The Auckland Amalgamation. An inquiry into the impacts of Amalgamation, Development Contributions and Land Taxation on the Rate and Density of New Development.

Data Collection Phase Final Report*

by

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with

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* This report was prepared by Yen Le as a summary of the methods used to collect data for this project. The report has been edited and moderated by Norman Gemmell and Arthur Grimes.

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1. Introduction

Auckland is the largest city in New Zealand with 34 percent of the population in 2014. It also contributed the most to the country’s GDP with 35 percent in 2010 (Statistics New Zealand, 2014). According to the Royal Commission on Auckland Governance, the amalgamation was expected to increase the city’s productivity and innovation, as firms benefited from economies of scale.

Auckland Council was formed by an amalgamation of seven local councils or Territorial Local Authorities (TLAs) in 2010: Auckland City, Waitakere City, Manukau City, North Shore City, Rodney, Papakura and Franklin, together with the former Auckland Regional Council (ARC). As can be seen in the map below, Auckland City, North Shore, and parts of Manukau and Waitakere are TLAs with high population density. Auckland City was the largest with a population of 420,000 in 2014. On the other hand, Franklin and Papakura population were small, with only 11 percent of Auckland City’s population in 2014.

Map 1: Auckland Council

Before the amalgamation, though each TLA was a part of the wider Auckland Regional Council, each used a different ‘Rating’ system of local taxation to fund its expenditure. They also had different development contribution policies. Development contributions (DCs) are a system of taxes or levies applied to new building developments¹, or extensions to existing buildings, in Auckland.²

¹ Financial Contributions (FCs) can also be charged on new developments, but data on these are limited. We discuss our handling of FCs in section 2.8.2.
² To avoid confusion between the generic term ‘tax rates’ and the specific ‘rates’ system of local taxation, when we refer below to the latter we use a capital ‘R’: Rates.
Amalgamation resulted in changes in the Rating system and a new, more uniform, development contribution policy. During the transition period (2011 and 2012), Auckland Council used ‘interim policies’ which were similar to the policies used by the former local councils. Since July 2012, Auckland Council has set a single uniform rating system and development contribution policy. Among several system changes, this resulted in changes from land-value based Rates to capital-value based Rates in some TLAs.

This report summarizes some background on Rates and development contributions across TLAs, and outlines the methodology used to estimate Rates and development contributions paid by developers.

2. Background

Auckland TLAs and the new Auckland Council levied two kinds of Rates: General Rates and Targeted Rates. General Rates are used to fund Councils’ general activities, those deemed to be of general or widespread benefit to Council ratepayers. General Rates include two components: a uniform annual general charge (UAGC), and a value-based annual General Rate. The UAGC is levied as a fixed dollar amount and varied from $0 to $770 among the former local councils. The Rates can be summarised as follows:

<table>
<thead>
<tr>
<th>Rate type</th>
<th>Value-based</th>
<th>Fixed $ amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Capital-value, land-value, or annual-</td>
<td>UAGC</td>
</tr>
<tr>
<td>Targeted</td>
<td>value Rates</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transport Rate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stormwater Rate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Auckland Museum &amp; regional amenities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rate</td>
<td></td>
</tr>
</tbody>
</table>

* See list in Tables 2 & 5; † Waitakere and Papakura were the only TLA where this Rate was set as a step-function similar to an income tax structure; in Rodney, 2006-09, the general Rate varied across sub-areas of the TLA (e.g. Hibiscus Coast, rural, other townships). We construct an ‘average general Rate in this case (see section 3)

The mixture of ‘fixed’ (dollar value based) and value-based Rates across Councils can be seen in Table 1 which is illustrative of the 2010 financial year:

Table 1 Fixed and value-based Rates components

<table>
<thead>
<tr>
<th></th>
<th>Auckland City</th>
<th>Franklyn</th>
<th>Manukau</th>
<th>North Shore</th>
<th>Rodney</th>
<th>Waitakere</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Rate (2010):</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UAGC</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Value-based</td>
<td>AV</td>
<td>CV</td>
<td>AV</td>
<td>LV</td>
<td>LV</td>
<td>LV</td>
</tr>
<tr>
<td><strong>Targeted Rate (2010):</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste Management</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td></td>
</tr>
</tbody>
</table>

3 There has, however, been a multi-year transition to the final rates of Rates for communities that previously had very low or very high rates relative to the new norm.
<table>
<thead>
<tr>
<th>Stormwater</th>
<th>CV</th>
<th>LV</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Water supply capital/ loan repayments</td>
<td></td>
<td></td>
<td>F</td>
</tr>
<tr>
<td>Wastewater</td>
<td>F*</td>
<td>F</td>
<td>F*</td>
</tr>
<tr>
<td>Transport</td>
<td>CV</td>
<td></td>
<td>LV</td>
</tr>
<tr>
<td>CBD Targeted</td>
<td>F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscellaneous (Auck. City)**</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Facilities</td>
<td>F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Auckland Regional Amenities (from July 2009)</td>
<td>F</td>
<td>AV</td>
<td>LV</td>
</tr>
<tr>
<td>Auckland Museums: War memorial</td>
<td>F</td>
<td></td>
<td>LV</td>
</tr>
<tr>
<td>Transport and technology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Representation</td>
<td>F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civic Amenities; Democracy &amp;</td>
<td>F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civic Leadership</td>
<td>F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leisure Centre for Hibiscus Coast</td>
<td></td>
<td></td>
<td>F</td>
</tr>
<tr>
<td>Rugby World Cup levy</td>
<td></td>
<td></td>
<td>F</td>
</tr>
</tbody>
</table>

Note: F = Rate set as fixed dollar amount; CV (LV, AV) = capital-value (land-value, annual-value) based Rate.
* Paid directly to private supplier in these TLAs but added to Council Rates bill here; see section 3.2.5.
** Miscellaneous includes Rates for ‘Community Development and Housing’, ‘City Development’, ‘Open Spaces and Volcanic Cones’, and ‘Heritage and Urban Design’.

2.1 Value-based Rates

a. General Rates:
The value-based General Rates were assessed on properties’ capital value (CV), land value (LV), or ‘annual value’ (AV). According to Auckland Regional Council annual plan, CV is the total value of land with improvements. LV is the value of land without improvements. AV is the greater of either the annual rent at which the property could be let, or 5 percent of the capital value of the property.

These Rating values are assessed by the Council or Quotable Value (QV) every three years. QV uses the world-wide ‘mass appraisal’ process to determine rating valuations which considers property attributes and relevant local sales around the time of the revaluation. From this a ‘market trend’ is established and applied to similar properties. In addition to the Rates levied by each TLA, each resident in a TLA was liable to pay an Auckland Regional Council Rate. Specifically, ratepayers paid capital value General Rates to fund a range of regional activities such as the regional growth strategy, storm water management etc. In addition, they

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* See [https://qvgroup.qv.co.nz/more-about-rating-values](https://qvgroup.qv.co.nz/more-about-rating-values).
may pay Targeted Rates in five areas of activities: biosecurity, possum control in South Kaipara, possum control in Awhitu, parkland purchase and transport.

Table 2 indicates the value-base for General Rates in the former councils before July 2012.

<table>
<thead>
<tr>
<th>CV</th>
<th>LV</th>
<th>AV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Franklin</td>
<td>Waitakere</td>
<td>Auckland City</td>
</tr>
<tr>
<td>Auckland Regional Council</td>
<td>North Shore</td>
<td>Manukau (after July 2006))</td>
</tr>
<tr>
<td>Rodney</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manukau (to July 2006)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papakura</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note that Manukau used land-value taxation before July 2006, but changed to an annual-value basis from July 2006 till July 2012.

b. Annual-value Rates:
According to the Auckland Regional Council annual plan, the ‘annual value’ of a property was the greater of either:
- 5 percent of the property’s capital value; or
- The rental value of a property on the open market, less 20 percent to cover normal expenses for developed land, or less 10 percent for vacant land.

Due to data constraints, we assume that an annual value for all residential property equal to 5 percent of the property’s capital value.

According to the Auckland Council long-term plan 2012-2022, wastewater Rates are no longer charged directly by Auckland Council since July 2012. Instead they are billed directly to customers by Watercare - a council organisation, wholly owned by the Auckland Council.

2.2 Targeted Rates
Targeted Rates raise revenue from specific ‘targeted’ local council services. Common services include transport, water and wastewater services. For example, Rodney and Franklin charged transport and stormwater Rates to fund costs of the roading network and the stormwater network. On the other hand, water and wastewater Rates were used to fund the council’s water supply and wastewater network. Targeted Rates are variously set as a fixed dollar amount or are value-based. Thus, an individual TLA may use both capital-value based Rates and land-value based Rates. Rodney was the only council which did so. From 2006 to 2009, it used land-value taxation in both general Rates and targeted Rates. From 2010 to 2012, Rodney used land-value taxation for general Rates and capital-value for transport Rates (a component of targeted Rates). In 2010, a typical ratepayer paid $264 for value-based general Rates and $283 for transport Rates.

2.3 Development contributions
Development contributions are fees charged by the Council for residential development. They are used to fund the extra community and network (e.g. transport) infrastructure required as a result of new building development (Auckland Council, 2014). For each of the infrastructure
activities funded by DCs, contribution catchments have been determined based on geography, service delivery, the nature of the infrastructure project, and local community needs.

Under section 198 of the Local Government Act (LGA), 2002, a territorial authority may require a development contribution when:

- a resource consent is granted under the Resource Management Act 1991 within its district;
- a building consent is granted under the Building Act 2004 for building work situated in its district;
- authorization for a service connection is granted.

Development contributions can only be required where a development is to occur. Section 197 of the LGA 2002 defines development as:

- any subdivision, building (as defined in section 8 of the Building Act 2004), land use, or work that generates a demand for reserves, network infrastructure, or community infrastructure; but does not include the pipes or lines of a network utility operator.

Local councils set development contributions via the following steps:

Step 1: Identify the catchment;
Step 2: Estimate units of demand generated by the growth for each catchment;
Step 3: Project the cost of growth for each catchment;
Step 4: Distribute the capital expenditure attributable to growth over the additional units of demand for each catchment;
Step 5: Adjustments for open-space land acquisition, and storm water activities (if applicable).

Section 203(1) of the LGA 2002 requires that a development contribution for reserves calculated under this policy must not exceed the greater of:

- 7.5 percent of the value of additional allotments created by a subdivision.
- the value equivalent of 20 square meters of land for each additional household unit created by a development.

2.4 The policy transition process

The amalgamation into Auckland Council in 2010 involved a ‘transition process’ whereby previously different council policies in each TLA transitioned towards a common policy. Table 3 presents the policy transition process for development contributions, and Table 4 for Rates (Auckland Council, 2012).

It should be noted that Auckland Council has had no authority to charge water and wastewater contributions since July 2011. These contributions were replaced by the ‘infrastructure growth charge’ from Watercare. The charge is a fee applied to all new developments connecting to Watercare’s networks in Auckland City, Manukau, North Shore, Waitakere and Rodney.

‘Interim policy’ refers to the development contribution policy set by former local councils.

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5 ‘Reserves’ refers to local land set aside as ‘open spaces’ for recreation etc. They include, but are not restricted to, nature reserves.
The policy transition process for Rates is as follows.

- Rates for the 2010/2011 financial year were Rates set by former councils.
- Rates for the 2011/2012 financial year were equal to 2010/2011 rates plus a transition Rate.
- From July 2012, Rates were set by Auckland Council (with provision for a smooth transition to the final standardised rate over time).

Table 3  The policy transition process for development contributions

Table 4  The policy transition process for Rates

2.5 Area Units

Area Units are non-administrative geographic areas that are between meshblocks and territorial authorities in size. Area units are aggregations of meshblocks, the smallest geographic units for which Statistics New Zealand collects statistical data. Area Units (AUs) can be aggregated to identify territorial authorities, regional councils and urban areas. For most of our data, the Area Unit is the most disaggregated unit available: in the Auckland region there are 437 AUs,
and 11,768 meshblocks (Statistics New Zealand). Each area unit within urban areas normally contains a population of 3,000-5,000 people. Meshblock sizes are variable, from part of a city block to large areas of rural land. Additionally, a Territorial Local Authority is also a City Council or a District Council. There are 67 TLAs in New Zealand.

3. **Project Methodology**

The emphasis of our study is on the effects of changes in taxes – local Rates and development contributions - on the rate and density of new development. In order to do that, we need to find the marginal tax rate (marginal Rates) and development contributions that a typical residential ratepayer would pay. Due to a lack of available data on Rates and ‘infrastructure growth charges’ (water and wastewater contributions) in Papakura, we excluded it from our observations.

3.1 **Median property (land, capital and unit) values by Area Unit (AU)**

Since distributions of property values can often be highly skewed (with small numbers of very highly valued properties), we worked with median, rather than mean, values across AUs to reduce the impact of outliers.

a. **Median land value/capital value**

Land value and capital value data for residential properties were obtained from Quotable Value (QV). By re-structuring the raw data appropriately, we obtained the median property values in each AU. Note, however, that each data point provided by QV is itself an estimate of the median value of properties in an AU.

b. **Median unit values (File: median consent value.xlsx)**

Each building consent may be for a single property ‘unit’ (e.g. a detached house) or multiple units such as apartment blocks. Building consents data were obtained from Statistics New Zealand (SNZ) and include number of (new) units and the value of the building consent, by AU. Using a similar method to that described above, we obtained the median unit value of building consents that are available for several residential building categories: houses attached and unattached horizontally; apartment blocks with 0-9 units; apartment blocks with 10 or more units; and total residential dwellings (the sum of the three residential categories).

3.2 **Rates**

Councils’ Rating policies were obtained from the annual plans and the long-term plans of the former councils, Auckland Regional Council and Auckland Council. In some cases, the annual

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6 The method used to obtain the median land value or capital value of a property in Auckland was as follows: (1) treat each group in an area unit as an observation; (2) reorder the number of assessments and the values of properties from smallest to largest; (3) identify the mid-point in terms of the number of assessments in an AU.
plan did not state clearly the rate the council would charge. In this case, we use Rates from Auckland Council data (File: Rates_decimals.xlsx).

Rates were calculated for the ‘urban residential’ area, where this was defined as: land within the Metropolitan Urban Limit (MUL), land within the Pukekohe township that is used exclusively or almost exclusively for residential purposes (Auckland Council, 2012). For our estimates we included some townships in Rodney District (i.e. Wellsford, Warkworth, Snells Beach/Algies Bay etc) in the urban residential area. This choice reflects the fact that most developments occur inside the MUL or urban areas, since permission to build new developments outside the MUL is rarely granted.

In addition, Goods & Service Tax (GST; a central government levied consumption tax) is applicable to local Rates. However, to avoid changes in Rates associated with the nationwide change in GST in 2010 (from 12.5 percent to 15 percent), all Rates are reported here exclusive of GST.

3.2.1 General Rates.

As noted above, in most TLAs, the value-based General Rates, GR (i.e. excluding the UAGC), typically took a simple form of a uniform percentage ‘rate’ applied to the land, capital or annual value of the property tax base within the TLA, though this uniform percentage usually differed across broad types or location categories of the property – residential, business, urban, rural etc. We focus on the residential General Rate because this is the relevant Rate for almost all residential developments subject to building consent.

In two TLAs however, Waitakere and Papakura (Papakura is excluded later from our analysis due to lack of some data) the GR system was slightly different. In particular, in Waitakere though the General (value-based) GR was based on a property’s land value, the system used a ‘step function’ structure whereby the marginal GR applicable depended on where, within a set of threshold values, a particular property’s value was located.

For a single residential unit, there were three Rate ‘steps’. For 2005-08, there were, Residential step 1: $1-$150,000; Residential step 2: $150,001-$380,000; Residential step 3: more than $380,000. The residential steps increased in July 2008. For example, the threshold for residential step 1 increased to $270,000 for 2009-12.

To facilitate comparisons of GRs across TLAs, we estimated the average General Rates liability for a median land-value property across the Auckland region. For Waitakere, QV data yields the following median land values.

<table>
<thead>
<tr>
<th>Year</th>
<th>Median land value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>$165,000</td>
</tr>
<tr>
<td>2007</td>
<td>$194,000</td>
</tr>
<tr>
<td>2008</td>
<td>$225,000</td>
</tr>
<tr>
<td>2009</td>
<td>$260,000</td>
</tr>
<tr>
<td>2010</td>
<td>$250,000</td>
</tr>
</tbody>
</table>

It can be seen that the median land value in 2006 was between step 1 and step 2. Thus the median GR, expressed as a percentage of the median land value (in 2006), in Waitakere was calculated as:

\[
GR = \frac{\text{Residential rate}_2 \times (165,000 - 150,000) + \text{Residential rate}_1 \times 150,000}{165,000}
\]
Similar calculations yield GRs for 2007 and 2008. For, 2009 and 2010 median land values can be seen to be within Residential step 1, such that the relevant Rate is that for Residential step 1.

3.2.2 Targeted Rates

Unlike General Rates, which are mostly levied at a uniform percentage or value within a TLA, most Targeted Rates are set to fund specific areas of Council expenditure, and at different values or levels for particular areas within the TLA. A few (such as transport and wastewater Rates) were set at a common value across the TLA. For the former, non-uniform case, to compare those Target Rates across TLAs, we need to estimate average TLA value of each specific Target Rate set by the Councils.

To do so, we first used Google maps and SNZ’s area unit map to match an AU to the relevant specified Rating area. Second, based on that information we identified the Rates a ratepayer in an area unit would pay. Then, from building consents data, we aggregate the number of new units by AU from 2005 to 2014.

Let \( n_i \) be the number of new (building consent) units in area unit \( i \) from 2005 to 2014. Let \( R_{j,i} \) be the specific targeted Rate, \( j \), paid by residents in area unit \( i \), and suppose that a Council contains \( m \) area units. Then the TLA-average specific targeted Rate, \( \bar{R}_{j,i} \), for new developments in a given TLA is a weighted average of the values of the specific targeted Rate in each of the \( m \) area units, given by:

\[
\bar{R}_{j,i} = \sum_{i=1}^{m} w_i R_{j,i}
\]

where \( w_i = n_i / n \) is the weight attached to each \( R_{j,i} \), and \( n = \sum n_i \) is the total number of new units (within building consents data) in the Council’s jurisdiction. That is, AUs within a TLA where there were greater numbers of building consents, are given a greater weight in the relevant targeted rate average for that TLA. Using this approach, we obtain averages for each specific targeted Rate for each TLA (that was not set at a uniform rate across the TLA), such as the ‘CBD targeted rate’ (Auckland City), the ‘Community facilities targeted rate’ (Franklin), etc. (See Table 5)

For example, from 2006 to 2009 Rodney charged different Rates to ratepayers living in the Hibiscus Coast area, and those in rural and other township areas, which was defined as the whole of the district excluding Hibiscus Coast. Our observations are for the urban residential area; thus we match the Hibiscus Coast Rate to Rate for Rodney Council’s ‘urban ordinary Hibiscus Coast properties’ and match the Rural and Township Rate to the Rate for ‘serviced towns’. From building consents data, 74 percent of new units were built in Hibiscus Coast, and 26 percent were built in other townships (Wellsford, Warkworth, Snells Beach/Algies Bay, etc) during 2005-14. Thus, the average (general and targeted) Rates for Rodney were estimated as the sum of 0.74*urban Hibiscus Coast Rate and 0.26*serviced towns Rate.

3.2.3 Auckland Regional Council Rates.
Auckland Region Council (ARC) charged a General Rate, a Biosecurity Rate, a Parkland Purchase Rate and a Transport Rate, payable by residents in all Auckland TLAs, in addition to the Rates levied within each TLA. The values of these ARC Rates differed by TLAs, and sometimes for specified areas within TLAs.

Transport Rates were different across areas in the Auckland region (where rating areas were defined in this case as ‘inner urban area’; ‘metropolitan areas A, B, and C’; ‘settlement area A, B, and C’). This was designed to reflect differences in the level of public transport provision in these areas. To accommodate these differences, our ARC Rates calculations across TLAs were estimated as follows:

- Auckland city: Most of the city is in the inner urban area (except Mission Bay and offshore islands). Thus, the inner urban Rate was used.
- Rodney: We use the Rate for metropolitan area A. (Rodney has both settlement A and settlement C areas, but the latter are relatively small compared to metropolitan area A).
- North Shore, Manukau and Waitakere: We use the average of the inner urban Rate and the metropolitan A Rate.
- Papakura: We use the average of inner urban, metropolitan A and metropolitan B Rates.
- Franklin: We use the average of settlement A and settlement C area Rates.

An alternative method would be to calculate transport Rates according to within which of the above transport Rate areas a particular AU is located. However, applying this method would be difficult due to a lack of sufficiently detailed suitable maps to allow us to uniquely allocate AUs to the transport Rating areas described above.

With suitably detailed maps, AUs could be matched to transport rating areas. For example, let \( t_i \) be the transport Rate in area unit \( i \). The average transport rate for a TLA with \( m \) AUs would be: \( \sum_{i=1}^{m} w_i t_i \), where \( w_i = n_i / n \) is the weight attached to each \( t_i \), and \( n = \sum n_i \) is the total number of new units (within building consents data) in the TLA’s jurisdiction. However, we have only been able to obtain transport Rating area maps from the long term plan 2009-2019, and the 2010-2011 annual plan, which clearly indicate rating areas. Previous maps were available in black and white only, from which individual transport areas cannot be identified. In addition, the boundaries of the Rating areas were revised by the Auckland Regional Council most years.

3.2.4 Transition Rates

The financial year beginning in July 2012 (2012/13) was the first year that Auckland Council applied a single uniform rating policy. Rates for 2011 were those set in the Councils’ annual plans for the period 1 July to 31 October 2010.

According to the Local Government (Auckland Transitional Provisions) Act 2010, Rates for 2011/2012 were equal to the previous Rates in 2010/2011 plus a transition rate. The Council set a transition Rate increase of 3.94 percent - a uniform increase across the region. However, wastewater Rates for the 2011/2012 financial year increased by 4.5 percent.

7 ARC also charged a South Kaipara Possum Control Rate and an Awhitu Possum Control Rate; however, South Kaipara and the Awhitu Peninsula are both rural areas, so outside the scope of our Rates calculations. Rates for Auckland City offshore islands and Rodney District offshore islands were also excluded.
3.2.5 Wastewater Rates

Some councils such as Waitakere, Franklin, North Shore and Rodney included wastewater charges in their Target Rates (generally a fixed charge per rating unit). Other councils did not include these charges in their Rates. For example, Manukau set a fixed targeted wastewater Rate in 2005/2006. However, from 1 July 2006 the wastewater charge was billed directly by Manukau Water Limited. Papakura had the wastewater charge set by Veolia Water (United Water). In addition, ratepayers in Auckland city paid wastewater charges to Metro Water. However, it might be expected that ratepayers would perceive wastewater charges as part of, or equivalent to, their Rates charges. Thus, we have included wastewater charges for Auckland City and Manukau in their Rates. Auckland City and Manukau wastewater charges for the 2010/11 financial years were obtained from Watercare reports.

Manukau Wastewater Rates in 2006 were fixed but differed for ‘serviced properties’ and ‘serviceable properties’. Serviced properties were those having one or more connections to the wastewater network, either directly or through a private drain. Serviceable properties, on the other hand, were those situated within 30 metres of any part of the wastewater network (and hence could be effectively connected to the wastewater network, either directly or through a private drain) but were not connected. We assume that urban residential properties are serviced properties such that the 2006 Rates for serviced properties would be applied. From 2007, wastewater Rates were billed by Manukau Water. Manukau wastewater charges in this period were obtained from various online sources.

Auckland City data on Wastewater Rates prior to 2011 were not obtainable. By default, we treat wastewater Rates from 2006 to 2010 as equal to 2011 values.

In 2006, Waitakere’s Wastewater Rates were based on land values and followed a ‘step function’ as with General Rates. They were set on properties in the so-called ‘Drainage Area’. Suppose that the Drainage Area was most areas of Waitakere. The factor (land-value) used to calculate the General Rates and Wastewater Rates for one property was the same. Thus, the council set the expected level of revenues to be raised from the Wastewater Rates as a percentage of revenues raised from the General Rate. This enabled the Wastewater Rate, WWR, to be set once the GR had been set, as follows.

Let \( T_{GR} \) be the revenue (planned to be) raised from land-value based General Rate in a given year, and \( T_{WWR} \) be the revenue (planned to be) raised from the Wastewater Rate. Then the (uniform land-value based) Wastewater Rate for a residential property was calculated by the Waitakere Council as:

\[
WWR = \left( \frac{T_{WWR}}{T_{GR}} \right) GR
\]

and applied to the land-value of each property.

In 2007, Waitakere introduced a fixed (dollar amount) wastewater charge on each ‘separately used or inhabited part’ (SUIP) of a property, in addition to the land-value based WWR for properties in the Drainage Area. Treating the number of SUIPs and the number of properties
as the same, we use the same method (as for 2006) to estimate the land-value based wastewater Rate for 2007.

Since July 2012, wastewater charges have been collected by Watercare. According to Watercare, customers with water meters would pay a fixed annual charge and a volumetric charge per water meter. They assume that wastewater volume is 78.5 percent of the water volume as measured by the water meter. On the other hand, customers with no metered water would pay a higher fixed annual wastewater charge. It is difficult to estimate the amount of water consumption by each household or property and in general few residential ratepayers have metered water. Therefore, we assume that the wastewater charges for a typical customer will be equal to the wastewater charges for a customer with no meters.

Papakura wastewater charges from 2006 to 2014 were unobtainable.

3.2.6 Auckland Regional Amenities, Auckland Museum and Museum of Transport & Technology, Rates

The Regional Amenities Rates were first introduced in 2009/2010 according to the Auckland Regional Amenities Funding Act 2008. These Rates were different across TLAs. Some TLAs had fixed Rates (Franklin); some had value-based Rates (Manukau, Papakura and North Shore). Others (Auckland City, Waitakere and Rodney) did not set these Rates.

North Shore set Auckland Regional Amenities and Museum Rates depending on the number of SUIP within one rating unit. According to Auckland Council, most people live in a single SUIP. An example of properties with more than one SUIP would be a house with an additional separate dwelling. We assume that the typical Rate in this case would be the Rate for a single SUIP.

3.2.7 Rates after amalgamation

Auckland Council set the same general Rate for all ratepayers. However, targeted Rates continued to differ across the former TLAs. Auckland Council levy a ‘City centre targeted rate’ on business land in the city centre area. Other Rates such as Araparera Forestry targeted rate, Riverhaven Drive targeted rate, Waitakere rural sewerage targeted rate etc were for rural residents. All of these Rates were excluded from our estimates. Auckland Council’s targeted Rates for urban residential properties were waste management Rates.

For waste management Rates, Rates for Auckland City were based on the types of services the council provided: full service, refuse services etc. Assume that ratepayers in Auckland City chose full service thus Rates for ‘full service’ were applied. In addition, Franklin had two types of Rates depending on services: refused collection and recycling collection. Assume that both services were available for urban residential, thus ratepayers paid for both Rates. The waste management Rates for Franklin would be sum of refuse collection and recycling collection Rates.

3.2.8 Estimating ‘Average’ Total Rates

The total Rates liability of a residential ratepayer in each TLA before and after amalgamation can be estimated for an ‘average’ resident where this ‘average’ is composed of several elements.
that, as shown above, is obtained as a mixture of uniform or variable Rates specified by each Council and various averages that we have calculated for several TLA sub-areas. Broadly speaking each average Total Rate, ATR, for an individual ratepayer in a TLA, is calculated as:

\[ ATR = r_L V_L + r_C V_C + r_A V_A + \Sigma \text{(average fixed Rates)} \]

where \( r_L \) (\( r_C \), \( r_A \)) are average Auckland land-value based (capital value, annual value) Rates, and \( V_L \), \( V_C \) and \( V_A \) are the median property land value, capital value and annual value respectively. Note that, since most TLAs use one of a property’s land, capital or annual value in setting its Rates, then only one of \( r_L \), \( r_C \), and \( r_A \) > 0 in each TLA. Also, since the values of some of these \( r_L \), \( r_C \) and \( r_A \) continued to vary across TLAs after amalgamation (2010/2011 and 2011/2012 financial year), this continued to affect the average Total Rates a ratepayer would pay in each TLA after amalgamation.

Dividing these average Total Rates by median land value or by median capital value, allows us to compare these value-based Rates across TLAs using a common metric.

Table 5 summarises the various targeted Rates and the methods used to estimate them for each TLA, based in the 2009-10 year as an example. Column 2 shows which Councils used the different Targeted Rates in column 1. Column 3 indicates the method used to estimate the average value within each TLA. Such a calculation was not required where Rates were applied uniformly across the TLA (hence “specified in Rating policy” appears in column 3). Where an average was calculated the method shown in column 3 is as described above.

Table 5  Targeted Rates in 2009-10 and methods of estimation

<table>
<thead>
<tr>
<th>Targeted Rates</th>
<th>TLAs</th>
<th>Calculation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste management</td>
<td>Auckland City, Franklin, Manukau, North Shore, Waitakere (to July 2006), Auckland Council</td>
<td>Specified in Rating policy</td>
</tr>
<tr>
<td>Stormwater</td>
<td>Franklin, Rodney (from July 2009)</td>
<td>Specified in Rating policy</td>
</tr>
<tr>
<td>Stormwater; Water supply capital/loan repayments</td>
<td>Rodney (from 2006 to 2009)</td>
<td>[ \sum_{i=1}^{m} w_i R_i ]</td>
</tr>
<tr>
<td>Wastewater</td>
<td>Auckland City, Manukau, Franklin, North Shore, Rodney and Waitakere (from July 2007)</td>
<td>Specified in Rating policy</td>
</tr>
<tr>
<td></td>
<td>Waitakere (2006)</td>
<td>[ GR \times \frac{TR_w}{TR_g} ]</td>
</tr>
<tr>
<td>Transport</td>
<td>Auckland city (to July 2008), Franklin, Rodney (from July 2009)</td>
<td>Specified in Rating policy</td>
</tr>
<tr>
<td></td>
<td>Rodney (from 2006 to 2009)</td>
<td>[ \sum_{i=1}^{m} w_i R_i ]</td>
</tr>
<tr>
<td></td>
<td>Auckland Regional Council</td>
<td>Transport maps and averages across rating areas</td>
</tr>
<tr>
<td>Category</td>
<td>Location</td>
<td>Formula</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>CBD</td>
<td>Auckland city</td>
<td>$\sum_{i=1}^{m} w_i R_i$</td>
</tr>
<tr>
<td>Miscellaneous (City)*</td>
<td>Auckland city (to July 2008)</td>
<td>Specified in Rating policy</td>
</tr>
<tr>
<td>Community Facilities</td>
<td>Franklin</td>
<td>$\sum_{i=1}^{m} w_i R_i$</td>
</tr>
<tr>
<td>Auckland Regional Amenities (from July 2009),</td>
<td>Franklin, Manukau, North Shore, and Rodney</td>
<td>Specified in Rating policy</td>
</tr>
<tr>
<td>Auckland Museums: War memorial Transport &amp; technology</td>
<td>Franklin (from July 2009), North Shore and Rodney</td>
<td>Specified in Rating policy</td>
</tr>
<tr>
<td>Representation</td>
<td>Franklin</td>
<td>$\sum_{i=1}^{m} w_i R_i$</td>
</tr>
<tr>
<td>Civic Amenities; Democracy &amp; Development</td>
<td>Rodney (to July 2009)</td>
<td>$\sum_{i=1}^{m} w_i R_i$</td>
</tr>
<tr>
<td>Civic Leadership</td>
<td>Rodney (from July 2009)</td>
<td>Specified in Rating policy</td>
</tr>
<tr>
<td>Leisure Centre for Hibiscus Coast</td>
<td>Rodney (from July 2009)</td>
<td>$\sum_{i=1}^{m} w_i R_i$</td>
</tr>
<tr>
<td>Rugby World Cup levy; Harbourview Area</td>
<td>Waitakere (from July 2009)</td>
<td>Specified in Rating policy</td>
</tr>
<tr>
<td>Biosecurity; Parkland Purchase</td>
<td>Auckland Regional Council</td>
<td>Specified in Rating policy</td>
</tr>
</tbody>
</table>


### 3.2.9 Marginal Rates

We are also interested in marginal Rates a ratepayer will pay for each extra unit built. To illustrate the orders of magnitude we calculate marginal Rates for a building consent involving three alternative cases: 1, 5 and 20 extra units. Note that the marginal Rates are a function only of capital-value based Rates and fixed Rates. That is, where there is new development, the land value will not change while the capital value will increase. Marginal Rates liability for 1 extra unit (MR₁) is calculated as:

$$MR_1 = r_C U_C + r_A U_A + \sum(\text{average fixed Rates})$$

where $r_C$ and $r_A$ are average capital-value and annual-value Rates applicable respectively in each TLA, and $U_C$ ($U_A$) is the median capital value (annual value) of the improvement for a new unit (using values based on the building permits).

Fixed Rates are normally based on SUIP or rating units. Thus, when a building consent involves $x$ additional units the fixed Rates increase by a multiple, $x$. In addition, the capital-value based Rates increase by the capital value of the improvement of $x$ units (since Rates are levied per unit). Thus, both capital-value based Rates, and fixed Rates, will be $x$ times higher than the case where one extra unit is built on a given plot of land. That is, $MR_5$ (MR₂₀) is simply $5^*MR_1$ ($20^*MR_1$) (assuming, for convenience, that the average improvement value per unit is independent of the number of units).
3.3 Development contributions

As in the Rates case, we only considered contributions for developers within the MUL or in other urban areas, and all contributions are GST-exclusive. Development contributions are made up of three main components: community infrastructure (e.g. libraries, parks), network infrastructure (e.g. transport, water), and reserves/open spaces – see Table 6 below. These were levied in nearly all TLAs and at fixed dollar values in the case of community and network infrastructure.

However, as Table 6 shows, for reserves/open space DCs, these took a mixture of fixed and land-value based forms in different TLAs. After amalgamation, Auckland Council adopted a fixed form for all three DC types.

### Table 6  Fixed and value-based components of development contributions

<table>
<thead>
<tr>
<th>Development Contributions (2010):</th>
<th>Auckland City</th>
<th>Franklyn</th>
<th>Manukau</th>
<th>North Shore</th>
<th>Rodney</th>
<th>Waitakere</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Infrastructure</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Network infrastructure:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stormwater</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Water and Wastewater**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Reserves/Open spaces</td>
<td>LV, F</td>
<td>F</td>
<td>LV*</td>
<td>LV</td>
<td>LV</td>
<td>LV*</td>
</tr>
</tbody>
</table>

* Levied via ‘Financial Contributions’. ** After amalgamation these were levied by the Auckland Council using the term ‘infrastructure growth charges’.

#### 3.3.1 Reserve contributions before amalgamation

Reserves contributions in Auckland City from 2007 to 2012 were equal to a sum of fixed charge component and a valuation-based component. For example, in 2007 the reserves contributions were set at $7,361 plus the equivalent value of 5.56 m\(^2\) of the land being developed. Reserve contributions in North Shore, Manukau, Rodney and Waitakere, on the other hand, were only (land) valuation based.

In order to estimate average reserve contributions across the Auckland region, we need to estimate the average land value of 1 m\(^2\) in the Auckland region as a whole. Assuming that the average size of an allotment is 500 m\(^2\), and using the median Auckland land value, \(V_L\), the average land value of 1 m\(^2\) is \(V_L/500\).

For Rodney prior to 2013, reserve contributions were set as \(aV_L/500\), where the ‘rate’ applied, \(a\), is stated in the development contribution policy. North Shore and Auckland City set development contributions for parks-reserves equal to:

(i) 7.5 percent of the land of the additional allotments created by a subdivision; or
(ii) the value-equivalent of 20 m\(^2\) of land for each additional household unit created by the development.

According to Auckland Council documents, before the amalgamation the majority of development contribution charges were imposed on subdivision consents and based on the 7.5
Thus, we assumed that the reserve contributions were equal to 7.5 percent of the land of the additional allotments created by a subdivision. Average reserve contributions in North Shore and Auckland would therefore be: $bV$, where $b$ is the percentage stated in the reserve contributions policy.

Manukau and Waitakere did not separately specify reserves in their development contributions but they included it in their financial contributions (FCs). Though we otherwise ignore financial contributions (due to their variable and discretionary nature in other TLAs), since these reserves contributions were mandatory within FCs in Manukau and Waitakere, we include them in our estimated total contribution for these two TLAs. Manukau reserve contributions were 6 percent; and Waitakere reserve contributions were 7.5 percent, of the value-equivalent of each additional allotments. Using the above method, we can calculate the reserve contributions in Manukau and Waitakere.

It is not clear whether Rodney charged reserves contributions before July 2009. However, the Rodney long term plan, 2009-2019, states that the source of funding for reserves activity was zero prior to 2010. Thus, it may be that Rodney did not separately charge these contributions during this period. We assumed that Rodney introduced reserve contributions for the first time in 2010, when they were set at the value-equivalent of 2m² of land.

Note that data on median land values for 2011 and 2012 were not available to the project. We therefore assumed that the 2011 and 2012 median land values were the same as the 2010 median land value. (This assumption seems reasonable given the after-effects of the global financial crisis which constrained property prices for some years following 2008.)

3.3.2 Auckland Council Transport contributions. (i.e. after amalgamation)

Development contributions for transport (‘Community Infrastructure’), set by Auckland Council after amalgamation, were complicated by being set according to where, within four ‘catchments’, a property development occurred. The Council used four different ‘catchments’ for Community Infrastructure contributions: South, North, West and Central. Based on Auckland Council’s catchment map, we assign the following catchment areas to TLAs.

<table>
<thead>
<tr>
<th>TLAs</th>
<th>Catchments</th>
<th>TLAs</th>
<th>Catchments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auckland City</td>
<td>Central</td>
<td>Papakura</td>
<td>South</td>
</tr>
<tr>
<td>Franklin</td>
<td>South</td>
<td>Rodney</td>
<td>North</td>
</tr>
<tr>
<td>Manukau City</td>
<td>South</td>
<td>Waitakere City</td>
<td>West</td>
</tr>
<tr>
<td>North Shore City</td>
<td>North</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8 The Council may require a financial contribution paid at the time of granting a resource consent under the Resource Management Act 1991. Financial contributions are required to offset the effects of development activities and to mitigate environmental effects of development activities.

9 QV data made available to the project only cover the period 2005-10. Additional years could be bought from QV.
Based on the catchment map, Rodney seems to lie in both North and West catchment areas. However, since most of its urban areas were in North, we treated Rodney as a North catchment.

3.3.3 Water supply and wastewater contributions

Prior to July 2011, water supply and wastewater contributions were included in development contributions in most Councils (Papakura, Waitakere, Franklin, North Shore and Rodney). On the other hand, developers in Manukau and Auckland City paid infrastructure growth charges to Manukau Water or Metro Water. These charges were used to finance the cost of expansion in water supply and wastewater networks. Thus, they can be considered water and wastewater contributions. However, data from 2007 to 2010 for these charges were not available. We assumed that the annual growth rates in these charges were the same as the annual growth in total development contributions. Based on this assumption and the 2011 charges, we can estimate the charges from 2007 to 2010 for Auckland City and Manukau.

Water and wastewater contributions or similar charges were abolished in July 2011. Watercare introduced ‘Infrastructure Growth Charges’ (IGCs) to replace them. IGCs are fees payable by all new developments connecting to Watercare’s networks, or by existing non-residential customers that increase demand for water and wastewater services (Watercare, 2010). The charges differ between metropolitan areas and non-metropolitan areas. We used metropolitan area charges for Auckland city, Manukau, North Shore, Waitakere and Rodney because most development has occurred inside the MUL. We applied non-metropolitan charges to Franklin developers, though in practice the charges applied were different for different areas in Franklin.

Using the same method as used to calculate the average total contribution (see section 3.3.5 below), we estimated average Franklin IGCs.

3.3.4 Stormwater contributions

The ‘base’ on which stormwater contributions were set was not the total land area or value of a property but the amount of the plot that was ‘impervious to water’. Thus, stormwater contributions for attached dwelling units in Auckland Council were generally based on this measure of imperviousness. In particular, the contributions were based on the size of the ‘impervious surface area’ (ISA) of the plot, defined as any part of a site which is not capable of absorbing water (Auckland Council). According to Auckland Council, the average ISA of a unit being developed is 292 m². Then developers of one unit pay for stormwater activities for 1 HUE (household unit equivalent).

3.3.5 Calculating TLA development contributions set differentially across suburbs

Some development contributions vary across suburbs or specific areas within TLAs; for example, depending on which catchment they are in. To assess how far this affects an ‘average developers’ development contribution in different TLAs it is necessary to construct averages across catchments within each TLA. Table 5 (column 4) below shows those DCs for which an averaging method was used. Where “From DC policy” appears in column 4 this indicates that the values of DCs applied across the whole TLA as stated in relevant Council documents, so an averaging method was not required. Also Table 5 also lists ‘Auckland Council’ under the ‘TLA’ column (3), which refers to the post-amalgamation Council’s development contributions.
Where within-TLA DC averages were required, we matched AUs to catchments based on catchment and AU maps. If an AU lies within one catchment, its contribution is assumed to be equal to contribution in that catchment. If an AU lies in more than one catchment, its contribution is assumed to be equal to an unweighted average contribution across relevant catchments.

To construct a TLA average from the derived AU values, let $d_{i,j}$ be the development contribution of type $j$ in area unit $i$. The weighted average contribution across a TLA (or former TLA) is then:

$$\sum_{i=1}^{m} w_i d_{i,j}$$

where $w_i$ is the building consents based weight as defined previously. Using this method, we can find the average for each development contribution type $j$; e.g. stormwater, community infrastructure, etc in Franklin, Rodney, North Shore and Waitakere.

Average total development contributions are then simply the sum of all relevant ‘average’ individual DC components – with the necessary imprecision that this method implies! Table 8 shows types of development contribution across TLAs, and the calculation methods used.

Table 8  Development contribution across TLAs (including some financial contributions)

<table>
<thead>
<tr>
<th>Activities</th>
<th>Types of contribution</th>
<th>TLAs</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Infrastructure</td>
<td>Community Amenities</td>
<td>Auckland City</td>
<td>From DC policy</td>
</tr>
<tr>
<td></td>
<td>Public Space infrastructure</td>
<td>Auckland City</td>
<td>From DC policy</td>
</tr>
<tr>
<td></td>
<td>Community Infrastructure</td>
<td>Franklin, Waitakere</td>
<td>$\sum_{i=1}^{m} w_i d_i$</td>
</tr>
<tr>
<td>Community Facilities</td>
<td></td>
<td>Manukau</td>
<td>From DC policy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Auckland Council</td>
<td>Using map</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rodney (to July 2009)</td>
<td>$\sum_{i=1}^{m} w_i d_i$</td>
</tr>
<tr>
<td>Community Services</td>
<td></td>
<td>North Shore</td>
<td>$\sum_{i=1}^{m} w_i d_i$</td>
</tr>
<tr>
<td>Town Centre</td>
<td></td>
<td>Manukau</td>
<td>From DC policy</td>
</tr>
<tr>
<td>Cemetery</td>
<td></td>
<td>Waitakere</td>
<td>$\sum_{i=1}^{m} w_i d_i$</td>
</tr>
<tr>
<td>Libraries</td>
<td></td>
<td>Waitakere, Rodney (from July 2009)</td>
<td>From DC policy</td>
</tr>
<tr>
<td>Parks</td>
<td></td>
<td>Waitakere, Rodney (from July 2009)</td>
<td>From DC policy</td>
</tr>
<tr>
<td>Leisure Centres</td>
<td></td>
<td>Waitakere and Rodney (from July 2009)</td>
<td>$\sum_{i=1}^{m} w_i d_i$</td>
</tr>
<tr>
<td>Network Infrastructure</td>
<td>Stormwater</td>
<td>Franklin, North Shore, Waitakere, Rodney.</td>
<td>( \sum_{i=1}^{m} w_i d_i )</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------</td>
<td>------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Transport</td>
<td>Franklin, North Shore, Waitakere, Rodney</td>
<td>( \sum_{i=1}^{m} w_i d_i )</td>
<td>Auckland City, Manukau</td>
</tr>
<tr>
<td></td>
<td>Auckland Council</td>
<td>Using transport map</td>
<td></td>
</tr>
<tr>
<td>Public Transport</td>
<td>Auckland Council</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Supply</td>
<td>Franklin, North Shore, Rodney and Waitakere</td>
<td>( \sum_{i=1}^{m} w_i d_i )</td>
<td></td>
</tr>
<tr>
<td>Wastewater</td>
<td>Franklin, North Shore, Rodney and Waitakere</td>
<td>( \sum_{i=1}^{m} w_i d_i )</td>
<td></td>
</tr>
<tr>
<td>Wastewater Treatment</td>
<td>North Shore</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure Growth Charges (water supply and wastewater)</td>
<td>Auckland Council</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reserves and Open Space</td>
<td>Public Space Acquisition</td>
<td>Auckland city (to July 2007)</td>
<td>( b^*V_L )</td>
</tr>
<tr>
<td></td>
<td>Auckland city (from July 2008)</td>
<td>Fixed charges + ( \alpha V_L / 500 )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Auckland Council</td>
<td>From DC policy</td>
<td></td>
</tr>
<tr>
<td>Open Space Amenity</td>
<td>Franklin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reserves (FC)</td>
<td>Manukau and Waitakere</td>
<td>( b^*V_L )</td>
<td></td>
</tr>
<tr>
<td>Reserves (DC)</td>
<td>North Shore</td>
<td>( b^*V_L )</td>
<td></td>
</tr>
</tbody>
</table>
3.3.6 Development contributions for apartment units, minor residential units and attached unit

For all TLAs the average contributions above were calculated for the Council’s definition of a ‘household unit equivalent’ (HUE)\(^{10}\). However, in some TLAs - Auckland City, North Shore and Manukau (before amalgamation) and Auckland Council (after amalgamation), - some development contributions also differed by types of residential subdivision or development: ‘residential units’, ‘minor residential units’, ‘attached units’ etc. That was because the Councils expected that these dwellings generated less demand for additional infrastructure, transport etc than an HUE. For example, from 2006 to 2012 all of Manukau’s DCs for a ‘minor household unit’ were only 50 percent of those of an HUE.

For Auckland City, the community infrastructure, reserves and transport contributions for an ‘apartment unit’ were 20 percent less than those for a house. In addition, these contributions for a ‘one-bedroom household unit’ were 30 percent less than those for a house. An apartment unit is a residential unit of an apartment development which is of four or more stories and contains at least 10 residential units or household units. Additionally, a ‘one-bedroom household unit’ is a unit with no more than two rooms, excluding a kitchen, laundry, bathroom, toilet or any room used solely as an entrance hall, passageway or garage. This includes studio units.

For Manukau, the development contribution for a ‘minor household unit’ was equal to 50 percent of the development contribution for a ‘residential building’. A minor household unit was defined as any household unit less than 60m\(^2\).

For North Shore, developers of a ‘retirement unit’ paid 50 percent less contributions than those of a household unit (except for reserves contributions). In addition, developers of a ‘minor residential unit’ paid 30 percent less contributions. These discounts applied for transport, water and wastewater, stormwater and community infrastructure contributions. Reserves contributions were the same for all types of dwellings. A minor residential unit was defined as the one with 40m\(^2\) or less.

After the amalgamation, developers in Auckland Council paid lower development contributions, relative to one HUE, for an ‘attached dwelling unit’ - whether ‘low rise’, or ‘medium-to-high’ rise. Specifically, contributions for an attached dwelling low rise unit were 20 percent lower than contributions for a ‘detached dwelling unit’. In addition, contributions for a medium-to-high rise attached dwelling unit were 40 percent lower than those for a detached dwelling unit.

The discounts were applied for most contributions except stormwater contributions. Stormwater contributions were the same for all types of dwellings. An attached low rise dwelling unit was defined as “a dwelling in a development of up to four levels and three or more attached dwelling units” (Auckland Council, 2012). Moreover, a medium-to-high rise attached dwelling unit is “a dwelling in a development of five or more levels and three or more

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\(^{10}\) Household unit equivalent (HUE) is a unit of demand representing one average dwelling.
attached dwelling units” (Auckland Council, 2012). When matching building consent data for apartments of ‘0-9 units’ and ‘10+ units’, we treat the former as low rise and the latter as medium-to-high rise.

3.4 TLAs population estimates

Population estimates by area unit (AU) were obtained from SNZ. The data are subnational population estimates between June 2006 and June 2014. In addition, the concordance between the 2013 and 2006 AUs, and the concordance between the 2006 AUs and TLAs, were extracted from SNZ databases. We matched each 2013 AU to one TLA in Auckland. Amalgamating the data with respect to TLAs, we obtained former Councils’ populations for 2006 to 2014.

4. Results by TLA

4.1 Land Values

Using the methodology described above, we obtain the median land value and capital value, average total Rates and average total development contribution across TLAs. Figure 1.1 shows the median land and capital values in the Auckland Council area over 2006-10.

Figure 1.1 Median land value/capital value

Source: QV data

From 2006 to 2010, the median capital value is nearly double the median land value. Both values increased gradually from 2006 to 2009. Then, associated with the global financial crisis, these values level out. For example, the median capital value in 2010 decreases slightly from $437,500 in 2009 to $430,000 in 2010.

Using QV property value data, Figure 1.2 shows how median values differ across TLAs in 2006 and 2010 (the latest year available to us). The cross-TLA patterns can be seen to be similar in both years. In 2010, for example, property values were highest in North Shore and Rodney with median values just over $500,000, compared to $440,000 in Auckland City (next highest), down to lows of around $300,000 in Franklin and Papakura.
Using property valuations in building consents data, Figure 1.3 shows the median (improvement) value of new housing units from 2006 to 2014 for different residential categories: a house, apartment (0-9 units), apartment (more than 10 units) and total dwellings (i.e. all three combined). Since these are based on building consents data, a longer time-series is available. In general, the value of dwellings increased from 2006 to 2014 although it dropped slightly in 2012.

In addition, most of dwellings were houses, thus the value of houses and dwellings followed similar trends. It is interesting that the value of apartments with more than 10 units was lower than the value of apartment with less than 10 units and houses. This suggests some economies of scale or different average quality associated with these apartment blocks. In 2014, the median unit value of a dwelling was nearly $308,000.

Figure 1.3 Median unit value from 2006 to 2014.

Source: QV data
4.2 Building Consents

Data are available of the numbers of building consents and the sub-set of consents for new housing units (as opposed to extensions to existing properties). These are available for the same categories as shown in Figure 1.2. Figure 2 shows the number of new units in the building consents data for all dwellings combined, from 2006-2014.

This indicates, for example, that Auckland City had the largest number of new building unit consents at around 2000 in 2006, while Papakura and Franklin had the smallest at less than 500 (unsurprisingly, since Papakura and Franklyn councils were small). The data also reveal the large drop in most TLA consents in 2009 associated with the global financial crisis. Consents recovered strongly in some TLAs (e.g. Auckland City and Rodney) but much less so in some others (e.g. Franklin).

Figure 2 Building consent for new units by TLA

4.3 Rates & Development Contributions

Figure 3 shows average Rates across TLAs. An average ratepayer was expected to pay between $1,400 and $2,050 per year. In general, average Rates across TLAs increased from 2006 to 2010. Ratepayers in Manukau and North Shore used to pay lower Rates than those in other TLAs. On the other hand, Rodney and Auckland had relatively high Rates. In 2010, Rodney had the highest average Rates with $1,970, followed by Auckland city with $1,940. Average Rates in Franklin and Waitakere were $1,860 and $1,840 respectively. Ratepayers in Manukau and North Shore paid around $1,750 on average.

To assess the extent to which a shift from land-value based Rates to capital-value based Rates might affect a developer’s tax liability it is useful to consider the share of the total tax liability that is composed of value-based Rating elements. The percentage shares of the various Rates components in a representative pre-amalgamation year, 2010, are shown in Figure 4.

This highlights the complex mixture of different Rates that make up the total Rates liability in different LTAs. The Figure also shows that the main value-based General Rate (the dark blue
segment at the bottom of each histogram) contributes between 13 percent of an ‘average’ total Rates bill in Rodney District to 39 percent in Manukau City.

The other value-based Rates are a few Targeted Rates in some TLAs. Those that are value-based are highlighted in Figure 4 by a black border around the relevant segments of the histogram. It can be seen that these are few, have small percentage shares and apply only in selected Councils; for example Auckland City and Waitakere had no value-based Targeted Rates.

Figure 3 Average rates from 2006 to 2010.

Figure 4 Shares of Rates Components in 2010 across TLAs
Next, we consider marginal Rates across TLAs if a ratepayer built one extra unit and this unit is a house (as opposed to an apartment in a 0-9 or 10+ block: patterns for these look very similar to that for a house).

Figure 5 indicates the marginal Rates for one extra house unit across TLAs from 2006 to 2014. It can be seen that after the introduction of the uniform rating system (2013), the marginal Rate increased across most TLAs. In addition, there was a decrease in the differences among the marginal Rates. This is because general Rates were set to be the same for all urban areas, and there were only small differences in targeted Rates across TLAs. For example, in 2006 Waitakere had the lowest marginal Rates at $600. However, the marginal Rate increased threefold to $1,800 by 2014.

Figure 5 Marginal Rate (building one extra house unit)

After the introduction of a single development contribution policy, the gap between contributions across TLAs reduced. Franklin had the highest contribution due to high water and wastewater charges. On the other hand, average contributions of other TLAs became similar.

Figure 6 shows average development contribution a developer would pay if building a house. After the introduction of a uniform development contribution policy by Auckland Council, the average contribution decreased across some TLAs. During 2006-11, the average contribution ranged from $14,600 to $39,300 across TLAs. North Shore set the highest contribution, followed by Rodney, in 2010 and 2011. In 2011, the North Shore contribution was $39,300, which was 35 percent higher than in Manukau.

The extent to which value-based elements contribute to total development contributions (in 2010) can be seen in Figure 7. Recall that only DCs for Reserves were value-based, and as Table 6 above shows, these were always land-value based except in Franklyn where they were fixed in dollar values (and Auckland City had an added fixed component).
Figure 7 shows that, although the Reserves component was often one of, or the, largest contributor to an ‘average developers’ total development contributions in each TLA, this share was highly variable, from a low of 11 percent in Franklyn (where it is a fixed amount) to a high of 63 percent in Waitakere. Therefore, for both Rates (Figure 4) and DCs (Figure 7) there are large components to the pre-amalgamation local tax bills that developers faced that were not related to either the land- or capital-value base.

Figure 7 Shares of Development Contribution Components in 2010 across TLAs
5. Conclusions

This report has summarised the methods used to estimate average Rates and development contributions across Auckland TLAs and for the amalgamated Auckland Council. Due to data availability and the complexity of council policies, several assumptions were made. For example, the average land area of a development plot in Auckland was assumed (based on recent vacant section sales) to be 500m². The estimates represent ‘averages’ within a TLA for the Rates a ratepayer would pay and ‘average contributions’ a developer would pay for each residential housing unit that they occupy or develop.

However, these method still have some limitations. For example, discretionary reductions (discounts) can be applied to development contributions where this option is specified in the Council’s policy. Although these reductions seem only to be applied in rare circumstances, our ‘average’ estimates may overestimate actual contributions paid. In addition, data on financial contributions were not available, though these appear to be highly variable across development applications, discretionary, and sometimes specific to individual developments.

Moreover, ratepayers may apply for Rates ‘remission’ if they meet certain criteria, while ratepayers in Auckland Council can receive Rates ‘transition adjustment’. For example, Rate increases will be capped at 10 percent in Auckland Council from July 2012. This limits the increase in rates that ratepayers in Auckland Council will experience during the transition from the former council rating policies to the new single rating policy.

Despite some data limitations and the need for various approximations in estimating ‘average’ Rates and development contributions across councils, it is clear that the value-based system represented a relatively modest component of the Rate and development contribution totals, both before and after amalgamation. As a result, it seems likely (on average at least) that changes in the value-basis of these taxes in some councils in association with amalgamation would have likely had a relatively small impact of the local tax liabilities of new building developments. As such, there might be little impact of the extent and intensity of development before and after amalgamation.

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