



Education

2015 Teaching Workforce Supply and Demand

School teachers in NSW public schools

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The teaching workforce in NSW public schools 2015

To support the staffing of schools and ensure an adequate supply of teachers, the Department undertakes a comprehensive workforce analysis to develop teacher supply and demand projections for permanent teachers for schools over a seven-year period.

These projections are used to advise the Minister and Secretary, New South Wales Department of Education; universities; and State and Federal Government bodies of changing needs for permanent teacher demand and supply in government schools. By identifying current and potential areas of shortfall, strategies can be developed to meet the needs of the changing education system.

Teacher supply and demand analysis methodology

In common with a number of workforce models, the Department uses a mathematical flow model to make projections of teacher supply and demand. The combination of all supply and demand factors results in an indication of trends rather than exact numerical values of surplus or shortage. The projected trends are compared with actual data and the methodology is revised where necessary.

Data types and sources

Data used in the analysis is obtained from a number of sources. These include:

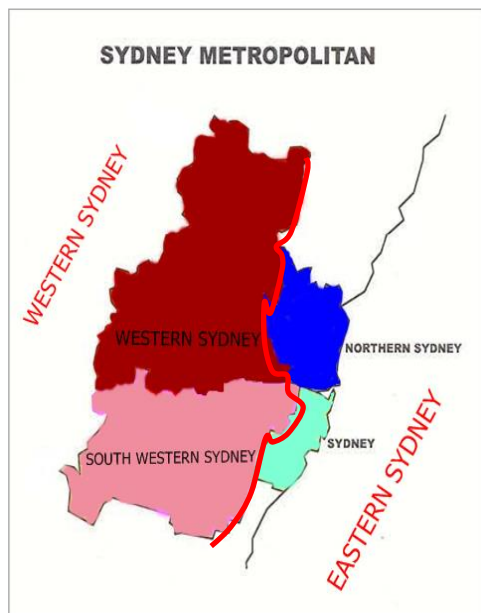
- the Department's computerised human resources information systems
- the Australian Bureau of Statistics
- university student commencements and completions in teacher education.

Supply and demand factors for permanent teachers

The difference between projected supply and projected demand gives the net surplus or shortage of teachers and provides an indicator of permanent teacher need. These surpluses/shortages are calculated by primary and secondary, geographical location and, in secondary, by curriculum area.

All supply and demand data are analysed by five geographical locations: Eastern Sydney, Western Sydney, Inland NSW, Isolated NSW and Coastal NSW (Figure 1). These areas consist of schools which are broadly similar in terms of workforce demographics such as teachers' employment location preferences and mobility between schools.

Figure 1: Geographical locations



Profile of the teaching workforce

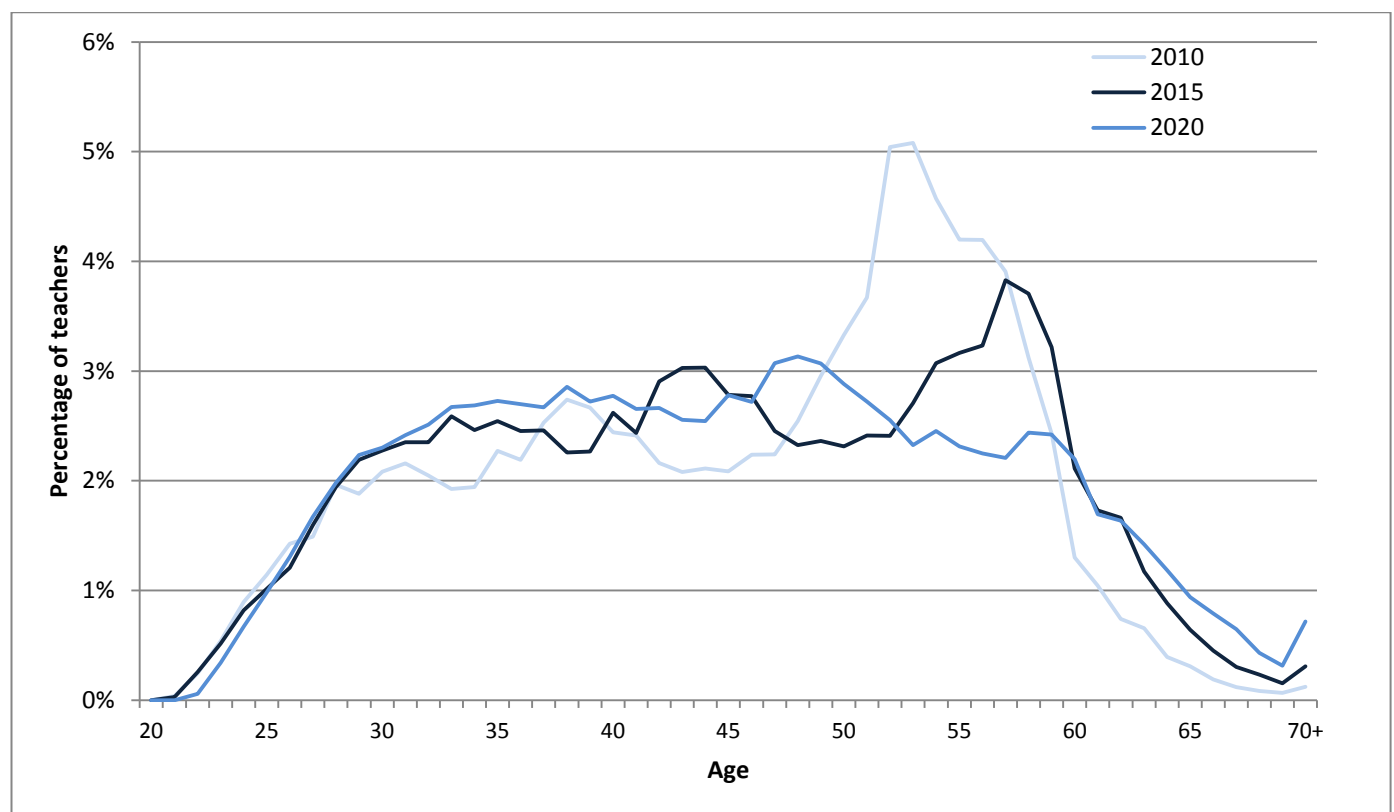
As at March 2015, the Department employed approximately 49,000 permanent school teachers across the State, with about equal numbers of primary and secondary school teachers.

Age profile of teachers

The age profiles of the permanent teaching workforce in 2010 and 2015 and the projected profile for 2020 are shown in Figure 2 and Table 1 below.

The figures reveal the effect of the baby-boomers, currently in the 45 and over age-group. The projections for 2020 indicate the continuance of recent trends as the baby-boomers leave and the effect of increased new appointments becomes evident. The 2020 projections show a clear increase in the proportion of teachers aged under 44 years and a corresponding decrease in the 45 and over group.

Figure 2: Teacher age trends, 2010 (actual), 2015 (actual) and 2020 (projected)



Source: HR System (March 2010, March 2015) and People and Services Directorate (2020 projected)

Table 1: School teacher age distribution, 2010, 2015 and 2020

Age-group	2010 (actual)	2015 (actual)	2020 (projected)
Under 30	9.6%	9.6%	9.2%
30–44	33.8%	38.0%	39.5%
45 and over	56.6%	52.4%	51.3%
Total	100.0%	100.0%	100.0%

Source: HR System (March 2010, March 2015) and People and Services Directorate (2020 projected)

Length of service of current teachers

Table 2 refers to permanent teachers' total length of service since their most recent employment with the Department. The statistics on length of service of permanent teachers show a stable workforce, which is also evident from the low resignation rates in this workforce group (i.e. 0.8 per cent in 2012, 0.9 per cent in 2013 and 1 per cent in 2014).

Table 2: Average length of service (years) as at March 2015

	Primary	Secondary	Total
Female	14.3	14.3	14.3
Male	15.9	16.0	16.0
Total	14.5	14.9	14.7

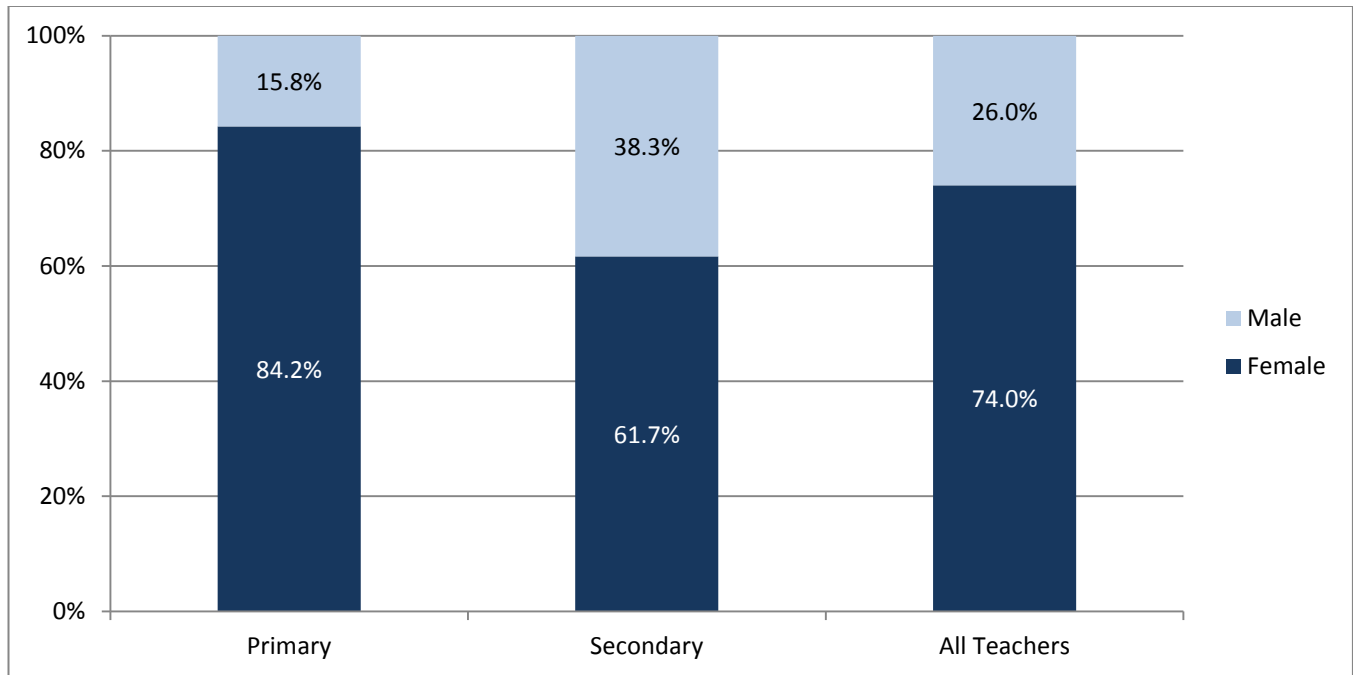
Source: HR System and Leave Management System

The average length of service between female primary and secondary teachers is equal; whereas male secondary teachers have a longer average length of service than male primary teachers. In both primary and secondary, male teachers have a greater average length of service than female teachers. However, the much greater proportion of female teachers in primary schools (see Figure 3) results in the primary and secondary average lengths of service being about the same.

Gender profile

The gender composition of the current permanent teaching workforce is shown in Figure 3. Data from the Australian Bureau of Statistics indicates that since 2001 the proportion of male teaching staff in Australia has been around 30%¹. The declining proportion of male teachers, particularly in primary schools, is not particular to NSW government schools and is evidenced in school systems across Australia and overseas.

Figure 3: Permanent teacher gender by school level, 2015



Source: HR System, March 2015

More information on the gender profile of permanent and temporary full-time teachers is available from [Fact sheet: Male school teachers](#).

The Department is strongly committed to the provision of high quality teachers in all schools, regardless of teacher or student gender. A growing body of international and national research (such as OECD; Grattan (Jensen); Hattie; Rowe) shows that the quality of teaching and the relationships that teachers build with their students are by far the most significant predictors of student performance.

A range of strategies continue to be implemented to attract quality teachers, both male and female, to NSW public schools.

These include actively promoting teaching as a career through the teach.NSW campaigns. teach.NSW is represented at a wide range of careers events, including careers expos, presentations in universities and high schools and community events where there is an opportunity to promote teaching as a rewarding career. These events feature successful male and female teacher role models, such as recent graduates, scholarship holders and successful experienced teachers, with whom a broad range of students might identify.

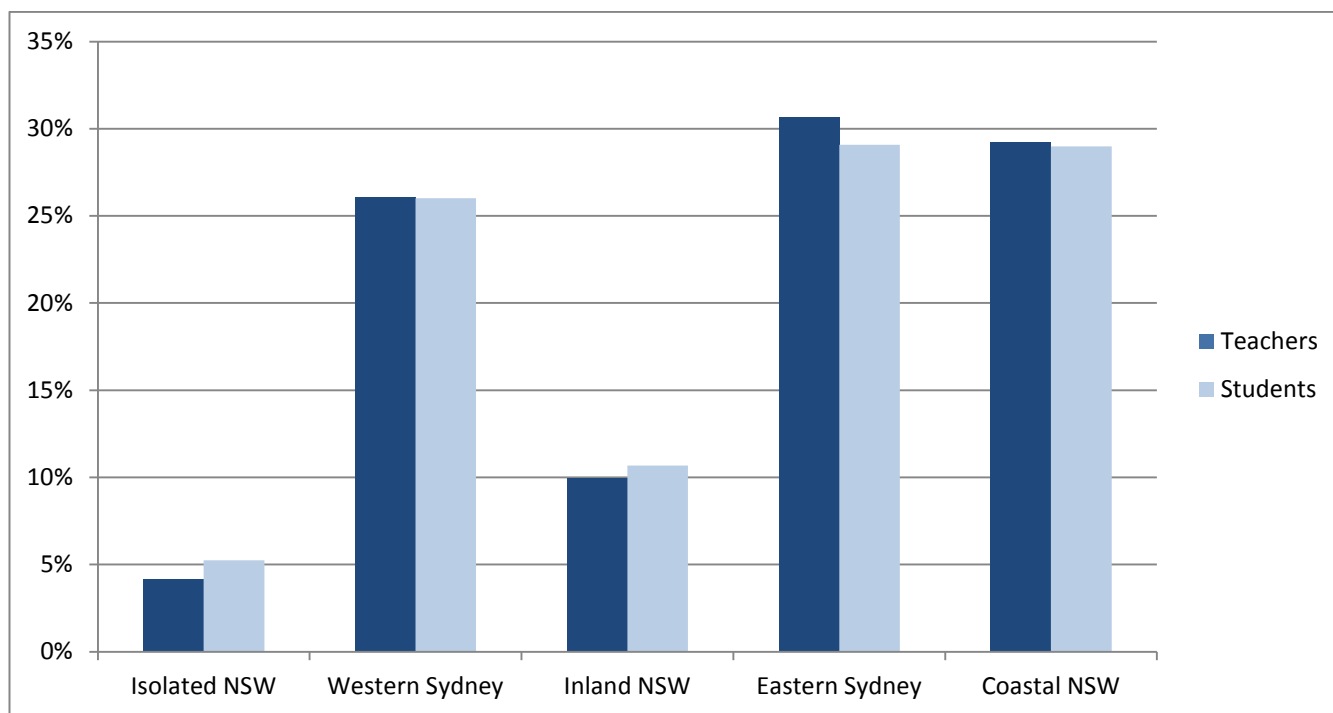
In addition, teach.NSW uses a wide range of media to promote initiatives such as graduate recruitment, the Explore Your Future and Teacher Education Scholarship Programs. Promotion and recruitment campaigns for these programs depict positive images of successful male and female teachers.

¹ Australian Bureau of Statistics, 2012, **Schools, Australia 2012**, viewed 1 May 2013, <<http://www.abs.gov.au/ausstats/abs@.nsf/mf/4221.0>>

Geographical profile

The distribution of the current permanent teacher workforce and student enrolments by geographical location is shown in Figure 4. Together, the Sydney metropolitan area and coastal NSW account for approximately 85 per cent of the workforce and of the student enrolments, reflecting the heavy concentration of the population along the NSW east coast.

Figure 4: Teacher workforce and student enrolments by location, 2015



Sources: HR System, March 2015 (teachers); Online Management of Entitlement and Enrolment system, February 2015 (students)

Supply

The major sources of supply of permanent teachers for the Department's schools are teacher education graduates and approved teachers on the employment list.

University initial teacher education commencements and completions

The Department conducts an annual survey of university commencements and completions. The estimated completions from 2005 to 2014 are shown in Table 3.

Table 3: University estimated completions, 2005–14

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Primary	2437	2434	2409	2457	2426	2997	2639	2863	3315	3679
English	280	363	352	366	365	410	406	445	454	484
Mathematics	224	217	228	210	208	182	185	227	283	272
Science	371	393	432	382	376	383	430	487	491	469
HSIE	562	602	668	692	708	698	741	889	934	938
LOTE	48	83	98	105	65	83	79	79	81	99
TAS	354	289	320	295	244	263	253	313	176	197
Creative Arts	423	475	485	470	459	458	421	506	627	622
PDHPE	360	382	373	303	333	356	245	457	428	380
Other	106	62	60	69	48	41	62	87	177	259
Secondary subtotal	2728	2866	3016	2892	2806	2874	2822	3490	3651	3720
Total	5165	5300	5425	5349	5232	5871	5461	6353	6966	7399

Source: University Special Survey

In 2012, the survey was expanded to include an additional six initial teacher education providers in NSW adding around 210 primary and 340 secondary teachers to the estimated completion figures.

After adjusting for this expanded survey, estimated primary completions in 2012 were about the same as the previous year but significantly higher in 2013 and 2014, rising to the highest level on record in 2014. Output from teacher education programs continues to be well in excess of the Department's needs for staffing its primary schools.

Following some decreases between 2007 and 2011, secondary completion estimates grew in 2012 to 2014, with increases in almost all key learning areas. The growth, however, has not aligned with the Department's needs. For example, between 2006 and 2012 Creative Arts had more than twice the number of graduates as Mathematics, an area of potential shortage in the majority of years. The NSW Government is continuing to pursue closer collaboration with the Federal government and universities to better manage teacher graduate supply and for more effective alignment with areas of teacher need.

The Department has, for a number of years, implemented a range of initiatives to attract and retain teachers in areas of need. These initiatives include promotion of teaching as a career through the teach.NSW campaign, scholarships and sponsorship programs in areas such as Mathematics, Physics, Engineering Studies, Special Education and School Counselling. The Department also meets regularly with the universities to advise them of its current and future needs.

Employment list

At March 2015 there were nearly 47,000 persons seeking permanent employment as a teacher. Graduates and applicants from other sources continue to replenish the list. The Department reviews the employment list periodically by contacting applicants and liaising with the Board of Studies, Teaching and Educational Standards and civil registries. It conducts an analysis of the applicants' employment location preferences and availability over the year to determine the proportion of applicants who are still seeking employment as a teacher.

In Table 4, applicants are recorded only once against the subject areas and locations in which they are most likely to be employed. For instance, an applicant who is approved to teach in both Mathematics and Music and who is willing to work in Sydney metropolitan schools is recorded as a preference to teach Mathematics in Western Sydney.

Table 4: Employment list, March 2015

	Isolated NSW	Western Sydney	Inland NSW	Eastern Sydney	Coastal NSW	Total
Primary	5,833	7,206	3,154	5,041	5,754	26,988
TAS	383	466	241	302	512	1,904
Science	335	735	197	427	492	2,186
Mathematics	103	509	69	329	209	1,219
LOTE	116	261	41	233	89	740
English	818	1,464	290	864	643	4,079
HSIE	685	1,035	287	639	577	3,223
Creative arts	642	915	215	655	666	3,093
PDHPE	909	1,030	250	641	439	3,269
Other*	29	76	22	72	70	269
Secondary Subtotal	4,020	6,491	1,612	4,162	3,697	19,982
Total	9,853	13,697	4,766	9,203	9,451	46,970

* 'Other' includes: special education teachers, specialist teachers, VET teachers and counsellors

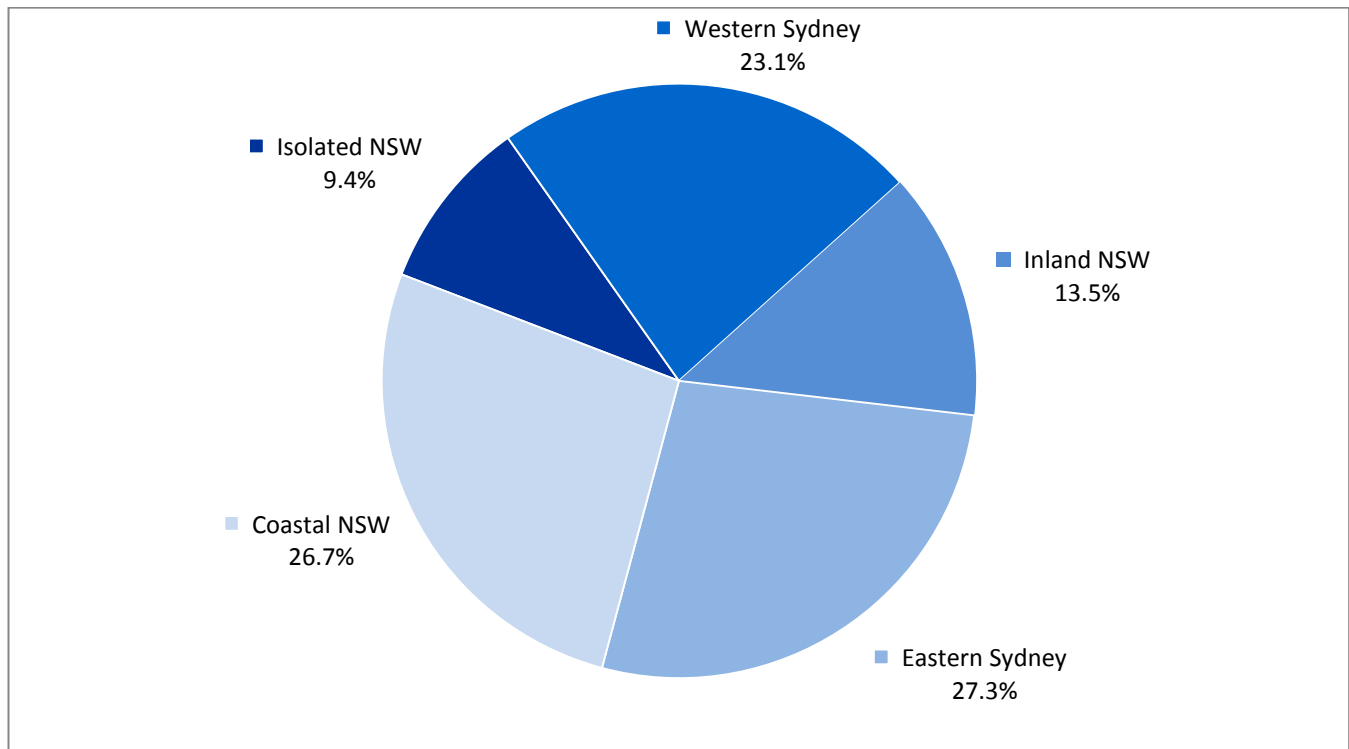
Source: HR System, March 2015

The above table shows considerable differences in the number of applicants across geographical locations and curriculum areas. The breakdown of the current teaching workforce in the above geographical locations is given in Table 5.

Appointments by location

Figure 5 shows the distribution of teacher appointments by geographical location in 2014 and Table 5 shows teacher appointments and the teacher workforce by location in 2004 and 2014.

Figure 5: Teacher appointments by geographical location, 2014



Totals may not add up to 100% due to rounding.

Source: HR System, 2014 calendar year

Table 5: Teacher appointments and workforce by location, 2004 and 2014

Geographical Location	Appointments 2004	Teaching Workforce 2004	Appointments 2014	Teaching Workforce 2014
Isolated NSW	12%	6%	9%	5%
Western Sydney	34%	26%	23%	26%
Inland NSW	11%	11%	13%	11%
Eastern Sydney	24%	26%	27%	29%
Coastal NSW	19%	31%	27%	29%
Total	100%	100%	100%	100%

Totals may differ from 100 owing to rounding.

Source: HR System, calendar years

Teachers are not necessarily appointed in proportion to the geographic distribution of the current teaching workforce, but this has been changing. The appointments and workforce distributions have become more closely aligned with each other in recent years. For example, Coastal NSW represented 31 per cent of the 2004 teaching workforce but received 19 per cent of teacher appointments in the same year, though by 2014, the gap had closed with teacher appointments to Coastal NSW rising to 27 per cent and the teacher workforce falling slightly to 29 per cent.

Demand

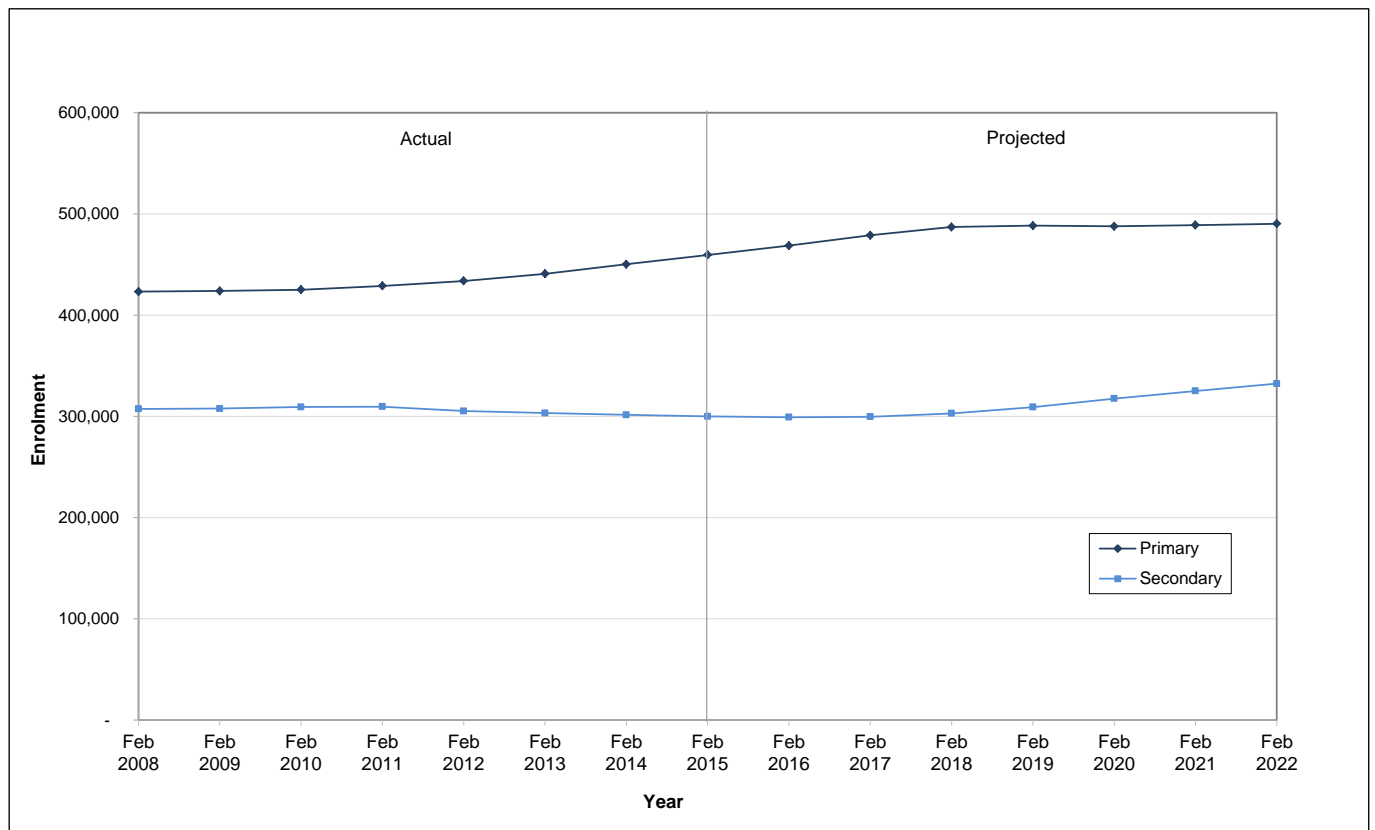
The main factors for determining demand for permanent teachers in the Department's schools are projected changes in student enrolments leading to changes in the demand for teachers, projected teacher separations, particularly retirements, Government policy and data on teacher mobility.

On average the Department appoints around 2,200 new permanent teachers each year. Appointments are projected to continue to increase, however the rate of growth in appointments is projected to slow from 2018 when it will reach around 2,900 appointments, through to 2020.

Student enrolment projections

Figure 6 shows the enrolment projections for primary and secondary made in March 2015. Primary enrolments began to rise in 2009 and the increase is projected to continue. Secondary enrolments, which have decreased since 2013 are projected to fall slightly until 2018, when they will start to rise as a result of the previous increase in primary enrolments.

Figure 6: Government school enrolments and projected enrolments, 2008–21



Source: School Entitlement System and Workforce Analysis and Planning

Separations

Separations consist of resignations, retirements, medical retirements, terminations and deaths. The vast majority of teacher separations are retirements.

Retirements

Table 6 shows the retirement rates of teachers in each geographical location.

Table 6: Retirement rates by geographical location, 2015*

Geographical Location	Primary	Secondary	All teachers
Isolated NSW	3.5%	2.2%	2.8%
Western Sydney	2.5%	2.8%	2.7%
Inland NSW	4.3%	3.9%	4.1%
Eastern Sydney	2.9%	3.8%	3.3%
Coastal NSW	4.9%	5.2%	5.1%
All locations	3.5%	3.9%	3.7%

* Includes medical retirements

Source: HR System

From 2014, the retirement rates were projected to vary between three and four percent until 2020 when the rate will decrease slowly as by then, many of the baby-boomers will have already retired (See Figure 2 and Table 1). In 2014, the retirement rate decreased slightly from 3.8% in 2013 down to 3.7%.

Resignations

Table 7 shows the resignation rates of teachers.

The resignation rates for teachers are at historic lows and are considered low by industry benchmarks. The Department continues to monitor trends in resignation rates and the economy. Recent resignation rates are at their lowest levels in decades, a period that included the 1990s recession.

The percentage of teachers resigning in their first few years of teaching is also low, with the average resignation rate of teachers in their first year of service being 2.7 per cent for the years 2008-14.

Table 7: Resignation rates, 2008-14

	2008	2009	2010	2011	2012	2013	2014
All teachers	1.3%	1.0%	1.1%	0.9%	0.8%	0.9%	1.0%
Teachers in their first year of teaching	3.7%	3.3%	3.4%	2.9%	2.1%	1.5%	1.9%

Source: HR System

Workforce projections 2015-22

The Department's projections of teacher supply and demand for the period to 2022 indicate that:

- there is a more than adequate supply of primary teachers across the State, except for a small number of positions in specific geographical locations;
- there is also an adequate supply of secondary teachers, except in the areas of Mathematics, Science with Physics, some subjects in Technological and Applied Studies, some specialist teachers and some specific subjects in particular geographical locations.

The Department is monitoring the Australian Curriculum developments for any potential impact on teacher workforce supply.

Primary

The supply of primary teachers is very healthy in all geographical locations as projected over the seven-year period to 2022. Even in the case of resignations or retirements doubling, the net supply is more than sufficient to meet the Department's needs. The Department's view is that some of the resources currently being allocated to primary teacher education could be better used in secondary areas of need.

Secondary

There is a more than adequate supply of secondary teachers in the curriculum areas of Creative Arts and Personal Development, Health and Physical Education.

Currently, the supply of English and Human Society and its Environment teachers is adequate. For a number of years, however, English was identified as a potential area of need particularly in Isolated NSW and Inland NSW. In the short-term, offering a small number of teacher education scholarships in English, particularly in combination with another teaching subject such as History or Drama, will ensure an ample teacher supply in this curriculum area.

There is a declining supply of Technological and Applied Studies teachers in some subject areas during the projection period. While the supply is adequate in the short term, the decline is projected to grow faster from 2016. Possible shortages include Engineering Science, Industrial Technology and combinations of subjects such as Food Technology with Textiles Technology. Continuation of sponsored training programs will have a positive impact on the total net supply of Technological and Applied Studies teachers.

There is a decreasing supply of teachers of Languages other than English. Projections for this area are made more complex by the range of language subjects offered and the relatively small number of appointments in some of those subjects. The Department is monitoring the supply of teachers of Languages other than English particularly in Inland NSW.

The overall supply of Science teachers is relatively stable, but only a moderate surplus is projected in some areas of the State. Possible shortages of science teachers include those with approval to teach Physics.

There is a decreasing supply of Mathematics teachers affecting all areas of the State. Any increase in retirement rates above current projected levels and to a lesser extent an increase in resignation rates would have a substantial negative impact on the total net supply of Mathematics teachers.

Continuation of the current staffing initiatives of sponsorship and scholarships will have a positive impact on the total net supply of Mathematics and Science teachers and will be needed to ensure an adequate supply in those curriculum areas in some areas of the State.

Targeted teacher supply strategies

The Department has a number of initiatives in place to enhance teacher supply in areas of potential shortfall including active promotion of teaching as a career through the teach.NSW campaign and supporting current and future teachers to gain teaching qualifications in curriculum and specialist areas of workforce need.

The reforms outlined in [Great Teaching, Inspired Learning](#), which cover specific actions that span the whole career cycle of a teacher, include initiatives to attract more of the best and brightest school leavers and career changers into teaching.

Teaching scholarships

The Teacher Education Scholarship Program was first implemented in 2002. Since 2003, when 150 scholarships were offered, the number of scholarships has progressively increased.

- Since 2010, up to 300 scholarships have been offered, including up to 80 for Aboriginal students (for both primary and secondary teaching). Scholarships encourage students to undertake teacher training in areas of teacher workforce need in secondary Mathematics; Science (Physics); Technological and Applied Studies; and English (up to 2015), or in primary and secondary Special Education for appointment to Western or South Western Sydney or non-coastal rural locations.
- Successful scholarship recipients receive an annual \$5000 training allowance for the duration of their scholarship and an additional grant of \$3000 on appointment to a school. In addition, scholarship recipients may be eligible for the HECS-HELP benefit from the Federal government following their appointment as a teacher.
- Scholarship recipients agree to teach in a NSW public school for at least three years. Aboriginal or Torres Strait Islander scholarship holders agree to work in any three staffing areas, while all other applicants agree to work either anywhere in the State or in three or more geographic areas of workforce need.

More information about the Teacher Education Scholarship Program can be found at www.teach.nsw.edu.au/getpaidtostudy.

Incentive scholarship program

In 2008, the Incentive Scholarship Program was introduced for final year teacher education students who were not in receipt of a Teacher Education Scholarship. The aim of the program is to secure the best graduates in identified learning areas of workforce need for appointment in NSW public schools.

More information about the Incentive Scholarship Program can be found at <https://www.teach.nsw.edu.au/getpaidtostudy/incentive-scholarship-program>.

Sponsored training programs

Sponsored training programs are implemented by the Department to enhance the supply of qualified primary and secondary teachers in curriculum and specialist areas of workforce need. The programs support qualified teachers to gain approval to teach in a specialist or in a different or additional curriculum area.

Priorities for sponsored training in 2015 include the curriculum areas of Mathematics, Physics and Engineering Studies and the specialist teaching areas of School Counselling, Special Education, Careers Advising, Teacher Librarianship and English as a Second Language (ESL).

More information about sponsored training programs can be found at <https://www.teach.nsw.edu.au/enhanceyourcareer/sponsored-training-education-program>.

In 2012, the Every Student, Every School: Learning and Support Scholarship was introduced. This initiative provides permanent teachers in NSW public schools with an opportunity to gain a specialist postgraduate qualification for teaching students with additional learning and support needs.

More information about this program can be found at <https://www.teach.nsw.edu.au/enhanceyourcareer/learning-and-support-mentorship-for-teachers>.

Promotion of teaching as a career

The Department promotes teaching as a career across the community through *teach.NSW*, a comprehensive and ongoing promotion and recruitment campaign.

teach.NSW includes a dedicated promotions team within the People and Services directorate which communicates the benefits of teaching in NSW public schools through:

- targeted campaigns and events and a *teach.NSW* customer service facility with telephone, online and face-to-face contact points for prospective and current teachers
- a comprehensive growing online presence designed to meet key target audiences, including web pages receiving more than 1 million visits per annum, e-newsletters with over 47,000 subscribers, Facebook pages with over 42,000 followers, Twitter, Instagram and YouTube presence and a new smartphone-friendly promotional site.

teach.NSW actively promotes programs such as Teacher Education Scholarships, Great Teaching, Inspired Learning Cadetships and Internships, *teach.Rural* initiatives and targeted programs, casual and temporary teachers, teachers for rural areas, overseas and interstate trained teachers and the sponsored training and retention of existing teachers.

More information about teaching as a career can be found at www.teach.nsw.edu.au.

Incentives scheme for rural NSW

The Department offers a range of attractive incentives for teachers in rural and remote locations.

- Incentives available under the scheme include: ninety per cent rental subsidy for teachers in eight transfer point schools; 70 per cent in six transfer point schools; and 50 per cent in four point schools.

- following a qualifying period of service, an annual retention benefit of \$5000 gross for a maximum of five years in 40 of the most isolated schools
- the provision of enhanced personal leave for teachers in isolated rural schools so they can attend to personal and/or family commitments
- four additional training and development days per annum for teachers in eight and six transfer point schools and one additional day for teachers in remote four point incentive transfer schools
- locality allowances for teachers in schools in specified localities which provide compensation for additional costs incurred in living in those areas.
- priority for transfer to a vacancy in an agreed location or area following the required period of service
- compassionate transfer status for teaching partners moving in or out of positions in eight and six transfer point schools
- direct appointment of temporary teachers who have served continuously for two years to permanent positions in six and eight point schools
- direct appointment of executives who have successfully relieved or acted for two continuous years in an executive role
- recruitment benefit of \$10,000 to attract suitable applicants to permanent positions in six and eight point schools where two consecutive selection processes have not filled a vacancy.

The [teach.NSW benefits calculator](#) provides further information about allowances and incentives for individual schools.

New initiatives under *Great Teaching, Inspired Learning*

teach.Rural scholarships

Since 2013, in addition to the 300 teacher education scholarships granted each year, the Department offers a new teacher education scholarship to potential new, high quality teachers prepared to teach in areas of workforce need, specifically in schools in rural and remote locations.

- Prospective teachers will be provided with \$6000 per year of full-time study, as well as \$5000 on successful completion of their course. Scholarship holders are guaranteed permanent employment with the Department in an identified rural and remote school.
- The first teach.Rural scholarships were offered to up to 20 students, with 15 students commencing in 2014. Up to 50 teach.Rural scholarships were available for 2015, with 46 offers made to students to commence study in 2015.
- A further 50 scholarships will be offered in each subsequent year, with up to 170 teach.Rural scholarships provided by 2017.

Cadetships

This new cadetship program is for high achieving school leavers who are employed as paraprofessionals and placed in a school from the time they commence their initial teacher education program. Cadetships provide these prospective new teachers with valuable “on the job” experience on the days they do not attend university.

- During their first year, cadets are engaged on a temporary basis and work part time. Upon successful completion of their first year of teacher education studies, cadets will be engaged on a temporary basis and work part time as educational paraprofessionals during their second and subsequent years

- During their first year cadets work under the guidance and supervision of a school executive and provide support for teachers to complete general education support tasks e.g. monitor and record student assessment tasks.
- During the second and subsequent year of the cadetship, whilst employed as educational paraprofessionals they will work under the guidance and supervision of teachers to support teaching and learning in the classroom.
- An initial 10 cadetships were available, with three cadets commencing in 2014.
- Up to 20 cadetships were available for the 2015 school year with 20 offers made to students commencing study in 2015.
- A further 25 cadetships will be available for the 2016 school year and 30 for the 2017 school year.

Internships

This new internship program is for high achieving final year teacher education students in areas of workforce need, to be employed as educational paraprofessionals while undertaking their final year of study. The internship program supports these students to gain valuable school-based experience, working alongside experienced teachers, while being paid during their final year of study.

- Throughout their internship, as educational paraprofessionals they work under the guidance and supervision of teachers to support teaching and learning in the classroom. They are engaged on a temporary basis and work part time.
- An initial 10 internships were available, with seven interns commencing in schools in 2014.
- Up to 20 internships were available for the 2015 school year with 20 offers made to students entering their final year of study in 2015.
- A further 25 internships will be available for the 2016 school year and 30 for the 2017 school year.

More information about these new initiatives can be found at www.schools.nsw.edu.au/news/greatteaching.



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