scope mean it is a useful complement to, rather than a substitute for, a risk policy and guidelines. Such a policy is needed to identify what levels of risk are acceptable in different circumstances and the circumstances in which individuals are best equipped to manage risk themselves. It should also recognise that reducing risk to zero is rarely practical or desirable.

6.2.3 Risk and regulatory administration and enforcement

A risk management perspective is not only relevant to regulatory design. The effectiveness and efficiency of regulatory implementation and enforcement could be improved if regulators improved their use of risk-based approaches to inspection, audit and enforcement. The Commission argued in the context of its inquiry into food regulation that the ‘challenge for regulatory authorities is to identify and target regulatory resources at those areas where risks are greatest’ (VCEC 2007b, p. xxxii). Similarly, in its draft report for the inquiry into Victoria’s regulatory framework, the Commission highlighted that more needs to be done to assist regulators to ‘adopt more targeted and balanced risk-based approaches to their administration and enforcement activities’ (VCEC 2011f, p. 132).

Commission research showed that nearly 80 per cent of regulators claim to adopt a risk-based enforcement strategy (VCEC 2011b, p. 20). However, little information is available on current practices among regulators and how consistent they are with best practice. Other evidence suggests there are substantial gaps. For example, the recent Krpan report into the Environment Protection Authority (EPA) highlighted major deficiencies in that organisation’s approach to risk and recommended that the EPA adopt a proactive, evidence-and risk-based approach to compliance and enforcement (Krpan 2011, p. viii). That major reform was found to be required for one of Victoria’s largest and

longest established regulators suggests that there is likely to be substantial room for improvement in this area in many other regulatory contexts.

The UK Government reformed this area based on the recommendations of the Hampton Report (Hampton 2005). Hampton argued that risk assessment should drive all inspection and enforcement activity, so that the burden of enforcement falls most heavily on those businesses with the highest risk and least heavily on those with the best compliance records. Importantly, Hampton believed that inspection activity in the UK could be reduced by around one third without compromising regulatory performance (BIS 2009).

Implementing the Hampton approach in the UK involved detailed mapping of current regulatory practices and benchmarking them against a risk management policy to identify priorities and strategies for reform. It also required follow up and reporting to ensure reform occurs and to address any remaining issues. Adopting such an approach in Victoria would involve:

- reviewing regulators' use of risk assessment in their regulatory design, implementation and enforcement processes
- requiring regulators to develop a strategy to implement the Government's regulatory risk policy in their operations
- evaluating regulators' progress in implementing the policy in the medium term (say, within three years of its adoption).

As noted above, most regulators recognise the merits of a risk-based approach to regulatory administration and enforcement. Thus, a large part of the reform task is to support regulators to implement best practice approaches and develop a supporting 'community of practice'. Such support should include publishing background materials and guidelines that complement the risk policy.

These initiatives should also be accompanied by a dialogue with the public on risk issues. This should focus on enhancing public understanding of risk and the role of individuals and government. It should also be a mechanism by which government can develop a better understanding of public attitudes and priorities in relation to risk issues.

Draft recommendation 15

That the Victorian Government improve Victoria's overall business environment by developing and implementing a new regulatory risk policy to guide policy-makers and regulators on the balance between risks individuals should self-manage and those the government should seek to mitigate through regulation.

That the current practice of Victorian regulators be reviewed against the risk policy, with each regulator to develop a strategy for implementation.

That the Victorian Government promote understanding of, and support for the risk policy.

6.3 Major project approvals

The costs and consequences of unnecessary delays in the approval of major projects have been a consistent theme across many Commission inquiries and were discussed in the final report on environmental regulation (VCEC 2009) and the draft reports on local government (VCEC 2010a) and tourism (VCEC 2011h). Similar problems are experienced internationally, and countries such as Canada, New Zealand, the UK and the United States have taken specific regulatory and/or administrative action to ensure regulatory approvals requirements do not unduly delay or obstruct major projects. Infrastructure Australia (IA) has highlighted the need to simplify and integrate federal, state and local approvals processes, arguing that such actions would substantially improve productivity (IA 2011, p. 23). Similarly, a July 2009 COAG decision tied funding for major infrastructure projects to action to integrate approvals across levels of government and establish target timeframes (IA 2011, p. 23).

In Victoria there is specific legislation to facilitate approvals for some major government projects — notably the *Major Transport Projects Facilitation Act 2009* (Vic) — and Major Projects Victoria provides administrative support to government agencies developing major projects. However, there is no equivalent structure to facilitate major private sector projects and, even within the public sector, different requirements apply in different sectors.

6.3.1 Rationales for facilitation activity

Three rationales exist for facilitating major projects through government approvals processes. These are the need to: prioritise the use of scarce regulatory resources; address system failings arising from regulatory complexity; and address system failings arising from the existence of widespread powers of veto over major projects (the 'tragedy of the anticommons').

Prioritising the use of regulatory resources

Delays in obtaining approvals can be caused by limited (usually human) resources in regulatory agencies. The Commission found in its environmental inquiry that there was wide variation in the time taken to complete environmental assessments and no prescribed timelines (VCEC 2009, p. 107). A scarcity of regulatory resources was found to be partly responsible for these outcomes.

If regulatory resources are scarce, it is logical to accord priority to the projects with the highest social value. Broadly speaking, these will be ‘major projects’. Moreover, facilitation initiatives may, by drawing attention to resource constraints, lead over time to additional resources being made available.

Regulatory complexity

Even when individual regulatory requirements are scrutinised rigorously and pass cost–benefit tests, the interaction of a large number of regulatory requirements can impose a major burden on project proponents. The expanding number of areas that society seeks to regulate has greatly increased the number of approvals required and the difficulties in coordinating timelines. It also causes duplication in information requirements and overlap in the matters considered and assessed.

In this context, the rationale for facilitation initiatives is that major projects usually require a larger number of permits and approvals. The problems caused by lack of coordination, duplication, conflict and delay are therefore substantially larger. The facilitation process can benefit all project proponents and Victorians generally by providing a global view of the regulatory landscape, allowing agencies to detect and address deficiencies in the regulatory process.

Tragedy of the anticommons

The ‘tragedy of the anticommons’ arises when a large numbers of parties can each veto the use of a resource and, as a result, these resources are systematically underutilised. This is a case of fragmented property rights. According to Coelho et al:

... ‘anticommons’ is seen as a property regime in which multiple owners hold effective rights of exclusion in a scarce resource. The problem stands in this: coexistence of multiple exclusion rights creates conditions for sub-optimal use of the common resource. (Coelho, Filipe, and Ferreira 2009, p. 8)

Buchanan and Yoon’s (2000) analysis highlights the potential for this problem to be acute for project approvals, particularly if permitting authorities are reluctant or unable to accept trade-offs from project proponents. This issue has become more problematic over time as the use of permit requirements to manage project impacts has increased.

6.3.2 Which major projects should benefit?

It follows from the preceding discussion that all major projects would benefit from facilitation measures. A review of overseas practice by the Commission identified a wide range of approaches and showed that facilitation initiatives are often applied selectively and either exclude or disadvantage some types of major projects. Preferential access to facilitation services may be given to government-sponsored projects, or projects in particular sectors (for example renewable energy or roads) or projects with impacts seen as strategic (for example employment or regional development). However, any approach that limits facilitation initiatives to a subset of major projects will have lower net benefits than a broader approach and create potential economic distortions.

6.3.3 Specific facilitation tools

Facilitation initiatives are of two broad types: administrative and legislative. The available evidence suggests that legislative intervention is increasingly used, albeit to complement administrative actions.

Administrative approaches to facilitation generally encourage the adoption of a whole-of-government perspective on major projects to improve integration. They often strive to run assessment processes in parallel and, particularly where multiple levels of government are involved, to allow processes adopted by one government to be used as the basis for approvals by a second. In addition, they can involve intervention by ‘pro-development’ agencies.

More formal administrative actions commonly use a specific major projects facilitation agency. This model can involve developing ‘project agreements’, which enhance agency accountability by setting target timelines for the completion of approvals processes and increasing the certainty of project timing for proponents.

However, while the intent of these more formal mechanisms is to enhance the certainty of outcomes, it is not clear that they have led to substantial improvements in practice. Perhaps as a result single, whole-of-government approvals authorities are increasingly used to improve communication among approvals bodies and ensure an integrated approach to project approvals is adopted.

In Victoria, where substantial concerns about major project approvals processes persist despite almost a decade of reviews, recommendations and process changes, the Commission considers there is scope to combine several tools in an integrated framework and make major improvements in outcomes over a one to three year timeframe.

First, institutional reform to streamline decision making processes is necessary, centring on the creation of a single approvals authority. A key issue in any such

reform is to ensure the legitimacy and authority of the single approvals body. Canada has addressed this issue by including delegates of all major approvals agencies on the single approvals authority, while also providing for the Minister to appoint representatives of pro-development government agencies. This initiative is underpinned by legislation that establishes the single approvals body and gives its decisions legal authority⁴. If such a model were adopted in Victoria, the Commission considers it should involve legislation creating an integrated and streamlined process for assessing major project approvals that:

- applies to public and private projects and would, therefore, supersede the current Major Transport Projects Facilitation Act
- establishes clear criteria for identifying major projects, based primarily on their importance to the economy, the best proxy for which is expected project cost
- requires strategically significant major projects that meet the criteria to be brought within a consolidated approvals process in which an inter-agency committee issues all relevant approvals
- provides that the inter-agency committee comprises delegates of all essential approvals issuing authorities, together with representatives from the Department of Business and Industry and the Department of Treasury and Finance
- is underpinned by legislation to provide that an approval by the inter-agency committee constitutes a valid substitute for approval by the relevant Minister or authority.

Second, a broader approach to legislatively based reforms could be used to identify and implement system-wide changes to minimise the number of project approvals required, while also achieving relevant social objectives. Such initiatives benefit all project proponents, but particularly major projects. The Commission's previous report, *A Sustainable Future for Victoria* (VCEC 2009), recommended improving the Environment Effects Statement (EES) process, while the recent report of the Parliamentary Environment and Natural Resources Committee also makes recommendations in this area (ENRC 2011).

The success of such an approach would require the creation of a competent and motivated body to support the new legislative mechanisms, identify systemic reform opportunities and advocate for their adoption. This role could be carried out by a dedicated major projects facilitation office. The Office would:

⁴ This model, adopted by the Ontario government, is used only in the context of green energy projects. It is established via the Green Energy and Green Economy Act 2009.

- support the inter-agency committee in exercising its functions
- drive continuous improvement in approval processes for all projects, not just major projects, through research and reporting on the administration of approval processes
- be accountable for project facilitation activities for projects not subject to the single approval process, through the CEO of the Office holding the role of Coordinator-General of Major Projects.

Overall, there are synergies between administrative and legislative approaches to project facilitation. These approaches are complementary and should be implemented as an integrated framework.

Draft recommendation 16

That the Victorian Government improve the overall business environment in Victoria by reforming major project approval processes to:

- minimise the required number of project approvals and approvals bodies, and run approval processes concurrently
- reform the Environment Effects Statement (EES) process, having regard to the Commission's recommendations in *A Sustainable Future for Victoria* and the report of the Parliamentary Environment and Natural Resources Committee into the EES process
- integrate and streamline approvals for all major public and private projects by creating an inter-agency strategic project approvals committee with the authority to issue all relevant approvals.

6.4 Structure and composition of regulators

Participants in various Commission inquiries have raised concerns about the number of Victorian regulators, overlap and inconsistencies in their activities and the impact this has on the efficiency of regulation. Such views have also been put to the current inquiry. For example, the Minerals Council of Australia argued that:

Multiple regulators dealing with overlapping issues, either between Agencies at the State level or between the State and Commonwealth lead to enormous inconsistencies in both interpretation and administration. This is often driven by an element of ‘patch protection’. Structural reform of Victoria’s regulators is a long overdue area of reform. (sub 35, p. 10)

Similar concerns were highlighted by the Bus Association Victoria (sub 37, p. 1 and sub. 46, p. 19).

In Victoria there are 65 business regulators and 77 regulatory units (VCEC 2011b).⁵ Seventeen of Victoria's business regulators (26 per cent) have fewer than 10 staff and around half the regulators have less than 50 staff (VCEC 2011b). The existence of large numbers of regulators may give rise to several problems:

- *Increased regulatory complexity.* Concerns over growing regulatory burdens are exacerbated if the roles and responsibilities of regulators are unclear or overlap. Several examples of overlapping responsibilities were discussed in the Commission's regulatory framework draft report *Part 2 — Priorities for Regulatory Reform* (VCEC 2011g) in areas such as vocational education and training, road transport and fair trading.
- *A narrow perspective.* Regulators responsible for implementing regulation with a relatively narrow scope are unlikely to be able to take a sufficiently broad view of the regulatory environment and the key regulatory policy issues involved, including the potential trade-offs between different options and approaches. This is likely to reduce the quality of their decision-making and the resulting regulatory outcomes. Concern regarding the need to promote broader regulatory perspectives and consistency in regulatory decision-making has driven a world-wide trend toward aggregation of regulatory agencies, including the substitution of multi-sectoral regulators for sector-specific regulators (Jordana and Levi-Faur 2010).
- *Thinly spread resources.* To implement sophisticated regulatory approaches, such as risk-based regulation, regulators need to attain a 'critical mass'. Larger numbers of smaller regulators can mean that the skills and resources needed to assess risk and implement risk-based approaches effectively will be more thinly spread. It may also limit the flexibility to react and redeploy scarce resources in response to identified risks. As noted above, there appears to be considerable scope to improve risk-based regulation in Victoria. Regulators will need critical mass to implement these changes.
- *Poor governance and accountability.* Regulators also need critical mass to support good governance processes and to monitor, evaluate, report on and improve their activities. The Commission's survey of regulators indicates there is scope to improve governance, performance management and accountability across all regulators, but the deficiencies are greatest among the smaller regulators. For example while 60 per cent of major regulators evaluate their regulatory processes only 39 per cent of smaller regulators conduct such evaluations (VCEC 2011a, p. 16). Seventy per cent of major regulators but only 19 per cent of smaller regulators publish client satisfaction indicators (VCEC 2011a, p. 15). The Commission's recent inquiry into Victoria's

⁵ Three regulators report more than one 'regulatory unit' within their entry: the Department of Health, the Department of Sustainability and Environment, and Transport Safety Victoria.

regulatory framework looked at the administration and enforcement of regulation and how regulators' performance could be improved (VCEC 2011d). Regulators would again need critical mass to implement the changes recommended in that report.

It is beyond the scope of this inquiry to address these issues by recommending specific changes to the number and structure of regulators. The appropriate number, scope and size of regulators should be determined in one of two ways:

- (1) A review of the scope and form of regulation before determining whether regulators are structured to meet the regulatory tasks they need to perform.
- (2) A review of the existing structure and capacity of regulators to determine if they are the right scale to deal with concerns about regulatory complexity, consistency and capacity to implement risk-based regulation.

The Commission favours the first of these options as it would deliver multiple benefits. Not only would it allow for a comprehensive review of regulators but it would also address the scope and structure of regulation. If such a review were conducted against the risk policy recommended above it could produce a more integrated regulatory system, a breakthrough reduction in the level of regulatory burden and more efficient and effective regulators. Reviews of the scope and form of regulation could also consider broader issues of regulatory governance, and performance reporting and evaluation by regulators. The need for improvements on these broader issues was discussed in the Commission's final report on *Victoria's regulatory framework Part 1 — Strengthening Foundations for the Next Decade*. At the time this draft report was finalised, the Government yet to release the final report and its response.

It is not practical, however, to review comprehensively all areas of regulation at once. A program of reviews would be needed. Such a program could prioritise areas of regulation in which the potential for, or advantages of, more integration have been identified already. The Commission considers that the areas of natural resource management and education fit these criteria.

The Commission's final report on environmental regulation (VCEC 2009) discussed the potential to better integrate Victoria's legislative and organisational framework as it relates to natural resource management. That inquiry highlighted the benefits of integration and discussed models used elsewhere that could inform the development of a Victorian model.

In this current inquiry and the Commission's previous draft report, *Part 2 — Priorities for Regulatory Reform*, duplication and overlap in the activities of state and national vocational education and training (VET) regulators were identified (VCEC 2011g, p. 70). National reforms and market driven changes in this industry are also affecting the scope of Victoria's regulatory task and, potentially, the role of its regulators. The Commission understands that work is underway to

review state institutional and governance structures for VET. The Commission considers that education is an area in which holistic review and reform should be prioritised.

Other areas that could also be part of such a review and reform agenda are:

- health services
- liquor, gaming and racing
- building and construction
- food and biosecurity.

If the alternative approach was adopted — that is, a review of the capacity of existing regulators to deliver required governance, operational and reporting standards — it would make sense to focus on groups of smaller regulators that operate in similar fields.

Draft recommendation 17

That the Victorian Government improve the overall business environment by:

- developing a structured process for reviewing the regulatory work in key areas, having regard to the risk policy set out in draft recommendation 15
- assessing the structure of relevant Victorian regulators in light of these priorities
- responding to recommendations on improving governance, performance reporting by regulators and evaluation contained in the Commission's final report on *Victoria's Regulatory Framework Part 1 — Strengthening Foundations for the Next Decade*.

6.5 Regulatory hotspots

In 2010, the Commission was asked to inquire into Victoria's regulatory framework, and report on priority areas for regulatory reform ('regulatory hotspots'). When the terms of reference for this inquiry were received, the Commission had already published a draft report on regulatory hotspots (*Part 2 — Priorities for Regulatory Reform*). The Government directed the Commission to complete the work on specific areas of regulation as part of the new, broader inquiry. This section summarises the results of that work. It relies heavily on the analysis contained in the previous draft report, but also draws on subsequent research and input into this inquiry.

The Government has announced a new regulatory burden reduction target of 25 per cent. Action to address of the hotspots identified in this chapter could contribute significantly to the achievement of this target.

The focus of the draft report, *Part 2 — Priorities for Regulatory Reform*, was on areas of regulation of greatest concern to stakeholders. The relative impact of these issues varied greatly: some potentially had major impacts, while others were narrower in scope, representing irritants rather than major cases of burdensome regulation. For this inquiry, the Commission has focused on the areas of regulation identified in *Part 2 — Priorities for Regulatory Reform* as high or potentially high priority. These were:

- environment protection and climate change
- planning and land-use regulation
- vocational education and training regulation
- taxi cab and hire car services regulation
- liquor licensing regulation
- occupational health and safety and workers compensation
- administration of state taxes and charges
- road safety regulation
- fair trading regulation (VCEC 2011g, p. xxxix).

Overall, while the Commission considers continuously improving individual areas of regulation is important, few of the above areas of reform are unlikely to achieve the large improvements possible by implementing the previous recommendations in this chapter – i.e. taking a more systematic approach to managing risk through regulation; improving approvals processes, particularly for major projects; and ensuring the regulatory framework and the associated regulators are fit-for-purpose.

6.5.1 Actions underway to address regulatory hotspots

The Victorian Government has already responded to some of the issues identified in *Part 2 — Priorities for Regulatory Reform*.

- Aspects of planning and land-use regulation were reviewed by the Commission in its inquiry on local government regulation (VCEC 2010a). The Government is considering the recommendations from that report and several other reviews are underway to address aspects of the planning system. The implementation status of the full span of planning reforms is, however, unclear and reviewing and publicly reporting on their implementation would be useful.
- The taxi industry is the subject of a separate inquiry led by Professor Allan Fels.
- Proposed reforms to the heavy truck access permit system were discussed in the Commission’s inquiry into the Victorian manufacturing industry (VCEC 2011i). That report has been finalised and the Government is considering its response to the recommendations.

Vocational education and the administration of state taxes, were identified as important areas in *Part 2 — Priorities for Regulatory Reform* and are addressed in separate chapters of this report.

Other regulatory issues have important impacts on Victorian businesses but are regulated primarily by the Commonwealth. Industrial relations, for example, was raised in submissions to this and other recent inquiries (box 6.4).

Box 6.4 Submissions on industrial relations

Submissions and recent commentary have raised concerns about the impact of Commonwealth workplace relations laws on the productivity of Victorian businesses. For example, Victoria University expressed concerns about the complexity of dual award coverage in higher education and TAFE programs (sub. 22, p. 3).

In the construction industry, the Master Builders Association of Victoria raised the continuing presence of unlawful industrial action, concern about the potential abolition of the Australian Building and Construction Commission and the lack of flexibility around working of rostered days off (sub. 67 pp. 6-10). The Housing Industry Association raised concerns about the complexity of awards and the role of unions in agreement bargaining under the Fair Work Act (sub. 70, pp. 28-30).

The Commission's draft report for the tourism inquiry noted that there was also concern that current award provisions for tourism and hospitality workers disadvantage tourism businesses that rely on non-conventional working times for most of their trade (draft report, *Unlocking Victorian Tourism* (VCEC 2011h, p. 163)).

Source: VCEC submissions.

While the State has some legislation that affects industrial relations (for example child employment, long service leave, owner drivers and forestry contractors, clothing industry outworkers, and the regulation of public sector activity and employment) the issues raised by inquiry participants arise primarily from Commonwealth regulation.

6.5.2 Reform priorities

This inquiry has identified three broad areas in which reforms to specific areas of regulation, or the implementation of regulatory reforms, could be of significant benefit Victoria's productivity and competitiveness. As noted above, more details on the specific reforms can be found in the draft report, *Part 2 — Priorities for Regulatory Reform*. The Commission also intends to release an information paper on areas of regulatory reform following the release of this draft report.

Calibrating regulation to risk

The Commission identified the regulation of risk as an area in which major gains are possible generally, and recommended the adoption of a systematic approach to designing and implementing regulation affected by risk. Similarly, several of

the concerns outlined in *Part 2 — Priorities for Regulatory Reform* are driven by a view that the current approach to regulation does not appropriately reflect the risks inherent in the area being regulated. In many cases the Commission's analysis suggested that regulations, while responding to valid issues, should be more precisely targeted to ensure that the benefits of regulation outweigh its costs across all the regulated activities. While the recommendation for the adoption of a broad policy on risk and regulation made earlier in this chapter reflects the Commission's view that a systematic approach to this issue is required across the whole of the regulatory landscape, there nonetheless continues to be a strong argument for pursuing an improved risk/cost balance in respect of the specific areas of regulation identified in the previous report. These are:

- waste policy, including examination of the structure and level of hazardous waste levies
- liquor licensing regulation
- transport safety regulations, including:
 - mutual recognition of cross border bus operator requirements
 - movement of livestock on roads
- consumer protection regulation, including:
 - public review of the Residential Tenancies Act 1997 (Vic)
 - specific State laws that overlap with national consumer laws.

Draft recommendation 18

That the Victorian Government improve the overall business environment in Victoria by reviewing and reforming the following areas of regulation against a risk-based approach:

- **waste policy**
- **liquor licensing**
- **transport safety (cross-border bus services and livestock transport)**
- **consumer protection.**

Areas of regulation imposing unnecessary burdens

In *Part 2 — Priorities for Regulatory Reform* the Commission argued that, in a number of areas, regulatory benefits could be achieved at lower cost to businesses and the community. This previous draft report provides details on the opportunities for such streamlining. This work has drawn on previous research, including a number of submissions received in response to *Part 2 — Priorities for Regulatory Reform*, particularly on the issue of the commercial use of kangaroos and wallabies destroyed under an authority to control wildlife.

The Government should consider the potential reform areas in light of its commitment to reduce the cost of regulation by 25 per cent. Areas of focus could include:

- workplace regulation
- regulation of not-for-profit organisations
- consumer protection, including removing notification requirements for retail leases
- health regulation, including food handling and aged care facilities
- the *Monetary Units Act 2004* (Vic)
- building and major contract disputes.

Improving the management of reforms of the Victorian regulatory system

In response to concerns raised by participants, *Part 2 — Priorities for Regulatory Reform* discussed the need for a standard approach to reporting the implementation of recommendations that the Government accepts following a Commission inquiry.

... during the course of this inquiry, the Commission observed that there is often little consolidated public information on the implementation status of VCEC inquiry recommendations that were supported by the former Government. This is not helped by the lack of progress reports for a number of inquiries. The Order in Council presently does not require the Government to report on its progress in implementing inquiry recommendations. The risk is that, without such accountability measures, the lack of, or slow, implementation will not be identified until the next major review of that particular area of regulation, which may be 5–10 years into the future. (VCEC 2011g, pp. 151–152)

Victoria enjoys a highly competitive regulatory environment. However, one area in which regulatory processes can fall down is when implementation is delayed or partial. The need for a systematic approach to reporting on implementation of accepted Commission recommendations was reinforced by feedback from stakeholders in this inquiry, with particular issues raised around the implementation of reforms to environmental regulation.

The Commission considers the Government should adopt a systematic approach to reporting on implementation issues following public inquiries, including the Commission's 2009 final report into environmental regulation (VCEC 2009). The progress report should:

- indicate the implementation status of the government-supported recommendations
- state reasons why any of these recommendations have not been implemented or have been partially implemented.

The department responsible for implementing the recommendations or, when multiple departments are involved, a lead department, should prepare the report. The report should be submitted to the Treasurer and published. The Government should also adopt a similar practice for other major inquiries or taskforces.

Draft recommendation 19

That the Victorian Government require agencies to consider the Commission's draft report, *An Inquiry into Victoria's Regulatory Framework: Part 2 — Priorities for Regulatory Reform*, and the information paper for this inquiry on areas of regulatory reform in developing options for meeting the Government's regulatory burden reduction target.

That the Victorian Government ensure the ongoing competitiveness of the Victorian regulatory system by establishing a process for public reporting on implementation of the government-supported recommendations of Commission inquiries.

Part IV: Cities, regions and supporting infrastructure

Part IV identifies key reforms to improve the operation of Melbourne, the productivity of Victoria's infrastructure, and regional Victoria. National and state policy makers are increasingly recognising the role of cities as drivers of productivity and the Commission has explored opportunities to improve the operation of Melbourne and regional Victorian cities, and linkages between them.

7 Position Melbourne as a high-skill, high-income engine for growth

7.1 Introduction

Melbourne is a key asset for the State but is being challenged by population growth pressures, transport bottlenecks and declining housing affordability. The State's ability to improve productivity and participation will depend in part on Melbourne's capacity to support a growing workforce and to provide an attractive location for continued business investment. This chapter considers actions that the Victorian Government can take to meet the challenges facing Melbourne.

7.2 Melbourne's role in driving productivity and participation

7.2.1 Melbourne is a key asset for the State

There is a growing appreciation that cities are important assets for countries, and that how cities function influences productivity and participation. Cities enable people and businesses to reap the benefits of co-location and specialisation. For businesses, potential benefits arise from economies of scale and scope in production, and from better access to customers, suppliers, employees and new ideas. Collectively these benefits are known as agglomeration economies and explain why cities can offer people better access to employment, education, community activities and recreation. As noted below, however, the growth of cities is not without costs.

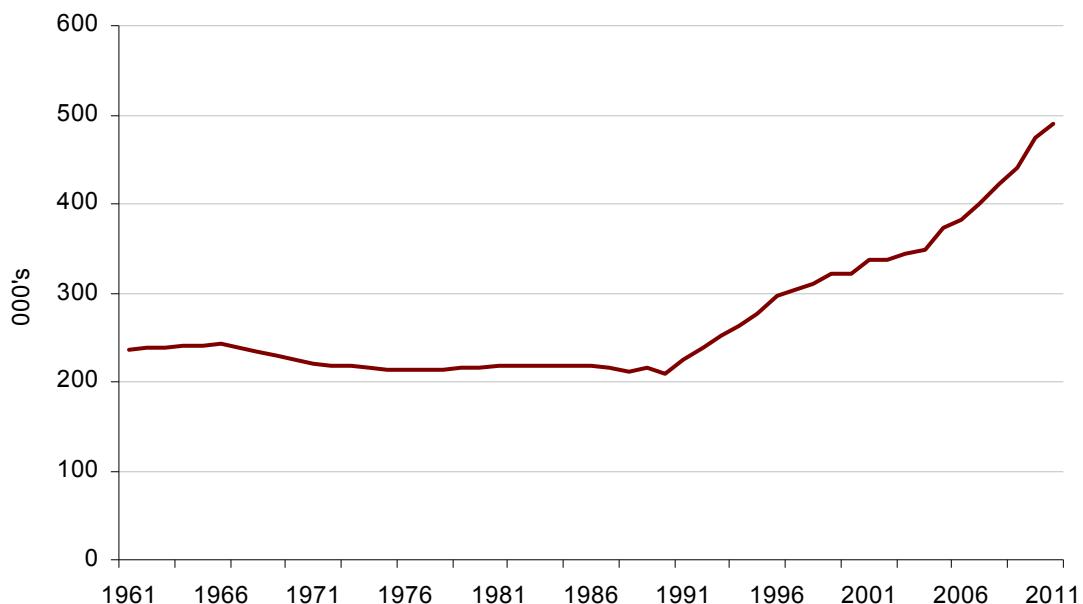
The benefits of co-location and specialisation are likely to explain why Melbourne has grown to become a key asset for the State. Approximately 4 million people or 77 per cent of all Victorians now live within the Melbourne metropolitan area. A further 800 000 people live within a two-hour drive from Melbourne (chapter 8). According to the Department of Transport and Department of Planning and Community Development (DOT and DPCD), metropolitan Melbourne accounted for around 78 per cent of Victoria's gross state product (GSP) in 2010 (sub. 81, p. 6).

Melbourne's output is relatively highly concentrated in knowledge-based and service-based industries such as financial and insurance services; information, media and telecommunications; professional, scientific and technical services; and wholesale trade. These sectors have been key drivers of Victoria's productivity and employment growth. The Commission estimates that they

contributed on average around 70 per cent of the positive contribution to Victoria's productivity growth between 1991 and 2010 (Productivity information paper).

While 'inner' Melbourne has grown rapidly over the past two decades, a 'monocentric' view of Melbourne's growth is not supported by the evidence. Greater Melbourne features sub-regions that are somewhat self-contained, as indicated by journey to work data. This means transport infrastructure must service both the CBD and dispersed metropolitan population centres (figure (see figures 7.1 and 7.2).

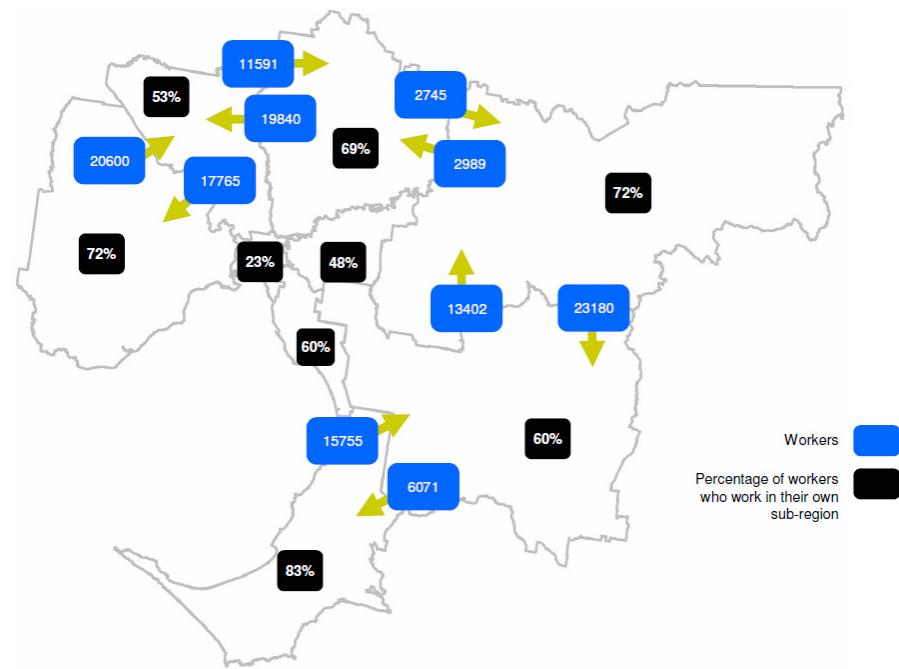
Figure 7.1 Strong 'inner' Melbourne employment growth



Note: 'Inner' Melbourne employment data is compiled from various sources, namely ABS and City of Melbourne. Estimates relate to financial year.

Source: SGS Economics & Planning 2011.

Figure 7.2 **Work travel patterns in metropolitan Melbourne**



Source: DOT/DPCD sub. 81, p. 17.

Melbourne is a key freight and logistics centre for the State as well as other parts of Australia. According to DOT and DPCD, the Port of Melbourne handles 38 per cent of Australia's international containers (sub. 81, p. 18). Around 25 per cent of the nation's interstate road freight originates in or is destined for Melbourne (sub. 81, p. 18). Melbourne's curfew-free international airport is another key transport hub. The performance of Melbourne's freight and logistics infrastructure and industry has a major effect on productivity.

Melbourne has some advantages that will continue to make it an attractive location for the growth in high-skill, high-income jobs. As noted by DOT and DPCD,

the central part of Melbourne has a number of fundamental strengths. It has a well-laid out CBD, a mixed transport system, and room to expand into centrally located urban renewal sites. Much of the usual capital city infrastructure (international sports precincts, arts centres, major university campuses) are within two kilometres of Melbourne's CBD. (sub. 81, pp. 8-9)

Melbourne scores very well on international liveability studies, which provide an indication of the city's attractiveness to mobile high-skilled workers (table 7.1).

Table 7.1 Summary of Melbourne's liveability rankings

Survey	Scope	Year	Ranking
EIU	Global	2011	1st
Monocle	Global	2011	5th
The Property Council of Australia	National	2011	3rd

Sources: EIU 2011; Monocle 2011; Auspoll 2011.

7.2.2 Increasing urbanisation can increase productivity and participation

There is growing recognition of Melbourne's importance to Victoria's productivity and participation. According to SGS Economics & Planning, increasing city size and density can deliver a number of potential productivity and participation benefits, including:

- economies of scale from specialisation and diversification of business risk via the ability to reach a large customer base
- greater business innovation through a higher rate of interaction and knowledge sharing between co-located businesses
- the ability of businesses to access a larger and more diverse pool of skilled labour
- more accessible employment opportunities, which enable workers to acquire a broader range of skills and experience (sub. 56, pp. 23–24).

SGS Economics & Planning reported estimates of the impact of increases in the accessibility of employment opportunities on labour productivity in Melbourne:

- Areas with higher densities of accessible jobs were found to have higher levels of labour productivity and showed higher employment growth. It was estimated that a 10 per cent increase in job density in metropolitan Melbourne could increase labour productivity by 0.8 per cent.
- The effect of higher job densities on labour productivity varied across industries. The effect was greatest for service-based sectors such as accommodation, cafes and restaurants; government administration and defence; cultural and recreational services; personal and other services; and property and business services. In contrast, an increase in job densities reduced labour productivity in manufacturing and transport and storage (sub. 56, p. 28).

Increases in size and density may also lead to problems that reduce productivity and participation. The OECD noted that large cities can experience:

- traffic congestion and environmental costs

- poor-quality infrastructure and high maintenance costs
- higher crime rates (across the OECD, urban crime rates are on average 30 per cent higher than the national level)
- spatial inequalities (in 10 OECD countries surveyed, seven to 25 per cent of the population live in distressed urban neighbourhoods) (OECD 2006, p. 16).

These consequences are not an inevitable by-product of urban growth — their severity depends on policies set by governments. Because urban growth has both positive and negative consequences for productivity, urban growth needs to be carefully managed within a policy framework that:

- addresses the adverse consequences such as traffic congestion, crime and social dislocation
- emphasises the importance of liveability in attracting people to live and work in the city
- addresses barriers to appropriate high-density and inner-urban development
- facilitates investments in transport infrastructure and public good assets.

The nature of the interactions between urban structure, and productivity and participation are complex and hard to measure. Their existence implies that a State-based reform agenda for Victoria should focus, at least in part, on ensuring that Melbourne functions well.

7.3 There are opportunities to improve how Melbourne operates

Consultations, submissions and the Commission's research indicated that the economic performance of Melbourne is under pressure due to a combination of factors, including population growth, traffic congestion, freight bottlenecks and the pattern of urban development. These factors are examined below.

7.3.1 Population growth

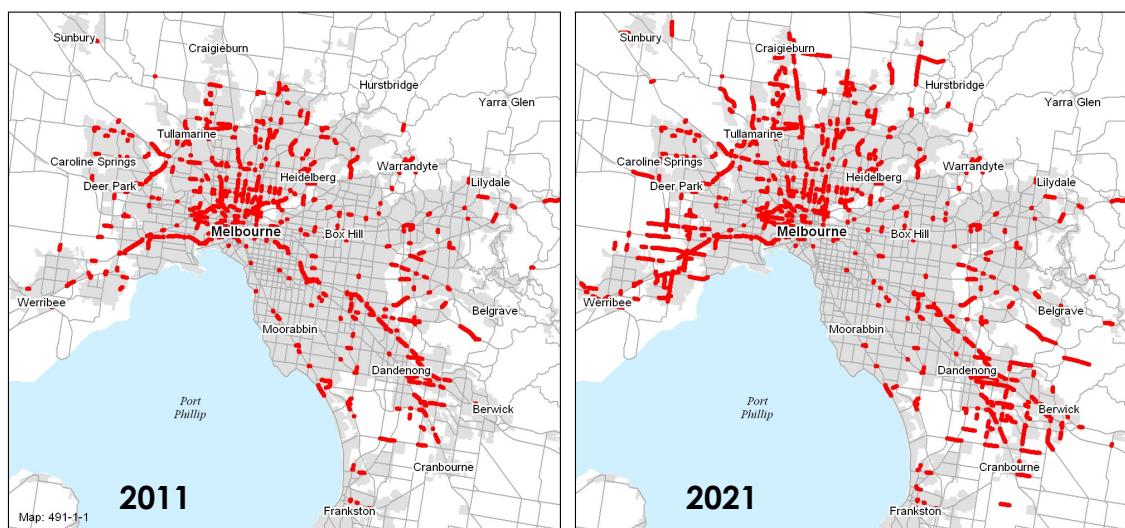
Between June 2000 and June 2010, Melbourne's population grew by 15 per cent and accounted for 79 per cent of Victoria's population growth (ABS 2001; ABS 2011a). Melbourne was the fastest growing Australian capital city in 2009–10 and is projected to grow to 5.3 million people by the year 2026 (ABS 2008b, p. 53). Continued population growth in Melbourne will have predictable effects on infrastructure and public service provision, housing and transport demand, and the environment that will need to be managed.

7.3.2 Traffic congestion

Partly as a consequence of Melbourne's success, congestion on Melbourne's road and public transport networks has increased in recent years, and projected future

growth in population and freight volumes will place further pressure on transport systems. ‘Melbourne’s transport challenge is to enable an estimated 120,000 additional people movements per day to employment locations in the CBD in 2026’ (AECOM 2011, p. 2). Figure 7.3 shows how congestion could increase across the network, and especially in the west, north and outer south-east. Congestion is therefore not just an inner-city issue. Melbourne’s ‘peak hours’ have also lengthened as people have attempted to avoid the congestion extremes (AECOM 2011, p. 4). These issues are compounded by geographical features of Melbourne such as barriers between the western growth areas and the CBD, together with the central location of the port (AECOM 2011, p. 4).

Figure 7.3 Congestion hotspots in Melbourne: 2011 and 2021



Note: The figure shows modelled traffic conditions on Melbourne’s road network for the two-hour morning peak. The highlighted areas show sections of road where the projected volume of traffic exceeds that particular road link’s physical traffic carrying capacity (the volume/capacity ratio on any road link is greater than 1). The first panel shows existing conditions, and the second shows projected conditions in 2021 based on the existing network.

Source: VITM 2011.

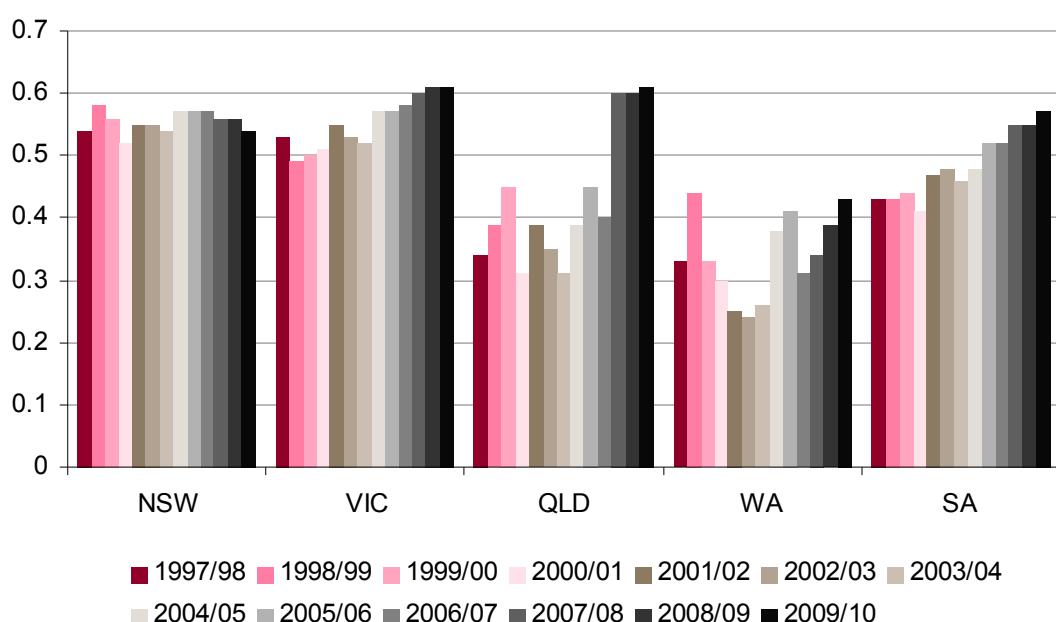
The basic causes of congestion are well understood. Unlike in other markets, prices do not play a direct role in rationing scarce road space:

When a road is congested, users impose external impacts on other users as one more user slows down everyone else, adding to their travel time. However, the additional user does not consider this in deciding whether to travel or when to travel. This is a market failure and the remedy is to use mechanisms that balance demand and supply so that an optimal amount of congestion exists on the network. Congestion itself manages demand through creating queues which deter some travel, but queues are wasteful: in principle, in congested conditions people could trade road space with each other depending on their value of time

on a particular journey and overall they would be better off. No market mechanism exists to achieve this trading, but well-designed user charging would have the same effect. (AECOM 2011, p. 8-9)

On some indicators, Victoria has the equal-highest level of urban congestion among the mainland states (figure 7.4). High congestion tends to offset the productivity and participation benefits of urban growth. If it is difficult to travel from one part of the city to another, then employees have fewer employment options and businesses face higher costs in accessing markets. The costs of congestion in Melbourne are high and are projected to increase (figure 7.5). Bureau of Transport and Regional Economics (BTR) estimated that congestion cost Melbourne \$3.0 billion in 2005 and that this would increase to more than \$6.1 billion by 2020 (BTR 2007, p. xv).

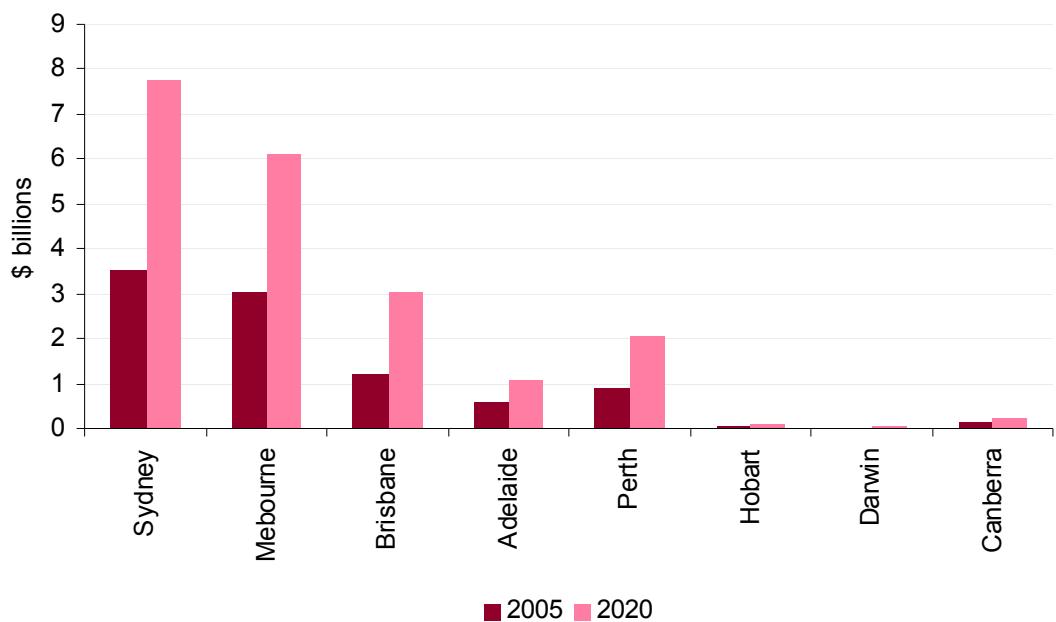
Figure 7.4 Urban congestion, mainland states, 1997–98 to 2009–10



Note: This figure shows congestion measured as the difference between actual and nominal travel times (minutes per kilometre), that is, the time delay resulting from traffic conditions which do not permit travel at the posted speed limit. Limitations of this type of congestion indicator are discussed in Australian Road Research Board (2005).

Source: Austroads 2011.

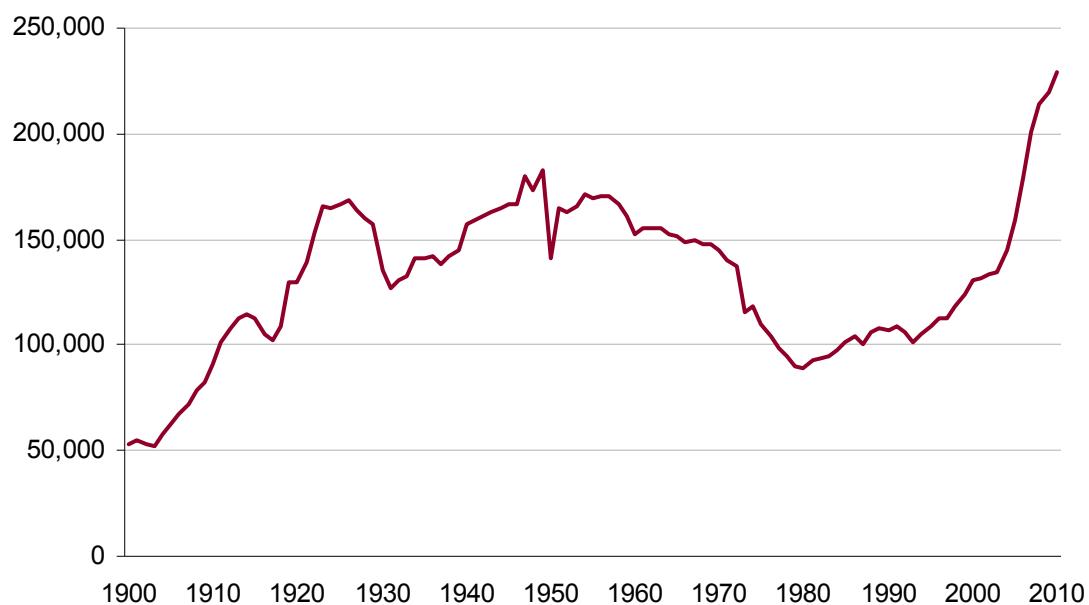
Figure 7.5 Congestion costs in Australian cities



Source: BTRE 2007.

Road congestion has flow-on effects for public transport, such as by impeding buses and trams. Also, trains and trams have experienced rapid patronage growth and are experiencing their own congestion-related issues. As figure 7.6 shows, growth in rail patronage has accelerated since the early 1990s. Crowding is one obvious consequence.

Figure 7.6 Melbourne metropolitan train patronage since 1900 (000's, per annum)



Source: DOT 2011.

In the past, responses to congestion have largely focused on the supply-side (that is, building new infrastructure and additional capacity), but such responses to congestion do not tackle the underlying causes and generally only succeed in improving travel conditions by small amounts or for a limited period (AECOM 2011, p. 19). Demand-side measures such as road pricing have been shown to be the most effective and efficient measures for addressing congestion, and are discussed later in this chapter.

7.3.3 Freight transport

Increasing road congestion affects the efficiency of freight handling, especially around the Port of Melbourne. Freight traffic is expected to increase significantly in the coming years. According to DOT and DPCD, an extra 600 000 freight-carrying vehicles and 500 000 light commercial vehicles will be added to the State's roads by 2046. Growth in freight vehicles is expected to be faster than other traffic, moving from the current 15 per cent of total kilometres travelled on roads to 20 per cent by 2020 (sub. 81, p. 17).

In an earlier inquiry on options for managing transport congestion, the Commission identified concerns about the impacts of congestion on freight transport including:

- travel delays and highly variable travel times

- higher operating costs
- reduced productivity due to increased transport costs, and loss of economies in production and transport
- increased driver stress
- increased pollution (noise, greenhouse gases and other forms of air pollution) (VCEC 2007a).

Several supply-side developments are also underway or planned to help relieve freight bottlenecks, including:

- the proposal to accelerate the development of the Port of Hastings
- plans to use rail and high-productivity freight vehicles to move containers to and from the Port of Melbourne via a network of intermodal terminals located in the west, north and the outer south-east of Melbourne
- development of the Western Interstate Freight Terminal to replace Dynon as the reception and departure point for interstate rail freight, to move that function from the port area (sub. 81, pp. 20-21).

At the national level, the Council of Australian Governments has been examining the feasibility of, and evaluating options to deliver, more direct heavy-vehicle pricing and associated funding and expenditure reform as a means to improve efficiency in the road-freight sector (sub. 81, p. 25).

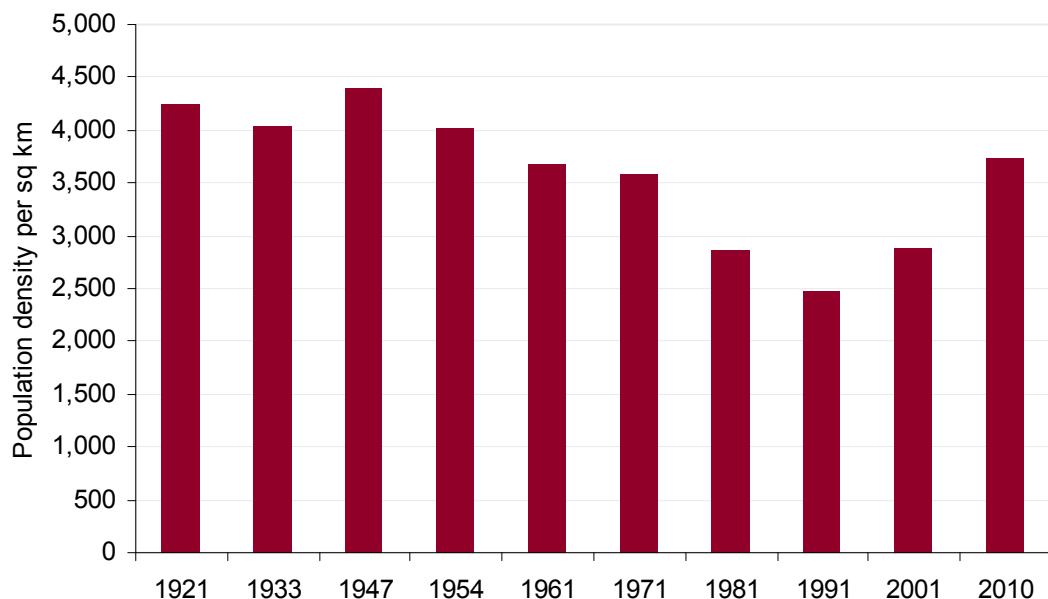
7.3.4 Patterns of urban development

Around half of the growth in Melbourne's population has been accommodated on the urban fringe (sub. 81, p. 3). Consequently, some residents of outer growth areas must travel long distances to access employment. For example, the median journey to work for residents of Melton, an area with limited local employment, is almost seven times as far as residents of the City of Melbourne, and more than twice the metropolitan median. Many neighbourhoods on the urban fringe have relatively poor access to public transport. Residents of Melton use cars for almost 90 per cent of trips, whereas those of the City of Melbourne use cars for fewer than 40 per cent of their trips (sub. 81, p. 16).

Melbourne has a relatively low population density by international standards, and was the sixth lowest of 96 international cities (Kenworthy and Laube 2001). Although Melbourne's population density has risen strongly in the last twenty years, it has still not reached the levels attained in the late 1940s (figure 7.7).

The dispersed pattern of urban development in Melbourne also imposes higher infrastructure, environmental and social costs that ultimately, reduce productivity. Government policies over the past decade have sought to deal with these costs by encouraging more growth closer to the CBD and other activity centres in Melbourne. The *Melbourne 2030* policy, for example, aimed to concentrate infill development around metropolitan activity centres.

Figure 7.7 **Melbourne's population density, 1921–2010**



Source: DPCD 2011 based on ABS data.

While Melbourne's inner-urban population density is now increasing, there is some evidence that barriers remain to the development of higher density residential development in inner areas of Melbourne. According to the Grattan Institute a mismatch exists between the current stock of housing and the housing people say they would choose (Gratten Institute 2011). This shortfall included semi-detached houses in middle and outer suburbs and apartments in inner suburbs (Daley and Lancy 2011).

Several systemic barriers and drivers encourage population growth at Melbourne's urban fringe, thereby reducing productivity. These include:

- increasing traffic congestion which is pushing up the value of well-located land (generally land close to centres of economic activity such as the CBD, activity centres, transport nodes such as train stations and freeways) and thus encouraging development where land is cheaper
- planning controls and other regulations that restrict intensive forms of land use in inner-urban areas on often legitimate grounds such as heritage, amenity and environment protection
- subsidies for new owner-occupied dwellings which tend to be mostly located on the fringe (table 7.2)
- stamp duties which encourage people to stay in houses when they would prefer to move, contributing to larger and more expensive housing and lower labour mobility (chapter 5).

Not all urban ‘sprawl’ and outer-urban development is undesirable. Many people prefer to live at some distance from the CBD because of the amenity and other benefits. The key to increasing productivity is to remove barriers and address distortions that adversely influence locational decisions, while also ensuring that individual and business decisions about land use and travel take account of social, economic and environmental consequences.

Table 7.2 First home owner grants in Victoria

Conditions	First Home Owner Grant (FHOG) ^a	First Home Bonus	First Home Owner Regional Bonus	Total
Established homes only	\$7 000	\$0	\$0	\$7 000
Newly constructed homes in Metropolitan Victoria only	\$7 000	\$13 000 ^b	\$0	\$20 000
Newly constructed homes in Regional Victoria only	\$7 000	\$13 000 ^b	\$6 500 ^b	\$26 500

^a For contracts entered into after 1 January 2010. To qualify for the Grant, the price of the property or construction of the home must not exceed \$750 000. ^b For contracts entered into between 1 July 2009 and 30 June 2012. To qualify for the Bonus, the value of the property must not exceed \$600 000.

Source: SRO 2011.

7.3.5 Planning for Melbourne’s growth: integrating land use and transport planning

Transport and land use are closely intertwined. On the most basic level, transport infrastructure competes with other potential uses of land (for example, land reserved for future transport corridors could instead be used for housing or open space). Investments in transport infrastructure also affect business location decisions and patterns of urban settlement. CityLink, for example, was vital in connecting Melbourne’s inner western industrial areas to the rich skills pool in the Monash corridor (sub. 56, pp. 47–48). Planning for how Melbourne’s land will be used in the future must therefore be closely integrated with transport planning.

The Commission has previously identified a number of concerns about Melbourne’s land use and transport planning arrangements (VCEC 2007a; VCEC 2010a). They include:

- unclear and overlapping institutional roles for land use and transport
- fragmented planning for land use and transport across Melbourne

- councils and the State Government not adopting a consistent and strategic approach, with too many planning objectives and a lack of focus on what matters, and excessive expectations of what the planning system can realistically do
- land use and transport planning processes that are inefficient, slow, costly and uncertain.

These problems can contribute to poor coordination and poor decision-making, higher congestion and ultimately, lower productivity.

Effects of unclear, fragmented and overlapping responsibilities

A major potential issue is the fragmented and overlapping responsibilities for land use and transport planning. The institutional terrain for land-use planning and transport is complex:

- In relation to land-use planning, the main decision makers in Melbourne include 31 metropolitan councils, the Minister for Planning, DPCD, VicUrban (soon to become the Urban Renewal Authority), the Growth Areas Authority and the Victorian Civil and Administrative Tribunal.
- In relation to transport planning, key transport agencies include DOT, the soon to be created Public Transport Development Authority, VicRoads, VicTrack, V/Line, Port of Melbourne Authority, Transport Safety Victoria, and the Victorian Taxi Directorate. Melbourne's 31 metropolitan councils also have a role by virtue of managing local roads.

A number of formal mechanisms are in place to improve integration in land-use planning and transport planning:

- The *Transport Integration Act 2010* (Vic) (TIA) is intended to support the integration of decisions on transport and land use issues. AECOM concluded, however, that while the TIA is a positive step, its objectives are broad and it lacks 'teeth' to achieve integration (AECOM 2011, p. 10).
- Some voluntary economic development-focused partnerships between councils have emerged, such as 'Lead West'. Councils also cooperate through the Municipal Association of Victoria (MAV) and the Victorian Local Governance Association (VLGA).

Notwithstanding the development of these and other coordination mechanisms, the differing objectives of the many entities involved in land use and transport planning can increase risks of a breakdown in integrated planning. An example is the misalignment between the interests and priorities of local councils and those of the State Government. The *Local Government Act 1989* (Vic) requires councils to advocate the interests of local residents (s 3D(2)(d)), whereas the State Government has broader responsibilities that may conflict with a specific council's objectives. Legitimate tensions between State and local governments can arise, for example, when determining the relative priority that should be

given to protecting neighbourhood character and encouraging more intensive residential development. These tensions were discussed in the Commission's inquiries into local government regulation (VCEC 2010a) and Victoria's liveability (VCEC 2008a), and were noted by the City of Glen Eira:

The, perhaps unfortunate, reality is that detailed strategic [land-use] planning is likely to either be acceptable to the community (and not to the State Government) or conversely acceptable to the State Government (and not the community). (City of Glen Eira, p. 2)

The tension between local and wider community interests is also illustrated by the debate between some councils and the State Government over changes to the rules restricting parking in peak periods along major roads. The changes were designed to improve the flow of traffic in Melbourne during peak periods, but were opposed by local traders and some councils, due to concerns about the impact on local businesses. Ultimately, these changes were over-turned.

Uncertain, costly and slow processes

Previous work on the efficiency and effectiveness of land-use planning regulation in Victoria has highlighted the uncertain, costly and slow nature of these processes. Research for the Commission's local government inquiry suggested that the total costs of land-use planning regulation in Victoria are between \$360–620 million per annum (VCEC 2010a, p. 57). These costs include administrative, substantive compliance and delay costs but do not include financial costs and are therefore likely to represent a conservative estimate of the total.

Many improvement options have been identified. The Commission's inquiry into local government regulation, for example, considered changes to land-use planning regulation to improve the overall efficiency and effectiveness of the regulations. Options examined in the draft inquiry report included:

- implementing a quick assessment path for simple planning matters (called a code assess track)
- enabling private practitioners to assess relatively simple planning permits, through a system similar to that used for assessing building permits
- the State Government, in collaboration with councils, developing and reporting on the implementation of a best practice permit assessment model
- making better use of pre-application meetings and pre-lodgement certification to speed up the assessment of planning permits
- encouraging councils to adopt a consistent and high level of delegation of decision-making on planning permits
- encouraging more councils and applicants to use online tools for lodging planning permits
- streamlining the referral of planning applications for technical assessment by state agencies (VCEC 2010a).

According to the local government inquiry draft report, implementing these planning process improvements could yield large cost savings to Victorian businesses, with additional gains possible from adopting a more strategic approach to land-use planning at the State, regional and local levels (VCEC 2010a).

At the time of writing the State Government had not released the Commission's final report, which was submitted in August 2010.

7.4 A comprehensive strategy to support the continuing growth of Melbourne

As noted, the Victorian Government has committed to developing new policy frameworks to address the productivity pressures on Melbourne arising from population growth and road and rail congestion. The new frameworks will include the Metropolitan Planning Strategy, Transport Solutions and Growing Freight on Rail. The Government is also making institutional changes such as establishing the Public Transport Development Authority and the Urban Renewal Authority.

In this changing environment, the Commission has focused on identifying issues to be addressed by, and outcomes from, the strategies under development. The areas for improvement identified in this section include:

- improving strategic planning and its implementation in Melbourne
- reducing barriers to more productive uses of land
- tackling the costs of transport congestion on individuals and business.

7.4.1 Improving strategic planning and its implementation

The Commission considers the growth challenges facing Melbourne can be addressed through a combination of better planning and reforms to land use, transport and other infrastructure policies. The Victorian Government's proposed Metropolitan Planning Strategy provides a vehicle for improved planning. According to DOT and DPCD, the focus of the strategy will be on promoting growth through transport integration, investment, changes in land use, and clarifying where urban development will occur over the long term (sub. 81, p. 30).

What should Melbourne look like — a productivity perspective

It is intended that the future Metropolitan Planning Strategy, now under development, will clarify areas of the city where future development should be accommodated. While assessment of the benefits of different structures will take a wide range of social and environmental perspectives into account, it is

important that the impact on productivity of different structures also be considered in future planning.

According to SGS Economics & Planning, Melbourne's 'monocentric', low density structure once stimulated productivity growth by allowing business to connect readily with each other and by allowing workers to have access to a wide range of jobs. It argued that this city structure is reaching its limits, and that Melbourne increasingly operates as six distinct, but linked, sub-metropolitan cities, based on the central activity centres in Footscray, Broadmeadows, Box Hill, Ringwood and Frankston. It submitted that:

Were metropolitan Melbourne to be recast into a genuine poly-nodal structure, featuring the [central activity centres] as the capitals of six sub-metropolitan cities, significant benefits are likely to be realised in terms of productivity, environmental performance and social inclusion. (sub. 56, p. 53)

According to SGS Economics & Planning, such centres 'offer great potential for accelerated urban consolidation, having capacity for some 35 000 infill dwellings. If realised, this urban consolidation potential would represent a \$1.05 billion infrastructure saving compared to adding a similar number of dwellings to Melbourne's fringe' (sub. pp. 54–55).

Other commentators have identified a number of risks to productivity from strategies attempting to direct urban growth towards, or away from, particular areas. AECOM , for example, argued that:

Provided there is enough capacity to enable people movements, development with a single large and dense CBD is likely to be best for productivity because of agglomeration and job-matching benefits. It will also make best use of existing and future transport infrastructure, especially mass transit public transport services along key arterial routes. A more dispersed model for knowledge industry employment locations is likely to sacrifice agglomeration and labour market benefits, while also requiring a higher proportion of commuting movements by car. (AECOM 2011, p. 14)

The Commission considers that a future Metropolitan Planning Strategy should enable the City to grow in ways that are dictated by market incentives (such as the productivity advantages of co-location, peoples' housing preferences, existing capacity of transport and other infrastructure, the costs of adding to that capacity, and the employment and other characteristics of a location). There may, however, be areas of the City where increased development may not be desirable from a social or environmental perspective, such as areas close to important buildings or features such as the Shrine of Remembrance or the Royal Exhibition Buildings. The full list of these areas needs to be identified and updated, based on a rigorous assessment of trade-offs.

Adopting an approach which responds to demand, rather than trying to create it, also deals with the risk that attempts to concentrate growth in particular areas of Melbourne will be unsuccessful and thus unnecessarily costly.

Developing the Strategy — and making it stick

The process of developing the Metropolitan Planning Strategy will also need to consider the perspectives of residents, businesses and other groups. Work by the Grattan Institute and others has pointed to the importance of community engagement to achieving a consistent strategic direction sustained over long periods. In reviewing the experience of what were identified as ‘successful’ cities, the Grattan Institute concluded that residents of cities must be involved in decisions, at a metropolitan and at a local level:

In our sample, such involvement appears to have been critical to making tough decisions that were then actually implemented. This level of engagement is an order of magnitude different from what happens in Australia today.

The type of engagement matters a lot. For example, it must start early, before decisions have been made; genuinely engage a significant proportion of the population; be focused on real choices and be clear about their consequences; there should be no promotion of a ‘favoured approach’; and there must be a commitment to follow through. (Kelly 2010, p. 45)

Grattan’s conclusion suggests wide consultation will be important to the development of the Metropolitan Planning Strategy. How this would be done is a matter for the Government. However, the desired outcome is that a wide range of stakeholders including councils, community groups and the business sector are actively engaged in consultation on the Strategy, and that the process delivers the long-term support needed to respond to the future growth of Melbourne.

Ensuring effective implementation of the Strategy

While robust consultation on the Strategy is important, effective implementation will also be essential to achieving its intended outcomes.

The experience with *Melbourne 2030* illustrates the importance of governance structures to effective implementation of a future Metropolitan Planning Strategy. For example, the audit of *Melbourne 2030* stated that:

Absence of clarity between roles, responsibilities and resources for Plan implementation was one of the most frequently cited shortfalls of *Melbourne 2030*. While local government generally supports *Melbourne 2030*, there is frustration with the lack of clarity as to State and local roles and with a perceived lack of planning tools and authority to fully address Plan implementation. At the State level, there is some impatience with local Councils that are not seen to be implementing the Plan. (AEG 2008, p. 26)

The complexity of the institutional environment for land-use planning and transport was previously outlined. Past metropolitan planning efforts were adversely affected by a lack of integration between transport and land-use planning and incomplete implementation, including by local councils. Inquiry participants suggested improved governance and coordination in this sphere. For example, the Property Council of Australia supported establishing a central planning authority for Melbourne, noting:

... an overarching body, responsible for delivering Victorian Government planning policy, is of vital importance to creating an increasingly productive and competitive state, and providing coordinated ‘whole of city’ and ‘whole of state’ approaches to planning. We believe that such an organisation, which should be functionally independent from government, would simplify the currently complex decision making and appeal processes, and eliminate confusion at the local government level... A Victorian Planning Authority should focus on all areas of planning including:

- tax arrangements
- public transport
- infrastructure and
- infill development. (sub. 55, p. 4)

The Commission’s inquiries on transport congestion, liveability and local government regulation considered various institutional options for dealing with the tensions between State and local governments on planning issues, and for facilitating improved strategic planning and better integrated land use and transport policies. The liveability inquiry suggested that establishing regional facilitating authorities for metropolitan Melbourne would ‘merit careful consideration’ (VCEC 2008a, pp. 145–152). The Growth Areas Authority, the Sydney Metropolitan Development Authority and Victoria’s TIA are examples of mechanisms for achieving greater coordination.¹

Within transport, there is also scope for greater integration. The Commission’s transport congestion inquiry identified institutional problems and concerns relating to:

- whether the coverage of policy options was comprehensive
- whether decision-making was biased in favour of roads
- the difficulty of coordination between state and local governments
- the challenges of coordination between state government agencies (VCEC 2007a, p. 354)

¹ The Sydney Metropolitan Development Authority was established by the NSW Government on 17 December 2010 to identify urban renewal precincts and oversee the necessary land-use and transport planning and development.

These issues continue to be relevant, as evidenced by the debate on issues such as parking restrictions on major roads, and AECOM's views about the efficiency and effectiveness of transport planning and the capacity of current initiatives to improve long-term outcomes (AECOM 2011, p. 12).

Much progress has been made since the Commission's transport and liveability inquiries and ongoing changes include the development of the Metropolitan Plan and supporting transport strategies. The Commission has not examined the merits of specific institutional reform options because it considers the priority should be to develop the Metropolitan Planning Strategy. With major changes to governance also underway, assessing the new frameworks against robust criteria is more useful than proposing new arrangements (AECOM 2011, p. 10). Suggested criteria for assessing governance arrangements include:

- greater integration between transport and land-use planning
- stable and predictable land use and transport planning frameworks
- clear frameworks for reviews and revisions of these frameworks
- clear objectives, roles and responsibilities for transport agencies
- publication of benefit and cost appraisals for decisions and increased consultation around development of transport and land-use plans
- greater consistency in decision making
- independent economic regulation of transport charges and demand forecasts (AECOM 2011, p. 10; VCEC 2007a, p. 386).

However, the Commission considers that, in the longer term, more fundamental institutional reform could help address some of the problems identified, such as a lack of coordination and unclear implementation responsibilities. Over time, opportunities exist to reduce Government intervention and increase the role of markets, including through more use of prices to manage demand and trigger infrastructure investment, greater private provision of infrastructure and increased private sector innovation in addressing transport problems (see below). The Commission therefore considers that longer-term changes to the governance of Melbourne may be needed to provide clearer, simpler and more accountable arrangements for implementing long-term planning strategies.

7.4.2 Removing barriers to more productive uses of land

The rapid increase in land prices in Melbourne over the last decade or more highlights the importance to productivity and participation of using land efficiently (especially in inner areas of Melbourne). High levels of congestion, as well as a number of land-use planning and other policies, may be reducing productivity and participation by pushing development outwards, into less productive locations (section 7.3.4).

A State-based reform agenda to improve productivity and participation should identify and address potential distortions to efficient location decisions arising from transport congestion (section 7.4.3), the planning system, State taxes and government programs (such as higher subsidies for first home buyers in fringe areas).

Improving planning regulation

Previous inquiries, including by the Commission's inquiry on local government regulation (VCEC 2010a), have highlighted the adverse consequence for business productivity of uncertain, slow and costly planning processes. As a result, a State-based reform agenda for Melbourne and regional Victoria (chapter 8), should identify opportunities to improve land-use planning regulation.

The Victorian Government is in the process of considering reforms to the *Planning and Environment Act 1987* (Vic) and growth area planning. A broad review of the planning system by the Victorian Planning System Ministerial Advisory Committee is due to report in November 2011 (sub. 81, p. 31). This review provides an opportunity to build on the Commission's recommendations for improving land-use planning regulation, as set out in the inquiry into local government regulation. The Commission considers that releasing the Commission's final report and implementing the recommendations would assist in improving productivity by reducing uncertainty, time and costs associated with planning processes.

Drawing on previous work on land-use planning regulation (VCEC 2010a; VCEC 2011h), the Commission considers that the current planning system review should be assessed against the following broad outcomes:

- Fewer and clearer objectives in planning regulation. The Commission's inquiry into local government regulation identified 73 separate objectives of planning.
- More flexibility in the types of developments permitted in various land-use zones.
- Fewer matters requiring a planning permit and a streamlined (code assess) processes for relatively simple development proposals.
- Opportunities for private sector assessment and approval of simple matters.
- Process improvements to significantly cut timeframes for amendments to planning schemes and decisions on permit applications.
- Incentives for councils and the Planning Minister to administer planning regulation more efficiently (including improved monitoring and reporting on administration of the permit and planning scheme amendment processes).

Addressing policies distorting location decisions

As noted, the dispersed pattern of urban development in Melbourne imposes higher infrastructure, environmental and social costs which ultimately reduce productivity. While outer urban development is not necessarily undesirable, a State-based reform agenda should aim to minimise policies that artificially favour the dispersal of activity, such as:

- land-use planning requirements that make higher density developments more difficult or more expensive
- larger subsidies for first home owners building new houses in outer Melbourne and regional areas
- stamp duty on property transfers, which discourages adaptation of the housing stock and impedes better matching of housing demand and supply (chapter 5).

Draft recommendation 20

That the Victorian Government strengthen Melbourne’s position as a key asset for the State and a high-skill, high-income centre that is attractive to knowledge-based businesses by:

- developing and implementing a long-term strategic planning framework for Melbourne which is supported by the community and that:
 - enables the city to grow in ways that respond to the demands of the market
 - invests in and uses infrastructure efficiently
- identifying short-term opportunities to improve the implementation of the strategy for Melbourne
- identifying and reforming policies that unnecessarily encourage urban sprawl.

7.4.3 Improving transport

The recent and projected increases in demand for public transport, road and freight infrastructure pose real challenges to Melbourne’s productivity and liveability. Efficient and effective transport is essential for managing congestion to ensure the effective operation of the city, and to support Melbourne’s capacity to attract and retain workers and businesses.

As noted, a number of developments that will affect Melbourne’s transport system are already in the pipeline, including the Metropolitan Planning Strategy and development of new institutional arrangements and processes.

As part of this inquiry AECOM was commissioned to analyse the impact of transport infrastructure on Melbourne's productivity and competitiveness and, given the problems facing Melbourne's transport system, present options for a State-based reform agenda (box 7.1). A summary of AECOM's conclusions is available on the Commission's website.

Box 7.1 **AECOM Transport information paper**

The AECOM report identified the broad components it considered necessary for effective planning and transport strategies and some suggestions for improving existing processes, this included:

- Stable long term and better integrated land use and transport planning and decision making frameworks to support competitive private investment.
- Better use of existing infrastructure through increased use of 'intelligent transport systems' and changes to operating rules.
- Improving the appraisal of major transport projects including: clear problem identification (especially market failures); full consideration of alternatives; increased investment in smaller projects with higher benefit–cost ratios; recognising land-use impacts in business case development; and adopting a 'mode neutral' approach.
- Greater transparency through publication of: benefit–cost analyses; transport models and data sets; and ex-post evaluations.
- Investment in productive infrastructure, noting the productivity advantages of public transport, and using 'real options analysis' in the assessment of major investments.
- Increased contestability of transport services including competitive tendering of bus contracts and contestability for road management and maintenance.
- Rebalance revenue and incentives between usage and location choices by using alternative opportunities to fund major transport infrastructure investments, such as value capture and/or infrastructure pricing, and integration of funding into planning.
- Better infrastructure pricing including: developing prices based on the time and amount of road use; consulting about the use of revenue from such charges; and investing in viable alternatives to peak time car use.

Source: AECOM 2011, *More productive space and time: Transport information paper submitted to the VCEC State-based reform inquiry*.

In light of the challenges facing metropolitan Melbourne, the views of participants in this inquiry, previous Commission inquiries (including on Victoria's liveability and managing transport congestion) and the AECOM analysis, the Commission considers that there is no single solution to the complex transport problems facing Melbourne. A portfolio of options is required. In identifying the priorities within such a portfolio, the Commission has focused on three key areas for longer-term improvement:

- opportunities to improve the efficiency of existing transport infrastructure
- alternative means for funding transport infrastructure
- institutional reform of transport policy, planning and service delivery.

Improve the efficiency of existing transport infrastructure

Future transport policy and planning should identify ways to work existing assets harder and provide services more efficiently as opposed to resorting to new investment (the ‘supply side’) as the first recourse in transport planning. Even though major new investment in transport infrastructure is likely to be needed, it is important to improve the use of existing assets and ensure new assets are used effectively and efficiently. Improving the use of existing infrastructure can often be implemented more quickly and economically than investing in new supply.

As a first step, submissions and the Commission’s research have identified opportunities to improve the efficiency of existing road and public transport infrastructure through use of technology (such as traffic control systems) and regulatory approaches (such as a ‘road hierarchy’ and creation of additional clearways) (AECOM 2011, p. 21; VCEC 2007a). ‘Intelligent transport systems’ and other developments in information and communications technology promise to reduce congestion as well as road safety (AECOM 2011, p. 21; NTC 2011, p. 63). The potential gains from such systems are illustrated by the benefits of initiatives already implemented in Victoria.

Victoria has attracted international attention with the M1 Freeway Management System (FMS) which includes freeway ramp metering and Lane Use Management Systems (involving overhead gantry mounted lane message signs and speed limits)... Early evidence suggests the M1 FMS has resulted in increases in capacity in excess of 1,000 vehicles per hour (approximately 10%) in peaks, increases in travel speeds and consequent reductions in delays of up to 70%. (AECOM 2011, p. 21)

But not all such options are easy to implement. Some, such as reducing the frequency of express rail services, changing public transport timetables and closing small rail stations, can face considerable public opposition.

Reports by ACIL Tasman and AECOM for this inquiry also highlighted opportunities to use contestability to increase the efficiency and effectiveness of transport service delivery (ACIL Tasman 2011; AECOM 2011). For example, the reports asserted that increased competition may lead to better performance of bus contracts. In contrast, the Bus Association of Victoria (BAV) (submissions 37 & 46) state that Melbourne’s bus contracts are effective and efficient, although the Commission has found evidence of opportunities for improvement (Wallis et al 2011). The BAV submissions also usefully highlighted a number of regulatory issues that constrain bus performance which have been taken into account in the formulation of draft recommendations in chapter 6. The AECOM report also argued there are opportunities for savings from increasing the use of

private operators in road management and maintenance and from more contestability and innovation in these practices (AECOM 2011, p. 17).

The Commission considers, however, that improvements to the way existing transport assets are used will only be partly successful in tackling the transport challenges facing Melbourne. There are limits to the extent to which more traffic and passengers can be added to the existing system. It is also important to consider how best to prioritise use of the system and whether those taking less essential trips can be encouraged to use the network at less congested times. Tools for managing demand include parking charges, heavy vehicle pricing, congestion charges, tolls and other instruments that use prices to signal efficient use of the transport network.²

The benefits of demand-management responses are potentially greatest at road transport bottlenecks around key nodes such as the Port of Melbourne, the central business district, and other activity centres in the metropolitan area. The Commission considers there is an important place for price-based tools together with new investment and other demand management tools in an integrated and coherent transport management strategy. In particular, road pricing should only be considered once public transport availability has been addressed; otherwise, there would be limited scope to rebalance commuter traffic away from cars and toward trains and trams.

The use of demand management is highly contentious. Internationally there are, however, some examples where road pricing has been successfully introduced and where, after initial concerns, it is now well accepted. In London, for example, the introduction of congestion charging was a long process (about 40 years) but it was implemented with a reasonable level of support from business and public transport users. Broader public acceptance rose after its implementation (Bhatt and Higgins 2008, p. 2–17).

In an Australian context, in 2011 the National Transport Commission found that ‘survey results show that the community is willing to discuss pricing options’ to address the challenges facing transport (NTC 2011, p. vii).

If the Government and general public put a high priority on reducing congestion then the Commission considers cost effective approaches, including congestion pricing, should be part of the associated reform package. Productivity could be further enhanced through a portfolio of measures, which applied any revenue raised from new road user charges to reducing other taxes or other car related charges such as stamp duty, registration and (with Commonwealth cooperation) petrol excise.

² In 2002, the Victorian Infrastructure Planning Council recommended an integrated incentives scheme to provide more efficient use of the road network through the use of charges that depended on times and location.

Funding transport infrastructure

Given the population pressure on Melbourne, some investment in infrastructure will be needed to fund worthwhile improvements in roads and public transport infrastructure. The Victorian Government, however, faces significant budget constraints that will make financing such investment from government revenue difficult.

This leads to a question about the potential to draw on new funding streams. The model of public-private partnerships, which employ private capital to fund public projects, is one that Victoria has used in the past. Other options include greater use of value capture and applying revenue from road user charges to fund future transport investment.

Value capture refers to measures that recover some of the increase in private land values that result from public infrastructure investments. Large transport investments, for instance, improve accessibility which increases the value of real estate in the vicinity of those services. AECOM argued that value capture mechanisms could be applied to property owners where the access afforded by transport networks is capitalised into property prices (AECOM 2011, p. 17). A precedent for this type of funding is the Metropolitan Improvement Charge that was levied on households in the 1980s to help fund the development of the City Loop.

Future institutional reforms

This chapter has identified concerns about the institutional arrangements in land use and transport planning. They included concerns about: unclear and overlapping roles; fragmented planning; and planning processes that are inefficient, slow, costly and uncertain.

As noted, a number of new arrangements are being developed or have been put in place, to deal with some of these issues. Examples include new transport strategies, creating the Public Transport Development Authority and establishing a new investment appraisal process within the Department of Treasury and Finance to screen and test the rigor of infrastructure development proposals.

Accordingly, the Commission considers that at some point, the impact of these and other changes should be assessed to determine whether there is greater clarity in roles, improved accountability and more integrated decision-making. The introduction of new demand management measures would also provide an opportunity to re-examine the institutional arrangements to assess the need for more fundamental reform, drawing on the lessons from deregulation in electricity, telecommunications and other infrastructure sectors.

Draft recommendation 21

That the Victorian Government develop a reform agenda for transport that:

- examines opportunities to improve the efficiency of existing transport infrastructure through use of technology and regulation, and tests the use of demand-management responses to road transport bottlenecks around key nodes
- identifies alternative ways to fund major transport infrastructure
- re-examines institutional reform of transport policy, planning and service delivery to clarify roles, improve accountability and integrate decision-making.

8 Embed Regional Victoria in the high-productivity, high-participation Victorian economy

8.1 Introduction

Approximately 1.2 million Victorians live outside metropolitan Melbourne (ABS 2011a). The area outside metropolitan Melbourne is referred to in this chapter as ‘Regional Victoria’.

The State’s regions account for 25 per cent of Victorian employment (ABS 2011b) and, according to the Departments of Transport, and Planning and Community Development, Regional Victoria produced 22 per cent (\$66.3 billion) of Victoria’s gross state product (GSP) in 2010 (sub. 81, p. 6). This chapter focuses on how best to ensure that Regional Victoria contributes to, and is an integral part of, a high-productivity, high-participation economic future for Victoria.

The forces shaping Regional Victoria are very similar to those shaping Melbourne. These include population growth and the need for additional infrastructure spending; the impact of an aging population; structural change in regional economies (with some industries experiencing relative growth and others relative decline); competition for land, water and other resources; risks to environmental quality (with regard to native vegetation and river health, for example); and international factors such as the impact of high commodity prices and the Australian dollar.

In some instances, however, the forces shaping Regional Victoria are especially intense or have unique effects. Examples here include the potential impact of distance on access to services; climate change; and competition for water and land:

- distance between centres and smaller populations can affect access to, and the viability of, services such as vocational training
- climate change is predicted to have significant impacts along the coast, and wider impacts on rainfall, temperature, biodiversity and patterns of land use
- there are competing uses of water including environmental flows and irrigation
- competition for land for residential, industrial, agricultural, environmental and tourism purposes is a major issue. The regions have a comparative advantage in the availability of land, but this can quickly be eroded by poor planning.

The following sections of this chapter discuss the importance of Regional Victoria to productivity and participation, and identify opportunities for the State-based reform agenda to address key challenges and improve economic, social and environmental outcomes in Regional Victoria.

8.2 Regional Victoria is important to productivity and participation

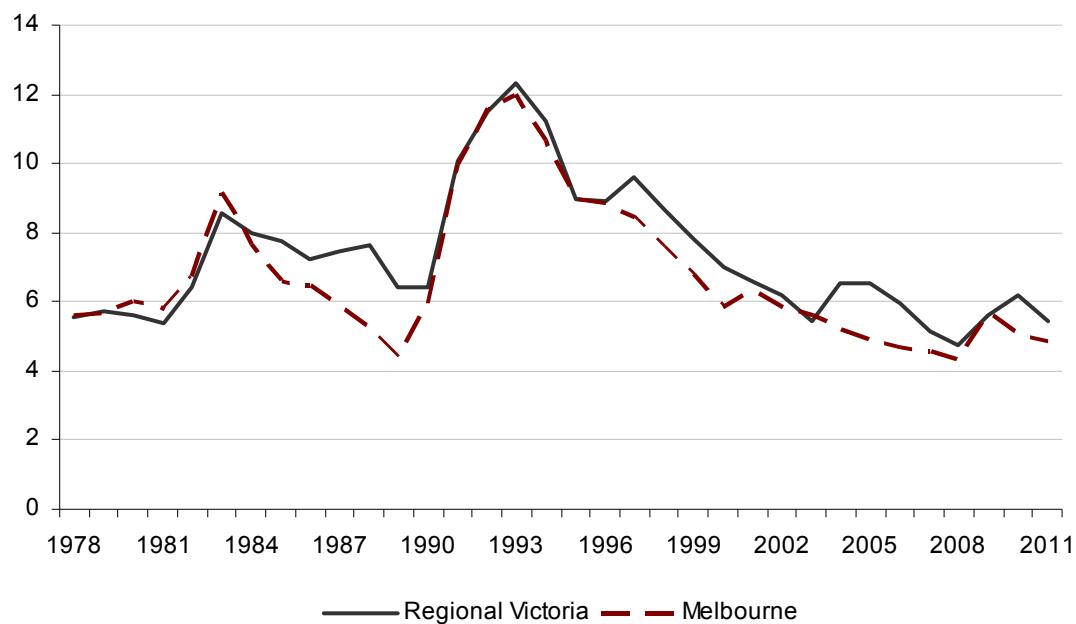
Regional Victoria has played an important role in the State's recent growth performance. Over the past decades, the 'city versus country' paradigm has become less relevant to understanding the Victorian economy. The reality is much more complex, in part because interaction between the city and the regions is high and multifaceted. Proximity to Melbourne has influenced the growth of regional localities within commuting distance (such as Macedon, Moorabool and Mitchell) and there has been strong population and employment growth at the metropolitan fringe.

Beyond the fringe, Regional Victoria can itself be regarded as several regions that are organised around, or linked with, regional cities. Within these regions, small towns have lost population to larger regional centres. There has been strong population and employment growth in some regions (Daley and Lancy 2011) such as Geelong, Ballarat and Bendigo. The growth of these cities is a legacy of commodity production and their capacity to add value, diversify and grow their economies over time. Between 1990 and 2010, these major regional centres moved from relatively narrowly-based agricultural and manufacturing economies towards more diversified and service-oriented economies. These provide a wider range of economic and social opportunities, 'more capable of supporting significant population and employment growth' (DOT/DPCD sub. 81, p. 7). These regions are increasingly linked to Melbourne's growth, both in terms of proximity to Melbourne for residence and closer economic links.

Other regions — for example the regions centred on Warrnambool in the south-west, Mildura in the north-west and Shepparton in the Goulburn Valley — tend to specialise in different forms of primary production, with these cities playing important service and value-adding roles for localities in their respective regions.

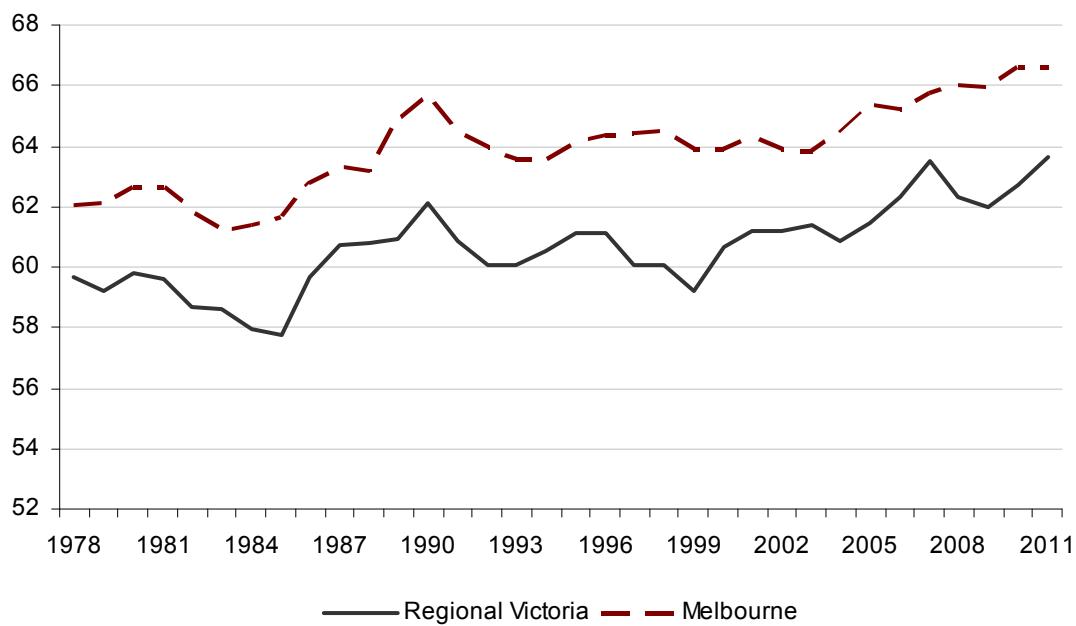
Labour market trends in the regions have — with some exceptions — been broadly similar to those in Melbourne (Cunningham and Davis 2011, p. 8), with similar overall unemployment rates (figure 8.1), though consistently lower labour force participation (figure 8.2). Several factors are likely to be relevant here, including the increasing attractiveness of non-urban lifestyles ('tree-changers' and 'sea-changers').

Figure 8.1 Unemployment rate, Melbourne and Regional Victoria, 1978 to 2011 (per cent)



Source: ABS 2011b.

Figure 8.2 Labour force participation rate, Melbourne and Regional Victoria, 1978 to 2011 (per cent)



Source: ABS 2011b.

The circumstances of the regions reflect significant differences. For example, they range from those whose population growth has been flat or declining, to those whose population growth resembles Melbourne. As a result, though most regions have benefited from Victoria's economic performance at least to some extent, labour market outcomes 'remain patchy for some regions' (Commonwealth Treasury 2011a, p. 14) and there have been lingering pockets of relative disadvantage. Despite an overall fall in unemployment in Victoria between 2003 and 2010, unemployment rose between 2003 and 2010 in the Victorian statistical subdivisions of West Mallee, North Goulburn, Mildura Rural City (Part A) and Greater Shepparton City (Part A) (Commonwealth Treasury 2011a). This variation in performance 'highlights the importance of policy to manage the regional effects of transition' (Commonwealth Treasury 2011a, p. 14). The Latrobe Valley illustrates the diversity in labour market performance. In June 2011, the unemployment rate was 4.7 per cent in Traralgon, 7.6 per cent in Moe and 9.6 per cent in Morwell (DEEWR 2011).

Population flows between Regional Victoria and Melbourne are significant. Since 1991, migration between Melbourne and the regions has resulted in a net gain in population for Regional Victoria (ABS 2011a). Around half of Victoria's population growth is occurring in areas at the urban fringe, 'making the proximity of the major regional cities more apparent and interaction more common' (DOT/DPCD sub. 81, p. 3).

Nearly 60 per cent of Victoria's regional population now lives within 150 kilometres (about two hours drive) of Melbourne (ABS 2011a). Moreover, 89 per cent of Victorians live in and within two hours drive of Melbourne (ABS 2011a), which together account for only 24 per cent of the State's land area. Over the past five years, areas close to Melbourne have experienced higher population growth and higher employment growth than more distant localities (table 8.1).

Table 8.1 Population, unemployment and employment growth, Melbourne and Regional Victoria

	Melbourne	<150 km from Melbourne	Rest of Regional Victoria
Area (km ²)	7 693	41 119	178 605
Population ('000)	4 077	831	631
Population growth (past five years, %)	9.7	8.3	5.1
Employment growth (past five years, %)	13.5	12.9	9.1
Unemployment rate (%)	4.3	5.8	6.0

Notes: All analysis is based on statistical local area (SLA) data with geographical zoning. Population is based on 2009–2010 data and employment based on 2011 data.

Sources: ABS 2011a; ABS 2011b; DEEWR 2011.

It appears that productivity growth in Regional Victoria out-performed Melbourne in the first five years of the past decade, then under-performed in the second five years (table 8.2). In its submission to the inquiry, SGS Economics & Planning remarked that ‘the past five years have seen labour productivity growth in Regional Victoria stagnate’ (sub. 56, p. 11).

Table 8.2 Total factor productivity performance of Melbourne and Regional Victoria, 2001–10

	<i>Melbourne</i>	<i>Rest of Victoria</i>
2001–05	0.70	1.16
2006–10	-0.86	-1.36

Notes: Total factor productivity based on 10 largest industries in Melbourne and Regional Victoria, weighted by their share of employment.

Source: VCEC.

Some differences in the economic performance of Regional Victoria can be explained by the differences in the industrial composition across the regions. Productivity growth has slowed in sectors that are particularly important to Regional Victoria. According to Cunningham and Davis (2011, p. 8), ‘tourism and manufacturing-focused regions have had above average unemployment rates’. Crucially, broad-acre agriculture has experienced a significant slowdown in productivity growth over the past decade (Sheng, Mullen, and Zhao 2011). This is despite a move to larger farms and more intensive agriculture. A likely major factor is the impact of the recent severe and sustained drought. The principal drivers of productivity in agriculture are summarised in table 8.3.

Table 8.3 Principal drivers of agricultural productivity growth

<i>Driver</i>	<i>Details and examples</i>
Research and development (R&D)	Investment in R&D moves the production frontier outward; potential output increases for a given set of inputs.
Practice change	Extension/adoption/practice change enables farms to make the most of R&D and innovation to reach the production frontier. Practice change includes investments in human capital.
Regulatory reform	Better regulation in areas such as transport and the environment enables farms to adopt new, more productive, approaches. An example is the use of B-double trucks in the dairy industry, which made transporting milk around the State more efficient.
Market access	Trade liberalisation has opened up new exporting opportunities, and has further spurred innovation by giving farms more choices about how to tailor their products and serve different market needs.

Source: Adapted from Sheng, Mullen and Zhao 2011.

8.3 There are opportunities to improve the way Regional Victoria operates

As shown in the preceding section, the challenges facing Regional Victoria are similar but not identical to those facing Melbourne, and there are important differences across regions. Productivity growth in Regional Victoria appears to have slowed more rapidly than in Melbourne — mainly because Regional Victoria is more reliant on industries with the largest falls in productivity growth, and also reflecting the impact of drought on some sectors, particularly agriculture.

The Victorian Government has taken steps to address some of the challenges facing the regions, by investing in Regional Victoria (through the Regional Growth Fund, for example) and supporting councils (via Regional Growth Plans) to ‘plan for population growth and ensure longer-term regional land supply’ (DOT/DPCD sub. 81, p. 33).

Previous work by the Commission has found a number of specific challenges for Regional Victoria. Some of the issues previously identified by the Commission that are currently relevant to Regional Victoria are shown in table 8.4.

Table 8.4 Some issues identified by the Commission in previous inquiries

<i>Topic</i>	<i>Issues</i>
Regulation	<ul style="list-style-type: none">• The Commission’s draft report for the inquiry into Victoria’s regulatory framework <i>Part 2 — Priorities for Regulatory Reform</i> highlighted:<ul style="list-style-type: none">– cross-border harmonisation issues (e.g. Sunraysia/Riverland regions), with scope identified for greater use of bilateral mutual recognition, particularly between Victoria and New South Wales– movement of livestock on roads, where the Commission made draft recommendations that the Government work with local councils to identify options to reduce regulatory burden for producers moving livestock, particularly where multiple municipalities are involved– mining and extractives regulation, identified as an area in which reform to approvals processes to reduce cost and delay to project proponents appears to have been slow– groundwater regulation, with stakeholder feedback indicating that Victoria’s regulatory framework poorly reflects the actual use of aquifers, and that markets for access to groundwater resources remain thin and rudimentary– waste regulation, where there is a lack of clear direction around Victoria’s approach to high-hazard waste.

Table 8.4 Some issues identified by the Commission in previous inquiries (continued)

<i>Topic</i>	<i>Issues</i>
Land use and municipal planning	<ul style="list-style-type: none"> • The draft report for the Commission’s tourism inquiry proposed reforms to integrate tourism objectives into municipal planning; remove barriers in the land-use planning system and more flexibly use land for tourism-related purposes. • The Commission’s draft report for the inquiry into streamlining local government regulation outlined draft recommendations relevant to Regional Victoria including reforms to improve the planning system by improving certainty and resourcing, streamlining processes and better performance reporting and evaluation. In the final report the Commission further developed its analysis on these matters. At the time of writing, the final report (August 2010) is with the Victorian Government and in chapter 7 of this draft report, the Commission makes a draft recommendation that the Government respond to the recommendations relating to Victoria’s planning system contained in the final report.
Environment	<ul style="list-style-type: none"> • The Commission’s inquiry into environmental regulation in Victoria recommended changes to native vegetation regulations, suggesting a case-by-case approach to native vegetation was complex and costly for councils, Department of Sustainability and Environment and landholders. • The environmental regulation report also made a number of other recommendations highly relevant to Regional Victoria (see discussion below). • The Commission’s draft report <i>Part 2 — Priorities for Regulatory Reform</i> documented concerns about how inconsistent administration of state and national environmental regulations has contributed to uncertainty for investment, as well as concerns about the effectiveness of the regulatory arrangements.

Source: VCEC.

As shown in the table above, the Commission has made a number of recommendations to the Government that, if implemented, would improve productivity and competitiveness in Regional Victoria. Chapter 6 of this draft report considered Victoria’s regulatory system and recommended the Victorian Government require agencies to consider the Commission’s Inquiry into *Victoria’s Regulatory Framework: Part 2 — Priorities for Regulatory Reform* in efforts to meet the regulatory burden reduction target.

For those inquiries where the Government has already supported the Commission’s recommendations, the Commission considers there needs to be more transparency in implementation. The Commission has proposed a draft

recommendation (chapter 6) that the Government establish a process to report transparently on the implementation of recommendations the Government accepted in previous Commission inquiries.

The Commission's inquiry into environmental regulation in Victoria recommended changes to reduce uncertainty, time and costs to landholders of complying with controls on the clearing of native vegetation, including:

- clarifying the objectives of the regulations
- adopting a more strategic approach
- clarifying roles and improving accountability
- deepening the supply of offsets
- streamlining native vegetation regulations and practice (VCEC 2009, pp. lxxiii—lxxv).

The Government supported (in full, in-principle or in-part) 13 of the Commission's 14 recommendations on native vegetation regulation. Progress in implementing the Government's response has been slow and the Commission understands that the controls are under review. The Commission's recommendation to separate responsibility for advising on native vegetation policy and for administering the controls (which would be vested in a single regulator), was not supported by the Government of the day. In the light of the change of government since then, the Commission resubmits this recommendation for consideration.

In the course of the present inquiry, the Commission identified other potential elements of a reform agenda to boost productivity and participation in Regional Victoria. This analysis has also drawn on evidence from the Commission's previous inquiries, in particular the inquiry into Victoria's manufacturing industry, which has been completed and is being considered by the Government. The issues identified and discussed below include:

- education, skills and training (8.3.1)
- improving regional linkages (8.3.2)
- the environment and rural water (8.3.5).

8.3.1 Education, skills and training

Participants have noted that skills and training are increasingly critical for Regional Victoria. Similarly, an Australian Paper submission in the previous inquiry into the manufacturing sector argued that the availability and suitability of TAFE training for the trades required by manufacturing is essential, and needs to be offered in regional locations close to those industries (Australian Paper 2011, p. 12).

Also the evidence of educational outcomes suggests a noticeable disparity between metropolitan Melbourne and Regional Victoria, with 58 per cent of

students in Melbourne completing higher education qualifications compared with 51 per cent of students in Regional Victoria (ABS 2010b). Adult Community and Further Education (ACFE) Board service providers suggested that this difference is even higher for young people (ACFE 2011, p. 7). The Foundation for Young Australians (2009) reported that young people living in rural and remote locations are almost 50 per cent less likely to hold either a higher Vocational Education and Training (VET) qualification or a university degree than those in other areas. Victorian Council of Social Services (VCOSS) similarly highlighted that there are significant differences in education retention rates between metropolitan Melbourne and Regional Victoria (sub. 74, p. 6).

In addition to the differences in educational outcomes, there are long-standing regional challenges with the delivery of VET and higher education (VCEC 2011i, pp. 173–179; Victorian TAFE Association submission, sub. 59, p. 16). Issues arise from less choice and availability, and poorer access to providers. This has lead to the problem of thin markets (fewer local training options) and higher costs in accessing distance education and learning options. ACFE also raised the difficulty ‘to find trainers with the right qualifications’ (ACFE 2011, p. 7).

The challenge in responding to these issues is improving access to training and education opportunities, as well as improving access to employment opportunities. The latter is particularly difficult where local regional economies are narrowly-based and employment growth limited. Some initiatives have tried to address these issues (box 8.1). Innovative local approaches that bring together education and training options to achieve economies of scale may be particularly important in rural areas, and Bendigo’s experience should be evaluated and the net benefits and lessons publicised. Innovative online solutions such as e-learning may also help to overcome the effects of distance.

Box 8.1 Bendigo Schools Trade Training Centre

In Bendigo around 4000 local secondary school students, the manufacturing, agriculture/horticulture and hospitality industries, and the community are benefiting from the establishment of specialised trade-training centres.

Students from nine government, Catholic and independent secondary schools can access vocational training through a new vocational education program which comes under the auspice of the Bendigo Schools Trade Training Centre. Opened in mid-2011, the Centre aims to help address national, and local skills shortages in traditional trades and emerging industries and is a partnership among local schools, major training organisations, industry and peak bodies, supported by local government.

(continued next page)

Box 8.1 Bendigo Schools Trade Training Centre (continued)

A \$10 million grant from the Commonwealth Government's Trade Training in Schools program was provided to the Bendigo consortium of schools and was used to develop new trade-based facilities throughout the Bendigo region. The funds were also used by the consortium to upgrade existing facilities to improve their Vocational Education and Training options.

Local secondary school students can now gain accredited qualifications in areas such as:

- automotive and engineering
- building and construction
- horticulture
- pneumatics and robotics.

The initiative is expected to improve learning opportunities and training pathways to benefit local students and, in the longer term, local industries who are faced with the challenge of recruiting qualified and skilled staff.

Source: City of Greater Bendigo (Economic Development) 2011.

Nechvoglod and Beddie (2010, p. 25) also noted that rural locations have unique challenges such as isolation, distance, limited program offerings and having access to reliable internet service for engaging and delivering courses. The National Broadband Network (NBN) may assist with greater access and delivery of such education and training programs (section 8.3.3). Locally adapted solutions are also important. What works is likely to vary across regions. In a submission to this inquiry ACFE providers argued that availability and a learner-centred approach is particularly important for hard-to-reach learners (sub. 60, p. 1). Local tailored solutions also may be particularly important in addressing literacy and numeracy problems among adults and youths in Regional Victoria.

Such local solutions may be identified and fostered through 'regional workforce initiatives', developed collaboratively by industry, education and skills providers, and, where appropriate, local government to identify potential local skill and career information gaps. Such initiatives could be an instrument for: building human capital in the regions; improving coordination and collaboration of schools, higher education and VET providers; and encouraging greater workforce participation and life-long learning.

8.3.2 Improving regional links

An important consequence of the distance and population spread is the need for strong linkages.

- As noted in the draft report for the Commission's inquiry into Victorian manufacturing, regional supply chains can be long (VCEC 2011i, p. 73). This emphasises the importance of good transport links.
- Many of the markets for regionally produced products are outside the local area so, again, transport links (particularly to major population centres) are important.
- Access to and the viability of commercial and public services such as, education and healthcare can be affected by thin markets. Cooperation and links across regions or between regions and Melbourne service providers can be important to maintaining these services.

Such links can be communications-based (for example the NBN) or physical (for example transport infrastructure). 'Distance-busting' initiatives such as the NBN and improved transport linkages may help change the relative performance of Regional Victoria, and generate wider benefits for people in those zones.

8.3.3 National Broadband Network

The national rollout plan for the NBN will take on average 12 months for a specific area and is expected to deliver high-speed broadband to over 93 per cent of Australia.¹ The open access high-speed broadband network is expected to provide greater access to goods, services, education and employment opportunities especially to those in regional areas of Australia. Broader NBN issues are discussed in chapter 9.

Government service delivery, particularly in regional areas, is one area in which the expected impact of the NBN could be substantial. In a recent Commonwealth parliamentary inquiry into the potential uses of the NBN, health was discussed in two thirds of submissions and at all of the hearings. The Australasian Telehealth Society submission to that inquiry identified the following applications:

- Early intervention for patients in rural and remote areas can help to avoid costly hospital stays and more expensive treatment if the condition is left untreated.

¹ On average it is expected to take 12 months from the start of the fibre network rollout in a given area until individuals are able to receive high-speed broadband (NBNC 2011b).

- Trauma patients admitted to Emergency Departments of rural, remote and regional hospitals can receive appropriate intervention in the ‘golden hour’ following their injury, reducing further costs.
- Ageing in place delays the commencement of full-time residential care and the high personal and community costs of that care.
- Self management of chronic disease helps avoid costly interventions and residential care. (ATS 2011, p. 14)

Fast broadband linked to other applications could reduce the cost of monitoring, increase the access of critical patients to specialists and improve health outcomes. An example is AirStrip Patient Monitoring, which uses technology to communicate key health indicators in real time.

The NBN may also decrease the cost of offering access to high-quality education for students in remote areas. The Department of Broadband, Communications and the Digital Economy submission to the Commonwealth parliamentary inquiry into the NBN stated high-speed broadband has the capacity to ‘significantly extend the reach, availability and quality of education services, particularly in regional areas’ (DBCDE 2011, p. 39). Similar views about the advantages of tele-education opportunities have also been highlighted by Nechvoglod and Beddie (2010, p. 28), who state that e-learning in particular offers flexibility to learners who may otherwise find it difficult to attend physical training centres.

While the NBN may have major implications for government service delivery, the Commission considers a flexible approach is appropriate. Departments and service delivery agencies should assess the implications of the NBN alongside other risks and opportunities for their core service delivery.

During regional consultations, Regional Cities Victoria suggested there are gaps in both the understanding of the potential productivity gains from using high-speed broadband (such as the NBN), and best practice usage of existing broadband in Regional Victoria (Regional Cities Victoria 2011). There is some evidence to suggest that there are lower levels of take up of e-commerce services by Victorian regional businesses, particularly small to medium businesses. A recent Sensis report showed that:

Metropolitan businesses reported a significantly higher incidence of websites with a 70 per cent rate of adoption compared to 60 per cent for regional businesses. (Sensis 2011, p. 22)

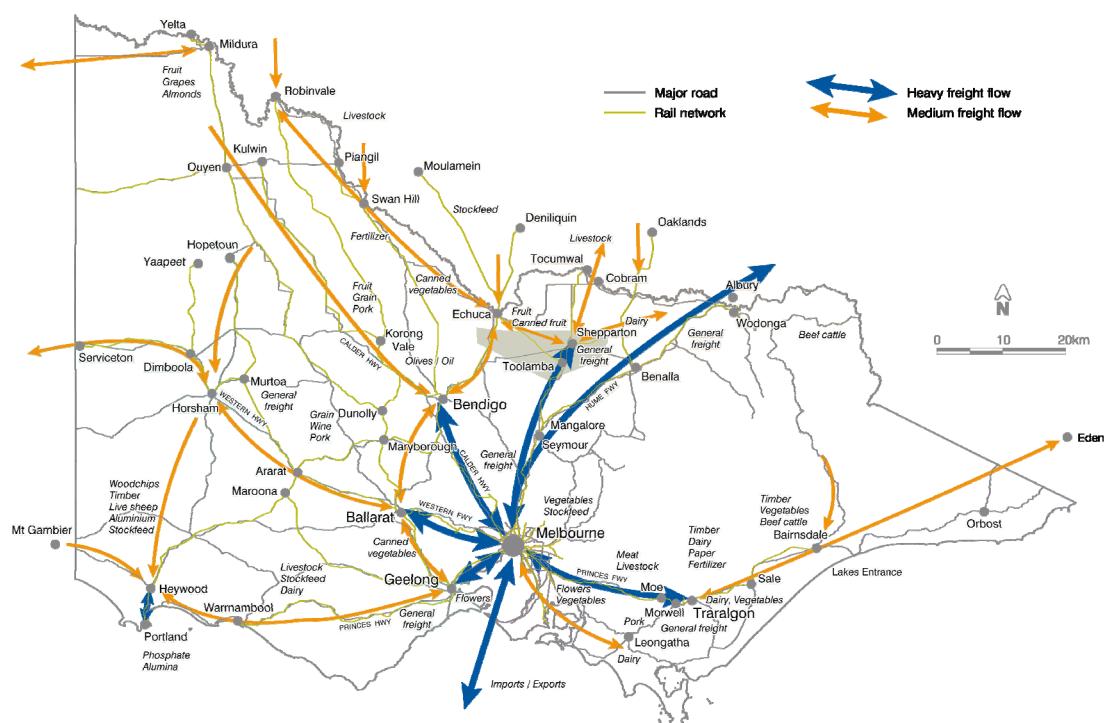
The Commission invites feedback on this point, to enable it to consider whether the above impediments may have a sufficiently large impact on Victoria’s productivity, competitiveness and participation to warrant inclusion in a State-based reform agenda.

8.3.4 Transport

Enhanced transport links have increased mobility for regional Victorians, allowing access to more distant goods and services at lower cost. The Government has allocated \$1 billion to the Regional Growth Fund (RGF) to improve and link transport infrastructure in Regional Victoria (Regional Cities Victoria 2011). It is also investing in projects such as the Regional Rail Link, which it anticipates will significantly improve public transport between Melbourne and the regions (DOT/DPCD sub. 81 pp. 23—24; VCOSS sub. 74, p. 9).

The other key aspect of transport is the movement of freight to and from the regions, within the regions, interstate and to ports (see figure 8.3). Victoria benefits from being a ‘compact’ state with a settlement pattern based on a centrally positioned capital city (DOT/DPCD sub. 81, p. 6). Nevertheless, the inquiry heard that Victoria’s freight networks are becoming more congested, with an increasing number of regional freight bottlenecks (DOT/DPCD sub. 81, p. 3).

Figure 8.3 State-wide major supply chain corridors



Source: DOT/DPCD sub. 81, p. 32.

Given the characteristics of Victoria’s regions noted above (long distances and dispersed populations) there are potentially two key transport issues:

- making best use of the limited funds available to invest in transport assets
- using those transport assets available as efficiently as possible.

On making the best use of investment funds, the Grattan Institute suggests there are risks in poorly targeting new investment.

Infrastructure investment may only have a limited impact in accelerating a regional economy ... infrastructure can accelerate economic growth, but only in regions that are already growing quickly due to a critical mass of population and economic activity and high levels of education. (Daley and Lancy 2011, p. 38).

When considering whether the current transport assets are being used as efficiently as possible the Commission has not identified any systemic problems. One specific issue has, however, been drawn to its attention. The inquiry heard that regional bus services could be improved, possibly at minimal additional cost, by removing regulatory requirements. BusVic raised a number of regulatory issues in relation to operational rules and licensing across different jurisdictions (sub. 46, p. 21). It has also expressed support for the Government's objective of expansion of coverage to allow the general public access to the regional school bus network services. However, existing protocols (such as a working with children check, a police check or two references in special circumstances) are likely to hinder the viability of such a proposal (sub. 46, pp. 24–26).

8.3.5 The environment and rural water

Various environmental pressures exist in Regional Victoria, including water quality and supply. Environmental regulation is, accordingly, a key issue for the regions. As outlined earlier, the Commission undertook an inquiry into environmental regulation in Victoria in 2009, which made recommendations of particular relevance to the regions. This report proposes a draft recommendation that the Government publicly report on the implementation and progress of the recommendations from all the Commission's reports, including the environmental inquiry.

In addition, market-based instruments (rather than regulatory controls) can contribute to improving productivity and competitiveness in managing biodiversity and other environmental assets. The scope for private and not-for-profit enterprises to supply biodiversity and environmental assets and services could be expanded by further developing tools for valuing these assets and services, and creating markets for them. The Commission recommended the use of market-based instruments in its environmental inquiry. It also considered these issues in its more recent inquiry into Victoria's regulatory framework which is currently being considered by Government.

Victorian rural water users face significant challenges through reductions in water availability, increased climate change variability and changes to related policy settings. Much of Victoria is affected by the Commonwealth Government's Murray-Darling Basin Plan (MDBP), which proposes to reduce consumptive rural water use by approximately one third. The Council of Australian Governments

recently agreed to change many elements of policy responses to the ‘Millennium Drought’ while the Intergovernmental Panel on Climate Change projected ‘annual streamflow in the Basin is likely to fall 10-25% by 2050’ (IPCC 2007, p. 516).

In 2008, the Commonwealth Government embarked on a \$3.1 billion program of purchasing water entitlements from irrigators, called Restoring the Balance, and a \$5.8 billion program to upgrade irrigation infrastructure, called Sustainable Rural Water Use and Infrastructure (PC 2010, p. xxiv). The Productivity Commission found:

Purchasing water from willing sellers (at appropriate prices) is a cost-effective way of meeting the Government’s liability for policy-induced changes in water availability. Subsidising infrastructure is rarely cost effective in obtaining water for the environment, nor is it likely to be the best way of sustaining irrigation communities. (PC 2010, p. xxii)

Release of the draft MDBP was delayed a number of times, most recently for additional consultation with state governments. At the time of writing it is expected in November 2011 to be followed by a statutory consultation period of 20 weeks with release of the final plan in March/April 2012. The Chair of the MDBP recently indicated a significant departure from the original approach:

Getting the best out of every drop is what this is all about. There is no perfect number [for environmental flows], and there are lots of solutions that go way beyond buying water. We need to incorporate infrastructure, adopt more effective and efficient rules about water management, build environmental works to manage water smarter and, most of all, we need all of the governments of Australia to work together. (Knowles 2011)

This approach provides an opportunity for the Government to participate in optimising the productivity impacts of these major joint changes, including through:

- increased coordination of environmental flow, natural resource management and infrastructure for environmental works to add value to environmental flows
- ensuring the Victorian water market works efficiently and effectively so that water can move to its highest value uses, including harmonisation of water trading and allocation frameworks in Victoria, New South Wales and South Australia.

Draft recommendation 22

That the Victorian Government strengthen links between Regional Victoria and Melbourne, and among regions outside Melbourne, including by:

- supporting industries, skills providers and local government to develop regional workforce initiatives
- giving priority in infrastructure spending to improving road and rail connections that have the largest impact on productivity
- responding to the recommendations on Victoria's planning system in the Commission's inquiry *Local Government for a Better Victoria* and implementing proposed draft recommendation 19.

9 Infrastructure

Electricity, water and communications and other forms of economic infrastructure are an important part of the operating environment for business and are, therefore, highly relevant to a State-based reform agenda. Although infrastructure costs form a small part of the cost structure for many businesses, issues such as rapidly increasing costs or quality problems can reduce business productivity.

Based on the available national benchmarking, Victoria performs comparatively well on the cost competitiveness and quality of its economic infrastructure (ACIL Tasman 2011, p. xiii). International benchmarking, however, presents a more mixed report card (see Benchmarking information paper):

- *World Economic Forum Global Competitiveness Report* (WEF 2011) identified infrastructure as one of Australia's weaker areas with a ranking of 24th out of 142 countries.
- *INSEAD Global Innovation Index* (INSEAD 2011), however, ranked Australia's information and communications technology (ICT), energy and general infrastructure relatively highly at fourth out of 125 countries.
- *KPMG Competitive Alternatives* (KPMG 2010) assessed Australia's ICT and distributive infrastructure as uncompetitive, with ICT achieving a ranking of sixth out of 10 countries and distributive infrastructure ranking eighth.

While the WEF and INSEAD studies included a number of emerging nations, the KPMG report focused on countries at similar stages of development. The KPMG work, therefore, suggests Australia's infrastructure ranks below key international competitors. There is also some evidence that utility sector productivity has declined in recent years. The Commission estimates that declining productivity in the electricity, gas, wastewater and water sectors combined contributed around six per cent of the reduction in Victoria's average rate of multifactor productivity (MFP) growth between the periods 2001–05 and 2006–10 (see Productivity information paper).

This chapter focuses on opportunities for a State-based reform agenda to improve several areas of infrastructure — urban water, energy and ICT. Transport issues are covered in chapter 7 and regional water and infrastructure issues are considered in chapter 8. Issues relating to the funding, management and delivery of infrastructure projects are not covered in detail in this inquiry as they are subject to review by the *Independent Review of State Finances*.

9.1 Urban water

The efficient and effective delivery of water (and wastewater) services is important for productivity as one of many elements of a competitive business environment and liveable communities. While water makes up a small share of costs for most businesses, the recent drought combined with the large investment in augmenting water supplies mean that the efficiency of the urban water sector has recently been in the spotlight. The Commission has, therefore, considered how the State can improve the business environment and maximise the value of recent capital investments by undertaking pro-competitive reforms to Victoria's water sector.

The Commission, drawing on submissions, other reviews¹ and consultation, considers innovation and productivity in urban water can be improved by:

- clarifying objectives, roles and responsibilities
- aligning incentives to ensure efficient supply and demand balance
- increased consultation and research about low-cost supply options
- reforming the water sector to encourage greater competition-led innovation and productivity growth.

Significant recent capital investments have reduced pressure on the availability of water, so now is a good time to consider how best to structure the incentives to efficiently supply and use water. Such incentives are important as they ensure:

- productivity improvements in the water sector help minimise expected price increases
- water is used efficiently and effectively so if — or rather when — there are future water shortages, the structures and tools to manage scarcity are in place
- existing water assets are used effectively to reduce, or defer, future large investments.

The National Water Commission (NWC) noted that despite much progress in Australia, urban water reforms have been:

unevenly applied and that there remains unfinished business that constrains the sector's efficiency, transparency and performance... The question now is how well placed the sector is to manage future challenges not necessarily foreseen by the earlier reform agenda, which focused largely on reducing the costs of service delivery. (NWC 2011, p. 13)

¹ See, for example, PWC (2010), PC (2011b), NWC (2011) and Yarra Valley Water (sub. 66).

The Victorian Government is in the process of responding to those challenges (box 9.1).

Box 9.1 **Living Melbourne, Living Victoria Roadmap**

The Victorian Government has established a Ministerial Advisory Committee (MAC) to develop the *Living Melbourne, Living Victoria Roadmap*. The MAC's objectives are to:

- establish Victoria as a world leader in liveable cities and integrated water management
- drive generational change in how Melbourne uses rainwater, stormwater and recycled water to provide better water services
- drive integrated projects and development in Melbourne and regional cities to use stormwater, rainwater and recycled water to provide Victoria's next major augmentation (MAC 2011, p. 5).

The MAC Roadmap, and supporting policies such as Water Initiatives for 2050 (SEW et al 2011), raise pertinent matters regarding security, urban amenity and cost of living pressures. The Roadmap recommends progressive solutions, such as pricing reform, intelligent water networks, consideration of all options and clarifying water rights.

9.1.1 Clarifying objectives, roles and responsibilities

Recent studies have identified concerns about the imposition of unclear non-commercial objectives on urban water businesses across Australia (PC 2011b; NWC 2011). In Victoria, the objectives of each urban water business are specified in a Statement of Opportunity (SOO) and include broad, non-commercial requirements such as 'responding to climate change' (SOO cl. 25.2(a)) and the need to develop and implement programs for the sustainable use of recycled water (SOO cl. 15.1(f)). Yarra Valley Water's submission to this inquiry stated that 'since the reforms of the 1990s, an increasing tangled web of regulatory arrangements has been created' (sub 66, p. 6) and that:

... we seek as much clarity as possible from Government on its obligations, expectations and on how trade-offs should be handled... In respect of the existing Statement of Obligations, we would prefer a more outcome/output focussed instrument — ideally focussed around measurable outcomes — rather than one imbued with principles, processes and requirements. (sub. 66, p. 20)

Yarra Valley Water noted the need for balance in setting incentives that encourage innovation: 'objectives that are too tightly defined or overly prescriptive may create inefficient results by stifling the scope for innovation' (sub. 66, p. 8). Others have specifically recognised the need for a commercial focus. A key theme of the Productivity Commission report on urban water was

that the primary objective of the urban water sector should be ‘to provide water, wastewater and stormwater services in an economically efficient manner so as to maximise net benefits to the community’ (PC 2011b, p. xlvi). Dr Ben-David ‘agrees that greater commerciality would be desirable in the water sector. However, greater commerciality would also have consequences’ such as increased risks of rent seeking which would need to be managed (Ben-David 2011, p. 22).²

In addition, the NWC has also raised concerns about the implications of broader liveability objectives for the efficient provision of water services:

In practice, the Commission is concerned that water-sensitive cities objectives are often focused on a limited range of policy instruments (mainly planning and strong prescriptive regulation) and types of options (mainly decentralised solutions, demand management and recycling). In addition, water-sensitive cities are often linked to inappropriate objectives, such as maximum utilisation of particular sources of water regardless of cost, or water self-sufficiency for cities (for example, see [the MAC Roadmap]). (NWC 2011, p. 36)

The Commission considers that water businesses should focus first and foremost on the efficient delivery of water and wastewater services. Pursuing non-commercial objectives can diminish the focus on innovation and productivity growth, and make it more difficult to assess the performance of water businesses. The lack of clear commercial objectives has confused the roles and responsibilities of water businesses and could lead to adoption of high-cost methods of meeting water recycling and conservation objectives.

The Commission acknowledges the importance to Governments of a range of environmental, liveability and equity objectives, but considers the water businesses are not best placed to identify, evaluate and implement all the ways to give effect to them. A better approach would be for the Government to define the environmental, social and other non-commercial outcomes it expects from the water sector and to deliver them through explicit direct payments. Taking this approach would also allow the Government to competitively tender these non-commercial services to achieve best value.

The Commission therefore considers simple, clear commercial objectives are needed to ensure water businesses deliver secure water efficiently and meet clearly specified community service obligations. Clarifying objectives and institutional responsibilities is the simplest and most immediate change that could achieve a significant improvement in the operation of the urban water sector.

² Dr Ben-David is the Chairperson of Victoria’s Essential Services Commission (ESC), however, the views expressed are his own and do not represent the views of the ESC, its staff or the Victorian Government.

9.1.2 Incentives for an efficient supply and demand balance

In network industries like energy, prices and network operating information guide decisions on use and provide incentives for efficient investment in a portfolio of demand and supply responses to shortages. This not only ensures supply and demand are in balance in the short term, but it supports decisions about low-cost supply responses.

Urban water markets are configured differently, with demand and supply responses to shortages centrally determined. Given the recent large investments in water security in Melbourne, a particular challenge for the urban water sector is how to operate the augmented water supply system efficiently to provide the right signals for demand and supply to respond over the longer term. Several features of Melbourne's water sector work against efficient long-term decision making:

- Pooled bulk water entitlement. Melbourne's retailers share a pooled entitlement and this dilutes incentives for efficient water management. The pooled entitlement restricts the capacity for retailers to act independently and recoup investments in water saving and water supply infrastructure (Yarra Valley Water, sub. 66, p. 9).
- Unclear rights to 'alternative' water sources. The Commission's inquiry into the retail water sector (VCEC 2008b) argued that unclear property rights for water sources such as stormwater and recycled water constrain productive investment in such resources. It therefore recommended clarifying rights to alternative water sources.
- Unclear responsibility for security of supply. While planning arrangements are now set out in various documents and legislation, the recent drought exposed unclear responsibilities for supply security. This led to high-cost investments which are expected to have significant productivity impacts (PC 2011b, p. 39).
- Limited third-party access. The absence of a mechanism for third parties to gain access to water carriage and treatment infrastructure is a barrier to the entry of new bulk water and water recycling businesses. This discourages potentially low-cost supply augmentations.
- Inflexible and distorted water pricing. Flexible and efficient prices provide important signals for supply and demand innovation and can maximise productivity. Despite a greater variety of water sources than ever before, with different prices and reliabilities, current pricing structures do not offer choice to consumers.

To address these issues, the Commission considers that a reform agenda for the urban water sector could cover:

- an access regime
- clearer alternative water rights
- disaggregated bulk water entitlements with a clearer planning and investment framework
- increased pricing flexibility.

These changes would bring market incentives for balancing supply and demand to maximise the value of recent capital investments and reduce the costs of increasing climate variability.

9.1.3 Considering supply options

Across Australia ‘achieving efficient supply augmentation requires that all of the costs and benefits of each option are considered (and compared with demand management options...)’ (PC 2011b, p. 88).

Recent investments in increased diversification of water supplies provide Melbourne with greater flexibility to manage environmental conditions and greater security. Traditional dam supplies are now supplemented by supply from the desalination plant, water tanks, recycling schemes and, for critical human needs, from the North–South Pipeline. This diversification is, however, restricted by policy bans on rural–urban trade, indirect potable reuse and routine use of the North–South Pipeline. The MAC Roadmap is looking to further restrict inter-catchment transfers by establishing a principle that ‘water services will be planned so that cities and towns can meet their water needs from their existing catchments’ (MAC 2011, p. 9).

Policy bans lead to a number of consequences and inhibit the use of research and consultation to increase the transparency of the full costs and benefits of alternative solutions. The NWC ‘is convinced that taking certain supply or demand options off the table has increased the costs of achieving urban water security, in some cases significantly’ (NWC 2011, p. 23). The reform agenda could give further consideration to research and consultation to increase transparency, especially where low-cost options have been excluded and where high-cost options are being considered. Contentious options where consultation is important include rural–urban trade when rural catchments are wet, using the North–South Pipeline to assist with flood mitigation and indirect potable reuse as one of Melbourne’s next major supply augmentation options.

Deferring future major investments through better management of the current system could achieve major capital savings. For example, the Commission estimates a one year deferral of a hypothetical \$500 million water supply asset investment would save \$50 million per year in net present value terms.

9.1.4 A more competitive water market model for Melbourne

In the long term, the Commission considers greater competition could spur innovation in supply and consumption to ensure higher productivity in the urban water sector. Customers reveal preferences by their product choices, with water businesses responding through investment and system management decisions.

Such competition-enhancing reforms could include:

- retail contestability: to deliver savings observed in other sectors and to allow customers to purchase a greater range of utilities from one provider
- a bulk water market: to formalise trading of bulk entitlements, facilitate transactions from third-party suppliers and clarify the marginal cost of water supply
- a grid manager: to make rules and develop water markets including publication of statements of opportunity (similar to the role of VENCorp)³
- large-user entitlements: to provide large water users with a greater range of options to manage price and security risks.

But further work would be needed to explore the feasibility, costs and benefits of such reforms and Victoria has a window of opportunity to develop these ideas before planning needs to commence on the next major phase of infrastructure investment. The Commission, therefore, considers that work on investigating these options should be given priority.

Draft recommendation 23

That to optimise the use of Victoria's urban water supplies and infrastructure, the Victorian Government set a reform agenda for urban water that includes:

- setting clear, commercially-focused objectives, roles and responsibilities for water businesses, with non-commercial objectives funded as community services obligations
- establishing unambiguous property rights for alternative water sources, unpooled bulk entitlements, an access regime and more flexible tariff structure
- commencing research and community consultation on low-cost water supply augmentation options, including on circumstances where their use might be warranted, with a view to reconsidering existing bans on such options in appropriate circumstances.

³ Victorian Energy Networks Corporation (VENCorp) was a Government-owned entity responsible for the efficient operation of the Victorian gas and electricity industries.

9.2 Energy and climate change

Traditionally, energy costs have been a key source of competitive advantage for Victoria but this is now under threat. The threats come from a combination of factors including: the introduction of carbon pricing; declining productivity growth (see Productivity information paper); and strong expected price growth, due predominantly to increasing network charges. While the Victorian Government no longer plays a direct role in supplying energy or in regulating private providers, it can advocate for national reform and sets policies that influence the transition to a low-carbon economy.

9.2.1 Opportunities to improve energy sector performance

A large amount of work has attempted to understand why energy costs have been rising, and how to improve productivity in the energy sector⁴. This work identified issues with economic regulation of network prices, transmission approvals processes and State-based climate change and planning policies.

Economic regulation of network prices and transmission approvals process

There is evidence that increases in network prices, resulting from weaknesses in economic regulation, have driven around two-thirds of recent electricity price increases (Garnaut 2011, p. 8). More specifically, the Australian Energy Regulator (AER) identified a systemic bias towards inflated expenditure estimates, disincentives for efficient investment and process biases in favour of the service provider that can lead to excessive payment by users (AER 2011). These problems are exacerbated by the propose–respond doctrine, where businesses propose prices and the AER must respond within a restrictive regulatory framework, which puts the onus on the AER to prove weaknesses in the proposals (Mountain 2011, p. viii). The appeals process also allows a business to select the issues to be taken to appeal without putting at risk any parts of the AER decision the business sees as favourable. This prevents the appeals process from reviewing the price package as a whole. Every nationally-regulated decision affecting distributors has been appealed (Mountain 2011, p. 21). This differs from the United Kingdom where an appeal triggers a comprehensive review creating a risk of a less generous decision, which has resulted in just one appeal from 48 regulatory decisions (Mountain 2011, p. 52).

Several processes are in place to address network pricing issues. The AER, for example, intends to propose a rule change on network pricing regulation to the

⁴ See, for example, Commonwealth Treasury (2011b), Garnaut (2011), Mountain (2011) and Sims (2010).

Australian Energy Markets Commission mainly to address biases in expenditure estimates and the framework for its response to proposals. The Commission considers, however, there are opportunities to go further to constrain increases in energy prices by also advocating for reform of the appeals process.

In addition, the process for approving transmission system investments may not allow for efficient and effective integration of the national electricity market. Interstate interconnectors create larger markets, sharing of reserve capacity, greater competition and more places for generators to connect. Garnaut considers insufficient capacity in south-east Australia means interconnectors often constrain interstate trade and result in prices diverging in different markets (Garnaut 2011, p. 32). There are concerns about barriers to efficient investment in interstate connectors which could relieve these constraints and help to foster more efficient prices across Australia (Garnaut 2011, p. 32).

Victorian planning policies

The Commonwealth carbon tax and supporting policies are likely to show up any deficiencies in planning approvals processes for major projects as any shortcomings may pose barriers to transition in the energy sector. The regulatory chapter addresses general concerns raised about large project approval processes. But stakeholders raised additional concerns about the potential for Victorian regulatory barriers and delays to increase the costs of large energy projects in particular. Stakeholders were concerned especially about barriers to gas and new wind farm developments, but also to coal, geothermal and distributed energy. For example, with a carbon price in place, the case for the Environment Protection Authority regulating the carbon emissions of new energy generation projects is less clear.

Victorian climate change policies

The Commonwealth carbon tax package will also affect Victorian energy efficiency and mitigation policies. Victoria has a number of policies designed to reduce carbon emissions or improve energy efficiency. The Victorian Energy Efficiency Target scheme requires large electricity and gas retailers in Victoria to acquire and surrender energy efficiency certificates representing tonnes of greenhouse gas emissions saved. In addition, Victoria offers rebates in areas such as solar energy and white goods appliances, and conducts education and information campaigns to encourage sustainable energy use amongst consumers.

Based on its inquiry into Victoria's environmental regulation (VCEC 2009) and feedback through consultations, the Commission considers greenhouse regulation imposes significant regulatory burdens on Victorian businesses. For example, in response to the Commission's manufacturing inquiry draft report, the Plastics and Chemicals Industry Association (PACIA) raised concerns that

the State carbon target ‘simply adds to the cost of emissions reduction’ and ‘rather, Victoria should be seeking to ensure that its industries remain competitive under any federal carbon mitigation policy’ (PACIA 2011, p. 6). Although the Commission identified a number of benefits from some of these regulations in the earlier environmental inquiry (VCEC 2009), there is a need for an effective evaluation of their effectiveness and outcomes. There is potentially considerable opportunity to improve the efficiency of policy in this area, and a consequential opportunity to improve the productivity of Victorian businesses in adjusting to a lower-carbon economy.

The Commission considers that State climate change policy and regulation is an area of high priority because Commonwealth policies are changing the role of State policies and potentially making some redundant. The Commission suggests it would be timely for the Victorian Government to review its suite of climate change-related legislation and regulation against a set of principles for efficient and effective State-based interventions.

Draft recommendation 24

That the Victorian Government respond to declining energy sector productivity and minimise the reduction in Victoria’s cost-competitiveness of energy by:

- supporting a review of the national electricity market by the Ministerial Council for Energy, including reforms to network price regulation and reviewing the framework for assessing transmission investment
- reviewing and reforming State-based climate change and energy efficiency regulations and programs to take account of a price on carbon and ensure such programs have benefits that outweigh their costs.

9.3 Communications infrastructure

According to the OECD, Australia’s broadband internet services have:

- limited distribution: adoption rate ranks 16th out of 30 countries
- low monthly traffic volume: 2 gigabytes per capita (GBpc) versus Korea (30 GBpc), Hong Kong (23 GBpc) and the United States (7 GBpc)
- high prices and slow connection speeds: ranks sixth out of 17 countries in advertised monthly price per megabit per second (OECD 2010d).

Australia’s ICT development ranked relatively poorly against countries at a similar stage of economic development, with a ranking of sixth out of 10 similar countries (benchmarking information paper; KPMG 2010).

The \$43 billion National Broadband Network (NBN) is intended to address Australia's lagging broadband performance and in doing so, provide productivity-enhancing benefits for information- and knowledge-based sectors of the economy. NBNCo, a company wholly owned by the Commonwealth Government, will construct the NBN by 2020. While the estimated implications of high-speed broadband for productivity (Broadband Commission 2011) may or may not be over-optimistic, the NBN is important for Victoria's reform agenda because:

- State legislation could have impacts on adoption rates and, therefore, on the benefits Victoria derives from the Commonwealth's investment in the NBN
- there may be opportunities to significantly reduce the cost of State Government service delivery, especially in regional areas.

Role of the State Government

As the NBN is rolled out across Australia, jurisdictions have the option to choose a default connection setting allowing customers to opt-in or opt-out. Under an opt-in rule, a free connection from the cabling in the street to a termination point in a property would be provided by NBNCo only if specifically requested. Under opt-out, free connections to a property would be provided unless a customer specifically requested this not occur. Implementing an opt-out rule requires state legislation and, at the time of writing, only Tasmania has taken this route.

Whether the default is set at opt-in or opt-out could have a significant impact on the take up of the NBN. There are many examples where a default set at opt-out results in substantially higher take up as people will often opt for the default (regardless of what it is), and choose not to choose (some examples are presented by the CSIRO (2009, p. 25)). In the case of organ donation, for example, in countries like Austria in which consent is presumed unless the person registers not to be a donor, the rates of organ donation are very high (over 90 per cent). In countries like Germany and New Zealand, in which people must opt in to become a donor, the rates of donation are much lower (below 20 per cent) (Amir et al 2005, p. 10; MED 2006, p. 25).

These natural biases for consumers to choose the default option may be exacerbated by other barriers to the take up of the NBN. The Brunswick pilot, which had the lowest level of take up amongst the first release sites (52 per cent (NBNCo 2011a)), highlighted a number of barriers to efficient outcomes, including: difficulties and costs for customers of obtaining landlord and body corporate consent, problems for NBNCo obtaining some landlord contact

details, and language barriers (Taylor 2011).⁵ The Commission understands the low adoption rate in Brunswick may also have been partly driven by other factors including: high pre-existing broadband service levels, concern about service disruption, inconvenience and concerns about high NBN prices.

The State Government chose to pursue an opt-in model in December 2010 (LeMay 2010) when there was greater uncertainty around implementation risks to the State Government and consumers. It explained this position is based on specific concerns that NBNCo should have adequate incentives to minimise disruption and ensure consumers are adequately informed of their choices (Victorian Government 2011c, p. 2). Despite proposed changes to the Commonwealth Low Impact Facilities Determination which have an impact on policy in this area, the Commission considers the presence or absence of State opt-out legislation could have a bearing on NBN adoption rates and, therefore, on the productivity benefits Victoria will derive from the NBN.

The Commission considers that, if the NBN is to have a major impact on productivity, then higher levels of adoption may be needed. The results of the Brunswick pilot highlight the potential barriers to customers making efficient NBN connection decisions. Thus, the Commission considers there is merit in the Victorian Government reviewing its decision to adopt an opt-in rule by conducting a cost–benefit analysis to determine which approach provides the greatest net benefit to Victoria.

Government service delivery

High-speed internet presents significant opportunities for innovative and more productive forms of government service delivery, especially in areas such as health, education and infrastructure:

- A recent report for United Nations Educational, Scientific and Cultural Organisation (UNESCO) estimated that savings of between 10 and 20 per cent in worldwide healthcare spending were possible from use of telemedicine delivered by broadband (Broadband Commission 2011, p. 10). It is not clear whether this would be achievable in Victoria but, if so, this could represent savings to the Victorian Government of between \$1.4 and \$2.8 billion per year.⁶
- High-speed broadband also has the capacity to ‘significantly extend the reach, availability and quality of education services, particularly in regional

⁵ After an initial pilot, NBNCo delivered the NBN to first-release sites across Australia. Sites were: Wilunga, South Australia; Townsville, Queensland; Armidale and Kiama Downs, New South Wales; and Brunswick, Victoria.

⁶ Victorian Budget paper No 5 shows estimated total spending on health services of around \$14 billion in 2011-12 (DTF 2011b, p. 89, table 3.5.1).

areas' and enable 'more intensive and immersive online interactions, resulting in higher quality outcomes for students' (DBCDE 2011, p. 39).

- Access Economics estimated that employing intelligent technologies into five key infrastructure areas could increase Australia's labour productivity by 0.5 per cent, create more than 70 000 jobs and increase GDP by between \$35 and \$80 billion over the first 10 years of implementation (Access Economics 2009, p. ii). The intelligent technologies investigated included smart electricity grid, irrigation control, electronic health records, integrated intelligent transport systems and the impact of high-speed broadband on delivery of infrastructure services.

The Commission considers that departments and service delivery agencies should assess the implications of the NBN alongside other risks and opportunities to their core service delivery, and that current governance and budget arrangements are sufficient to assess these opportunities and risks.

Draft recommendation 25

That the Victorian Government conduct a cost-benefit analysis of legislating an opt-out default setting that requires connection of premises to the NBN unless a customer requests otherwise to ensure that Victorian businesses and households derive maximum benefits from the Commonwealth Government's investment in broadband technology.

Part V: Implementation

Reflecting the challenges of implementing reform, including the importance of community engagement, Part V considers a number of important implementation issues.

10 Develop and implement a program for delivering the agenda

10.1 Introduction

Previous chapters set out the Commission’s preliminary conclusions on the components of a State-based reform agenda. This concluding chapter focuses on implementation issues, since the agenda is large and includes several key, but difficult, matters.

10.2 Many of the problems and solutions identified in this report have been known for some time

Identifying a technically efficient solution is only part of the challenge in accomplishing reform. Many of the barriers to improving productivity and participation — such as through taxation reform, regulatory reform, school education and infrastructure pricing — are well known, and so are many of the solutions, yet they have failed to be accepted and successfully implemented.

Barriers include concerns about the overall effectiveness of reforms, as well as adverse expected impacts on some groups. In some areas, such as tax reform, Australia’s system of intergovernmental financial relations is a significant hurdle to reform. The costs and lead-times for implementing reform successfully can also be a barrier. Reform often results in winners and losers, giving rise to questions of compensation, or for phasing of reform to enable people and organisations to adjust. The reform ‘pain’ can be immediate, whereas the benefits, though large and widespread, may take longer to arrive. All of this is well known, based on the experience of national reforms in the 1980s and 1990s, and in Victoria since the early 1990s.

Establishing and making a persuasive case for reform in the face of such barriers is essential for key reforms to be accepted, for implementation to be successful, and for the benefits to endure. The Commission considers a compelling case exists, and discusses it in the following section. It also follows from this that any implementation strategy needs to invest in engaging the Victorian community on the need for reform, and on the priority areas where change should occur.

Effective and sustained implementation will determine whether the expected benefits of the proposed State-based reform agenda are realised. The associated policy problems are complex, the solutions involve multiple players and in some areas what is required to achieve a breakthrough is not yet defined with enough precision.

Accordingly, policy options and initiatives need to be well designed and evidence-based, the community needs to understand and generally accept the importance of the agenda, and a concerted implementation effort needs to be maintained. It is also a practical reality that governments need to select a manageable number of major initiatives to design and implement effectively, if reform is to endure.

The Commission considers the reform agenda should be tackled as a coherent whole, and its principles and guidance for implementing the agenda are outlined below.

10.3 Making the case for the State-based reforms

The priorities for a State-based reform agenda proposed by the Commission are based on two core conclusions:

- (1) A significant increase in Victorian living standards can be achieved from a State-based reform agenda to boost productivity and participation.
- (2) On current trends, Victorian living standards are at risk.

10.3.1 Higher living standards

Commitment to the State-based agenda is highly likely to make a material improvement in the Victorian economy and to the living standards of Victorians. While there is inevitably imprecision in the extent of these effects, the Commission considers it likely that the proposed agenda, effectively implemented, would produce several main benefits:

- A highly skilled, better remunerated and more productive Victorian workforce, a higher participation rate than at present (after correcting for differences in demographic structure), and less disengagement from education and training.
- A stronger business culture of productivity improvement and innovation, based on more effective interaction among businesses, between businesses and research groups, and an effective Institute for innovation and entrepreneurship.
- A stronger Melbourne as a highly liveable city, and as a high income business hub for the Victorian and Australian economies, supported by timely, integrated strategic planning that is effectively implemented.
- Efficient and highly utilised transport and other infrastructure that optimises effective use of supply side additions, technology and, ultimately, some form of user charging. A consequence is reduced investment in the capital requirements that would otherwise be needed.

- Stronger links between Regional Victoria and Melbourne, and stronger linkages among Regional Victoria’s component parts, providing better access to skilled employees, and education and training infrastructure.
- A regulatory system that is based on a more subjective approach to risk (and especially the appropriate role of governments and regulation in managing personal risk), together with a re-examination of priority areas of regulation to ensure they meet this approach to risk.
- A reformed State taxation system that, by being more efficient, provides an impetus for productivity growth and higher participation.

Ultimately, the funding the cost of reform is a decision for government, however, the Commission notes the reallocation of existing funds is a viable option for achieving its reform agenda.

Policies that increase the capability and flexibility of the workforce — such as reforms to education and skills, and improvements in the innovation capabilities of business — can also make the Victorian economy more resilient, enabling quicker and less costly adaptation to shocks that will hit the economy periodically.

Although the Commission has not attempted to estimate the benefits of a State-based reform agenda at this point in the inquiry, modelling of the relationship between productivity and Victoria’s economic performance illustrates how even small changes in productivity can produce large benefits to the economy and living standards. The Commission engaged Monash University’s Centre of Policy Studies to determine the long-run impacts for Victoria of a productivity improvement, using a Computable General Equilibrium (CGE) model.¹ This modelling shows that increasing Victoria’s multifactor productivity (MFP) by one per cent could improve the real gross state product (GSP) of Victoria in the long-run by around 2.5 per cent (table 10.1). Based on the value of Victoria’s GSP of \$301 billion in 2009–10 (ABS 2010d), this is equivalent to an increase in the value of Victoria’s output of \$7.5 billion.

¹ Based on 2009–10 figures. Further details on the modelling undertaken for the inquiry can be found in (Centre for Policy Studies 2011), which is available on the Commission’s website (www.vcec.vic.gov.au).

Table 10.1 Potential impact of productivity improvements

<i>Economic indicator</i>	<i>Percentage change</i>
Change in MFP	1.0
Real GSP	2.5
Employment	1.4
Real wages	0.6
Population	1.4

Source: Centre for Policy Studies 2011.

While the benefits can be achieved through improvements to productivity, it is important to note the impact of the Commission's recommendations on productivity is unknown at this stage. The benefits presented above are indicative only, and should be treated with caution. The Commission will conduct further analysis to better understand the link between its recommendations and their quantitative impact on productivity and Victoria's living standards.

10.3.2 Without reform, living standards will be under threat

The principal source of improving living standards for Victorians is, ultimately, sustained productivity improvement. This remains true for Victoria whatever the actual outcomes on a range of possible scenarios for the Australian and international economies. However, all the available evidence shows essentially the same picture for productivity growth. While there are weaknesses in the data, they consistently show the rate of productivity growth, however measured, during the last decade has declined sharply. This leaves Victorians' living standards more exposed to the effects of structural change and developments in the global economy.

Structural change in the Australian economy is currently being driven by high commodity prices and a high exchange rate. While the higher exchange rate has significantly increased the purchasing power of Australian consumers, it has also sharply increased pressures on trade exposed industries. The mining boom is also accelerating flows of skilled labour and capital from less competitive businesses to the mining sector. Victoria's economy is more heavily weighted towards trade exposed sectors and arguably a higher incidence of businesses that are under such pressures to adjust. Consequently, Victorian businesses must find ways to lift productivity to meet the higher competitiveness standard, close or relocate operations. For employees caught up in the adjustments, costs may be significant, especially if they are not mobile and lack skills that are in demand elsewhere in the economy.

Implementing a State-based reform agenda can ease the adjustment burden on businesses and people by helping to develop a more capable, flexible and productive workforce, and by improving the operating environment for business.

10.4 A clear implementation process and strategy

A key part of the State-based reform agenda is an appropriately resourced, clear strategy and process for implementation. Based on the experience of other reform processes, successful implementation of the State-based reform agenda would need to contain:

- a clear strategy and implementation plan
- clear communication of the case for reform to Victorians, using the opportunities for engagement to refine elements of the plan
- mobilising commitment from Victorians
- a robust performance and accountability framework with a relentless focus on achieving the desired outcomes from the agenda
- identifying and addressing key risks and blockages
- commitment to sustain the reforms
- review and evaluation of reforms on a regular basis, indicatively every three to five years.

To develop and implement the proposed strategy, commitment is needed from the community, stakeholders, and implementing agencies. Successful reform requires high-level commitment, broad public acceptance, and persistence.

Consultation in the development of the reform program, as well as throughout its implementation would help ensure the reforms are designed and implemented correctly and achieve the desired effects. A study by the OECD of recent structural reform attempts in a number of OECD countries found:

... in the more successful episodes (reform attempts), governments made considerable efforts from an early stage to explain and sell the reforms to stakeholder interests and, in most cases, the public. (OECD 2009e, p. 49)

Table 10.2 outlines implementation principles for the types of actions recommended by the Commission and that may be included in a State-based reform strategy.

Table 10.2 Implementation principles and guidance

<i>Type of implementation action</i>	<i>Examples from this report</i>	<i>Implementation principles and guidance</i>
Reviewing existing programs and strategies	<ul style="list-style-type: none"> • workforce skills strategy (review State and Federal programs) • VET reform (review institutional arrangements) • innovation agenda (review ways to remove barriers to university and business collaboration). 	<ul style="list-style-type: none"> • Open and transparent review process with publication of the results. • Evaluation criteria used in reviews should be clear and aligned with the policy objectives.
Planning new programs or initiatives	<ul style="list-style-type: none"> • workforce skills strategy • school education • innovation agenda • tax reform. 	<ul style="list-style-type: none"> • Plans should have clear objectives and timeframes. • Programs should adhere to best practice design principles such as those contained in the Commission's manufacturing inquiry (VCEC 2011i). • Program design should be informed by a clear understanding of 'what works', as shown through an explicit evaluation of earlier programs and initiatives.
Piloting programs and building the evidence base	<ul style="list-style-type: none"> • school education • early childhood • seed funding for business collaboration networks. 	<ul style="list-style-type: none"> • Piloting programs are recommended where programs are suitably scalable and where there is considerable uncertainty about expected outcomes.
Establishing new structures or institutions	<ul style="list-style-type: none"> • major project approval processes (Major Projects Facilitation Office) • VET reform (corporatised structure for TAFEs) • innovation agenda (Institute of Innovation and Entrepreneurship). 	<ul style="list-style-type: none"> • New structures or institutions should take account of duplication of and interaction with existing institutions and identify opportunities to streamline or simplify existing institutional structures.

(continued next page)

Table 10.2 Implementation principles and guidance (continued)

<i>Type of implementation action</i>	<i>Examples from this report</i>	<i>Implementation principles and guidance</i>
Designing performance indicators; monitoring and measuring outcomes	<ul style="list-style-type: none"> • school education • workforce skills strategy • VET reform (develop outcome-based performance indicators for RTOs) • innovation agenda • innovative public sector. 	<ul style="list-style-type: none"> • Performance indicators should be ‘SMART’, outcomes-focused and as few in number as possible. • The performance indicators should align directly with the program objectives and the policy problem that the program seeks to address. • Independent monitoring may be appropriate in some cases.
Evaluation strategies	<ul style="list-style-type: none"> • school education • youth disengagement • workforce skills strategy • removing barriers to up-skilling the workforce. 	<ul style="list-style-type: none"> • The timing of evaluations should make sense in light of the structure and longevity of the program. • The results of evaluations should enter feedback loops to inform decisions about whether a program is retained, changed or discontinued. • The evaluation criteria should be clear, explicit and aligned directly with the program objectives. • Independent evaluation may be appropriate in some cases.
Reporting and transparency	<ul style="list-style-type: none"> • VET and schools reform (publishing outcome-based performance indicators for RTOs and schools). 	<ul style="list-style-type: none"> • Program performance data and evaluations should be published in an easily accessible form.

Draft recommendation 26

That in developing the State-based reform strategy, the Victorian Government incorporate an implementation plan that:

- specifies the outcomes the government expects from the strategy
- establishes clear accountabilities for overseeing implementation, ensuring delivery and, within three to five years, evaluating all elements of the strategy
- includes broad community consultation to engender support for the strategy and its implementation.

Appendix A: Consultation

A.1 Introduction

The Victorian Competition and Efficiency Commission (the Commission) received the terms of reference to undertake an inquiry into a State-based reform agenda on 29 April 2011. In keeping with its usual process to consult extensively during public inquiries, the Commission advertised the inquiry in *The Age*, the *Weekly Times* and the *Australian Financial Review* in June 2011. The Commission also published an issues paper in June 2011, which outlined:

- the scope of the inquiry
- how to make a submission
- the Commission's consultation process
- the inquiry timetable.

The issues paper invited participants to register an interest in the inquiry and to make submissions. The Commission received 146 registrations of interest and 81 written submissions before the release of the draft report (section A.2).

The Commission held four roundtables. The first roundtable, held in May 2011, discussed the inquiry's potential scope and focus. Subsequent roundtables, held in July 2011, focused primarily on innovation and research themes. Roundtable participants were drawn from academia, business, State government departments, and research organisations (section A.3).

The Commission also undertook extensive consultation (including meetings, visits and telephone discussions) with Commonwealth, State and local government departments and agencies, businesses, academics, associations and individuals (section A.4).

Several consultants were engaged by the Commission to produce information papers on key areas relevant to the inquiry, including:

- AECOM — Transport information paper
- Professor Jeff Borland — Labour Force Participation information paper
- Centre of Policy Studies — Benefits Modelling information paper.

To encourage public debate on the draft report, the Commission has made these papers available on its website at www.vcec.vic.gov.au. The views presented are those of the consultants. The Commission's position on the issues covered in these papers is reflected in the draft report.

A.2 Submissions

The Commission received 81 submissions (table A.1). All but four of the submissions are public documents that can be viewed on the Commission's website.

Table A.1 Submissions received

No.	Participant	No.	Participant
1.	Les Hutchinson	2.	Lynda Staker
3.	Simon Validzic	4.	Nancy Worland
5.	Lynden Faull	6.	Confidential submission
7.	Nicole Biasizzo	8.	Vivienne Ortega
9.	Cienwen Hickey	10.	Menkit Prince
11.	Shirley Rees	12.	Nancy Worland
13.	Jan Heald	14.	Australian Wildlife Protection Council
15.	Five Freedoms Animal Rescue	16.	Carlisle River Wildlife Shelter
17.	Sylvia Raye	18.	Energy Safe Victoria
19.	Confidential submission	20.	Panton Hill Community Group
21.	Andrew Gunnyon	22.	Victoria University
23.	Lisa Rees	24.	Voiceless
25.	Australian Society for Kangaroos	26.	Elizabeth Cogley
27.	Marian Young	28.	Caroline Raward
29.	Robyn Cooper	30.	Mari Leigh
31.	Sylvia Cooper	32.	Suzanna van der Voort
33.	World League for the Protection of Animals	34.	Confidential submission
35.	Minerals Council of Australia	36.	Victorian TAFE Association
37.	Bus Association Victoria	38.	Rosie Jackson
39.	Linda Krulz	40.	Gayle Chappell
41.	Victorian Bar	42.	THINKK
43.	Family Business Australia	44.	Confidential submission
45.	Kerry Baker	46.	Bus Association Victoria
47.	ACCORD	48.	Air Conditioning & Mechanical Contractors' Association
49.	Australian Institute of Landscape Architects	50.	Paul Jensen & Beth Webster ^a

Table A.1 Submissions received (continued)

No.	Participant	No.	Participant
51.	Port Phillip Bay Scallop Dive Fishery Association	52.	Victorian Spatial Council
53.	Biosciences Victoria Collaborative	54.	Monash University
55.	Property Council of Australia	56.	SGS Economics & Planning
57.	Brotherhood of St Laurence	58.	Moreland Energy Foundation
59.	Victorian TAFE Association	60.	Adult, Community & Further Education Board
61.	Swinburne University of Technology	62.	BioMelbourne Network
63.	Energy Users Association of Australia	64.	Plumbing Industry Commission
65.	Cement Concrete & Aggregates Australia	66.	Yarra Valley Water
67.	Master Builders Association of Victoria	68.	Rosie Cooney
69.	Sir Roderick Carnegie AC	70.	Housing Industry Association
71.	RMIT University	72.	Monash University Law School
73.	Civil Contractors Federation (Victorian Branch)	74.	Victorian Council of Social Service (VCOSS)
75.	AusBiotech	76.	Real Estate Institute of Victoria
77.	University of Melbourne	78.	Port of Melbourne Corporation
79.	Victorian Skills Commission	80.	Victorian Employers' Chamber of Commerce & Industry (VECCI)
81.	Departments of Transport & Planning & Community Development		

^a Melbourne Institute of Applied Economic and Social Research and Intellectual Property Research Institute of Australia.

A.3 Roundtables

The Commission held four roundtables in May and July 2011. Tables A.2, A.3, A.4 and A.5 list the participants.

Table A.2 Inquiry scope roundtable

<i>Participant</i>	<i>Position</i>	<i>Organisation</i>
Professor Peter Dawkins	Vice Chancellor & President	Victoria University
Dr Vince Fitzgerald	Director	Allen Consulting Group
Professor Ian Harper	Partner	Deloitte Access Economics
Professor Paul Kerin	Professorial Fellow, Strategy	Melbourne Business School
Dr Michael Porter	Director of Research & Policy	Committee for Economic Development of Australia
Melissa Skilbeck	Deputy Secretary	Independent Review of State Finances
Simon Hollingsworth	Executive Director	Department of Premier & Cabinet
Dr Matthew Butlin	Chairman	Victorian Competition & Efficiency Commission
Deborah Cope	Commissioner	Victorian Competition & Efficiency Commission
Bill Mountford	Commissioner	Victorian Competition & Efficiency Commission

Table A.3 Innovation agenda roundtable

<i>Participant</i>	<i>Position</i>	<i>Organisation</i>
Dr Tania Bezzobs	Manager, Research Development	Melbourne Research
Dr Charles Day	Consultant, Innovation	Office of the Senior Vice-Principal, University of Melbourne
Associate Professor Paul Jensen	Principal Research Fellow	Melbourne Institute of Applied Economic & Social Research
Professor Leon Mann	Director	Research Leadership Unit
Professor Bill Moran	Research Director	Defence Science Institute
Professor Thas Nirmalathas	Director	Melbourne Engineering Research Institute
Associate Professor Colin Duffield	Member, Melbourne Sustainable Society Institute Executive	Melbourne Sustainable Society Institute
Professor Steven Prawer	Director	Melbourne Materials Institute

Table A.3 Innovation agenda roundtable (continued)

<i>Participant</i>	<i>Position</i>	<i>Organisation</i>
Dr Jean-Pierre Scheerlinck	Director	Centre for Animal Biotechnology
Professor Geoff Stevens	Associate Dean(Engagement)	Melbourne School of Engineering
Professor Rod Tucker	Director	Institute for a Broadband Enabled Society
Professor Moshe Justman	Professorial Research Fellow	Melbourne Institute of Applied Economic & Social Research
Dr Matthew Butlin	Chairman	Victorian Competition & Efficiency Commission
Bill Mountford	Commissioner	Victorian Competition & Efficiency Commission

Table A.4 Business networking and collaboration roundtable

<i>Participant</i>	<i>Organisation</i>
Gary Wall	Bremer & Company
Rhys Piper	Enterprise Connect
Peter Chaffey	Knox City Council
Michael Wilkinson	Minifab Pty Ltd
Juergen Schneider	Siemens Australia
Shaun Smith	South East Melbourne Innovation Precinct

Note: This roundtable was also used as input into the Commission's inquiry into the Victorian manufacturing industry.

Table A.5 Research linkages roundtable

<i>Participant</i>	<i>Organisation</i>
Philip Binns	Agilent Technologies
Frank Palmer	Avipure
Amanda Caples	Department of Business & Innovation
Randall Straw	Department of Business & Innovation
Mark Trigg	CSIRO

Table A. 5 Research linkages roundtable (continued)

<i>Participant</i>	<i>Organisation</i>
Radha Thomas	Monash University
Rod Hill	Monash University
Tania Bezzobs	University of Melbourne

Note: This roundtable was also used as input into the Commission's inquiry into the Victorian manufacturing industry.

A.4 Stakeholder consultations

The Commission consulted with academia, businesses, industry associations and key interest groups, and drew on the knowledge and expertise of Victorian, Commonwealth and local government departments and agencies. In total, the Commission met, or conducted telephone discussions, with around 80 organisations (table A.6). Stakeholder consultations may include organisations that also attended one of the roundtables.

Table A.6 Consultation participants

<i>Organisation or Individual</i>	<i>Organisation or Individual</i>
Allen Consulting Group	Association of Construction Lawyers
Australian Competition & Consumer Commission (Cth)	Australian Conservation Foundation
Australian Education Union	Australian Industry Group
Australian Skills Quality Authority (Cth)	Avipure
Bremer & Company	Business Council of Australia
Capstone Partners	Catholic Education Office Melbourne
Centre for Animal Biotechnology	City of Greater Bendigo
City of Melbourne	Commercialisation Australia (Cth)
Committee for Economic Development of Australia	Committee for Melbourne
CSIRO	Defence Science Institute
Deloitte Access Economics	Deloitte Research
Department of Business & Innovation	Department of Education & Early Childhood Development ^a
Department of Education, Employment & Workplace Relations (Cth)	Department of Finance & Deregulation (Cth)
Department of Infrastructure & Transport (Cth)	Department of Innovation, Industry, Science & Research (Cth)

Table A.6 Consultation participants (continued)

<i>Organisation or Individual</i>	<i>Organisation or Individual</i>
Department of Planning & Community Development	Department of Premier & Cabinet
Department of Primary Industries	Department of Sustainability, Environment, Water, Population & Communities (Cth)
Department of Transport	Department of Treasury & Finance
Essential Services Commission	Frontier Economics
Grattan Institute	Growth Areas Authority
Hargraves Institute	Housing Industry Association
Independent Pricing & Regulatory Tribunal (NSW)	Independent Review of State Finances
Independent Schools Victoria	Infrastructure Australia (Cth)
Institute for a Broadband Enabled Society	Invest Victoria
Knox City Council	Manufacturing & Engineering Skills Advisory Board
Melbourne Business School	Melbourne Engineering Research Institute
Melbourne Institute of Applied Economic & Social Research	Melbourne Materials Institute
Melbourne Research	Melbourne School of Engineering
Melbourne Sustainable Society Institute	Minifab Pty Ltd
Monash University	Municipal Association of Victoria
Murray-Darling Basin Authority (Cth)	National Centre for Vocational Education Research
National Water Commission (Cth)	Office of the Chief Scientist (Cth)
Port Jackson Partners	Port of Melbourne Corporation
Productivity Commission (Cth)	Regional Cities Victoria
Research Leadership Unit	Siemens Australia
Skills Victoria	South East Melbourne Innovation Precinct
The Treasury (Cth)	University of Melbourne
VCOSS	VECCI
Victorian Manufacturing Centre, Enterprise Connect	Victorian Principals Association
Victorian Skills Commission	Victoria University

^a The Department also organised two discussion forums for the Commission on early childhood development and school education.

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