



## Briefing Note: Teacher Demand and Supply Planning Projection Update – December 2021

<b>To:</b>	Hon Chris Hipkins, Minister of Education		
<b>Date:</b>	30 November 2021	<b>Priority:</b>	High
<b>Security Level:</b>	In Confidence	<b>METIS No:</b>	1277339
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<b>Messaging seen by Communications team:</b>	Yes	<b>Round Robin:</b>	Yes

### Purpose of Report

The purpose of this paper is for you to:

- a **note** that the supply of, and demand for, regular (permanent and fixed term) teachers has been disrupted by COVID-19, and predicting the future supply of teacher is more challenging than usual.  
**Noted.**
- b **note** that, to address the uncertainty associated with the ongoing impact of the COVID-19 pandemic on the future supply of teachers, the Ministry is providing two scenarios based on different teacher retention rates providing a range of impacts that may apply over the next three years.  
**Noted.**
- c **note** the upcoming annual release of the 'Summary Report: Results from the Teacher Demand and Supply Planning Projection – December 2021' (Annex 1) scheduled for release at 10.00 am on Thursday 16 December 2021 via the Education Counts website.  
**Noted.**
- d **note** that the release of this information typically attracts sector and media attention. We have a proposed communications plan and will liaise with your office in relation to key messages and communications to key stakeholders in particular.  
**Noted.**
- e **agree** that the Ministry of Education release this briefing in full once the 2021 Teacher Demand and Supply Planning Projection Summary Report is published.

**Agree / Disagree.**

ATT

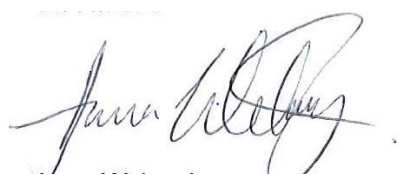
Sean Teddy  
**Hautū | Deputy Secretary**  
**Te Pae Aronui**

30/11/2021



Hon Chris Hipkins  
**Minister of Education**

8/12/2021



Anna Welanyk  
**Hautū | Deputy Secretary**  
**Te Puna Ohumahi Mātauranga | Education Workforce**

30/11/2021

Proactively Released

## Background

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1. The fourth annual release of the Teacher Demand and Supply Planning Projection has been developed under unprecedented levels of uncertainty. The ongoing COVID-19 pandemic continues to impact multiple aspects of the education workforce. Most notably we are facing uncertainty around:
  - border settings, both in Aotearoa New Zealand and internationally
  - the wider economy
  - teachers' response to the vaccine mandate
2. The Ministry is responding to this by changing their approach to allow for more flexibility in projections. In this update, whilst we have maintained a six-year outlook for teacher demand, teacher supply is only projected out to 2024. Further, we introduced a scenario-based approach allowing for the Ministry to plan for a range of possible outcomes around the above points of uncertainty.
3. All results relate to the state and state-integrated school sector, are based on teacher headcounts, and exclude day-relief teachers. That is, they relate only to 'regular' teachers employed by schools on a permanent or fixed-term basis.
4. This update provides projections at the national level only and therefore there are a number of caveats that apply, such as the national level projections do not have a subject, medium or regional lens. As such, we anticipate an ongoing need for teachers in hard-to-staff subjects such as te reo Māori and STEM (science, technology, engineering and mathematics), the Māori-medium sector and in certain parts of the country. The Ministry continues to work on improvements to the model.

## Scenarios to manage uncertainty

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5. As in 2020, this release makes assumptions and projections in the context of the impacts of COVID-19. In particular, the retention and leaving rates are more disrupted and uncertain than usual, deviating considerably from historic norms.
6. The estimated 2021 retention rates of 92.0% for primary teachers and 93.2% for secondary teachers are substantially greater than historical norms (average of 89.2% for the period of 2014-19, resulting in an additional 1,000 primary teachers and 1,070 secondary teachers in 2021). This estimation has a high degree of confidence as it is based on year-to-date payroll information up to September and the vast majority of individuals who appear on payroll during a calendar year, do so by September. The COVID-19 environment will be a key contributor to this high retention, and this has added considerable complexity when setting the key variables for this year's projections.
7. To address the complexity, the Ministry has moved to release projections based on scenarios around alternative teacher retention rates, as these rates are the dominant assumption set for the Projection.
8. A range of potential outcomes were explored by creating two scenarios of teacher supply: 'slow' and 'fast'. These use different future teacher retention assumption profiles explained as follows.

- a. The **'slow'** teacher supply scenario increases the pool of teachers by assuming that the unusually high retention rates currently observed continues for 2022, before scaling back towards pre-COVID-19 retention rates from 2023 and returning to pre-COVID-19 rates from 2024.
  - b. The **'fast'** scenario decreases the pool of teachers by assuming that future retention rates will decrease, relative to the usual observed pre-COVID-19 rates in 2022 before returning to pre-COVID-19 retention rates from 2023. It is assumed that the unusually high retention rates observed in 2021 contain a number of teachers who would have normally left the regular teacher workforce to travel abroad, retire, undertake a new career position, but were previously unable to do so, or chose not to, due to border restrictions or other factors relating to the pandemic.
9. These scenarios acknowledge the impact that disrupting factors (for example, border settings, both in Aotearoa New Zealand and internationally, as well as changes to the wider economy) have on the potential supply of teachers for the coming school year, and how future settings could result in different supply projections. We believe they provide a more realistic projection for teacher supply and demand given the increased uncertainty COVID-19 presents for forecasting.
10. The recently introduced vaccine mandate has been taken into account in our analysis as it has the potential to decrease the supply of teachers if some teachers do not to comply with the order. While the size of the impact of this mandate on teacher retention rates is not yet known, we have assessed the changes according to what could result at different lower levels of retention. This is provided as a supplement to the scenarios. Separate advice on the vaccine mandate retention reduction will be provided to you.

## Key Findings and Messages

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11. There is considerable uncertainty around how COVID-19 will impact future retention rates. To manage this complexity, the 'fast' and the 'slow' scenarios present a range of potential teacher supply outcomes.
12. In summary, this year's projections are that for the primary sector supply will exceed demand in 2022 and out to 2024, and for the secondary sector, supply may either exceed demand or fall short in 2022 and out to 2024. In both sectors the size of the impact will likely depend on the future impact of COVID-19 on teacher retention rates.
13. For each sector the scenarios are as follows:
  - a. For the **primary sector**, under the 'fast' teacher supply scenario, primary teacher supply will exceed demand by about 620 in 2022 and 2,060 teachers in 2024. Under the 'slow' teacher supply scenario, we anticipate that at the national level, primary teacher supply will exceed demand by about 1,710 in 2022 and 3,680 teachers in 2024.

This means we anticipate:

- i. a gap of 620 (sufficient supply) to 1,710 (sufficient supply) for primary teachers at the national level in 2022
- ii. a gap of 2,060 (sufficient supply) to 3,860 (sufficient supply) by 2024.

- b. For the **secondary sector**, under the 'fast' teacher supply scenario, supply will fall short of demand by about 210 secondary teachers in 2022 and the gap will increase to a shortfall of 840 teachers by 2024. Under the 'slow' teacher supply scenario, we anticipate that at the national level, secondary teacher supply will exceed demand by about 1,000 in 2022 and 880 teachers in 2024.

This means we anticipate:

- i. a gap of -210 (under supply) to 1,000 (sufficient supply) for secondary teachers at the national level in 2022
  - ii. a gap of -840 (under supply) to 880 (sufficient supply) by 2024.
14. The Ministry does not hold vaccination data. The recently introduced vaccine mandate has the potential to decrease the supply of teachers if some teachers do not comply with the order. Preliminary analysis from a number of sources suggests that the teaching workforce has a higher vaccination rate than the general population, and the vaccine mandate reduction in retention could be less than 3%. We have used supplementary reductions in teacher retention to show the potential impact of the vaccine mandate on teacher supply gaps (that is, any reduction in retention is in addition to that already assumed in the Projection under the scenarios).
15. The final impact of the vaccine mandate on the retention on teachers is not yet known. However, given the above preliminary analysis a 2% reduction in retention is provided as an example below with a supporting table for other potential reductions:
- a. For the **primary sector**, the oversupply noted above shifts to an under-supply (-110) at a 2% reduction in retention rate under the fast scenario, while the slow scenario remains in sufficient supply (980) at the national level for 2022. The longer-term outlook in 2024 remains as a projection of sufficient teachers at the national level.
  - b. For the **secondary sector**, at a 2% reduction in retention due to the mandate, the scenarios have supply at the national level ranging between 450 (sufficient supply) and -760 (under supply) for 2022 and between 440 (sufficient supply) and -1,280 (under supply) for 2024.

#### Vaccine mandate reduction in retention on the national projections of primary teachers (Gap)

Year	Vaccine mandate reduction in retention							
	0%		1%		2%		3%	
	Slow	Fast	Slow	Fast	Slow	Fast	Slow	Fast
2022	1,710	620	1,340	250	980	-110	620	-470
2023	2,580	1,100	2,250	770	1,930	450	1,600	120
2024	3,680	2,060	3,380	1,760	3,090	1,470	2,800	1,180

#### Vaccine mandate reduction in retention on the national projections of secondary teachers (Gap)

Year	Vaccine mandate reduction in retention							
	0%		1%		2%		3%	
	Slow	Fast	Slow	Fast	Slow	Fast	Slow	Fast
2022	1,000	-210	730	-480	450	-760	170	-1,040
2023	1,080	-600	830	-850	590	-1,090	340	-1,340
2024	880	-840	660	-1,060	440	-1,280	220	-1,500

16. All modelling has limitations, including this Projection. These projections are at the national level, so even when supply meets demand, we still anticipate there will be an ongoing need to grow the supply of teachers to help some schools find the teachers they need, particularly in certain parts of the country. Similarly, the national level projections do not have a subject or medium lens. As such we anticipate an ongoing need for teachers in hard-to-staff subjects, such as te reo Māori and STEM (science, technology, engineering and mathematics), and in the Māori-medium sector.
17. Furthermore, teacher demand can be predicted with greater certainty than teacher supply. This effect is particularly pronounced for regional level analysis. So, while student rolls and the subsequent staffing entitlement that creates the demand for teachers in a region is more certain, the supply of teachers willing to move to this region to meet that demand is less certain. The Projection is sensitive to assumptions selected, such as teacher retention rates. This creates a need to explore alternative scenarios and monitor assumptions against what occurs.

### The Ministry's Teacher Supply Response

18. The Ministry continues to work with the sector to help them to respond to the ongoing challenge of ensuring there are sufficient teachers, with the right skills, and in the right locations, to meet demand.
19. Prior to the announcement of the vaccine mandate, we provided you with previous advice [METIS 1267138 refers] on proposed Teacher Supply interventions for 2022. The preliminary findings of the Projection were included in this paper and guide the proposed workplan that we will develop and implement new interventions that tackle known challenges within the supply of teachers in certain subjects or locations.
20. Since the announcement of the vaccine mandate, the Ministry has been working closely with the sector to help it to respond. Prior to 15 November, the Ministry's regional teams reached out to every schools/kura to ensure that they had a robust plan to remain open. Typically, this included additional deployment of relief teachers and redeploying school leadership or other qualified teachers into classroom facing role.
21. The Ministry is actively working to put in place additional support to the sector to help it meet the challenge of the vaccine mandate from January. In particular, we are expanding eligibility for our existing suite of teacher supply initiatives to ensure that all schools that need them can take advantage of them. We will also be working to ensure a 'brokering' between new ITE graduates entering the labour market and schools with the greatest need. We continue to explore other options, including exploring the viability of extending the redeployment of qualified teachers who are not currently serving in a classroom-facing role.
22. Given the highly uncertain state of the teacher labour market, the Ministry is intending to actively monitor the state of the labour market through 2022 and will be preparing interventions that can be deployed flexibly and rapidly in response to future disruptions.

## Other issues

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### ***Other Ministry of Education projections***

23. There are a number of other related projections and models produced by the Ministry to support funding, workforce and infrastructure planning. Examples of these include the National Education Growth Plan (NEGP) projection, school entitlement allocation and the National School Roll Projection (NSRP). Each of these serves a different purpose and the outputs produced will reflect the distinct assumptions of each piece of analysis.
24. The NEGP projections focus on roll growth to plan infrastructure, without the need to consider those areas of roll decline/lowering demand. For example, roll growth in an area will require infrastructure growth to match. While roll declines in another area will not be mirrored with the removal of infrastructure.
25. By contrast, the projections in the Teacher Demand and Supply Planning Projection are at a national level and only provides the overall net position after taking into account all the various localised roll growth or decline. An area with roll growth will require more teachers, but it is assumed this can be covered by the drop in demand for teachers in another declining area.
26. The Ministry's funding entitlement calculations use the latest available roll data and local operational information about any future roll growth/decline to calculate the financial obligation for schools in terms of funded Teacher FTEs. However, the Ministry will often make manual adjustments to ensure schools are not suddenly in a position where any significant roll decline results in an immediate excessive reduction in staff funding to provide schools time to make adjustments to their workforce.
27. Entitlement projections also do not take into account situations where schools may employ teachers above entitlement or where schools are entitled to more staffing via other funding mechanisms (e.g., ORS funding). By contrast, the Teacher Demand and Supply Planning Projection takes into account all of these additional sources of funding and reasons to employ additional staff, presenting a more fulsome headcount projection for the purpose of *workforce planning*.

### ***Developing teacher subject and regional projections***

28. As noted above, the Ministry acknowledges the limitations of the Projection for identifying shortages of teachers for specific subjects and is working to fill these gaps. Through 2020/21, the Ministry piloted a programme for collecting teacher subject data from the KAMAR student management system. Preliminary analysis of these data has begun to provide insight into where future supply may need to be grown to meet demand, although the progression of this work has slowed as we have prioritised COVID-19 response work.
29. Our 2022 forward workplan includes a workstream to investigate teacher supply in specific subjects, dependent on prioritisation relative to other workstream priorities. We also plan to revisit options for providing sub-national projections beyond Tāmaki Makaurau | Auckland.

## Communications

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30. The Ministry will provide your office with a communications plan which includes the intention to release the update of the Projection and provide embargoed pre-briefing to selected media and sector stakeholders about the release.
31. The objectives of the communications are to:
- provide estimates of a range of supply scenarios over the next three years.
  - explain to the sector and the public how COVID-19 has made forecasting teacher supply more uncertain and as a result how the Ministry has adapted its teacher supply estimates for the 2022 school year.
  - remind principals and school leaders that targeted supply initiatives are available to provide support for their recruitment needs in 2022; and
  - demonstrate the Ministry is working proactively to make sure a supply of teachers are available for the sector's needs, including initiatives designed to support those areas where support is needed most.



## Next steps

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32. The Ministry intends to release the Summary Report (Annex 1) with a supporting Technical Appendix via Education Counts at 10.00 am on Thursday 16 December 2021.
33. The Ministry proposes to undertake the following communications activity:
  - In confidence briefing for selected sector groups and media.
  - Issue a media statement on the Ministry's website.
34. Further to this release, the Ministry is considering a teacher demand and supply projection for the Tāmaki Makaurau | Auckland region, based on a regional variant of the National Student Roll Projections. However, this is dependent on the rapidly changing environment and whether there are benefits of undertaking the projections work compared to other possible products which may be more responsive. We will report to you in the new year following further consideration of alternatives.

## Proactive Release

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35. We recommend that this Briefing is released after the publication of the 2021 Teacher Demand and Supply Planning Projection. Any information which may need to be withheld will be done so in line with the provisions of the Official Information Act 1982.

## Annex

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- Annex 1: Summary Report: Results from the Teacher Demand and Supply Planning Projection – December 2021.