Victoria in Future 2012

David Sykes
Senior Demographic Researcher

1st June 2012





Presentation Outline

- 1. Historic & current trends
- 2. What are projections?
- 3. How and why are they used?
- 4. How are they produced?
- 5. Updating / rebasing / new assumptions
- 6. What are the new results?
- 7. Certainty vs uncertainty
- 8. www.dpcd.vic.gov.au/victoriainfuture



Presentation Outline

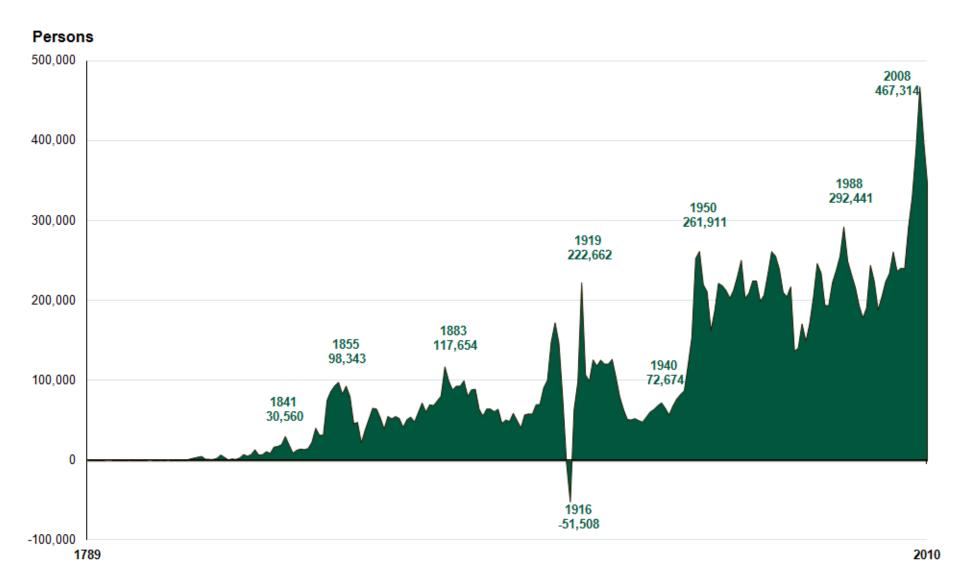


- 1. Historic & current trends
- 2. What are projections?
- 3. How and why are they used?
- 4. How are they produced?
- 5. Updating / rebasing / new assumptions
- 6. What are the new results?
- 7. Certainty vs uncertainty
- 8. www.dpcd.vic.gov.au/victoriainfuture



Historical Growth - Australia

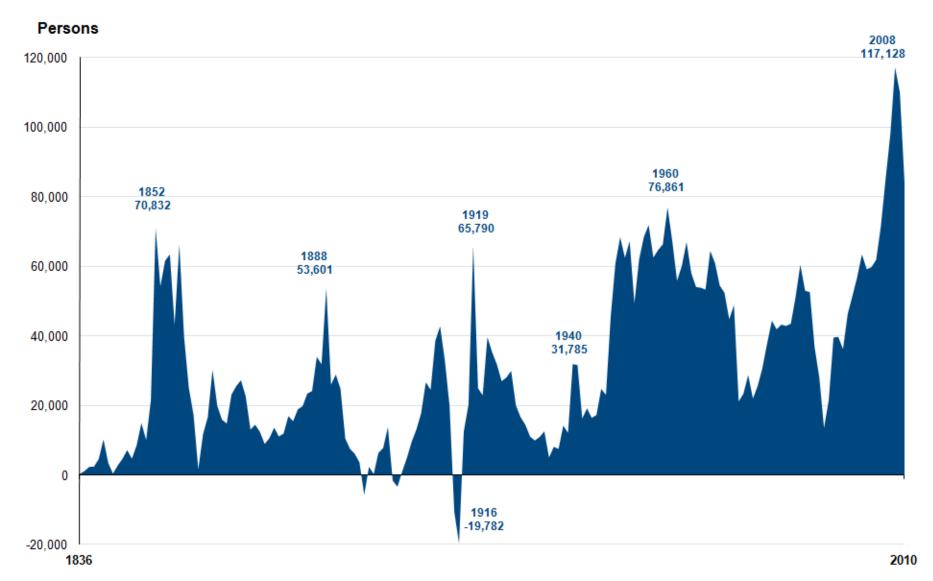






Historical Growth - Victoria

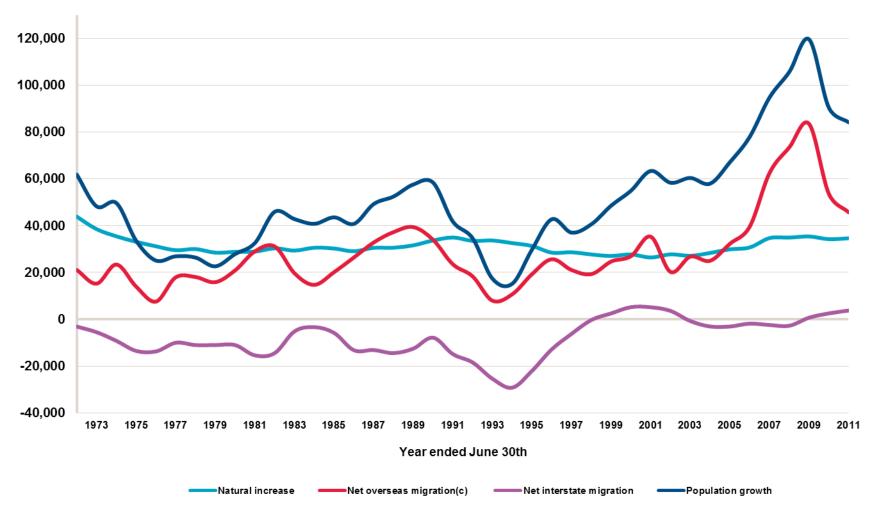






Components of growth - Victoria

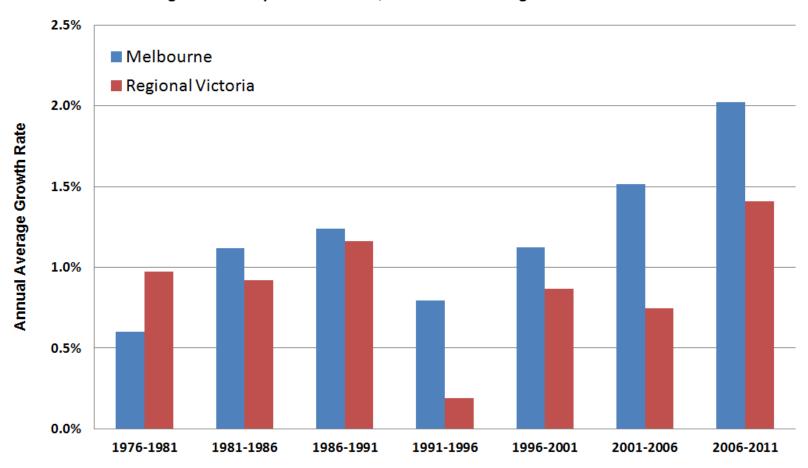
Persons





Melbourne & Regional Victoria

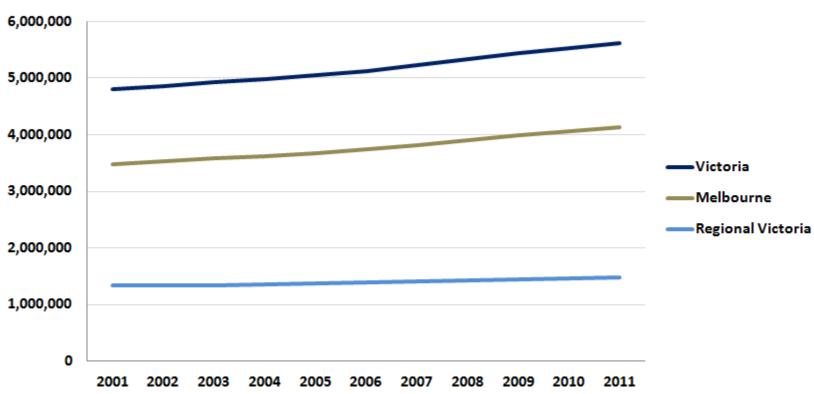
Average Annual Population Growth, Melbourne and Regional Victoria 1976 to 2011



Melbourne & Regional Victoria, 2001 to 2011



Population





Statistical Divisions



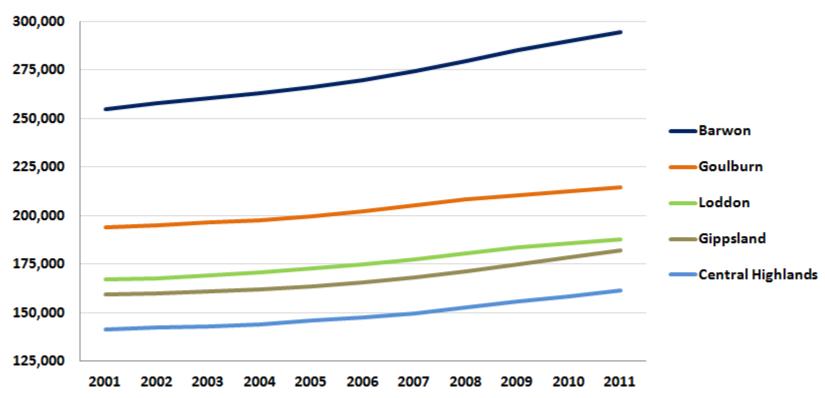




Statistical Divisions, 2001 to 2011



Population

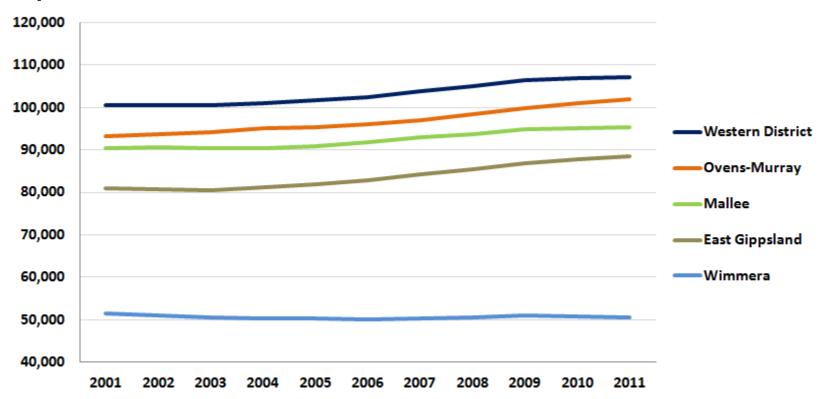




Statistical Divisions, 2001 to 2011



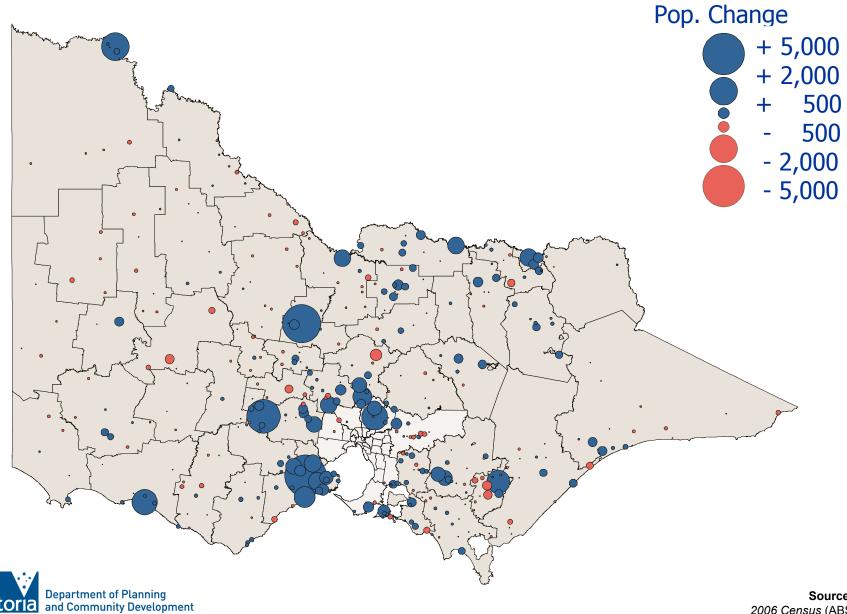
Population



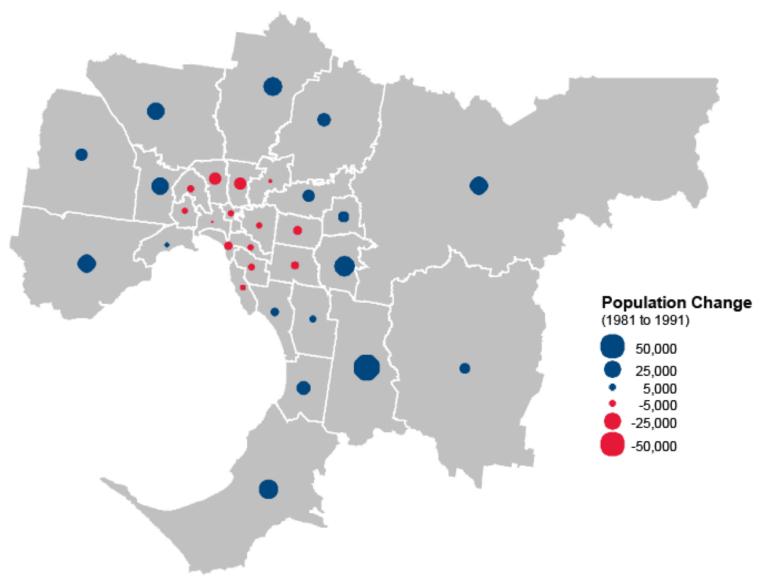


Growth of towns across Victoria, 2001-06



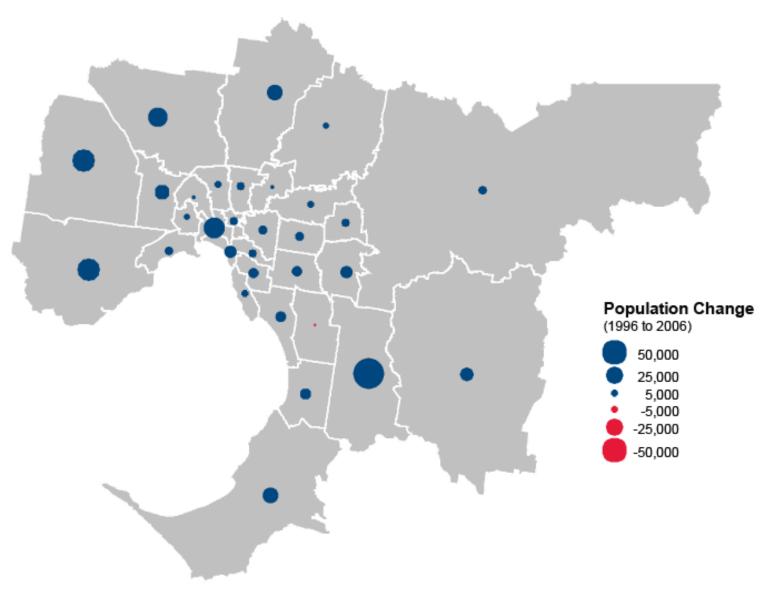


Melbourne LGAs 1981 to 1991





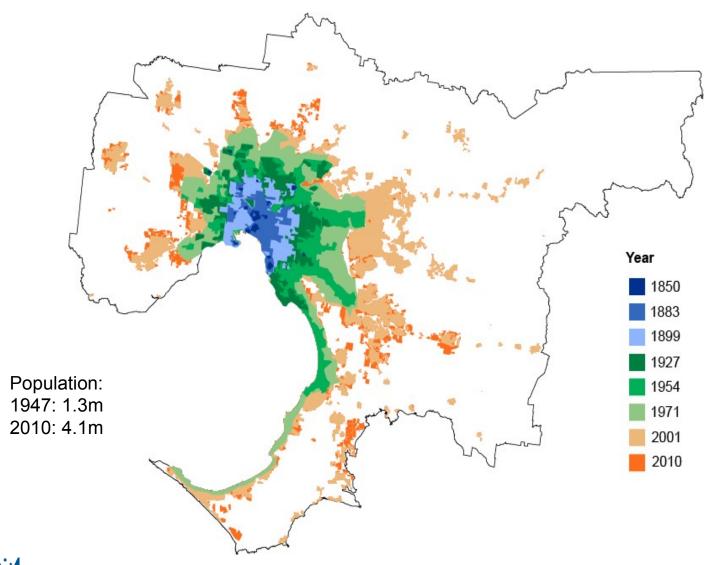
Melbourne LGAs 1996 to 2006





Development within Melbourne







Presentation Outline



- 1. Historic & current trends
- 2. What are projections?
- 3. How and why are they used?
- 4. How are they produced?
- 5. Updating / rebasing / new assumptions
- 6. What are the new results?
- 7. Certainty vs uncertainty
- 8. www.dpcd.vic.gov.au/victoriainfuture



What are population projections?



Population projections are:

"estimates of future populations if current demographic, economic and social trends continue"

What are population projections?



Population projections are:

"estimates of future populations if current demographic, economic and social trends continue"

They are not:

"predictions of the future, nor targets, nor do they reflect the effects of current or future policies"



Presentation Outline



- 1. Historic & current trends
- 2. What are projections?
- 3. How and why are they used?
- 4. How are they produced?
- 5. Updating / rebasing / new assumptions
- 6. What are the new results?
- 7. Certainty vs uncertainty
- 8. www.dpcd.vic.gov.au/victoriainfuture



Why do we do projections?



Population projections:

- Provide information about population change over space and time;
- Give an idea of what is likely to happen if current trends continue;
- Indicate the possible need for responses to manage change, to achieve preferred outcomes, or to mitigate the impacts of non-preferred outcomes.

Who uses projections, and how?



Infrastructure

Land Use Planning

Transport

Housing

Health

Education

Environment

Community Services

Population and Household Projections

Business

Retail

Housing

Energy

Investment

Business Services/Consultants

Community

Local Government

Social Services

Education

Health

Environment

Disaster Recovery

Community Groups

Philanthropists



How are projections produced?



Top – down:

Official statistics (census etc.)

Start at Victorian level and work down to regions and LGAs/SLAs



Local and regional projections



Bottom – up:

Local knowledge

New investments & developments Regional economy & employment (from consultation with each council and others where appropriate)



Different models / scales / purposes / outputs



Geographic Scale

State and Statistical Divisions

Statistical Local Areas

Model Type

Cohort Component Model

Assumptions Used

Base Population

Births
Deaths

In-Migration

Out-Migration

Outputs /
Control
Totals

Estimated Resident Population by Age and Sex Household Formation Model

Statistical

Divisions

Living Arrangements by Age and Sex

Households by Type

Persons in Non-Private Dwellings

Private Dwellings

Occupied Private Dwellings

Persons in Occupied Private Dwellings

Average Household Size

Vacancy Rate

Housing Unit Model

Persons in Non-Private Dwellings

Private Dwelling Construction

Private Dwelling Demolitions

Estimated Resident Population

Persons in Non-Private Dwellings

Private Dwellings

Occupied Private Dwellings

Persons in Occupied Private Dwellings

Average Household Size

Vacancy Rate

Household Formation

Cohort Component /

Migration Profiles by Age and Sex

Living Arrangements by Age and Sex

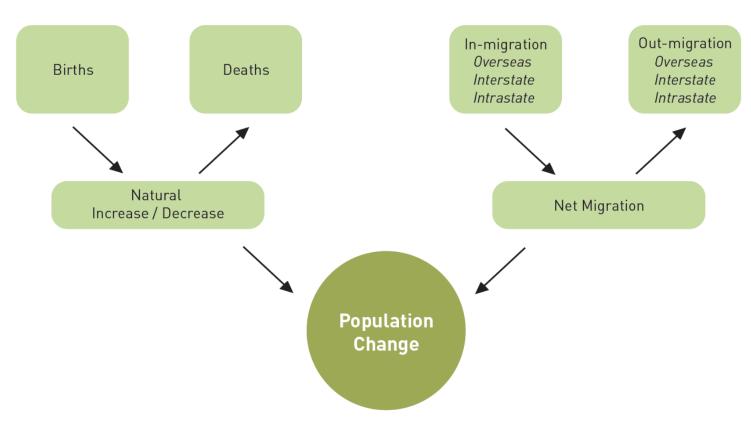
Estimated Resident Population by Age and Sex

Households by Type (Aggregated to LGA)



Top down – demographic projection

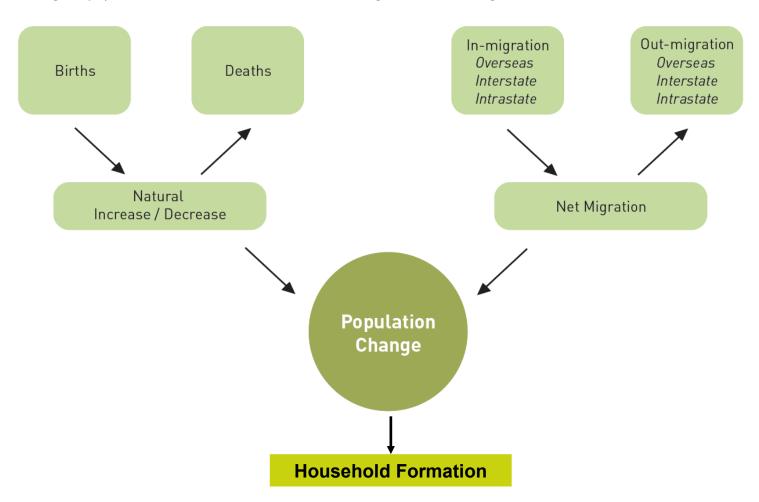






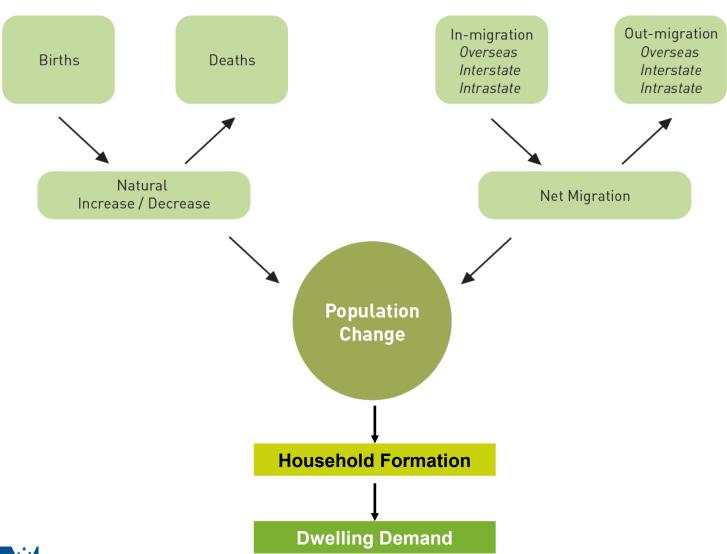
Top down – demographic projection





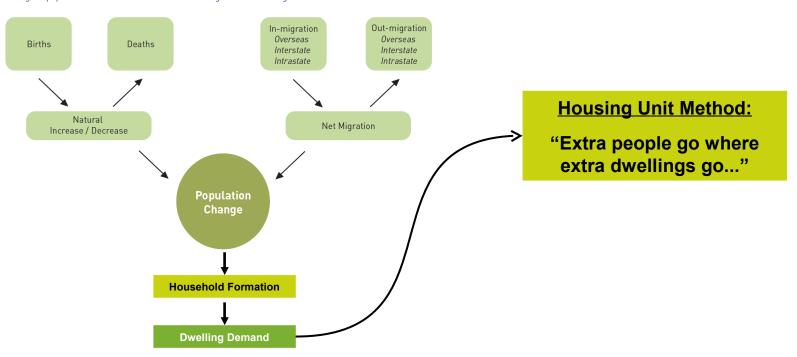


Top down – demographic projection



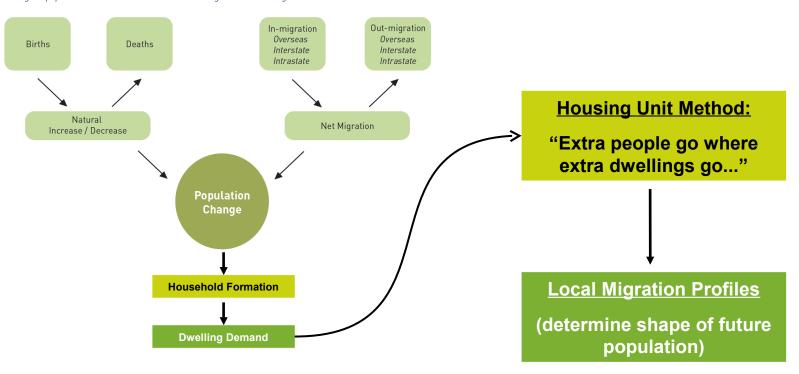






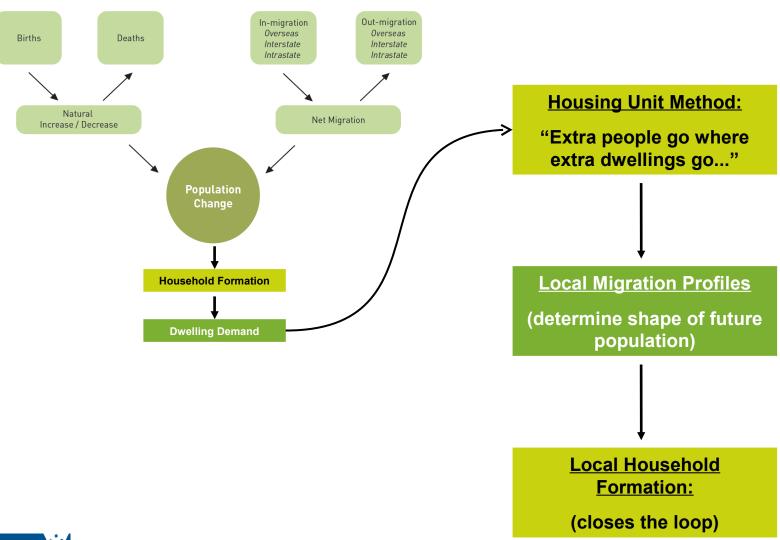






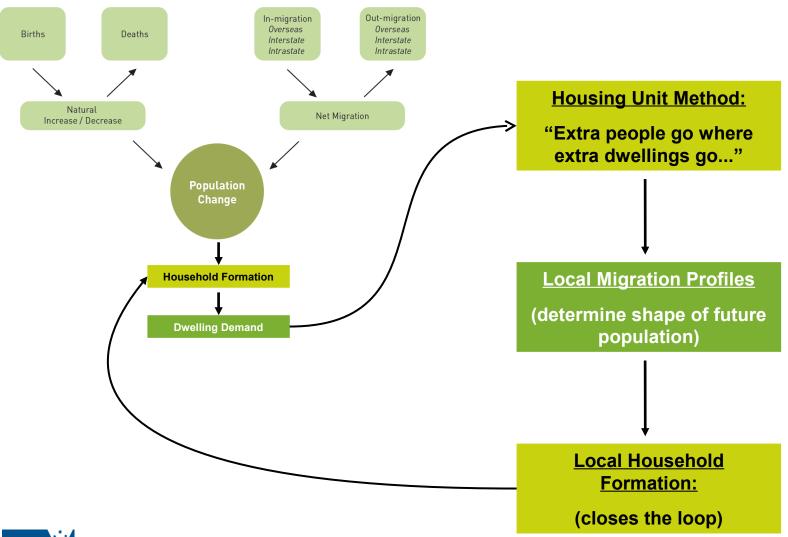














What data is necessary?



DPCD relies on a wide variety of data and information, including:

- ABS population estimates (quarterly State, annual SLA);
- ABS published data (births, deaths, migration);
- DIAC published data (migration arrivals/departures);
- ABS Census migration data (residence 1yr ago, 5yrs ago);
- ABS Census living arrangements;
- ABS building approvals;
- DPCD Urban Development Program;
- DPCD Housing Development Data;
- Local Government research/consultation (local plans/policies, surveys of local councils, face-to-face consultations and focus groups).



Presentation Outline



- 1. Historic & current trends
- 2. What are projections?
- 3. How and why are they used?
- 4. How are they produced?
- 5. Updating / rebasing / new assumptions
- 6. What are the new results?
- 7. Certainty vs uncertainty
- 8. www.dpcd.vic.gov.au/victoriainfuture



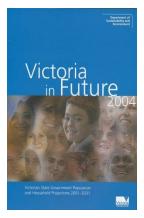
The latest in a series of "VIFs"

















Why update projections now?



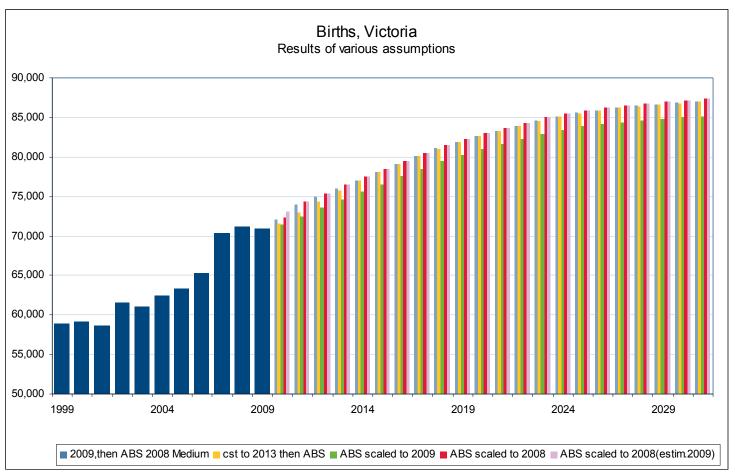
	VIF2008 Population 2011	ABS 3218 Population 2011	VIF2008 Growth 2006-11	ABS 3218 Growth 2006-11	Differenc e Growth 2006-11
Victoria	5,549,800	5,621,200	421,500	494,700	73,200
Regional Victoria	1,466,900	1,483,800	83,000	100,300	17,300
Melbourne	4,082,900	4,137,400	338,500	394,400	55,900
Barwon	291,200	294,300	21,200	24,700	3,500
Western District	105,700	107,200	3,400	4,700	1,300
Central Highlands	158,300	161,200	10,700	13,700	3,000
Wimmera	49,300	50,600	-700	500	1,200
Mallee	93,500	95,300	1,600	3,600	2,000
Loddon	189,000	188,000	13,800	13,100	-700
Goulburn	215,800	214,600	13,700	12,200	-1,500
Ovens-Murray	101,500	101,900	5,100	5,800	700
East Gippsland	87,600	88,600	4,700	5,700	1,000
Gippsland	175,100	181,900	9,600	16,400	6,800



Fertility & Mortality



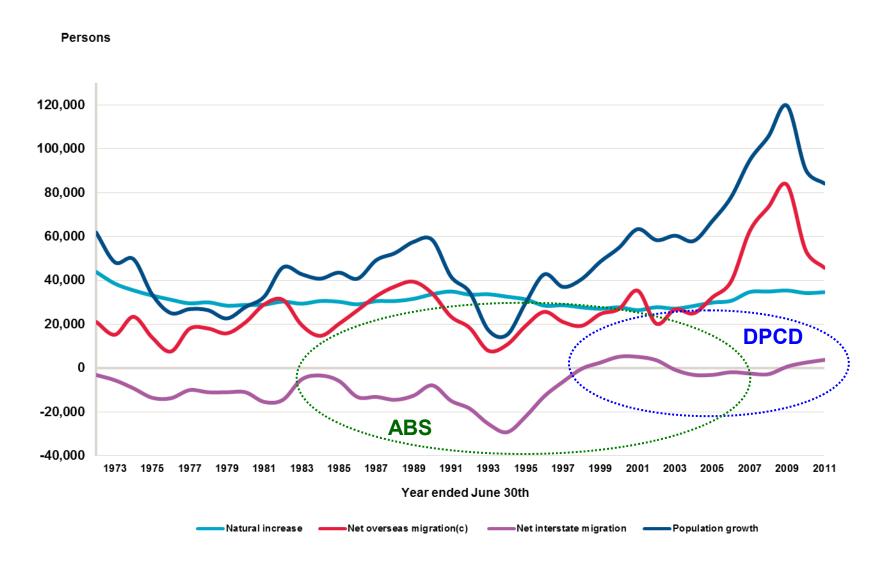
There are a number of options for DPCD to adjust the ABS longterm assumption to take account of the most recent published data





Net Interstate Migration







Net Overseas Migration



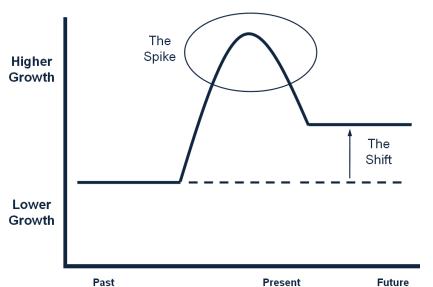
Net Overseas Migration Assumption

	Date of Publication	High	Medium	Low
Victoria in Future 1996 (DoI)	Nov-96		100,000	
ABS	Jul-98	90,000	70,000	0
Victoria in Future 2000 (DoI)	Feb-00		90,000	
ABS	Aug-00	100,000	90,000	70,000
ABS	Sep-03	125,000	100,000	70,000
Victoria in Future 2004 (DSE)	Aug-04		110,000	
ABS	Aug-05	140,000	110,000	80,000
ABS	Sep-08	220,000	180,000	140,000
Victoria in Future 2008 (DPCD)	Dec-08		180,000	



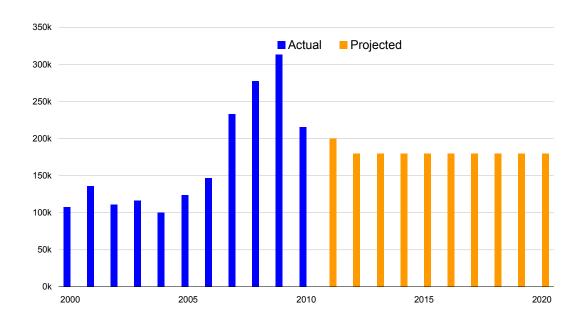
Net Overseas Migration





"The Spike and the Shift"

Actual and projected NOM





VIF2008 & VIF2011 State Assumptions



	VIF2008	VIF2011	
Base population of Victoria	5,549,482 (2011)	5,621,210 (2011)	
Fertility assumption	ABS medium (71,310 births in 2011)	ABS medium, from a 2009 starting point (71,960 births in 2011)	
Mortality assumption	ABS medium	ABS medium, from a 2009 starting point	
Net overseas migration assumption (Australia)	200,000 for 2008, 2009 and 2010; 180,000 thereafter	180,000	
Net interstate migration assumption	-2,000 for 2008, 2009 and 2010; -4,000 in 2011; -6,000 thereafter	Zero	



Assumptions for Melbourne and regional Victoria - differences in their demographies:



Fertility Regional Victoria has higher fertility rate but Melbourne has younger

population. 77% of Victoria's births are in Melbourne (Melbourne has 73% of

the population)

Mortality Mortality rates differ little between Melbourne and regional Victoria. But

regional Victoria has much older population and therefore has a

disproportionate share of deaths. (Melbourne only has 66% of Victoria's

deaths)

Net overseas migration

Census data shows Melbourne has 92% of Victoria's overseas born

population. For recent migrants the proportion is higher

Net interstate migration

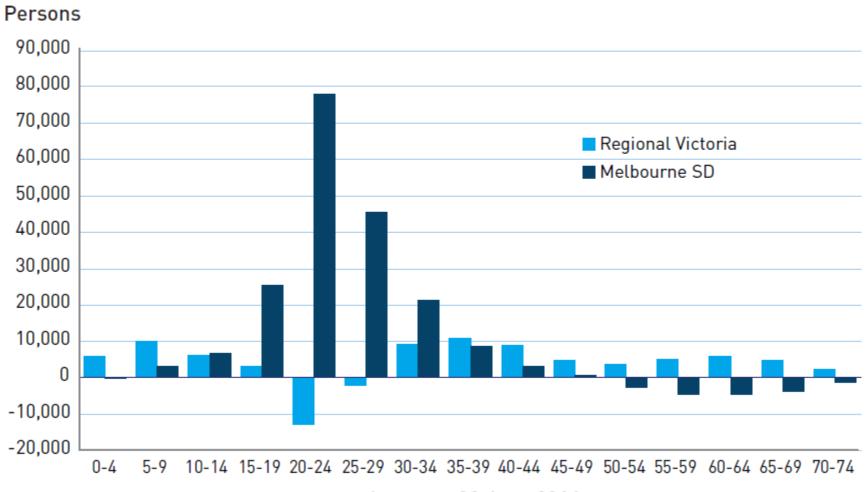
Census data shows that regional Victoria has a net interstate migration loss

while Melbourne has a net interstate migration gain



Migration profiles differ between Melbourne and Regional Victoria









Local Development Assumptions – Established Trends



To Wallan, Kilmore, Broadford and Wandong

2001-06

Number of moves

300-499

500-749

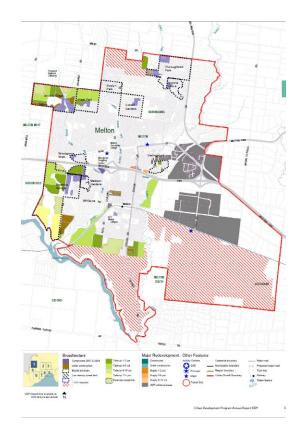
750-1,499

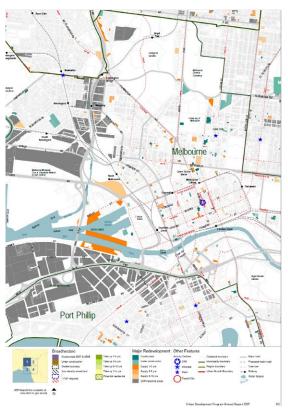
1,500+

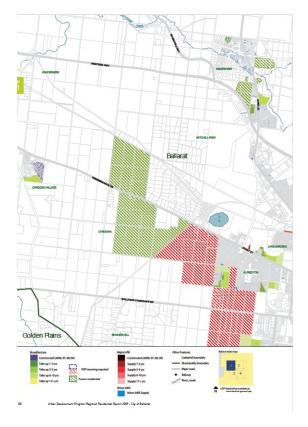


Local Development Assumptions – Urban Development Program





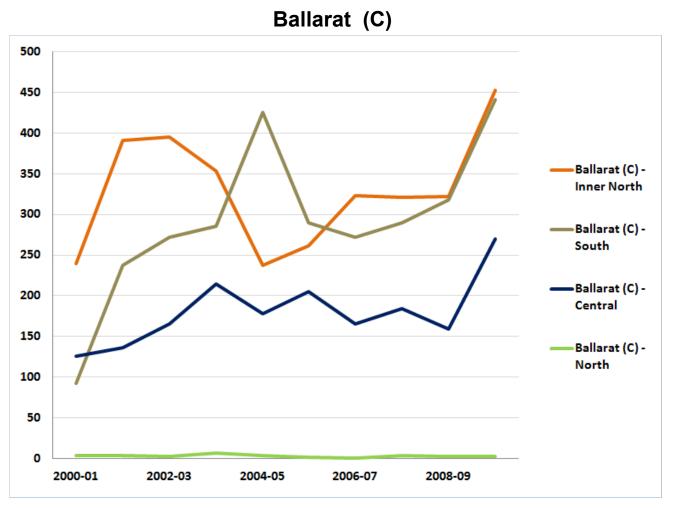






Local Development Assumptions – ABS Dwelling Approvals



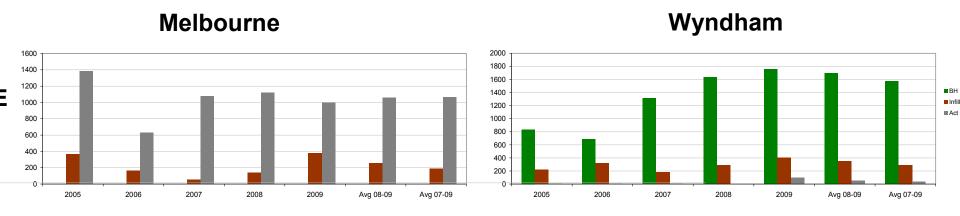


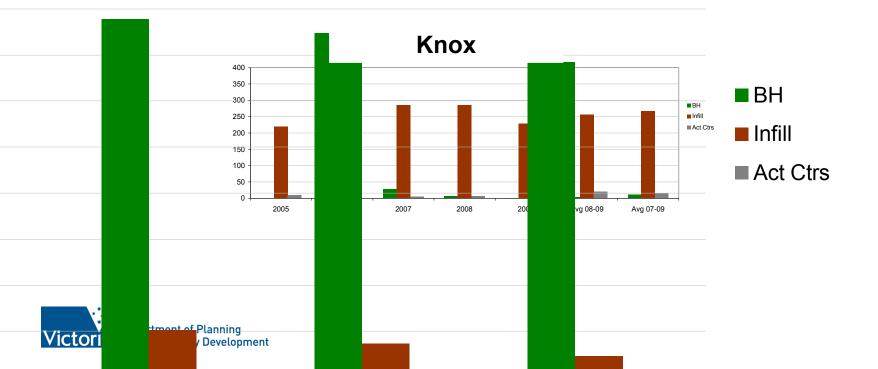


Source: Building Approvals (ABS)

Local Development Assumptions – Housing Development Data



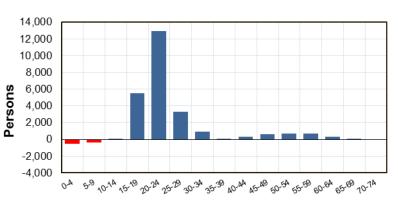




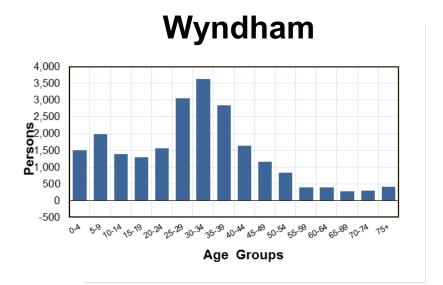
Local Migration Profiles Influence Age Structures



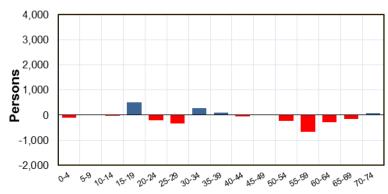
Melbourne



Age Groups



Knox



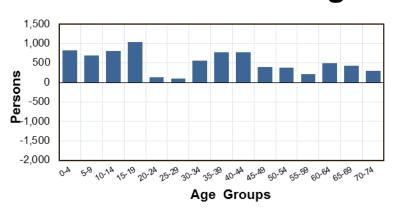
Age Groups



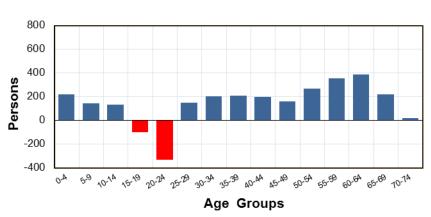
Local Migration Profiles Influence Age Structures



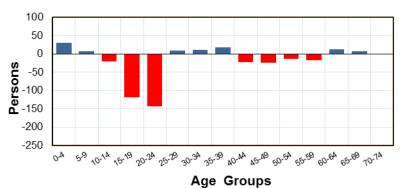
Greater Geelong



Bass Coast



Hindmarsh





Presentation Outline



- 1. Historic & current trends
- 2. What are projections?
- 3. How and why are they used?
- 4. How are they produced?
- 5. Updating / rebasing / new assumptions
- 6. What are the new results?
- 7. Certainty vs uncertainty
- 8. www.dpcd.vic.gov.au/victoriainfuture



Results of projections for Victoria



	2011	2021	2031	2041	2051
VIF2008	5,549,482	6,332,776	7,067,688	7,700,177	8,266,015
VIF2012	5,621,210 (published ERP)	6,500,653	7,326,564	8,057,520	8,733,318
Difference	71,728	167,877	258,876	357,343	467,303



Population – major regions

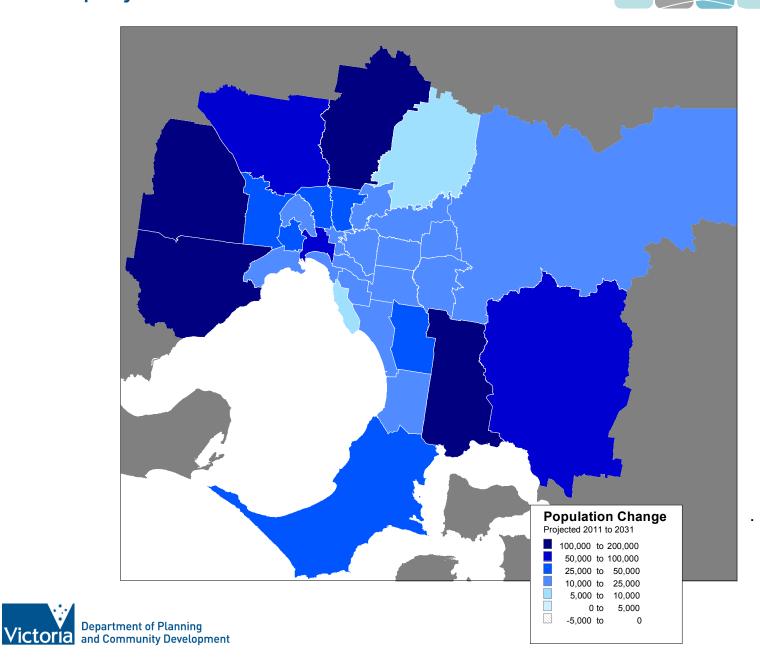


Population (millions)





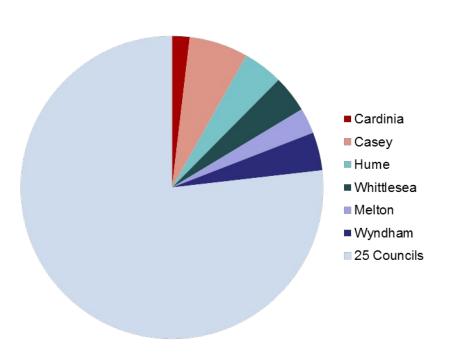
Local projections – Melbourne 2011-31



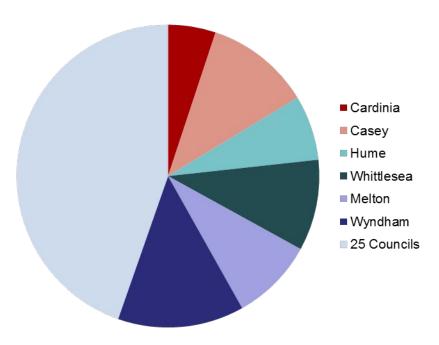
Growths Areas vs rest of Melbourne



Population at 30 June 2011



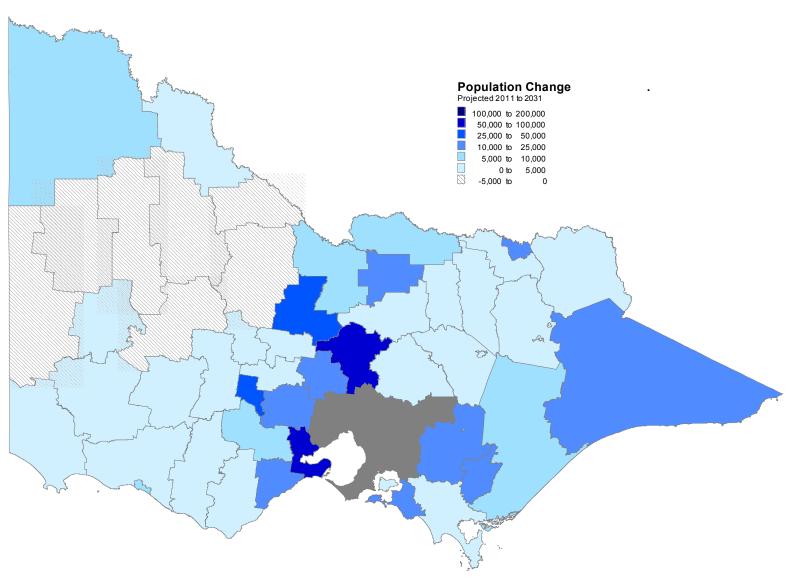
Growth from 2011 to 2031





Local projections – Regional Victoria 2011-31

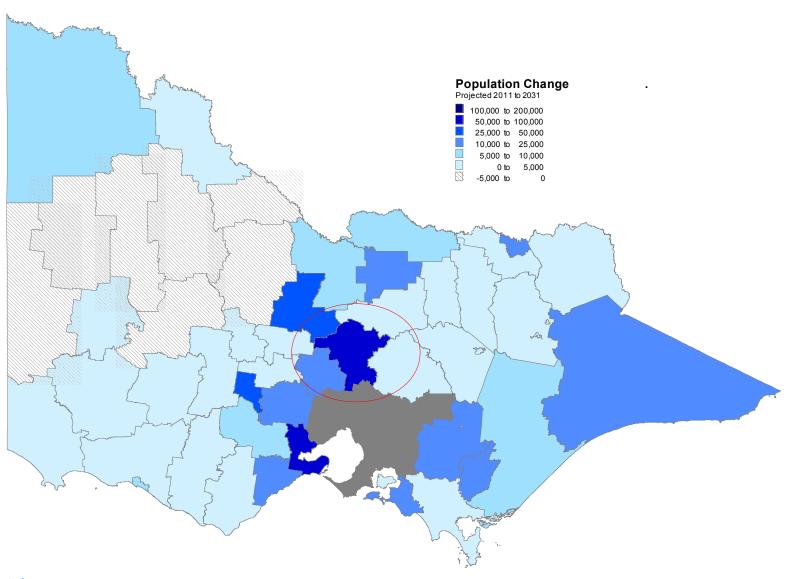






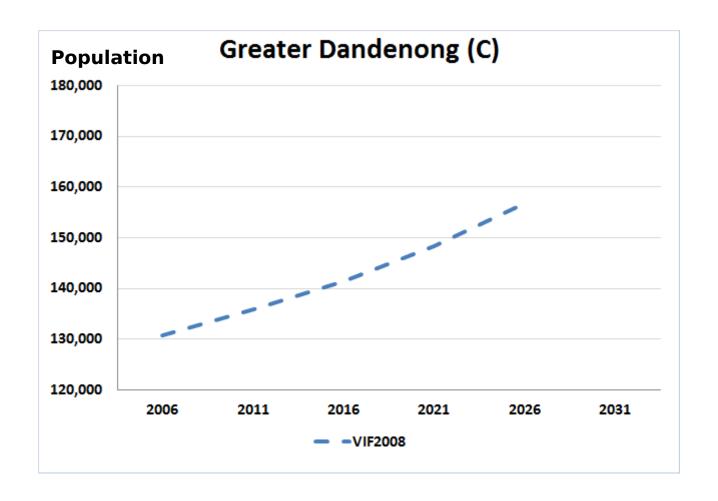
Mitchell Shire – urban or regional?





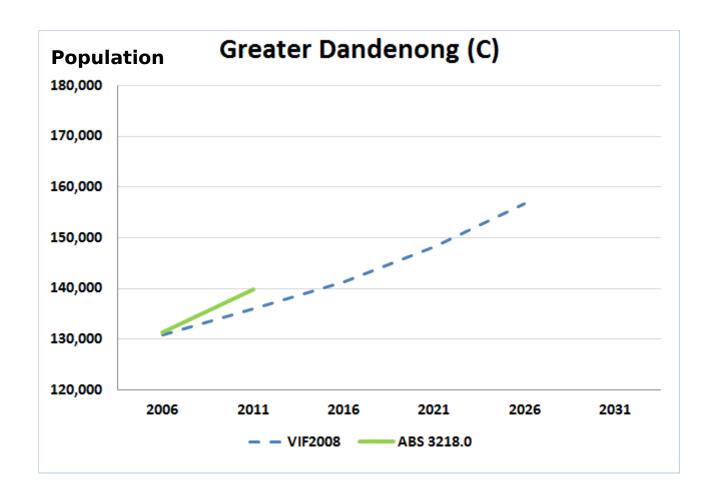






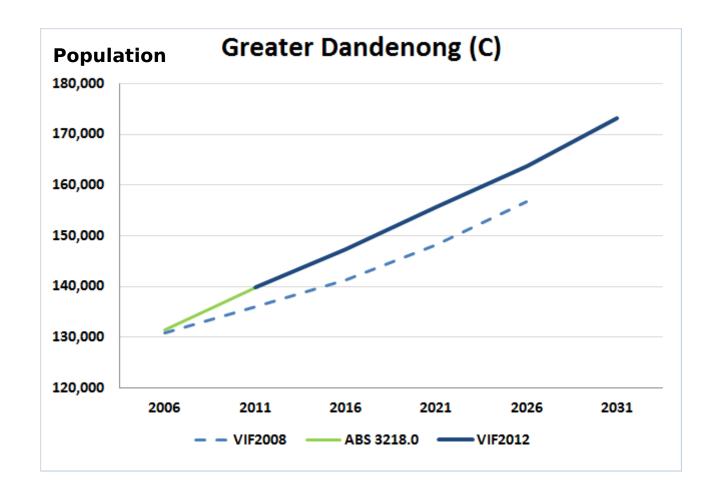






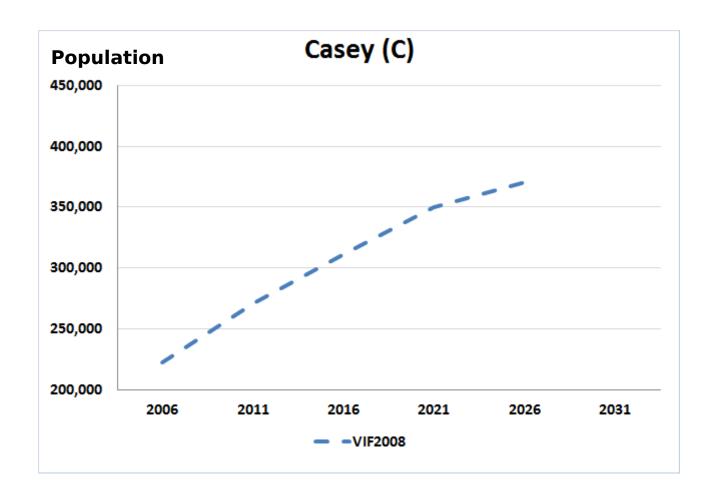






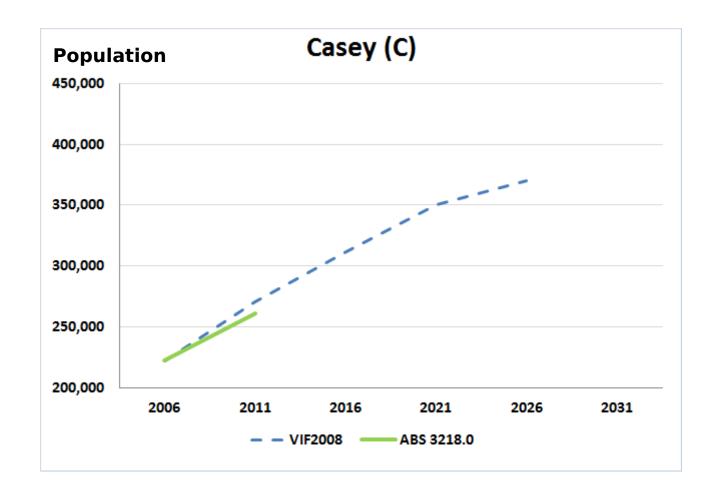






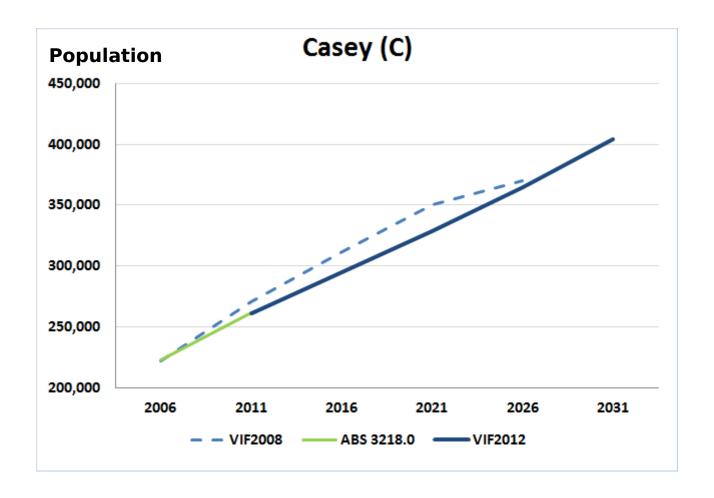






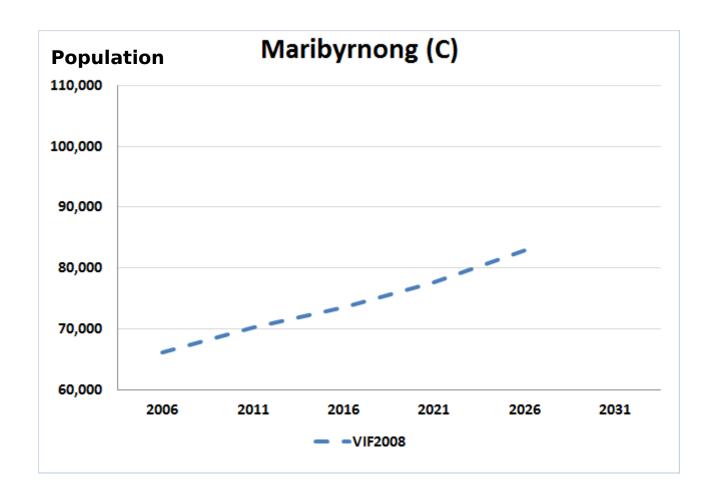






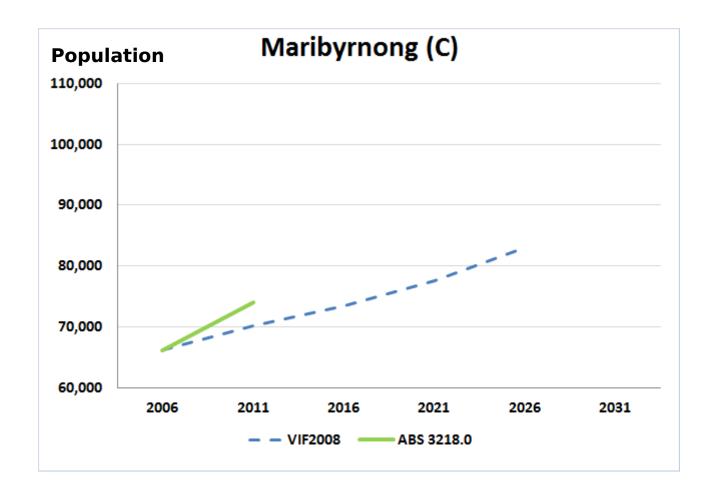






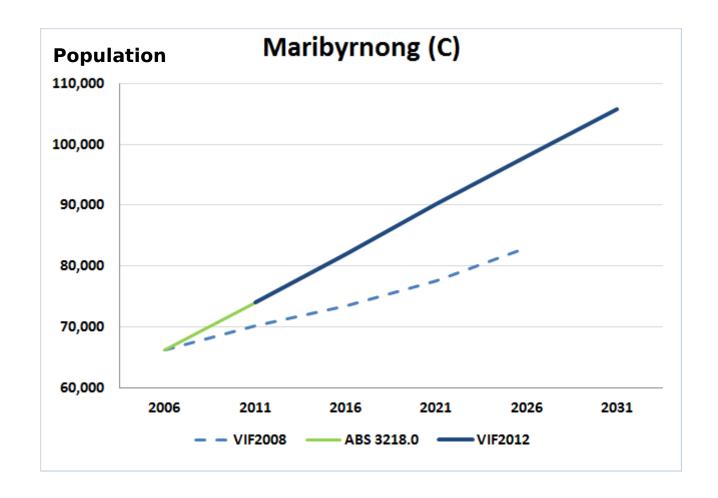






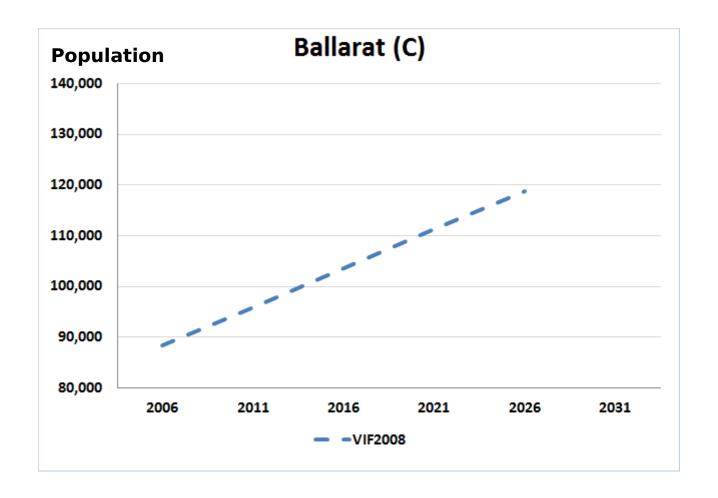






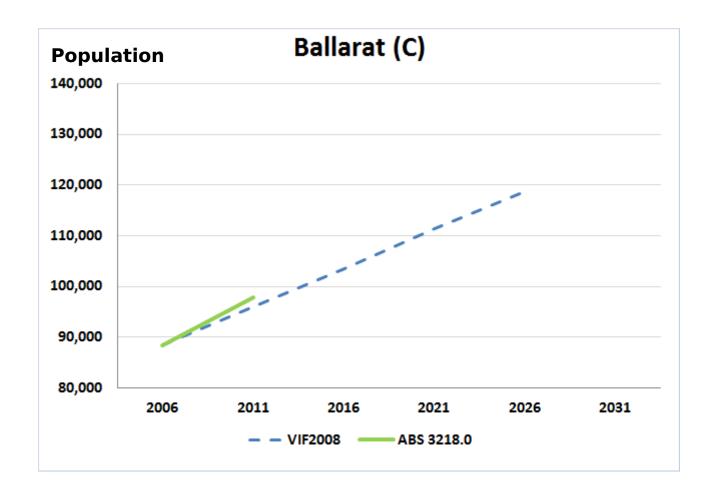






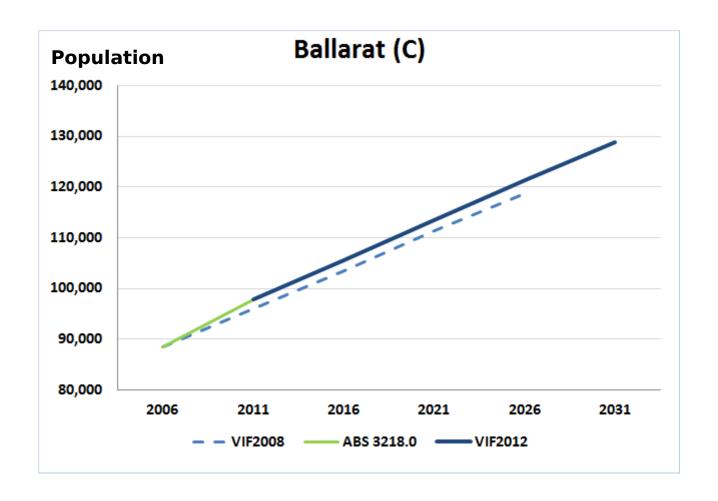






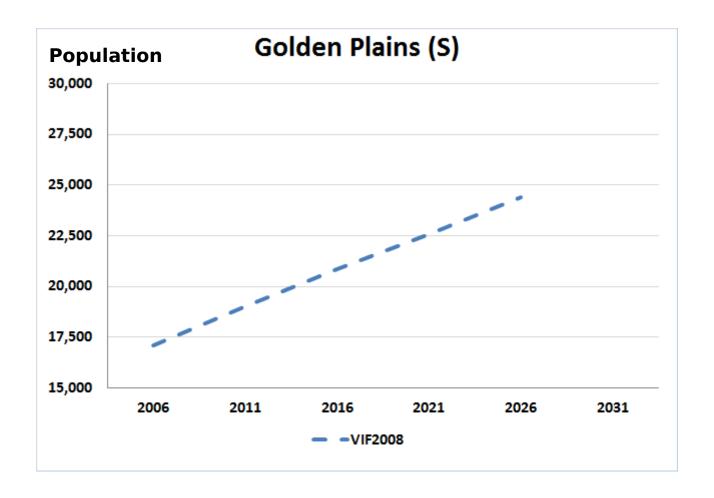






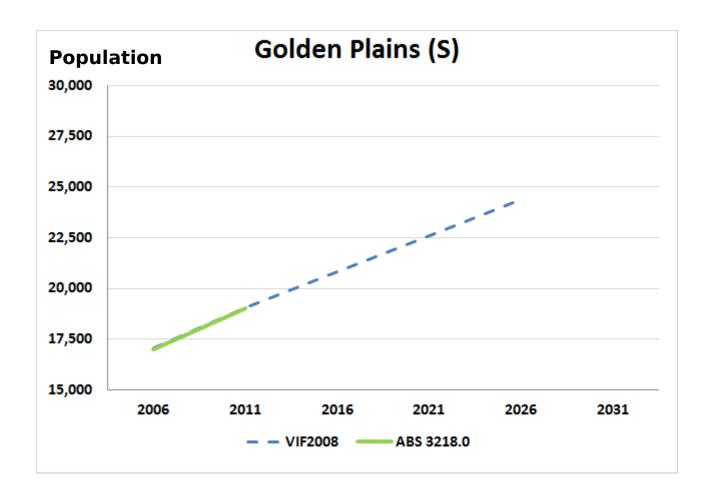






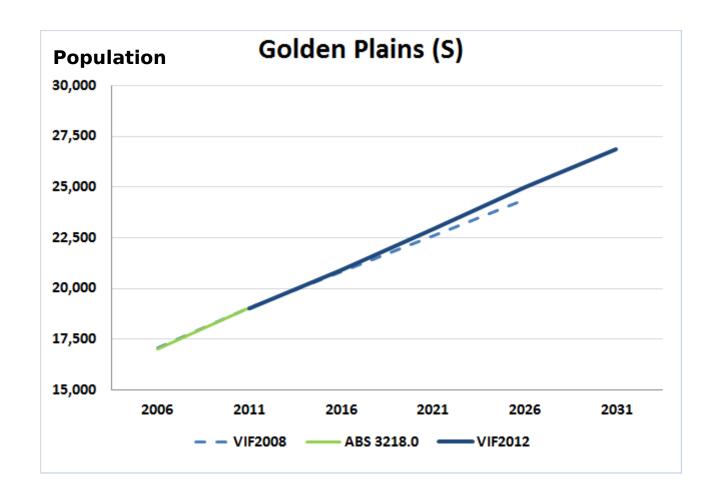






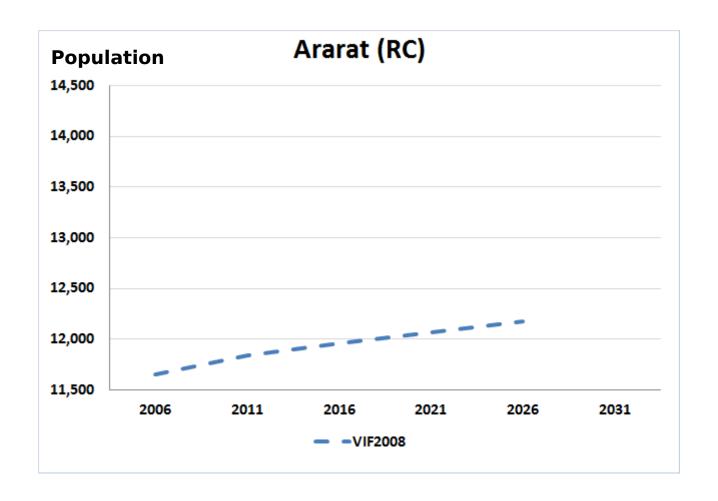






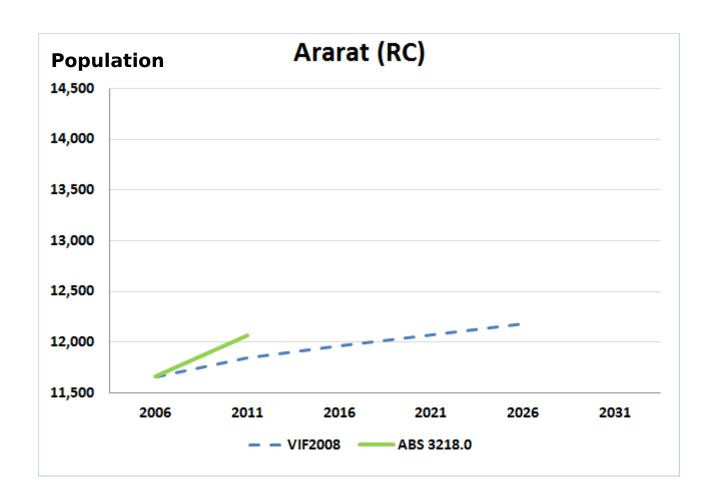






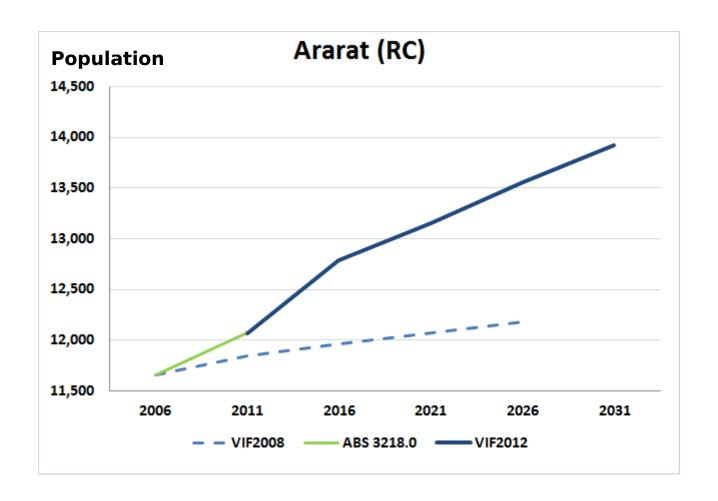








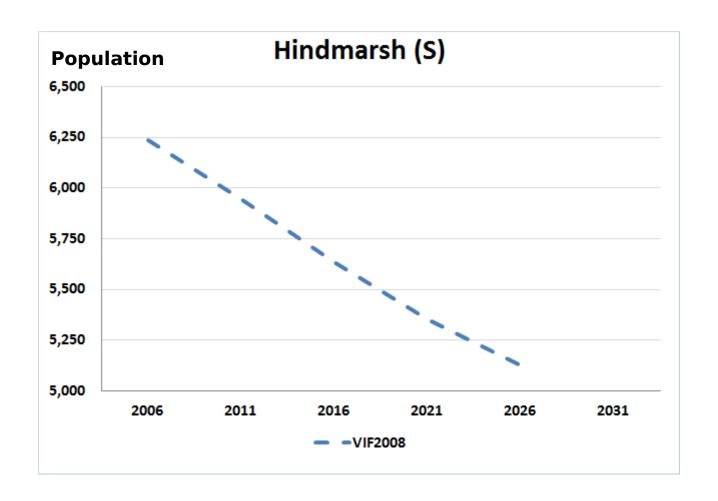






Local Population Growth

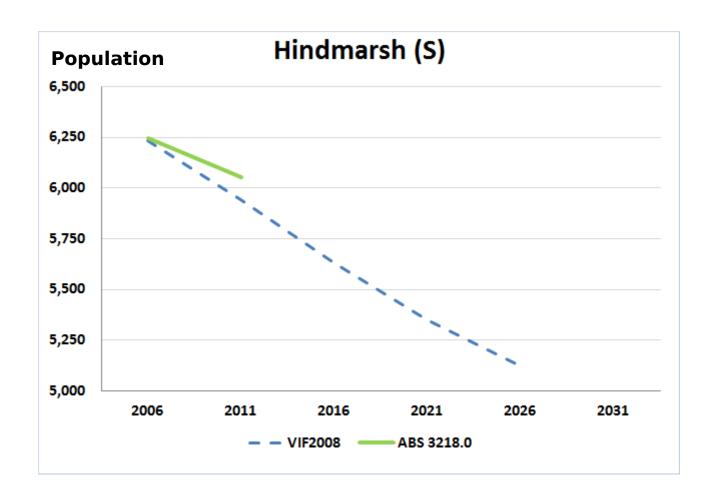






Local Population Growth

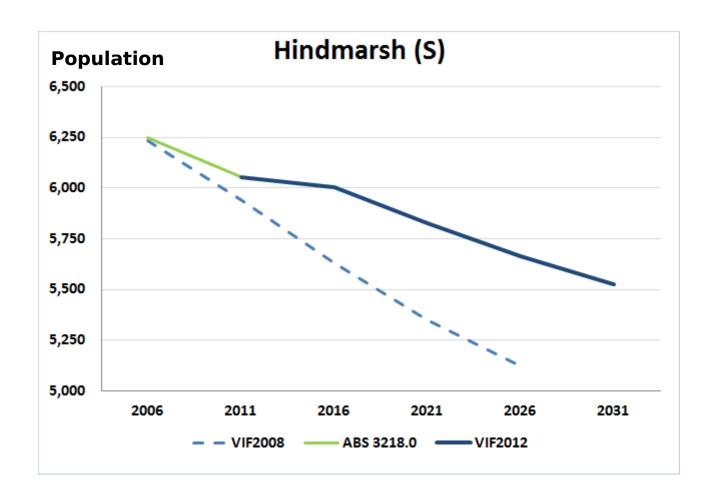






Local Population Growth



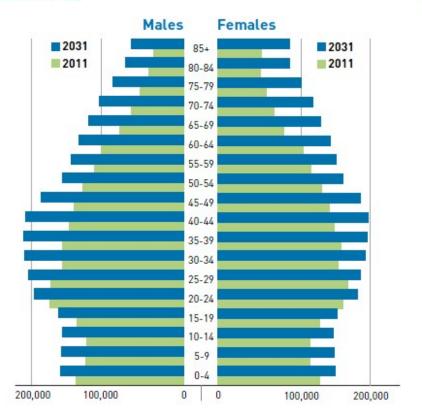




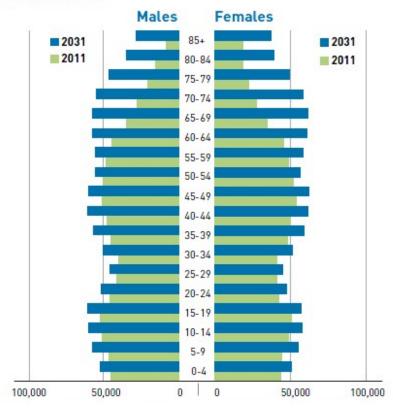
Regional Victoria will continue to be older than Melbourne



Melbourne SD

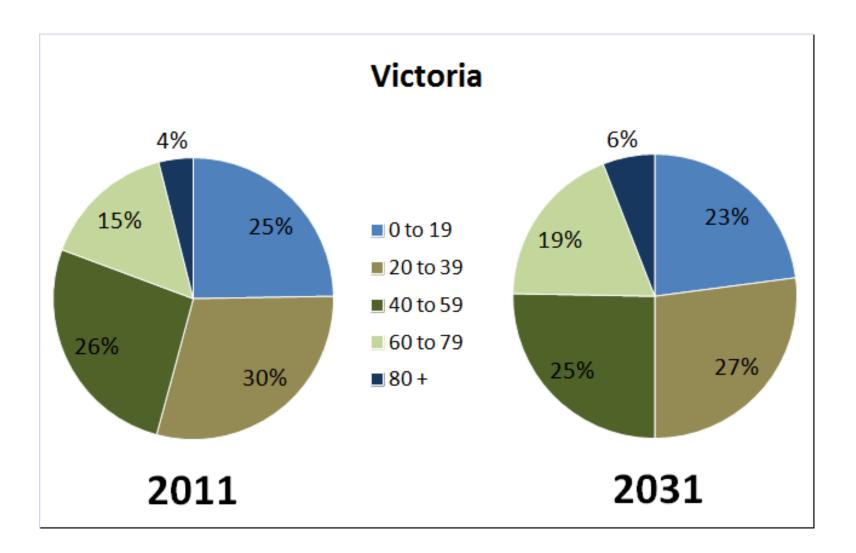


Regional Victoria



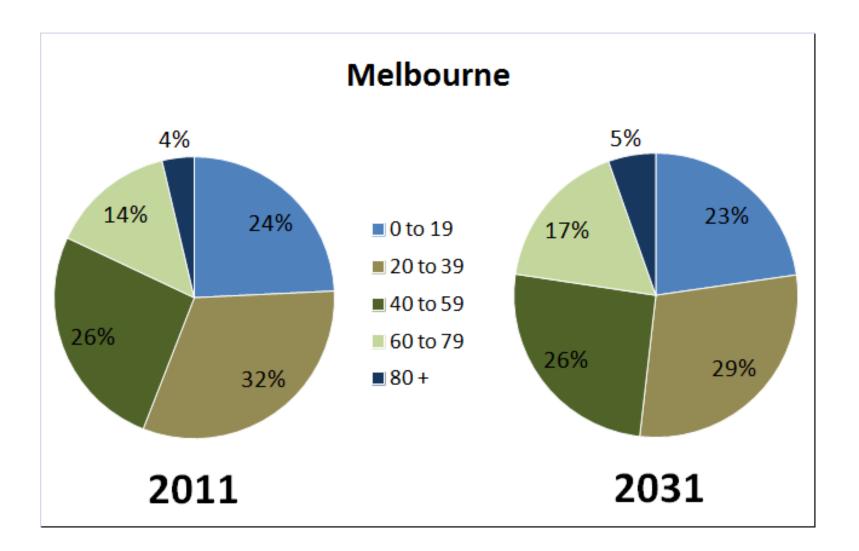






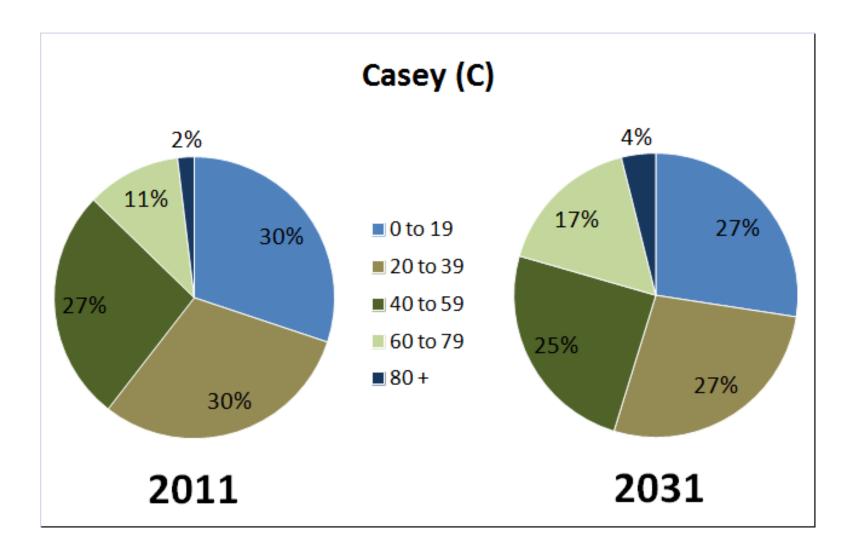






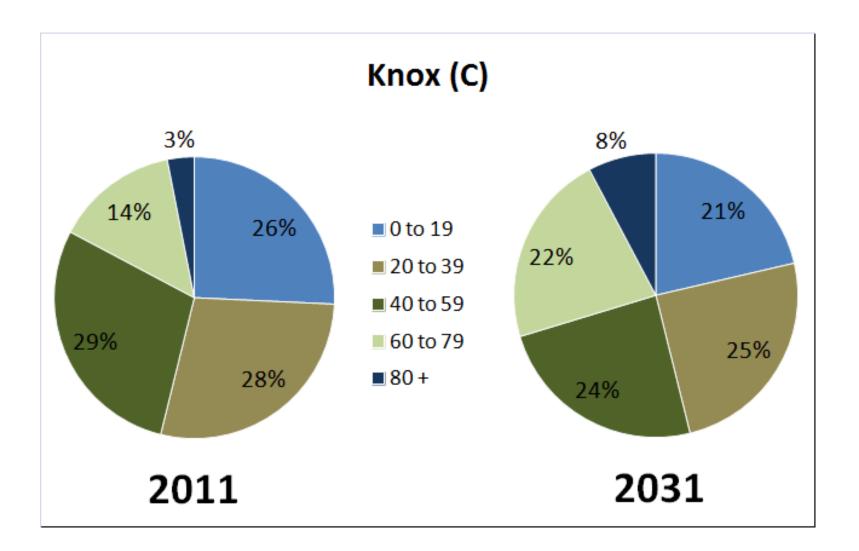






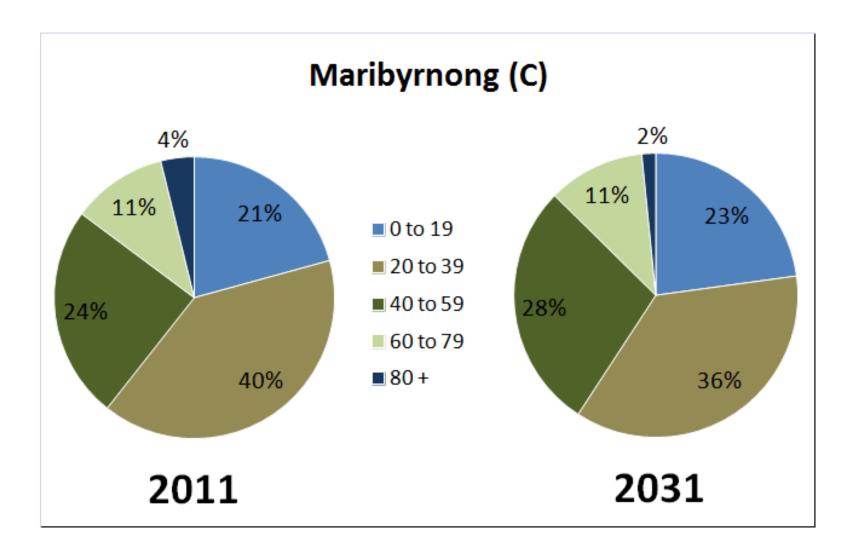






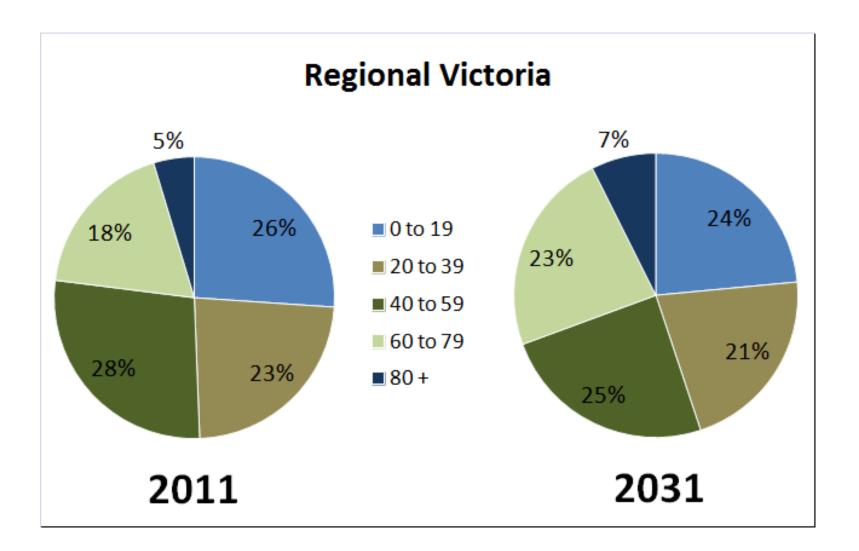






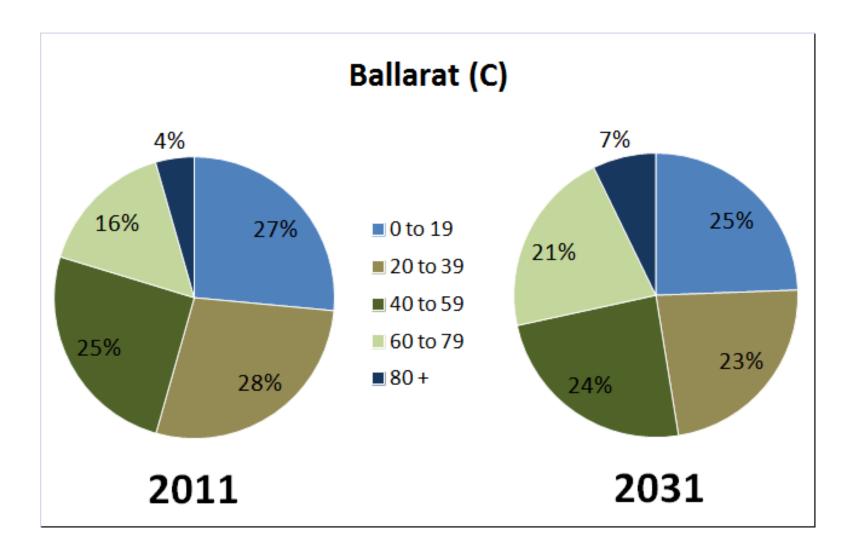






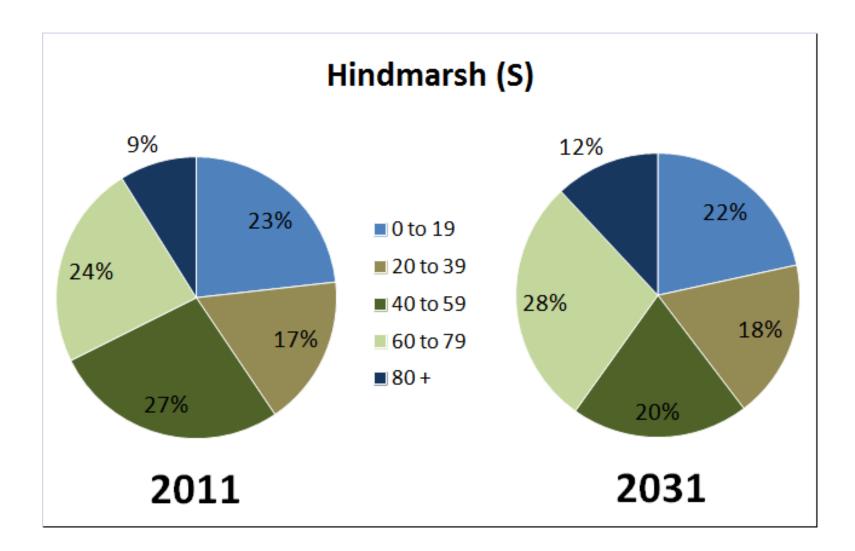








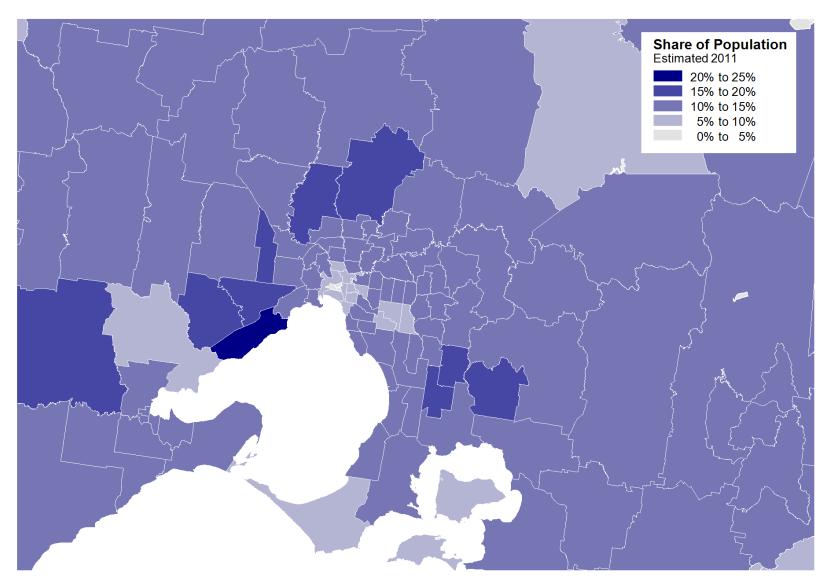






Share of population aged 0 to 9 years, 2011

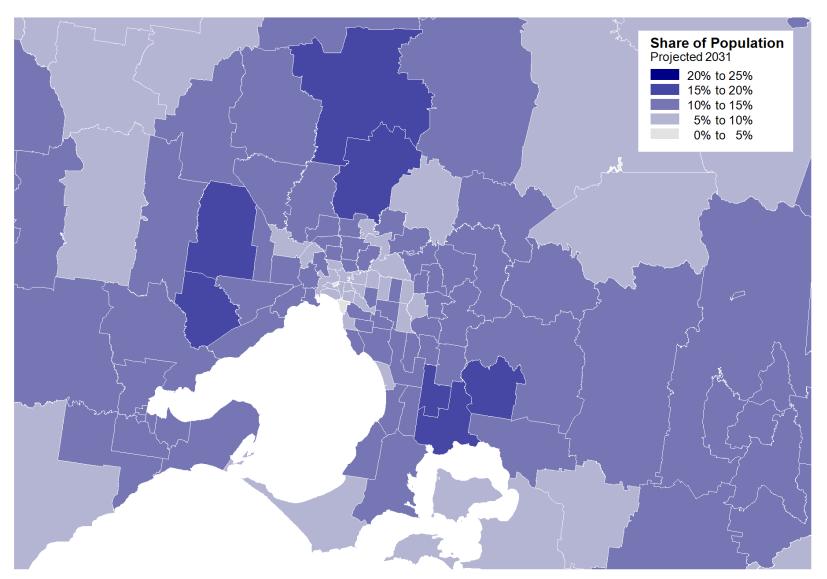






Share of population aged 0 to 9 years, 2031

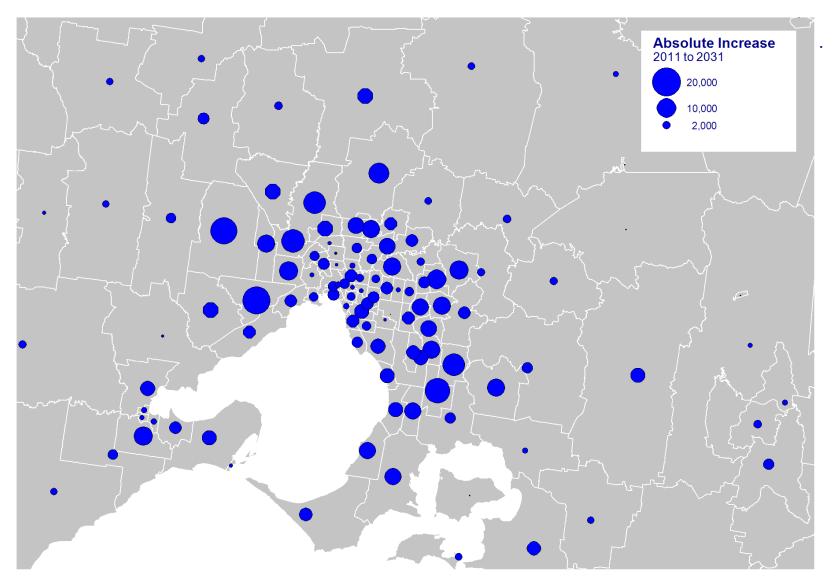






Increase in pop. aged 65 plus, 2011 to 2031

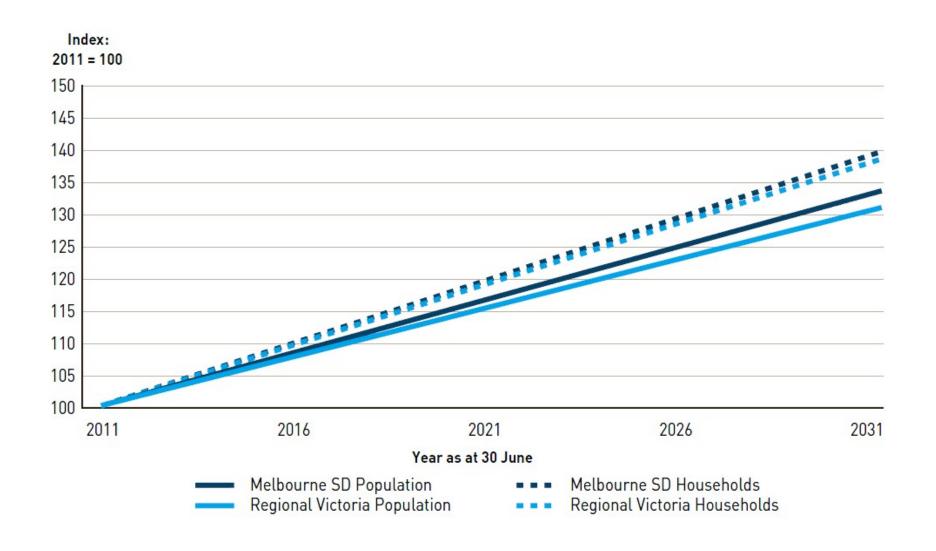






Households grow faster than poplulation

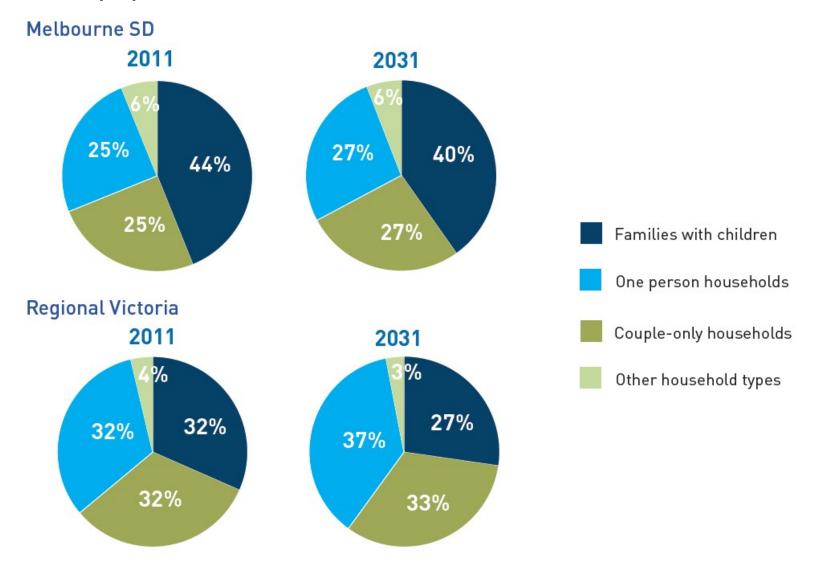






Household formation changes with the age of the population

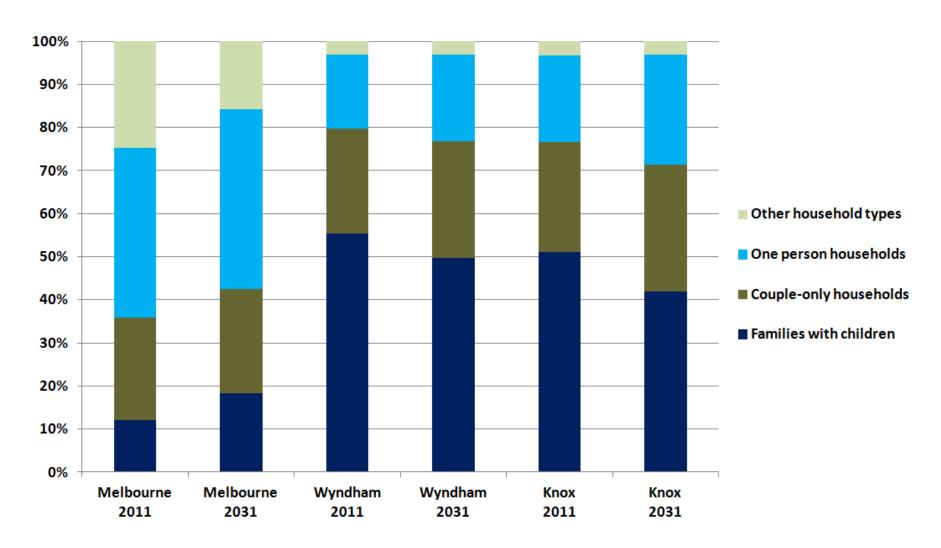






Household formation changes with the age of the population – the suburban lifecycle

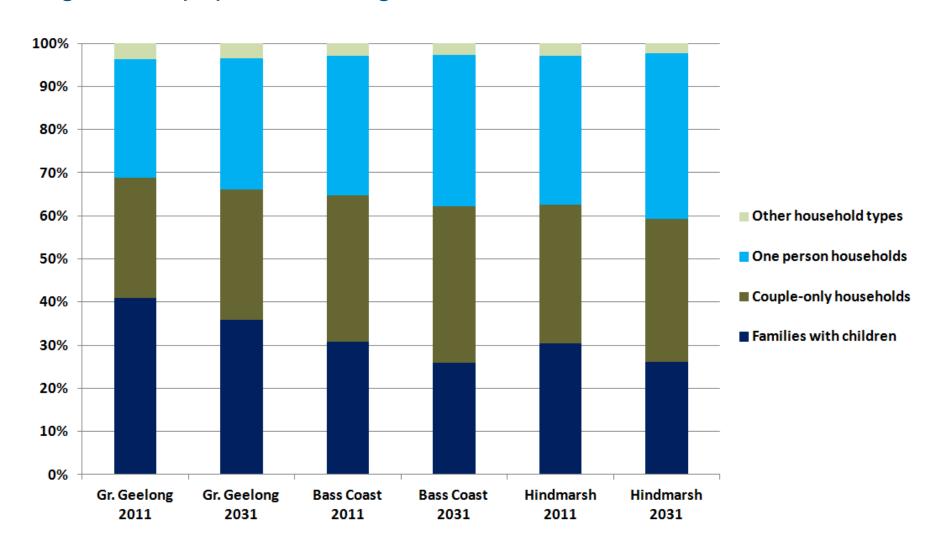






Household formation changes with the age of the population – regional differences







Finally - certainty versus uncertainty



Uncertain

Long term change

Will a 60 year old behave in 2030 as a 60 year old behaves in 2010?

Future levels of overseas migration

When Melb's pop reaches 5m / 6m

How population will change in Individual LGAs

Most pop growth will be in cities – Melb's pop will reach 5 m / 6m

The number of 60 year olds in 2030

Certain

Short term change

Population will grow Population will age



www.dpcd.vic.gov.au/victoriainfuture







Victoria in Future 2012

David Sykes Senior Demographic Researcher

1st June 2012



