



How we propose to adjust the rate peg for population growth

29 June 2021

This information paper sets out:

- The approach the Independent Pricing and Regulatory Tribunal of NSW (IPART) used to consider options and assess factors that could inform a revised rate peg methodology.
- Our analysis of council rate structures and who will pay the costs of growth under different development and ratings scenarios.

1 Options to adjust rates for the impact of population growth

We analysed NSW councils' costs and revenues and developed 2 options to reform the rate peg:

- **Option 1:** Varying councils' general income by a percentage change in a population growth factor. The growth factor could be a measure of additional persons or dwellings.
- **Option 2:** Varying council general income using a cost variable that captures the 'population contingent costs' of development. This cost variable would be multiplied by the increase in population or dwellings, and then divided by each council's general income to arrive at a growth factor.

Table 1 sets out the 2 options we considered.

Table 1 Options analysis

Option 1 (a and b)	Option 2 (a and b)
The growth factor would be equal to:	The growth factor would be equal to:
Option 1a:	Option 2a:
= %Δ population (by council)	$\frac{\Delta \text{population} \times \text{cost per pop.}}{\text{general income (year 0)}}$
Option 1b:	Option 2b
= %Δ rateable properties (by council)	$\frac{\Delta \text{rate.prop.} \times \text{cost per rate.prop.}}{\text{general income (year 0)}}$

We assessed these options against the principles outlined in Box 1. In practice, we found there is a trade-off between added complexities (typically around cost reflectivity) and a simple workable solution.

Box 1 Implementation principles

We assessed options to adjust the rate peg for population growth against the following principles:

- No council is worse off under our methodology.
- The new methodology balances the NSW Government's commitment to protect ratepayers from sudden or excessive rate rises, while improving the financial sustainability of local governments.
- The methodology is consistent with taxation and pricing principles (where applicable), including:
 - taxation principles of simplicity, efficiency, equity and sustainability
 - pricing principles, such as those that create the need for costs to be incurred pay.
- The methodology is easy to implement, understand and administer in annual updates to the rate peg.

We engaged The Centre for International Economics (The CIE) to help us consider options to reform the rate peg. The CIE assessed the options against the principles outlined in Box 1. Its findings are:

- Option 1 (specifically option 1a) is a better implementation option, but option 2 is a viable approach.
- Impacts on council revenue will depend on whether the chosen option accounts for the impact of supplementary valuations.
- Any options including a population factor are expected to have some impacts on existing ratepayers, simply because of the design of rate structures.

We agree with The CIE's analysis and consider option 1 is the better approach to account for population growth in the rate peg. We prefer option 1 for the following reasons:

- It recognises that service levels, and costs, are different across councils. Option 1 accounts for population growth by referring to the current costs per capita for each council.
- Our analysis found a mostly linear relationship between council costs and population growth. This relationship suggests the added complexity of implementing option 2 may be unnecessary.
- Option 2 may be difficult to implement on a council-by-council basis.

Our preferred approach, based on option 1, is outlined in the Draft Report and in Box 2. Our proposed methodology is outlined in outlined below Box 2.

Box 2 Our proposed adjustment to the rate peg to account for population growth

Our preferred approach is to implement a methodology that:

- maintains total per capita general income over time
- reflects a linear relationship between population growth and council costs
- is based on the change in residential population for each council
- applies to all councils, including those experiencing low growth..

Draft rate peg methodology

We propose to maintain each Council's general income on a per capita basis as its population grows as set out below

In November each year, we will publish a rate peg methodology that will apply to NSW local governments based on the following formula:

$$\text{Rate peg} = \text{change in LGCI} - \text{productivity factor} + \text{other adjustments} + \text{population factor}$$

In this formula:

change in LGCI means the change in the local government cost index (LGCI).

More information on the LGCI, productivity factor and other adjustments we may make in determining the rate peg is set out in Information Paper 3: The context of our review. We are not considering other changes to the rate peg as part of this review.

Population factor for 2022–23:

Each year, each council will have a population factor equal to the annual change in its residential population, adjusted for revenue received from supplementary valuations in the previous year.

The population factor is equal to the maximum of zero or the change in residential population less the supplementary valuations percentage. Councils with negative population growth will have a population factor of zero, ensuring they are no worse off under our methodology. Councils that have recovered more from supplementary valuations than is required to maintain per capita general income as their population grows will also have a population factor of zero. The population factor will be calculated using the following formula:

$$\text{Population factor} = \max(0, \text{change in population} - \text{supplementary valuations percentage})$$

Change in population for 2022–23:

We will publish the change in population for each council on our website. The change in population will be calculated using the estimated residential population (ERP) for 2020 and 2019 specified in the Australian Bureau of Statistics (ABS) 'ERP by LGA (ASGS 2020), 2001 to 2020', released March 2021.¹

The calculation is shown in the following formula:

$$\text{change in population} = \max\left(0, \frac{\text{ERP 2020}}{\text{ERP 2019}} - 1\right)$$

Each year we will update the formula. For example, for the 2023-24 rate peg methodology we will calculate the change in population using ABS data for 2020 and 2021.

Supplementary valuations percentage for 2022–23:

The supplementary valuations percentage will be calculated by councils. The calculation is shown in the following formula:

$$\text{supplementary valuations percentage} = \max\left(0, \frac{\text{supplementary valuations}}{\text{notional general income yield}}\right)$$

In this formula:

supplementary valuations means the total value of adjustments to council's general income for the previous year (2021–22) that the council made under paragraphs 509(2)(b) and (c) of the *Local Government Act 1993* (LG Act)

notional general income yield means the general income of the council for the previous year (2021–22) prior to making adjustment under paragraphs 509(2)(b) and (c) of the LG Act.

Each year we will update the formula. For example, for the 2023-24 rate peg methodology councils will calculate their supplementary valuations percentage based on their supplementary valuations revenue and notional general income yield for 2022-23.

Explanatory notes

Important features of the draft methodology include:

- The population factor reflects a linear relationship between population growth and council costs.
- The change in population for each council is calculated using ABS estimated residential population data.
- Councils with negative growth will have a population factor of zero. Such councils will receive a rate peg that is determined in same manner as it is now.
- If a council's supplementary valuations percentage exceeds its change in population, indicating the council has recovered more revenue through supplementary valuations than is necessary to maintain per capita general income, the population factor will be zero.

The draft methodology does not change the operation of the supplementary valuation process under the *Valuation of Land Act 1916* or the calculation of notional general income under section 509(2) of the LG Act. Councils will still calculate their notional general income in the same way as they do now. The rate peg methodology will, however, account for the value of supplementary valuations when determining the population factor to be applied.

2 We propose to adjust the rate peg for population growth

This section outlines other factors and issues we considered before reaching our proposed methodology, and the reasons we have not included some other factors.

2.1 We propose to measure the change in population rather than dwellings

We considered whether we should include a population factor based on a change in the number of dwellings, the number of rateable dwellings, or residential population. Our research presented in Information Paper 2 indicates both population and rateable dwellings have a relatively linear relationship with growth in costs. However, we prefer a measure based on population growth because councils that experience population growth without growth in rateable properties would be unfairly disadvantaged.

2.2 We propose to measure the change in residential population rather than service population

Many submissions to our Issues Paper highlighted the costs incurred by councils when their serviceable population is higher than their residential population.² Examples include councils that:

- attract large tourist populations, including day visitors and short-term holiday makers.
- act as regional business or cultural hubs. Some areas of NSW, such as Parramatta CBD and the City of Sydney CBD see large increases in population during parts of the day, which increase costs to council.
- provide services to workers who work in one council area, but live and pay rates in a different council area.

We considered whether we should include service populations within a population factor, and concluded the following:

- It is challenging to accurately measure service populations.
- There is some benefit to business ratepayers from a larger serviceable population. However, ultimately ratepayers across all rating categories, including residential ratepayers, could pay higher rates if our methodology accounted for changes in service populations.
- Collecting revenue from service populations is better achieved through user pays approaches, although councils can only use user charge approaches for some services such as car parking.
- Councils can apply to IPART for a special variation if they require additional revenue to accommodate their service populations.

2.3 We propose to use ABS data to measure population growth

We considered whether to base our population factor on Australian Bureau of Statistics (ABS) data or the Department of Planning, Industry and Environment's (DPIE's) population projections. We favour using the ABS Estimated Residential Population data because it is:

- publicly available
- easy to understand
- more accurate than a projection because it is a backward-looking estimate.

There was support in submissions and at council workshops for using population projections to measure population growth. However, there were also councils who raised concerns with the accuracy of DPIE's population projections.

Our analysis found the DPIE population projections were a good estimate of future population growth. Over the past 5 years, at the state level, the projections have been a good predictor of actual population growth. Our analysis also found that the projections were relatively accurate for most councils in NSW.

We found that using both historical estimates and forward-looking projections maintain the relationship between council revenue and the costs of population growth over time.

We tested our methodology using both ABS and DPIE data over 5 years and found that using ABS data produced better results and reduced the need to use a 'true-up' in the methodology to maintain accuracy over time.

Table 2 compares the accuracy of the ABS and DPIE data over the 5-years leading up to the 2016 Census. It show that the ABS data provides a better population estimate than the DPIE projection.

Table 2 Number of councils by 2011-16 population estimation error

Estimation error	ABS ERP	DPIE Projection
Overestimated growth by more than 5%	6	9
Overestimated growth by 2.5% to 5%	19	17
Estimation within 2.5%	96	78
Underestimated growth by 2.5% to 5%	5	18
Underestimated growth by more than 5%	3	7
Total number of councils	129	129

Source: IPART analysis., ABS, [National, state and territory population](#), December 2020; DPIE, [NSW population projections](#), December 2019.

We also considered using third party population projections, particularly those used by councils. Individual councils' forecast series are based on assumptions agreed by each individual council and the third-party provider. The relationship is not independent, and we prefer an estimate that is derived at 'arm's length' from councils' processes.

Our draft position is to use the ABS Estimated Residential Population data in our methodology, but we welcome stakeholder feedback on our proposed approach.

2.4 We propose to vary councils' total general income

Our preferred approach is to implement a methodology that maintains total per capita general income over time, instead of the portion of general income paid by residential ratepayers.

In some instances, a large portion of council rates income is paid by other ratings categories such as business or mining, instead of residential ratepayers. However, for most councils, residential rates make up most of their rates income. We prefer an approach that varies total general income as:

- Population growth brings growth in businesses in a council area, and there is no mechanism to increase rates income for growth in the number of businesses.
- The current rate peg methodology applies to councils' total general income.

There may be some councils where this approach will not work. We are considering whether a different approach is required for councils that collect more than 50% of their rates income from non-residential categories.

2.5 We are consulting with City of Sydney?

We considered whether one approach and methodology could apply to all councils or if we needed a different approach for some councils. Our research found one *methodology* is typically appropriate for councils. However, we may need to vary the population factor for some councils where the relationship between cost increases and population growth is not linear.

As an example, the City of Sydney is significantly different from other councils. Most of its rates income is paid for by businesses. Varying its total general income to account for residential population growth may overstate the additional revenue needed to service the change in population.

We intend to work with the City of Sydney between our draft and final reports to better understand how population growth impacts their costs and revenue and whether it is necessary to make any adjustments to our proposed method.

2.6 We propose to monitor the impact on councils to determine whether a 'true-up' is needed to reflect actual population growth

ABS population data, although backward looking, is an estimate. The data is updated to reflect actual growth after the census every 5 years. We considered whether it would be appropriate to re-base the population factor in the rate peg every 5 years following the census to reflect actual growth. We found:

- the census data does result in a re-basing of past population estimates, although for most councils the impact is likely to be minimal
- the added level of complexity to re-base population estimates and council general income may be unnecessary because the effect is very small for most councils.

Our analysis indicates that most councils have an estimation error of less than 2.5% (0.5% per year) for the period 2011-16, when comparing it with actual 2016 Census population data.

We propose to monitor the impact on councils of the re-basing of the ABS population data after the next census. Where there is a material impact on a council because actual population growth was significantly different to the ABS estimate, we may consider on a case-by-case basis whether an adjustment to the council's population factor is required.

2.7 We propose not to set a minimum threshold before applying a population factor

We considered whether we should apply a minimum threshold before applying a population factor. We found:

- councils' costs increase with population growth regardless of whether the growth is relatively small
- setting a minimum threshold is unnecessary because our proposed formula is relatively simple and easy to implement.

Most submissions to our Issues Paper agreed with an approach that did not set a minimum threshold.

2.8 There are other sources of funding for Councils experiencing high population growth

Our research of council costs found:

- a mostly linear relationship between the increase in population growth and the increase in council costs
- high growth councils do appear to have higher costs, but these are mostly capital costs that are paid for by developers.

Adding additional complexity for high growth councils may be unnecessary. We considered whether to apply a higher population factor to high growth councils, but as this would increase rates income for existing ratepayers, it would be inequitable.

There is a range of existing processes in place to fund high growth councils, including state and federal government infrastructure funding and grants. State and federal government grants and infrastructure funding (such as the state government's Special Infrastructure Contributions) should remain targeted to provide some additional funding for high growth councils.

2.9 We do not propose to adjust the population factor for socioeconomic disadvantage

Submissions to our Issues Paper suggested our methodology should incorporate a measure of socioeconomic disadvantage – such as the SEIFA Index.³ Councils are responsible for levying rates and in doing so consider the capacity or willingness of ratepayers to pay.

If we proposed an adjustment for socioeconomic disadvantage, then the councils with the most vulnerable ratepayers would receive less additional revenue. We consider that issues of social and economic disadvantage and capacity to pay, should be dealt with through state and federal government initiatives such as grants or other subsidies. Our approach does not consider a measure of socioeconomic disadvantage.

2.10 Our methodology applies a growth factor to each council

In our Issues Paper we asked stakeholders if they thought we should set a population growth factor for each council, or for groups of councils with similar characteristics. Our Terms of Reference also asked us to consider this matter.

Most submissions to our Issues Paper favoured an approach that used a different population factor for each council.⁴ Our proposed methodology is simple for councils to execute, and it is easy for us to calculate a population factor based on an agreed approach.

Applying a population factor to each council will result in a more equitable and accurate outcome. We see no need to apply a population factor to groups of councils.

3 The proposed rate peg formula

We also considered how best to structure and apply a population growth factor in the rate peg. The current rate peg formula is:

$$\text{Rate peg} = \Delta\text{LGCI} - \text{productivity factor} + \text{other adjustments}$$

Our proposed approach to implementing the reformed rate peg is:

$$\text{Rate peg} = \Delta\text{LGCI} - \text{productivity factor} + \text{other adjustments} + \text{population factor}$$

Each year, each council will have a population factor equal to the annual change in its residential population, adjusted for revenue received from supplementary valuations in the previous year.

The population factor is equal to the maximum of zero or the change in residential population less the supplementary valuations percentage. If a Council's population growth is negative (as measured by the ABS data) the population factor would be zero.

This approach reduces the lag between when population growth is counted and when the change in the LGCI is applied.

4 Council's rating structure determines who pays for population growth

As part of our review, we considered if we could implement a population factor in the rate peg and ensure the additional revenue that councils receive is paid for by new ratepayers. We also considered whether protections were needed for existing ratepayers, or if we should recommend changes to the LG Act to provide councils with more flexibility when setting rates to ensure new ratepayers pay their fair share of rates revenue.

Our review found the following:

- Although the change to the rate peg is to account for population growth, it is up to councils to set rates, and it is unlikely that all the additional revenue councils receive will be paid for by new ratepayers.
- The structure of rates and the type of development that occurs with population growth will ultimately determine how much new ratepayers pay.
- Existing ratepayers are likely to pay higher rates in instances where population growth is not accompanied by an increase in rateable properties.
- Existing ratepayers are likely to pay higher rates in areas experiencing infill development because the ratings system is based on the unimproved value of land.

- The changes to rating subcategories made by the *Local Government Amendment Act 2021* will provide some additional flexibility for councils to set rates to ensure new ratepayers pay their fair share. For residential subcategories, the amendments are most likely to be used by councils with greenfield developments, which will be more easily defined as distinct residential areas with significant differences in access to, demand for, or costs of providing, service or infrastructure compared with other parts of the local government area.

4.1 No additional protections are required

Our analysis found that the share of additional revenue that is split between new and existing ratepayers will vary from council to council. However, in most instances, new ratepayers will pay for most of the additional rates revenue associated with population growth. How much new ratepayers will pay for growth will depend on several factors. These factors include the type of growth or dwellings being built, the demographic of new ratepayers, and how councils choose to allocate the rate peg increase across their rating categories and subcategories.

At this stage, we are not recommending additional protections for existing ratepayers, because most of the costs of growth will be paid by new ratepayers. If councils were only able to obtain revenue from new ratepayers, there would be a shortfall in revenue to meet the costs of growth, which would likely result in more applications for special variations.

Further, the current system results in councils coming to IPART for a special variation, which if approved impacts all ratepayers in any case. Existing ratepayers will also likely benefit from improvements to services and infrastructure to service population growth.

The current ratings system presents 2 key barriers which reduce efficiency, including:

- the use of unimproved land values instead of improved land values
- non-rateability and reduced rateability of some types of development or land uses. Examples include:
 - secondary dwellings or granny flats, which increase population but do not increase rates income
 - some types of community housing or other housing, which do not pay rates
 - apartment buildings with a single owner, which only pay rates once and not for each individual apartment.

We found new ratepayers will pay a higher proportion of the costs of population growth when minimum rates and base rates are higher.

4.2 Who will pay for growth – worked examples

As outlined in Information Paper 1, the growth in general income that results from supplementary valuations is determined by applying a council's current rating structure (i.e. *ad valorem* and fixed charges across categories) to:

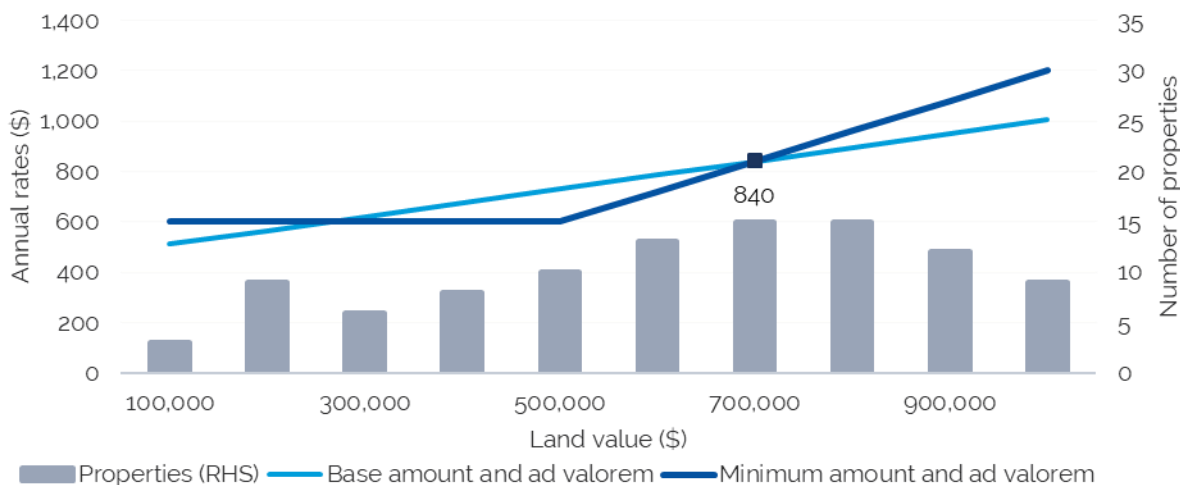
- the new value of the rezoned land (and to a different ratings category, if applicable), and/or
- the newly rateable properties.

The newly rateable properties will pay rates based on the council's ratings structure, which must comply with the LG Act. That is, rates may comprise either:

- a variable *ad valorem* amount, which may be subject to a fixed minimum amount, or
- a fixed base amount to which an *ad valorem* amount is added.

Figure 1 shows the different rate structures councils can use to collect rates income. The light blue line represents a ratings structure using a base amount, while the dark blue line shows a rating structure using a minimum amount. The grey bars represent all the rateable properties in a council area.

Figure 1 Comparison of base and minimum amount rate structures



Note: In this example there are 100 rateable properties. A property's position in the distribution, which is based on its land value, determines the annual rates the property will pay, based on how rates are structured.

In this example, a property with an unimproved land value of \$700,000 will pay \$840 in rates, regardless of whether the council uses a minimum rate or a base rate. The total rates revenue in this example, which is the sum of the last column in Table 3 is \$81,720, and the rates per property are \$817.

Table 3 shows the rates paid by properties based on their unimproved land value.

Table 3 Comparison of base and minimum amounts

Land value (\$)	\$600 minimum and 0.12% ad valorem	\$455 base and 0.055% ad valorem	Properties	Rate revenue (using minimum rate structure)
100,000	600	510	3	1,800
200,000	600	565	9	5,400
300,000	600	620	6	6,000
400,000	600	675	8	4,800
500,000	600	730	10	6,000
600,000	720	785	13	9,360
700,000	840	840	15	12,600
800,000	960	895	15	14,440
900,000	1,080	950	12	12,960
1,000,000	1,200	1,005	9	10,800
Total			100	81,720

Infill development example

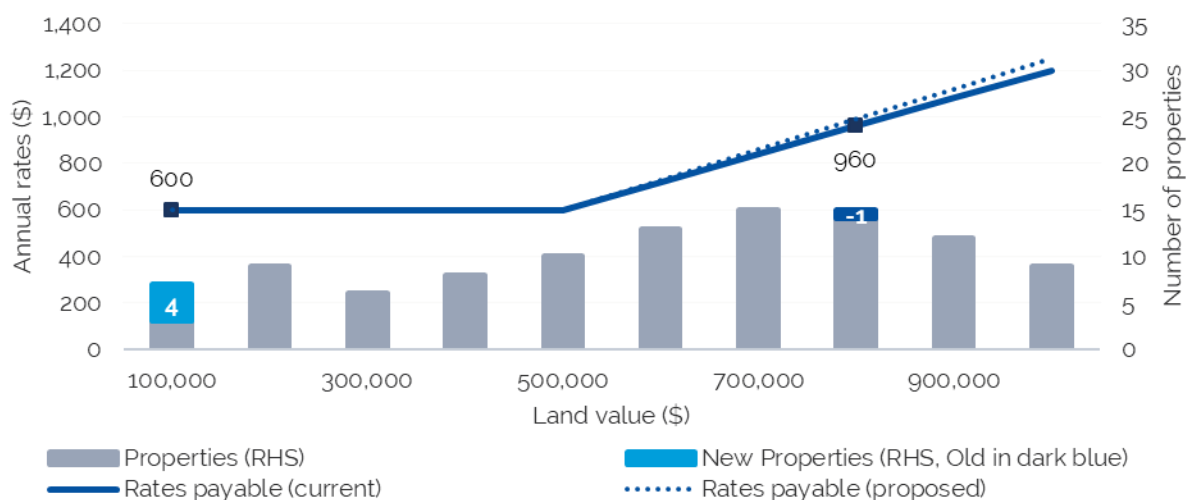
In inner metropolitan areas, development is mostly due to subdividing existing residential lots into dual-occupancy dwellings, multi-dwelling units or apartment buildings. Figure 2 and Table 4 show an example where infill development occurs. In this example, the property represented by the dark blue square in Figure 2 is subdivided into 4 new properties (the light blue square). We have simplified the example to show the impact of our methodology when a council uses a minimum rate structure.

Under the current rate pegging system, the council's total rates income will increase by \$1,440 from \$81,720 to \$83,160 (due to supplementary valuations), but the amount of rates revenue will fall on a per property basis from \$817 to \$807. Revenue falls per property because the existing property, which paid \$960 in rates, is replaced by 4 properties that each pay the minimum rate, which is \$600.

Under our proposed methodology, councils would at least maintain their per capita rates. If the minimum rate remains unchanged, then the slope of the *ad valorem* section of the line becomes slightly steeper, meaning existing ratepayers pay more (the blue dashed line).

How much new properties pay in rates will depend on their unimproved land value and the council's rating structure. In this example, of the \$2,452 of additional revenue the council will receive from population growth, \$1,440 (59%) will be paid by new ratepayers and \$1,012 (41%) will be paid by existing ratepayers.

Figure 2 Example of infill development impact on residential rates per property



Note: In this example the blue property paying approximately \$960 per annum in rates, is replaced with 4 properties each paying \$600. The 3 additional (one property is replaced by four) properties' rates are below the median rate paid for all the properties in the LGA. If the rate structure remains unchanged, it will lower the residential rate per property income for the council.

Table 4 Infill development example

Land value (\$)	Rates payable (current)	Rates payable (proposed)	Properties	Rate revenue (current)	Rate revenue (proposed)
100,000	600	600	7 (+4)	4,200	4,200
200,000	600	600	9	5,400	5,400
300,000	600	600	6	3,600	3,600
400,000	600	600	8	4,800	4,800
500,000	600	609	10	6,000	6,093
600,000	720	731	13	9,360	9,505
700,000	840	853	15	12,600	12,796
800,000	960	975	14 (-1)	13,440	13,649
900,000	1,080	1,097	12	12,960	13,161
1,000,000	1,200	1,219	9	10,800	10,968
Total			103	83,160	84,172

Greenfield development example

In outer metropolitan, rural and regional areas, development is mostly due to subdivision of existing farmland or other non-residential zones into residentially zoned land with detached dwellings. Figure 3 and Table 5 show an example where greenfield development occurs and 10 new properties are added (the light blue squares). This example ignores the foregone revenue from the pre-residential zone. We have simplified the example to show the impacts when a council uses a minimum rate structure.

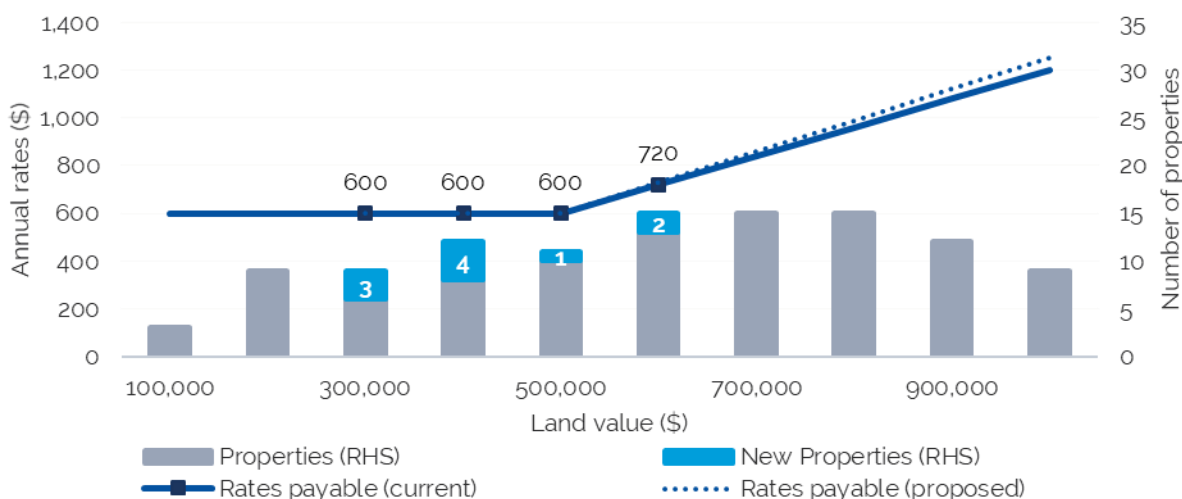
Under the current rate pegging system, the council's total rates income will increase by \$6,240 from \$81,720 to \$87,960 (due to supplementary valuations), but the amount of rates revenue will fall on a per property basis from \$817 to \$800. Revenue falls per property because the new properties are below the median rates paid in the area.

Under our proposed methodology, councils would at least maintain their per capita rates. If the minimum rate remains unchanged, then the slope of the *ad valorem* section of the line becomes slightly steeper, meaning existing ratepayers pay more (the blue dashed line).

How much new properties pay in rates will depend on their unimproved land value and the council's rating structure. In this example, of the \$8,172 of additional revenue the council will receive from population growth under the proposed methodology, \$6,298 (77%) will be paid by new ratepayers and \$1,874 (23%) will be paid by existing ratepayers.

The \$58 difference between the \$6,240 from the current rate peg system and the amount new ratepayers pay under our proposed approach (\$6,298) is because two properties are subject to an *ad valorem* amount which increased slightly.

Figure 3 Example of greenfield development impact on residential rates per property



Note: In this example the 10 new properties are mostly paying the \$600 minimum rate. Two of the properties pay more because their new unimproved land value is approximately \$600,000. The 10 additional properties' rates are close to, but below, the median rate paid for all the properties. If the rate structure remains unchanged, it will lower the residential rate per property income for the council. The *ad valorem* part of the dark blue line will get only slightly steeper in this example.

Source: IPART analysis.

Table 5 Greenfield development example

Land value (\$)	Rates payable (current)	Rates payable (proposed)	Properties	Rate revenue (current)	Rate revenue (proposed)
100,000	600	600	3	1,800	1,800
200,000	600	600	9	3,600	5,400
300,000	600	600	9 (+3)	5,400	5,400
400,000	600	600	12 (+4)	7,200	7,200
500,000	600	617	11 (+1)	6,600	6,787
600,000	720	740	15 (+2)	10,800	11,106
700,000	840	864	15	12,600	12,957
800,000	960	987	15	14,400	14,808
900,000	1080	1111	12	12,960	13,327
1,000,000	1200	1234	9	10,800	11,106
Total			110	87,960	89,892

¹ Australian Bureau of Statistics (ABS), [ERP by LGA \(ASGS 2020\), 2001 to 2020](#), March 2021.

² NSW Revenue Professionals, submission to IPART Rate Peg Review Issues Paper, p 5 and Byron Shire Council, submission to IPART Rate Peg Review Issues Paper, p 1. Submissions are published on our [rate peg review website](#).

³ Wagga Wagga City Council, submission to IPART Rate Peg Review Issues Paper, p 9. Submissions are published on our [rate peg review website](#).

⁴ Liverpool City Council, submission to IPART Rate Peg Review Issues Paper, p 6. Submissions are published on our [rate peg review website](#).