



Demographics and mapping for schools

... using data for better business decisions

WHAT SPECIFIC AREAS SHOULD WE BE ADDRESSING USING DEMOGRAPHICS AND MAPPING?

Admissions / Enrolment

Admissions / Enrolment should have a very similar meaning to Gross Revenue on a P & L to a Business Manager. It is the numbers of enrolments that generate the revenue that reflects a profit or a loss for the year.

Most schools have roles responsible for gaining new students and filling the enrolment funnel. Whether that title is Director or Manager of Marketing, Admissions, Advancement, Enrolments, Business Development or Registrar, the responsibility for attracting new students lies partly or wholly within these portfolios.

We believe decisions relating to this area should be addressed within five simple questions:

- 1 Where do our current students come from?
- 2 Where are our future enrolments going to come from?
- 3 What areas show student growth around our school?
- 4 Which of these areas have suitable Socio Economics to enable parents to send their children to our school, and have similar religious beliefs?
- 5 What are the feeder schools we rely on, and will we secure a good number of students from these schools?

In P & L terms, this is about selling the product to generate our Gross Revenues.

Major investment decisions

Schools are often in an expansion mode, and may wish to consider a new campus or a major investment in the current campus for a variety of reasons:

- The current campus does not meet our long term plans, and additional / new buildings are required.
- An additional campus is required for expansion into a new area
- It may be very financially attractive to close an old campus and open a newer, larger version.

Whatever the opportunities in front of you, by choice or by necessity, demographics should play a major part in making these investment decisions.

Some of the factors we believe you need to consider include:

- Current student numbers available in the area.
- Future student forecast numbers.
- Socio economics of the area and how that matches with the school's fee expectations.
- Current and future competition in the area.
- Suitable land availability for expansion.

Many of these areas can be addressed based on statistics and demographics.

INFORMATION AVAILABLE TO ASSIST IN YOUR DECISION MAKING

Australia is very fortunate to have a Census every 5 years, and the next one is on the 10th August 2021.

Technical Update

DEMOGRAPHICS AND MAPPING SHOULD PLAY AN IMPORTANT ROLE IN THE BUSINESS DECISIONS MADE AT MANY LEVELS WITHIN A SCHOOL. MARKETING, ENROLMENT, ADVANCEMENT AND INVESTMENT STRATEGIES SHOULD ALL BE INFLUENCED BY MEANINGFUL FACTS AND DATA SURROUNDING THE SCHOOL.

BOARDS, PRINCIPALS, BUSINESS MANAGERS AND OTHER ADMINISTRATION STAFF WILL ALL MAKE BETTER DECISIONS IF THEY ARE EQUIPPED WITH THE FACTS AROUND THEM.

THE INFORMATION CAN BE DISPLAYED IN MANY WAYS – REPORTS, TABLES AND MAPPING. THIS ARTICLE IS A GUIDE TO HELP YOU MAKE "BETTER BUSINESS DECISIONS" FOR YOUR SCHOOL.

The Census costs around \$500 million, and the Australian Bureau of Statistics are responsible for the Census. They plan well ahead to ensure they ask the questions required to best understand the current population's situation, and to be able to assist in forecasting for the future. These forecasts then lead into actions undertaken by Governments in spending on such items as new schools, hospitals, infrastructure and many other areas.

The Census data is released over a 2 – 3 year period, and normally the very top level information comes out a few months after the census night such as Total population by State, but the level required for a detailed analysis for schools (which is at SA1 level) is expected to be released around June 2022.

Census data most relevant to schools

The first thing the census will give us is a snapshot of population by age and gender. This will assist schools with a starting point as to what number of school age children in any specific area. The census also gives us information on:

- Personal and Household income
- Ethnicity
- Religious Affiliations
- Household Type
- Language spoken at home
- Birthplace
- Professions
- Many other areas



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Think of the census as the once in 5 years “stake in the ground”, and it can be used for comparisons against other census data.

The census also asks specific questions to families as to whether your children are at:

- Pre school
 - Primary School
 - Secondary School
- and if they attend
- Government School
 - Catholic School
 - Independent School

This allows us to look at any area and see what type of schools are attended and even look at what has changed over the period 2006, 2011, 2016 and 2021.



A specific example is below, looking at the area of Burwood – Croydon in Sydney, as per Census 2016.

- SA2 Area : Burwood - Croydon
- Population : 24,661
- SEIFA : 1,044
- Pre-school Males : 119
- Pre-school Females : 121
- Infants-Primary Government Males : 416
- Infants-Primary Government Females : 457
- Infants-Primary Catholic Males : 93
- Infants-Primary Catholic Females : 102
- Infants-Primary Other Independent Schools Males : 37
- Infants-Primary Other Independent Schools Females : 60
- Infants-Primary Total Males : 546
- Infants-Primary Total Females : 619
- Secondary Government Males : 280
- Secondary Government Females : 438
- Secondary Catholic Males : 105
- Secondary Catholic Females : 110
- Secondary Other Independent Schools Males : 110
- Secondary Other Independent Schools Females : 152
- Secondary Total Males : 495
- Secondary Total Females : 700

Infants-Primary:		Secondary:	
% Government:	75 %	% Government:	60 %
% Catholic:	17 %	% Catholic:	18 %
% Independent:	8 %	% Independent:	22 %

POPULATION FORECASTING

In October 2019, the ABS released their new population growth forecasts from 2017 (after the 2016 Census) to 2032. This allows you to look at any area, and see what is the forecast number of people in the following age groups: 0 – 4, 5 – 9, 10 – 14, 15 – 19, 20 – 24 etc by years.

We can look at Total Population forecasts, or we can use the data of 5 – 19 year olds as typical of the school age group, and we can see how this is forecast to grow (or contract) over the period:

In this example we shall look at Tarneit in the western suburbs of Melbourne, which is part of the biggest growth corridor currently anywhere in Australia.

Total Population forecast:

SA2 AREA: TARNEIT

- Total Population Projected (2017) : 39,751
- Total Population Projected (2022) : 52,309
- Total Population Projected (2027) : 64,632
- Total Population Projected (2032) : 76,661
- **Total Population Change 2017-2032 proj. (pct) : 93 %**
- **Total Population Change 2017-2032 proj. : 36,910 persons**

And if we wish to just look at forecast student numbers:

SA2 AREA : TARNEIT

- Age 5-19 Projected (2017) : 9,306
- Age 5-19 Projected (2022) : 13,192
- Age 5-19 Projected (2027) : 16,734
- Age 5-19 Projected (2032) : 19,904
- **Age 5-19 Change 2017-2032 proj. (pct): 114 %**
- **Age 5-19 Change 2017-2032 proj. : 10,598 persons**

The last 2 lines show how many more students are expected to be added 2017 – 2032, and what % increase this represents.

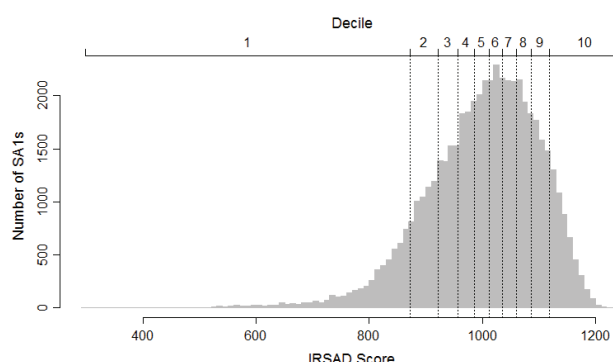
SEIFA

(SOCIO ECONOMIC INDEX FOR AREAS)

A SEIFA score is created using information about people and households in a particular area. This score is standardised against a mean of 1000 with a standard deviation of 100. This means that the average SEIFA score will be 1000 and the middle two-thirds of SEIFA scores will fall between 900 and 1100 (approximately).

Areas with a SEIFA score below 1,000 would have higher levels of disadvantage. Areas with a score above 1,000 would have a higher level of advantage, and would be attributed to higher income, education, employment, etc.

In assessing where potential students may come from, the SEIFA score is a good indication of the families' ability to pay Independent school fees, and the higher the fees, the more important the SEIFA score of the area is.



MAPPING FOR SCHOOLS

Once we understand what demographics may be available to assist in the long term decisions for a school, we need to be able to visualise these in a practical way for all levels of the school's executive. Our expertise rests in the setup of a Web Mapping System (WMS) to allow you easy access to this data.

The aim is to place you in the "driver's seat", to dynamically view schools, population changes, sources of future enrolments, indicative patronage of non-government schools plus many other demographic attributes depending on your needs and level of access.

Additional information available

ACARA (Australian Curriculum, Assessment and Reporting Authority) data

Australia has around 9,000 schools and they provide information to the government on an annual basis. The schools are broken down by 3 major categories:

- Government Schools
- Catholic Schools
- Independent Schools

Each year, every school provides information to ACARA and we have summarised this as what we see as the most important information if you are looking at a school, be it your own school or a competitor.

Below is an example of what we feel is most relevant:

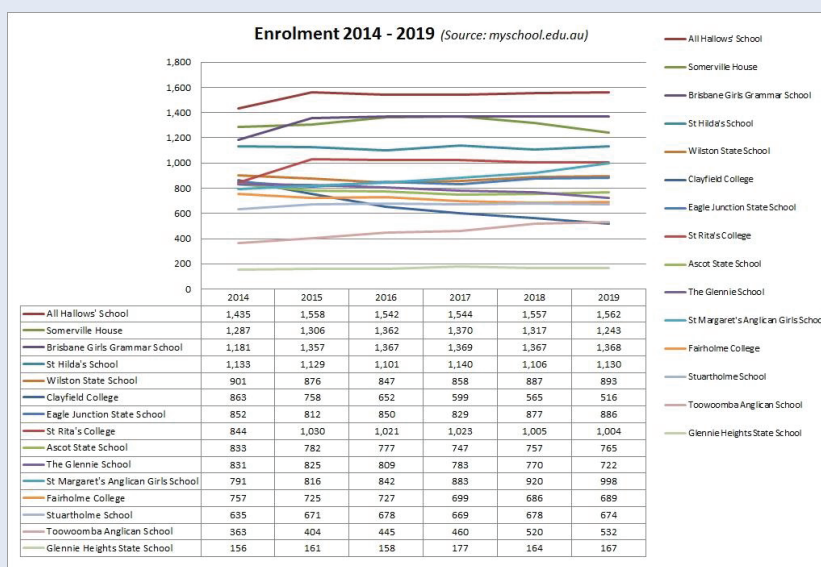
School Name : Camberwell Grammar School

Suburb : CANTERBURY

- Teaching Staff : 169
- Full Time Equivalent Teaching Staff : 135
- Non-Teaching Staff : 107
- Full Time Equivalent Non-Teaching Staff : 84
- Boys Enrolments : 1,304
- Indigenous Enrolments (%) : 1 %
- Language Background Other Than English (%) : 49 %

MY SCHOOL WEBSITE :

From this website, we can get enrolment numbers for each school from 2014 onwards. This is a great way to see how your numbers compare to your main competitors.



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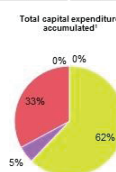
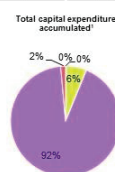
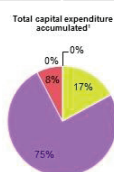
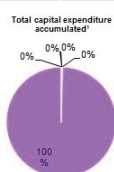
MYSCHOOL WEBSITE :

There is also finance and funding information for each school.



SCHOOL FINANCE 2018								
Brisbane Girls Grammar School			Somerville House		Clayfield College		Stuartholme School	
Full-time equivalent enrolments relating to recurrent income and capital expenditure:			1,367.0		1,316.5		564.8	
			678.0					
Net recurrent income			\$ Total \$ per student		\$ Total \$ per student		\$ Total \$ per student	
Australian government recurrent funding			5,352,643 3,916		5,548,371 4,214		2,566,487 4,544	
State / territory government recurring funding			3,069,417 2,245		2,660,423 2,021		1,277,214 2,261	
Fees, charges and parent contributions			33,634,085 24,604		27,326,601 20,757		11,028,444 19,526	
Other private sources			2,919,177 2,135		3,170,929 2,409		1,010,361 1,789	
Total gross income			44,975,302 32,901		38,706,324 29,401		15,882,506 28,121	
Less deductions			5,367,187 3,926		6,629,252 5,036		2,528,880 4,493	
Total net recurrent income			39,608,115 28,974		32,077,072 24,365		13,353,626 23,628	
Capital expenditure			\$ Total \$ Accumulated ¹		\$ Total \$ Accumulated ¹		\$ Total \$ Accumulated ¹	
Australian government capital expenditure			2,167 6,978		2,087 6,890		895 3,108	
State / territory government capital expenditure			4,490 14,165		4,324 13,985		1,855 6,283	
New school loans			0 0		0 3,389,541		0 227,932	
Income allocated to current capital projects			2,757,088 5,893,992		2,120,248 15,058,242		782,412 3,548,793	
Other			0 0		1 1,523,049		652,282 1,799,937	
Total capital expenditure			2,763,745 5,915,136		2,126,660 19,991,707		823,908 3,841,363	

¹ Accumulated capital expenditure is the sum of three consecutive years.



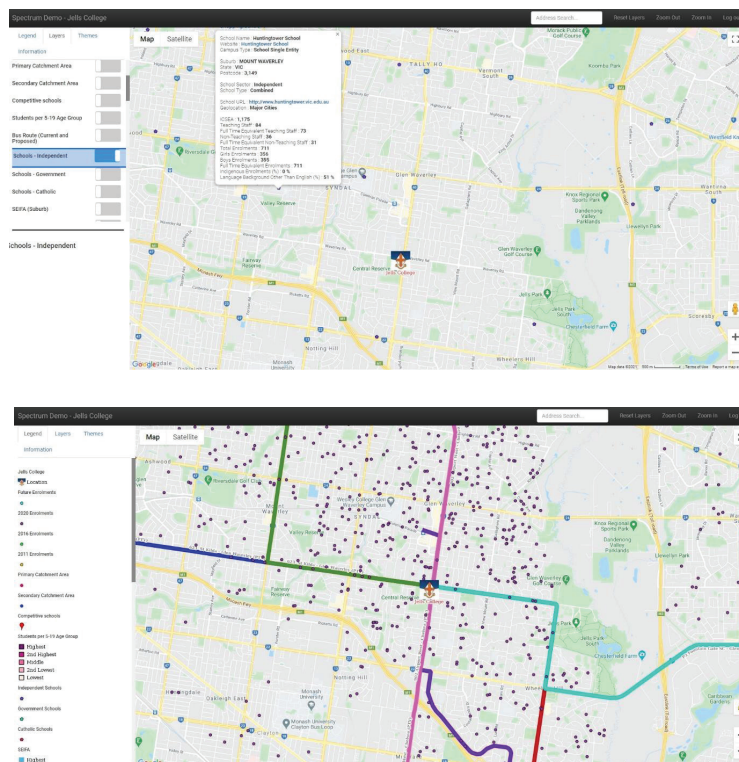
WEB MAPPING FOR INDIVIDUAL SCHOOLS

As well as all the information discussed above, you can confidentially map your current students (and past year's students if requested), alumni, and future enrolments (by year if required).

Once a student is mapped, you can attach specific data such as name, address, age, year they started at the school, current year, and what school they came from, provided we provided this from the school's admissions system.

School's data security is paramount, and some schools choose to just display a student ID number only, but our view is that the systems we use are fully secure. Our data storage is with the 3rd largest data warehouse in the world, DigitalOcean.

You can also map all of your school bus routes and public transport, and you can easily see how well this is covering the existing students, and how well it covers future students and growth areas.



CONCLUSION

Using data to make better business decisions is the way of the world. Never before have we heard so many politicians stating that their decisions (COVID-19 especially) are "based on the data". I think this is the mindset for the 2020's, and we hope you come on board.

Peter Buckingham CMC | Spectrum Analysis

Peter Buckingham is the Managing Director of Spectrum Analysis, a Melbourne based consultancy in demographics, mapping and analysis. Spectrum works with many schools both large and small, and has all the GIS tools to undertake this work. Peter is both a CMC (Certified Management Consultant) and a Fellow of the Institute of Management Consultants (FIMC). Peter can be contacted by email at peterb@spectrumanalysis.com.au or call on 03 98300077.