

NSW Department of Education

# Workforce modelling and teacher supply

13 November

Document tendered by
Hon C. Houssos MLC
Received by
Brett Reddy
Date: 2 / 11 / 21
Resolved to publish <input checked="" type="radio"/> Yes / No



# Executive summary

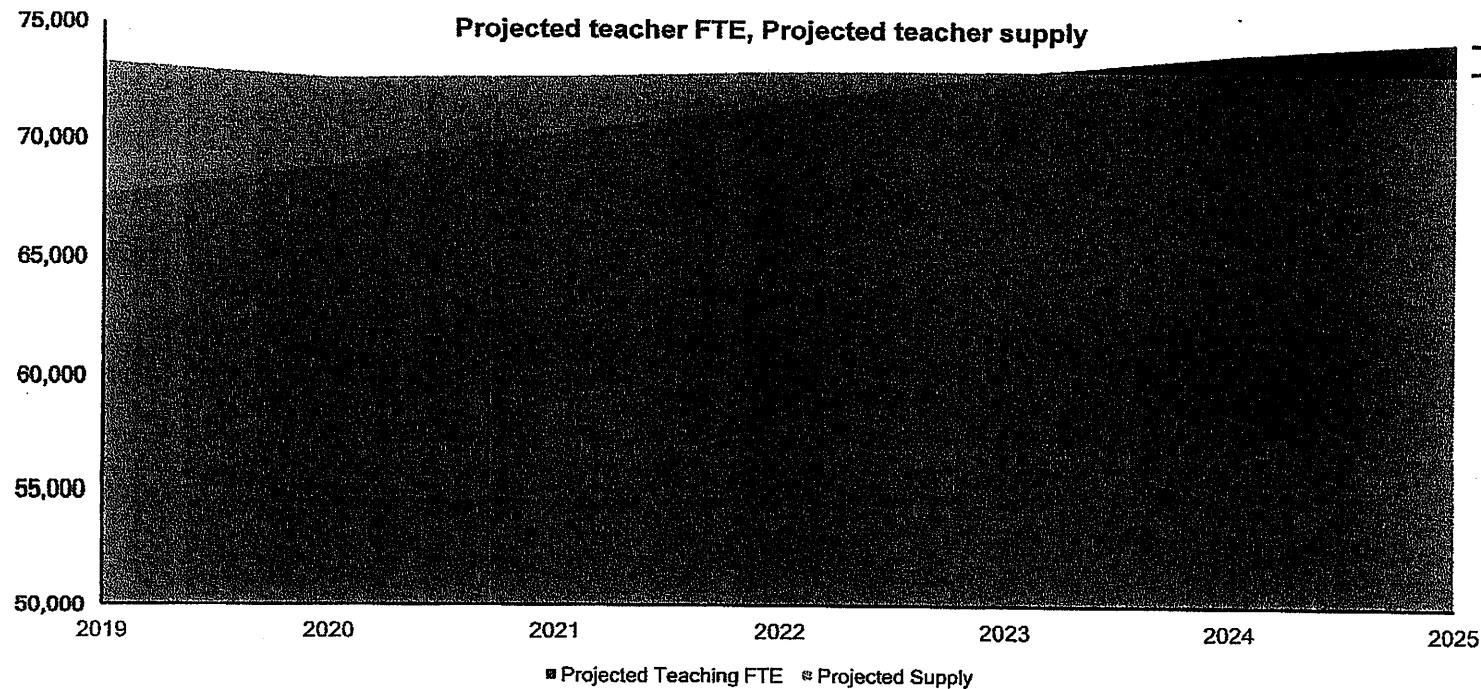
- Current 'best-case analysis' shows in next 3 years we will have a supply gap at the aggregate level with increased demand and constrained supply: **this is a significant under representation of the real problem**
- The declining number of graduate entrants, increased enrolments and equity funding have resulted in significant teacher shortage. This can be seen over the last 4 years in **reducing number of DoE scholarship applications.**
- **We know this is a longstanding national issue**, with work underway at national and jurisdictional level to address. Our current strategies are **insufficient to address this problem**
- Over the next 6 months we will deliver 3 projects to address these issues. These will closely align with the work on teacher quality EPP, SMR, HCM, R&R strategy and disability strategy
  - By December we will have much **better data** to understand the scale and specificity of the problem
  - By end year our **rapid teacher supply strategy will identify strategies for immediate rollout** that address known teacher supply gaps (e.g. rural/remote, STEM subjects)
  - By early 2020, our **longer term teacher supply strategy** will identify short, medium and long term interventions to ensure we have sufficient high quality teachers to support the Department's goals over the next 10 years
- **Our key next steps will be to:**
  - Finalise workforce modelling work to more fully understand teacher supply gaps.
  - Complete Rapid Teacher Supply Strategy and mobilise strategies for rollout
  - Commence development of Longer Term Teacher Supply strategy
  - Build on cross government and sector engagement to date
  - Immediate opportunities for 2020 – SSP and casual relief funding

NSW Department of Education

# Current state

NSW Department of Education

**Current 'best analysis' shows an aggregate supply gap in next 3 years: this is a significant under representation of the real problem**



Gap of  
748 Teachers in 2024  
2,425 Teachers in 2025



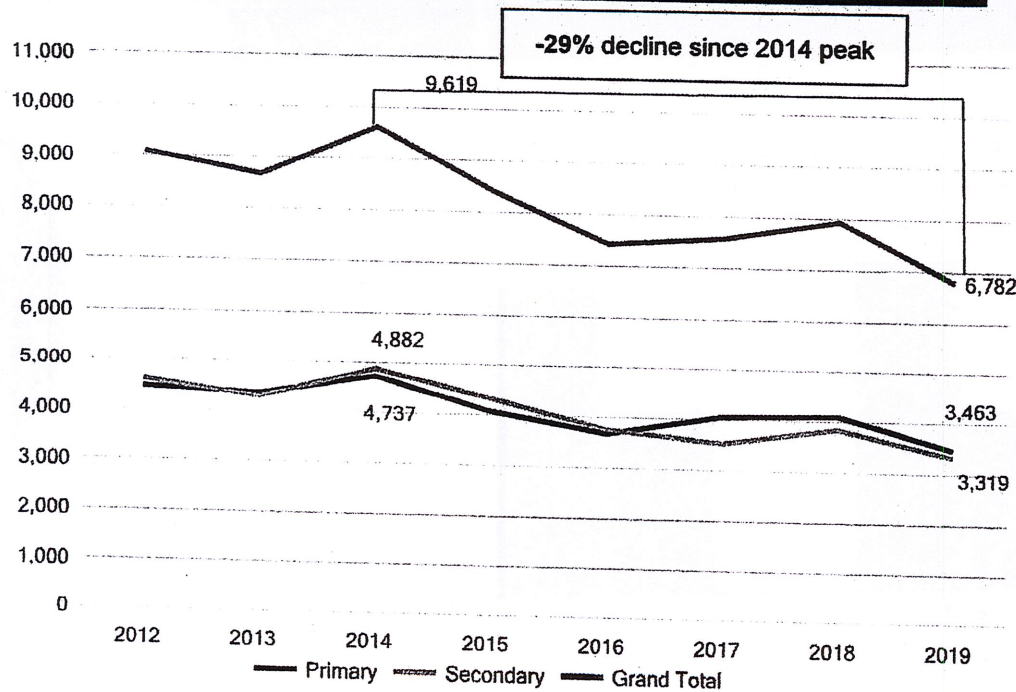
**Critical geographic and  
KLA gaps exist**

**Additional \$6.4 bn Gonski  
funding to 2027 could  
further increase demand**

Demand includes enrolment growth and growth across sectors. does not include additional Gonski funds in future years, and extrapolates from a limited sample the number of temporary, casual and ACIP engagements. This may underestimate demand for ACIP positions.  
Supply is based on university survey responses, which assume 70% of completions apply to teach with DoE. Beyond a 4 year forecast an average completion figure is used, this average may overstate supply beyond 4 years given the current trend of decreasing ITE commencements

The majority of our new entrants are immediate ITE graduates; university commencements and completions have both declined significantly in last 5 years

### University commencements are on the decline

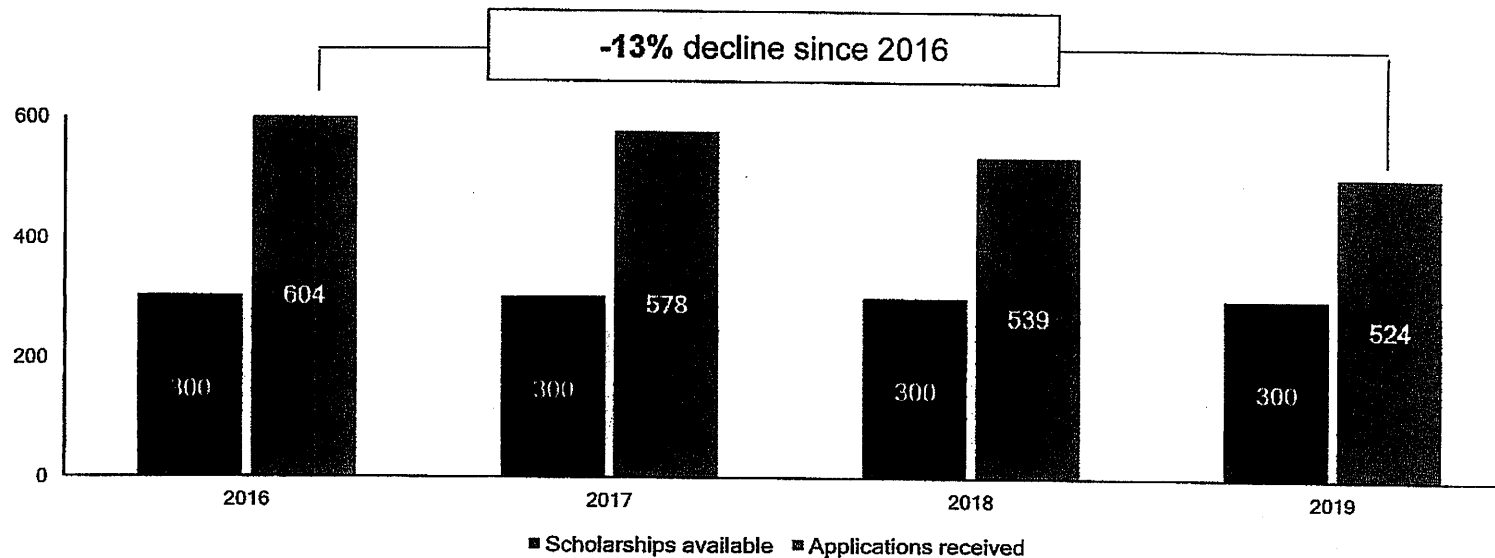


### Completions are down significantly over the last 5 years

	Net Increase 2010 - 14	Net Increase 2014- 19
<b>Primary</b>		
Primary	682	-905
<b>Secondary</b>		
English	74	-204
Mathematics	90	-55
Science	86	-124
HSIE	240	-165
LOTE	16	-22
TAS	-66	7
Creative Arts	164	-292
PDHPE	24	-177
Other KLAs	218	-78
<b>Secondary Total</b>	<b>846</b>	<b>-1113</b>

## This same trend is evidenced in reducing number of DoE scholarship applications

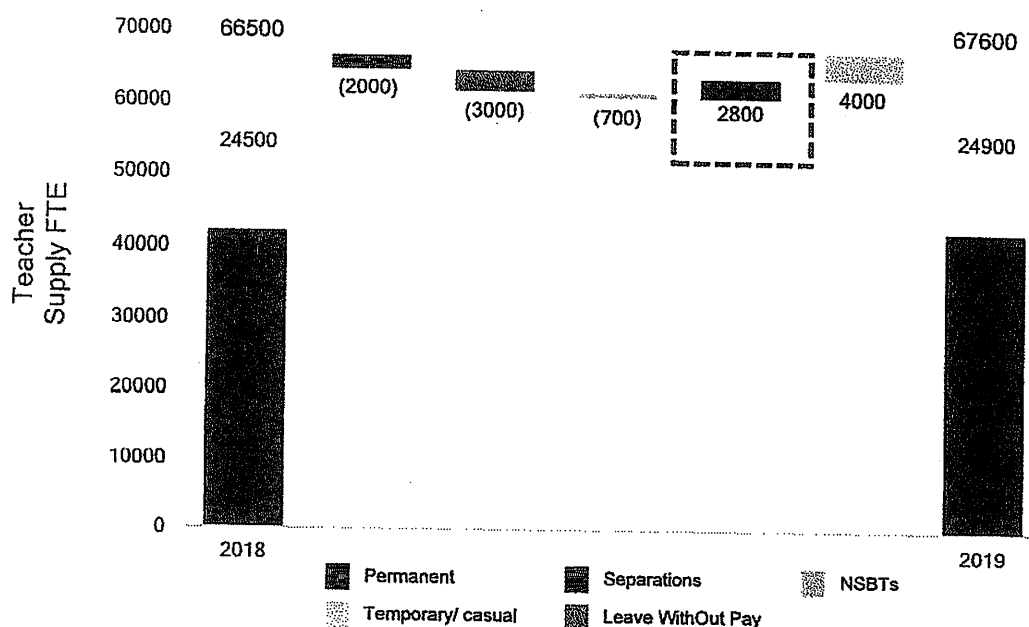
### Teacher Education Scholarship Program\*



\*The Teacher Education Scholarships represent the largest scholarship offering among the Department's scholarship and sponsorship programs. It is targeted towards HSC students, university students and career changers enrolling in, or enrolled in, initial teacher education studies. TES does not include the 60 teach.Rural scholarships, or other sponsored training pathways.

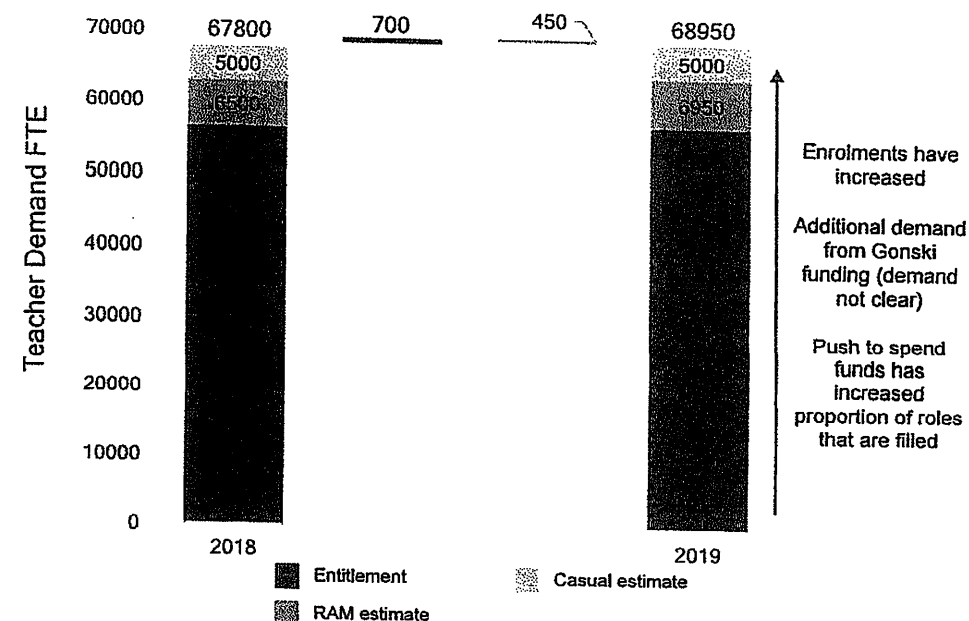
Graduate intake is only one part of the complex supply picture; 'real' demand is also important and much more complex than entitlement

Teacher Supply (FTE roles filled)



Leave is only LWOP, and is exclusive of an estimated 30% of LWOP teachers working in another location  
 Separations assumes 85% of teachers leaving will not return as a temporary or casual  
 Supply and Demand may not total due to rounding and approximation methods used for backfill  
 Approved to teach list is net of those working in a capacity for the department to avoid double counting. Availability of remaining supply uses an approximation of FTE worked of this group to convert headcount to available FTE.  
 The increase in paid FTE, despite permanent recruitment not meeting the movements from the system is the result of the depletion of the approved to teach list

Teacher Demand (roles to be filled)



50% of additional RAM positions are estimated to be filled with teachers, Ram funding is approximately \$1.4 B in 2018 and \$1.5B in 2019.  
 Approximately 5000 casual FTE are used each year  
 Entitlement Demand does not equal paid FTE as entitlement does not include backfill arrangements for leave etc.

**We know this is a longstanding national issue, with a variety of work underway at national and jurisdictional level to address**

**Key programs of work underway in other jurisdictions**

- ✓ Australian Institute for Teaching and Leadership national teacher supply strategy
- ✓ Grattan Institute Report on attracting high achievers to teaching
- ✓ Queensland's focus on international recruitment
- ✓ Victoria's focus on incentive payments for teachers and principals recruited into hard to staff schools in metropolitan and rural areas
- ✓ South Australia recent focus on mid-career changing teachers



## Our current strategies are insufficient to address this problem

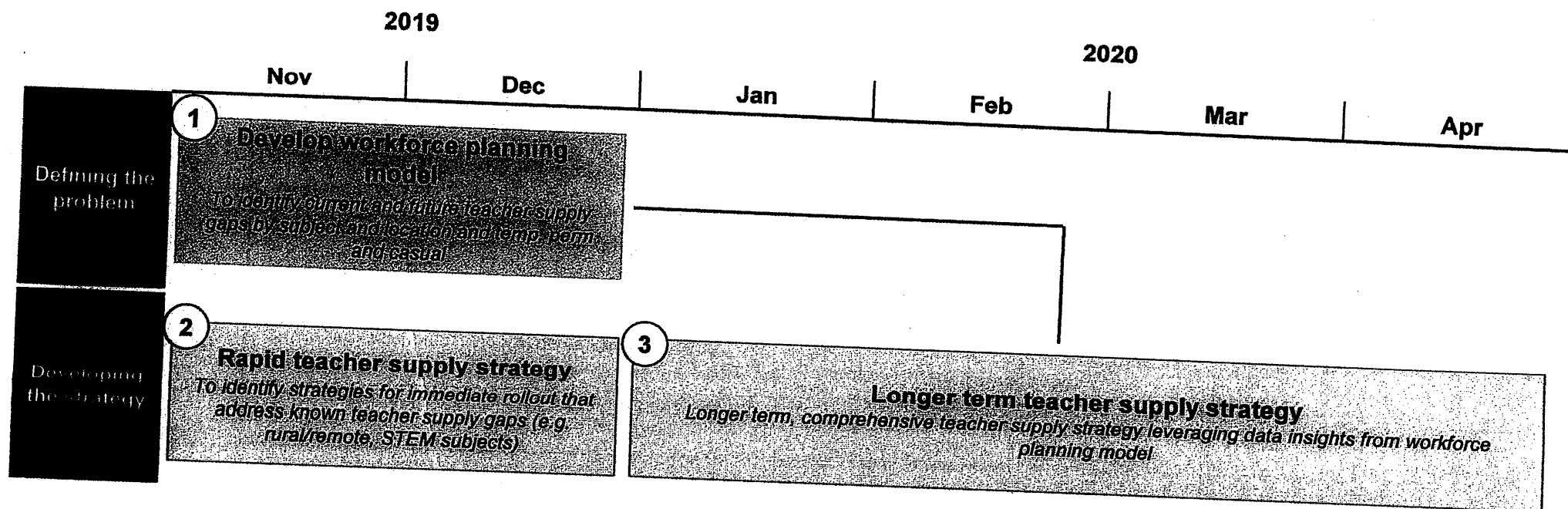
### Current DoE programs underway

- ✓ **Classcover as a casual sourcing system**
- ✓ **A range of scholarships targeting existing teachers to re-train or HSC and University students during their studies including, teach.MathsNOW and teach.Rural Scholarships**
- ✓ **Regional and Rural incentives**
- ✓ **Rural Experience Program**
- ✓ **Pre-service teacher placements in rural schools**
- ✓ **Localised strategies implemented by principals and DELs to serve specific purposes in their area**

NSW Department of Education

# Planned work to address

Over the next 6 months we will deliver 3 projects to address these issues.  
These will closely align with the work on teacher quality EPP, SMR, HCM, R&R  
strategy and disability strategy



# 1. By December we will have much better data to understand the scale and specificity of the problem

	Current state	Future state with workforce model
<b>Timeframe</b>	<b>Understanding of teacher demand and supply</b> <b>Limited</b> Point in time estimate/ current state	<b>Comprehensive</b> Current state, robust 5 year forecast, 10 year forecast
<b>System-level</b>	<b>Limited</b> Some understanding of overall teacher supply issues	<b>Comprehensive</b> Full understanding of teacher supply at an aggregate level
<b>Location-level</b>	<b>Limited</b> Some understanding, with low degree of confidence	<b>Comprehensive</b> Full understanding location specific supply gaps
<b>KLA-level</b>	<b>Very limited</b> Low visibility into supply issues relating to KLAs.	<b>Comprehensive</b> Full understanding KLA specific supply gaps
	<b>Key inputs impacting our understanding of teacher demand and supply</b>	
<b>Out of field teaching</b>	<b>None</b> No understanding of out of field teaching, limiting our understanding of teacher supply.	<b>Moderate</b> For the first time ever, visibility into the number of out of field teachers (may not include casuals)
<b>Timetabling information</b>	<b>None</b> No visibility into how schools timetable means limited understanding of real demand	<b>Comprehensive</b> Full understanding of timetabling information
<b>Location preferences</b>	<b>Limited</b> Limited understanding of location preferences of workforce, as preferences not regularly updated	<b>Limited</b> Limited understanding of location preferences of workforce, as preferences not regularly updated
<b>Approval to teach list</b>	<b>Moderate</b> Approved to teach list is maintained annually. Teachers not working for DoE whose accreditation has lapsed are removed	<b>Moderate</b> Approved to teach list is maintained annually. Teachers not working for DoE whose accreditation has lapsed are removed



## 2. By end of year our rapid teacher supply strategy will identify strategies for immediate rollout that address known teacher supply gaps (e.g. rural/remote, STEM subjects)

### Scope

Rapid Teacher Supply Strategy that includes approach to maximize impact of existing strategies, as well as new proposals for rollout in 2020 and 2021.

### Approach

Consultancy support from Ernst and Young in development of the strategy and consultation

### Engagement

As part of this work there will be engagement with areas across the Department (e.g. SOP, Ed. Services, Corporate Services, S&D) the PPA, SPC and universities.

### Timeframes

- **31 October**  
Project commencement
- **Mid November**  
Draft strategy prepared
- **Mid December**  
Rapid Teacher Supply Strategy complete

**We are developing a budget bid from 2020/21 for increased resources for the Teacher Housing Authority as part of this work**

## 2. Rapid Teacher Supply Strategy: week 1 hypothesis

Early insights from Week 1 of the project have informed initial hypotheses for further development and exploration

### 1. Maximise potential of existing teaching workforce

Ensure current teaching workforce is deployed appropriately in context of supply shortages

Consider initiatives that could be rapidly deployed alleviate shortages such as:

- Limiting LWOP
- Redistribution of NSBTs
- Selected redeployment to areas where acute supply gaps

### 2. Take steps to minimise demand without affecting outcomes

Identify system and school based decisions that are unintentionally exacerbating supply issues

Consider initiatives that could lessen demand for casual relief without impacting classroom, such as:

- Relief time that is not core teaching work
- PL outside teaching hours

### 3. Pursue initiatives to boost immediate supply

Seek to target segments of pre-existing teachers that could be quickly accessed

Consider segments such as:

- International teachers
- Qualified teachers in other professions
- Teachers from other sectors

Focus effort on school types where supply gap is acute e.g. Far West, SSPs and maths

### 4. Lay foundation for longer term supply and demand strategy

Commence foundational and pilot work on high impact initiatives with longer lead time

Consider initiatives such as:

- Early engagement with Graduate cohorts
- Mid-Career teacher pilot
- Improved data capture e.g. understanding teacher preferences
- Increased engagement with universities
- Better understanding of trends in our workforce (e.g. Gonski demand)
- Review employee value proposition to attract and retain teachers

**3. By early 2020, our longer term teacher supply strategy will identify short medium and long term interventions to ensure we have sufficient high quality teachers to support the Department's goals over the next 10 years**

#### Scope

Longer term, comprehensive Teacher Supply Strategy featuring a mix of short, medium and longer term interventions to address teacher supply gaps at an aggregate, KLA and regional level.

#### Approach

Plan to engage support from consultancy, drawing on learnings and insights identified through the Rapid Teacher Supply Strategy

Build richer evidence base on drivers of supply and demand, and flow of teachers through system

#### Engagement

Extensive engagement across the Department, PPA, SPC, universities, and from the teaching profession.

#### Timeframes

**December 2019**

Engage consultancy support

**January 2020**

Commence work

**April 2020**

Longer Term Teacher Supply Strategy complete

**Following this, we will need to consider how these interventions can best be delivered and phased, including resourcing implications**

NSW Department of Education

# Proposed next steps



# Next steps

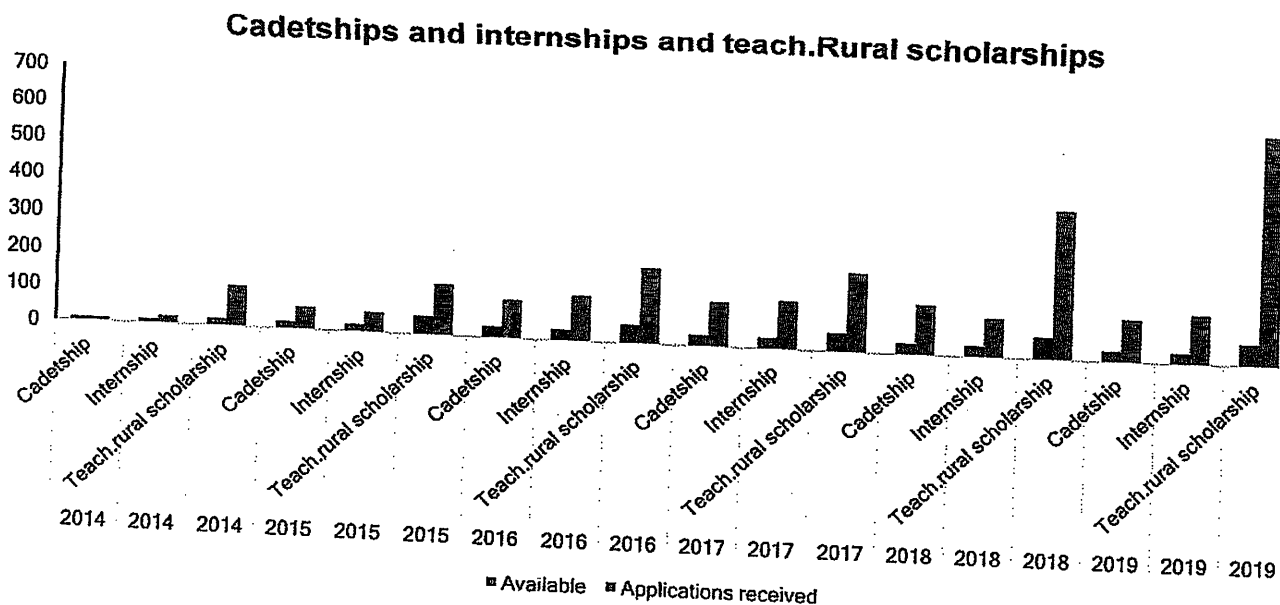
1. **Finalise workforce modelling work to more fully understand teacher supply gaps.**
  - This includes surveying the Primary Principals Association and the Secondary Principals Council to enhance visibility into the casual workforce.
  - Creating a 'burning platform' with additional data
2. **Complete Rapid Teacher Supply Strategy and mobilise strategies for rollout.**
3. **Commence development of Longer Term Teacher Supply strategy, aligned to (and not limited to):**
  - Workforce Planning Model
  - Rapid Teacher Supply Strategy
  - Rural and Remote Teacher Strategy
4. **Build on cross government and sector engagement to date:**
  - DPC, Tsy, other relevant agencies (e.g. NSW Health, Police)
  - Consider how best to engage with other sectors (especially the Catholic sector)
  - Consider how to best engage across national sectors (e.g. Education Council and COAG)
  - Continue stakeholder engagement - supply issues already raised by NSW TF as part of Staffing Agreement, engagement with Universities key
5. **Immediate opportunities for 2020 – SSP and casual relief funding**

NSW Department of Education

# Appendix



# However the right financial incentives can be effective at attracting applicants



**teach.Rural scholarships offer:**

**50%** more annual funding than some other scholarships on offer

**100%** more appointment allowance than some other scholarships on offer

**\$500** per week while completing a rural practicum

**\$50,000** equivalent upfront course contribution fee

# The standards to become a teacher are becoming increasingly harder

## Initial Teacher Education requirements

- ✓ Literacy and Numeracy Test (LANTITE)
- ✓ Teacher Performance Assessment (TPA)
- ✓ Achieve at least three Band 5 HSC results, including one in English
- ✓ New requirement to achieve minimum Band 4 HSC results in mathematics for entry to K to 6 initial teacher education courses from 2022 (announced October 2019)

## Department's entry requirements

- ✓ Raising the Bar for Entry – Credit average as a guideline for eligibility for graduates entering courses from 2019
- ✓ Assessment of successful professional experience (graduates)
- ✓ Assessment of quality teaching via a work report (experienced teachers)
- ✓ Psychometric assessment measuring cognitive and emotional intelligence (from 2020)
- ✓ Interview aligned to Teacher Success Profile and key knowledge areas, critical experiences, skills and capabilities, motivations and attributes



# KLA Coverage Model Output and Detail

Insight	Unit	Current	Projected	Granularity Level		
				School	Network/Directorate	System
Teacher demand						
	Subject	X FTE	Current and Projected	yes	yes	yes
	Teachers (Permanent, Temporary, Casual)	X FTE	Current and Projected	yes	yes	yes
	Principals and Other executives	X FTE	Current and Projected	yes	yes	yes
	Program Position (dependent on data input)	Number of FTE	Current (limited projection)	yes	yes	yes
Teacher Supply						
	Subject	X FTE	Current and Projected	yes	yes	yes
	Teachers (Permanent, Temporary, Casual)	X FTE	Current and Projected	yes	yes	yes
	Principals and Other executives	X FTE	Current and Projected	limited	limited	limited
	Program Position (dependent on data input)	X FTE	Current and Projected	limited	limited	limited
Other Measures						
Teachers willing to work in area		Number	Current and Projected	yes	yes	yes
Relative availability of teachers		Coverage Ratio	Current and Projected	yes	yes	yes
Teaching out of field		Number and Proportion	Current	yes	yes	yes

NSW Department of Education

# Teach.MathsNOW – targeting career changers

Despite a strong promotional campaign, there was a relatively low number of industry professionals submitting applications for the new Teach.MathsNOW scholarship – of the 48 applications received from industry professionals, only 17 were suitable to be progressed to the next stage of assessment.

Issues that may impact on an industry professional seeking to retrain as a teacher and work in NSW public schools:

- **Set salary structures**, with very **limited capacity to recognise qualifications outside of teaching** such as other industry work experience or post graduate;
- In the case of scholarships, **limited choice to gain permanent employment in a desired location** (i.e. scholars are typically targeted to areas of workforce need, which may not align with the needs of the individual and their family);
- Anecdotally, **limited understanding of the specific support needs for mid-career 'beginning teachers'** who have significant workplace experience in another industry setting;
- **Differentiating between candidate suitability and reasons for pursuing career change** i.e. suitability as outlined by the attributes of the Teacher Success Profile versus motivating factors to pursuing teaching as a career change (for example, perceived lifestyle benefits)