




When population forecasts and planning meet

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Small area population forecasting

- Why do we need them?
- How are they used?
- What do users need to know?

A high-angle, top-down photograph of a crowded public space, likely a train station or transit hub. The floor is made of light-colored square tiles. Several people are visible, some in motion, creating blurred figures. A large, thick black diagonal line with two white oval cutouts runs from the top right towards the bottom left, bisecting the image. On the right side of this line, the text 'Why do we need small area population forecasting?' is written in a white serif font. An orange double-line graphic element is visible at the bottom left, near the end of the black diagonal line.

Why do we need
small area
population
forecasting?

Population fundamentals apply at all geographies

Births



Deaths



Migration



Projections always topical

Council won't cop pop. drop

Bright outlook for region's population

Shortfall
in housing
predicted

Population
prediction
rejected by mayor

HARDEN mayor Chris better plan for population change

Population projections don't add up

TUMUT Council will ask for a population projection that has occurred over the last 20 years, and the Australian Bureau of Statistics predicts a population of 660,000 extra Sydney homes needed in next two decades

Urban planning wake-up call

Council disputes population forecast

Planning report to be discussed

Griffith Council welcomes revised population figures for city

Posted Mon 2 Jun 2014, 7:20am AEST

Varying views on population figures

the building.com.au

PENRITH REGION

West housing
is 'unviable'

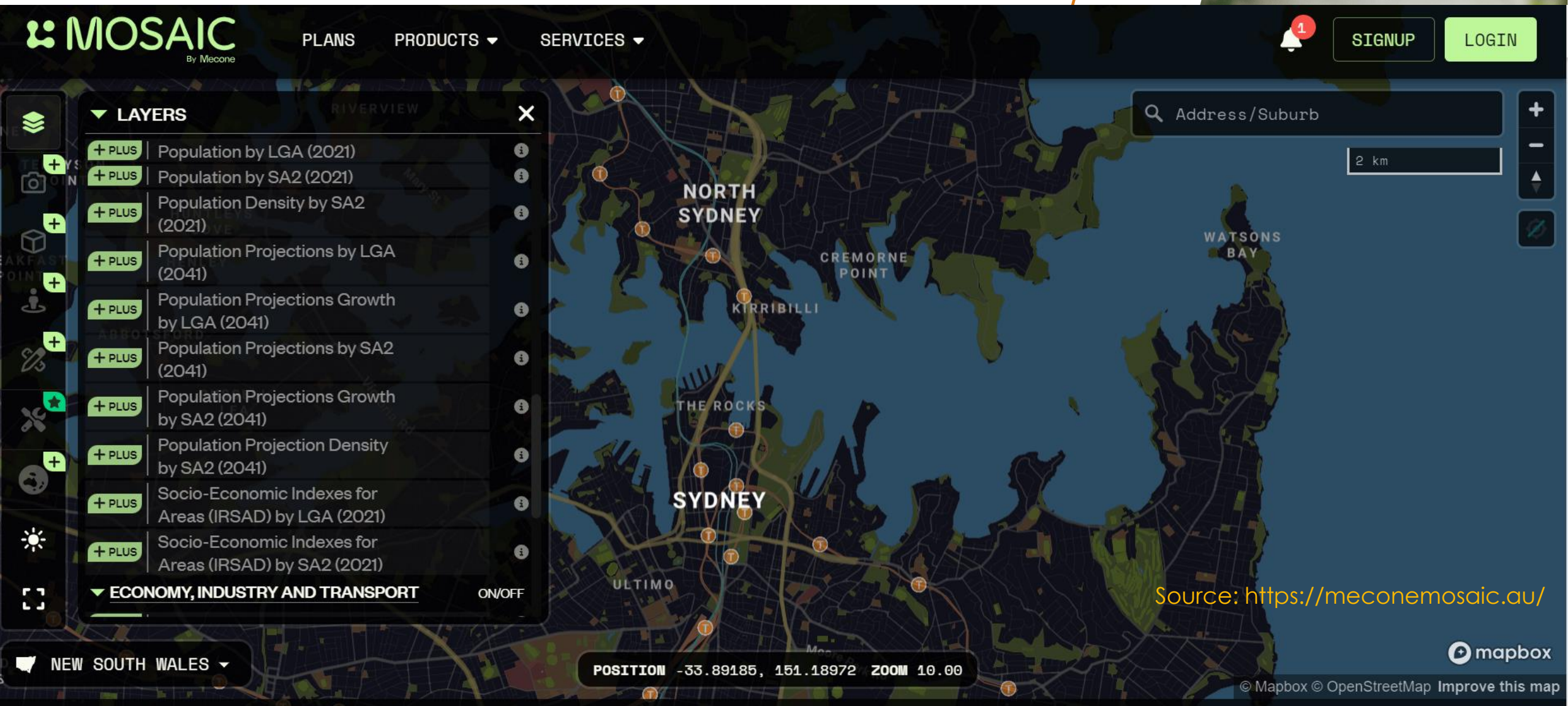


Why do we need small area population forecasting?

- Place-based planning (particularly land-use planning).
- Meeting user expectations as data increasingly available at small area levels.
- Used as the evidence base for policy decisions.



Population forecasts are part of a data-rich landscape





How are small area
population forecasts
used?

All place-based infrastructure planning

- Housing (top of everyone's mind)
 - Schools – potential students and actual enrolments
 - Hospitals and health care
 - Water and electricity
 - Cemeteries
-
- Cabinet sub



Transport planning



REGISTER

BROWSE DATA DEVELOPERS ▾ INNOVATION ▾ FORUM GTFS STU

HTTPS://OPENDATA.TRANSPORT.NSW.GOV.AU/DATASET/
EMPLOYMENT-PROJECTIONS

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Employment Projections

Followers

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Dataset

Topics

Activity Stream

Employment Projections

Transport for NSW provides projections of employment at the small area (Travel Zone or TZ) level for
Interurban and Travel Zone Projections 2022 (TZP2022) released November 2022

	A	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	EM
1	TZ16_CODE	EMP_2016	EMP_2017	EMP_2018	EMP_2019	EMP_2020	EMP_2021	EMP_2022	EMP_2023	EMP_2024	EMP_2025	EMP_2026	EMP_2031	EMP_2036	EMP_2041	EMP_2046	EMP_2051	EMP_2056	EMP
2	1	314	318	330	341	339	323	319	309	305	305	295	283	290	300	321	337	355	
3	2	360	365	379	392	389	1,570	1,997	2,464	2,901	3,340	4,177	5,022	5,117	5,239	5,421	5,585	5,730	
4	3	149	151	157	162	161	724	708	728	726	728	721	709	734	770	812	846	876	
5	4	3,356	3,425	3,571	3,741	3,815	10,644	10,585	10,670	10,725	10,825	10,818	10,915	11,204	11,470	11,852	12,206	12,532	
6	5	8,123	8,291	8,645	9,056	9,236	8,699	8,704	8,677	8,728	8,830	8,801	8,854	9,121	9,371	9,744	10,082	10,412	
7	6	81	83	86	89	89	85	84	80	79	79	75	71	73	76	82	87	92	
8	7	1,529	1,568	1,642	1,721	1,738	1,668	1,666	1,680	1,693	1,703	1,709	1,714	1,739	1,757	1,794	1,829	1,858	
9	8	702	724	760	799	810	776	767	774	780	786	789	793	808	818	837	854	868	
10	9	1,577	1,561	1,615	1,676	1,628	1,608	1,579	1,612	1,611	1,612	1,594	1,585	1,603	1,635	1,683	1,730	1,769	
11	10	209	211	219	229	228	221	215	215	214	215	211	207	211	216	225	232	240	
12	11	573	576	598	622	618	594	581	590	589	589	584	580	589	599	618	634	648	
13	12	118	116	120	125	122	120	117	120	119	118	117	116	117	120	124	127	130	
14	13	662	665	689	718	718	694	682	692	690	690	686	683	696	710	729	747	761	
15	14	898	890	921	953	915	889	797	820	815	815	796	791	815	845	881	911	937	
16	15	401	395	408	420	392	383	319	331	329	327	317	314	327	344	362	376	388	
17	16	445	443	458	476	466	457	434	441	441	439	435	434	441	453	468	482	494	
18	17	1,693	1,605	1,664	1,735	1,591	1,700	1,643	1,713	1,679	1,663	1,589	1,537	1,537	1,577	1,646	1,711	1,766	
19	18	290	290	301	312	300	291	259	264	264	264	258	257	267	278	291	302	312	
20	19	290	289	300	313	311	306	303	306	306	307	305	303	309	314	323	333	341	

A cautionary tale from Parkes

Regional labour market

Impact on Parkes LGA

The following comparison is not a population projection.



“These population to job comparisons do not consider the degree of labour market absorption that could occur before an increase in population is required and are not to be considered as population projections. Rather, they illustrate the scale of growth that the SAP may drive in the region over the long term and flag some potential challenges for Parkes Shire Council”.

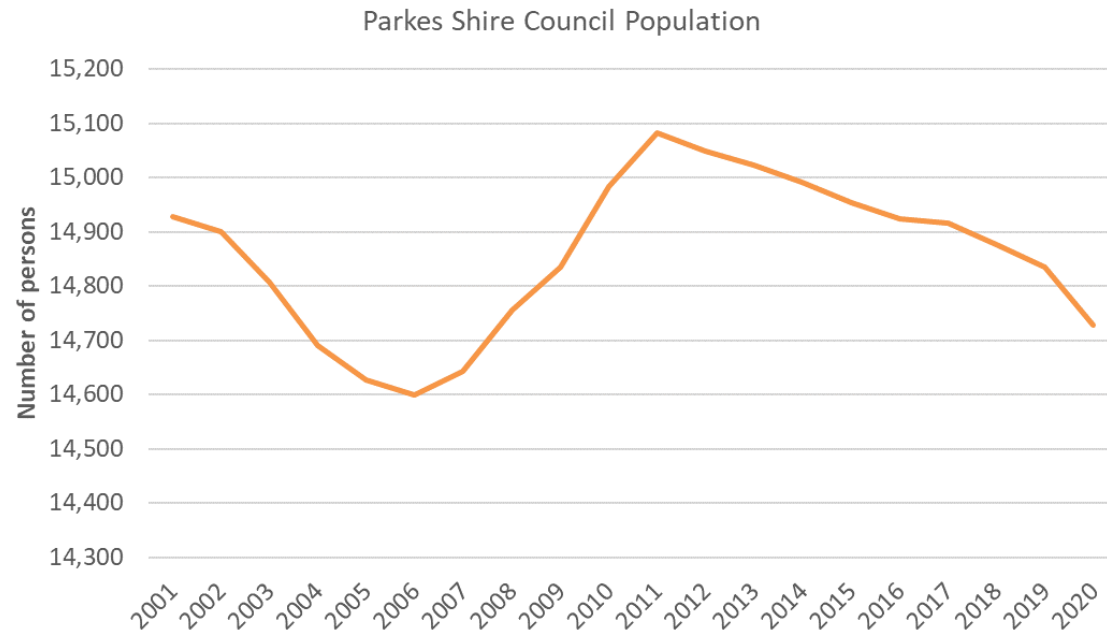
The “not” population projections showed

From a population in 2016 of 15,250, by 2041:

Low jobs growth would see the population grow to between 18,480 and 21,130

Highest job growth would see the population grow to between 23,730 and 30,720

NSW Government projections released in 2019 showed the population growing to 15,900 by 2041, and ABS ERPs showed decline from 2011 onwards.



The Council Response

LOW DEVELOPMENT / GROWTH SCENARIO - POPULATION PROJECTION

Current Population	Growth Rate 2020-41	Project Population 2041	Population Change (actual numbers)
14,894	0.25%	14,961	67 additional residents

MODERATE DEVELOPMENT / GROWTH SCENARIO - POPULATION PROJECTION

Current Population	Growth Rate 2020-41	Project Population 2041	Population Change (actual numbers)
14,894	8%	16,141	1,247 additional residents

HIGH DEVELOPMENT / GROWTH SCENARIO - POPULATION PROJECTION

Current Population	Growth Rate 2020-41	Project Population 2041	Population Change (actual numbers)
14,894	19%	17,764	2,870 additional residents



MODERATE DEVELOPMENT / GROWTH SCENARIO - REQUIRED RESIDENTIAL LAND (HA)

New Households	757
Based on household 10 lots per Ha	76 Ha
10% Rolling Reserve	7.6 Ha
Total Residential Zoned Land Required	83.6 Ha
Undeveloped Land Already Zoned Residential	55 Ha
Required Zone (Total)	28.6 Ha

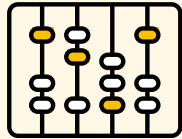
Key concern was impact on water and sewage.



What do users need
to know?

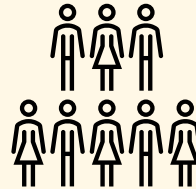
What I wish users would do

Monitor assumptions



As data become available, check if what was assumed is on track

Consider current populations



Current population age profiles and drivers of change tell us a lot about what to plan for

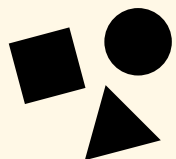
Think of big as beautiful



If small area data is not available, or forecasts unreliable, a bigger region is still useful

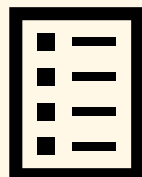
What demographers need to do

Keep talking
about the basics



Population age profiles
and the drivers of
population change –
births, deaths, migration

Explain in plain
language



Explain methods and
assumptions so people
can ask questions and
understand the impact of
planning decisions

Try to resist
saying yes



Users always want smaller
geographies and
maximum disaggregation
– try to say no

Evaluate and
publish results



Evaluations show us which
assumptions we need to
pay attention to and
indicate potential error
rates

Thank you

