

# Compulsory Third Party Insurance Rating District Boundary Review

February 2020

## Contents

---

<b>Contents .....</b>	<b>2</b>
<b>1 Executive Summary.....</b>	<b>3</b>
<b>2 Background.....</b>	<b>4</b>
<b>3 Review principles .....</b>	<b>4</b>
<b>4 Methodology .....</b>	<b>5</b>
<b>4.1 Postcode-level review .....</b>	<b>5</b>
<b>4.2 Suburb-level review.....</b>	<b>5</b>
<b>4.3 Analysis period.....</b>	<b>6</b>
<b>4.4 Weighting .....</b>	<b>6</b>
<b>4.5 Exclusions.....</b>	<b>6</b>
<b>4.6 Criteria for transferring areas to different districts.....</b>	<b>6</b>
4.6.1 Transferring from district 2 to district 1 .....	6
4.6.2 Transferring from district 1 to district 2 .....	6
4.6.3 Divided postcodes created by the 2002 boundary setting.....	7
<b>5 Analysis.....</b>	<b>7</b>
<b>5.1 Transferring from district 2 into district 1.....</b>	<b>7</b>
<b>5.2 Transferring from district 1 into district 2.....</b>	<b>8</b>
<b>5.3 Divided postcodes created by the 2002 boundary setting.....</b>	<b>8</b>
<b>6 Results.....</b>	<b>9</b>
<b>7 Future boundary reviews .....</b>	<b>9</b>
<b>Appendix 1: 2020 boundary map.....</b>	<b>10</b>
<b>Appendix 2: Boundary definitions.....</b>	<b>11</b>

## 1 Executive Summary

The CTP Regulator (Regulator) has conducted a review of the Compulsory Third Party (CTP) insurance rating district boundary (boundary). CTP insurance premiums can be different depending on where a car is garaged.

There are two districts. District 1 represents higher populated areas (roughly corresponding to metropolitan Adelaide) and has a greater number of CTP claims per 1,000 registered vehicles (claim frequency) and average cost of claims. District 2 represents less populated areas and has a lower claim frequency and average cost of claims. The boundary separating the districts had not been reviewed since it was established in 2002. Periodic review of the boundary helps ensure premiums are applied fairly across the community.

The review identified areas where CTP claim frequency and the number of CTP policies per square kilometre (policy density) were inconsistent with their current district classification. This has resulted in approximately 44,000 (or 3%) registered vehicles (based on 30 June 2019 vehicle registration data) being transferred to the appropriate district. The CTP scheme funding remains the same. The newly defined boundary alters the contribution each district makes to the funding.

For the majority of vehicle types premiums in District 1 are higher than in District 2. The exceptions are Rideshare, Tractors, Historic and left-hand drive vehicles, and Car carrier trailers, for which district 1 and 2 premiums are currently identical. Premiums classes for taxis (5 Taxis: metropolitan and 55 Taxis: country) are not differentiated by their garaging location and will remain unchanged under the new district boundary. Trailers are exempt from CTP premiums and have been excluded from all vehicle counts.

Approximately 16,000 vehicle registrations are transferring from district 2 to district 1. This reflects the urban growth to the north and south of metropolitan Adelaide. Vehicles garaged in Lewiston and Two Wells will now be treated the same as vehicles in neighbouring Virginia. Vehicles garaged in Aldinga Beach and Sellicks Beach, will now be treated the same as vehicles in neighbouring Port Willunga and Aldinga. The premium class for these vehicles will alter, and the insurance premium for these registrations will increase unless they are in non-impacted premium classes.

Approximately 28,000 vehicle registrations are transferring from district 1 to district 2 because the claim frequency of the suburbs they are garaged in is too low to remain in district 1. The premium class for these vehicles will alter, and the insurance premium for these registrations will decrease unless they are in non-impacted premium classes.

The boundary and premium changes come into effect for CTP policies due from 1 July 2020.

The postcodes and suburbs involved in the redistribution are outlined in table 1 below.

**Table 1: Redistributed postcodes and suburbs**

Boundary change	Postcode/Suburbs redistributed
Postcodes redistributed from district 1 to district 2	5153, 5154, 5157, 5201, 5233, 5241, 5243, 5244, 5252
Suburbs in divided postcodes redistributed from district 1 to district 2	Dingabledinga, Montarra, The Range, Ward Belt
Suburbs redistributed from district 2 to district 1	Aldinga Beach, Sellicks Beach, Lewiston, Two Wells

## 2 Background

---

The Regulator is responsible for determining CTP insurance premiums under section 5(3) of the *Compulsory Third Party Insurance Regulation Act 2016 (SA)*. South Australia's CTP Scheme is community rated to support affordability of CTP premiums for all motor vehicle owners. This means owners in a particular premium class all pay the same premium based on the personal injury claims experience of the class, regardless of individual driver history or driving patterns.

Section 5(3) of the *Compulsory Third Party Insurance Regulation Act 2016 (SA)* establishes garaging location as one of four CTP premium rating factors the CTP Regulator may apply in determining CTP premiums. In practice the vehicle garaging address falls into one of two CTP premium rating districts. District 1 roughly corresponds to metropolitan Adelaide and district 2 covers the rest of the state.

The main factors used in calculating premiums are claim frequency and the average cost of claims. The average cost of claims is the same close to the district boundary. Claim frequency is significantly higher for district 1 compared to district 2.

The number of claims is approximately 2.5 claims per 1,000 registered vehicles for district 1, and is less than 1.1 claims per 1,000 registered vehicles for district 2.

Accordingly, this review used claim frequency as the main classification criterion, also using policy density (number of registered vehicles per square kilometre) for low population areas with low vehicle and claim count.

## 3 Review principles

---

A key function of the Regulator is to be satisfied premiums are fair and reasonable to motor vehicle owners. The following principles were used by the Regulator when setting the criteria for the boundary review.

### 1. Boundary setting must be fair and reasonable

The district assigned to a suburb or postcode should be consistent with the district of other suburbs or postcodes with similar claim frequency and policy density. Suburbs and postcodes may only move district if there is compelling justification.

### 2. Claim frequency priority

Claim frequency of the at-fault vehicle garaging location should be the priority basis for classifying a vehicle into a district. Policy density should only be used if the number of vehicles and claims is too low to give a meaningful frequency.

### 3. Historical continuity

The classification criteria into districts 1 and 2 should have regard to the current (2002 boundary) classification of suburbs and postcodes in terms of claim frequency and policy density.

### 4. Each district is a single continuous region

Each district must be a single continuous region with no isolated pockets of one district inside the other and unlikely to create pockets at the next review.

## 5. Postcodes should not be divided where possible

Fewer divided postcodes make the boundary simpler to understand. Divided postcodes should only be used where it would be unfair for a suburb to be classified within its postcode.

## 4 Methodology

---

### 4.1 Postcode-level review

The Regulator commissioned a boundary review at the postcode level from an independent actuarial firm (an organisation specialising in analysing financial consequences of risk) in 2018. At that time it was expected that the revised district boundary would be aligned with postcodes. Subsequently it became clear that reclassifying large divided postcodes into district 1 based on whole-of-postcode CTP claims experience would not be fair to the district 2 residents, because their premium increase would be based on a methodology change as opposed to a claim frequency increase.

The review completed in February 2019. The key results were:

- the recommendation for a district 1 claim frequency threshold of 1.9 claims (per 1000 vehicles) and a district 2 threshold of 1.7 claims (per 1,000 vehicles), with the band between 1.7 and 1.9 identified as a grey area that required additional considerations and judgement.
- the conclusion that average claim cost need not be considered in setting the district boundary because the average claim cost close to the boundary was found to be the same once random variability in claim cost was adjusted for.

### 4.2 Suburb-level review

The suburb-level review was performed by the CTP Regulator internal team. The methodology was reviewed by a second independent actuarial firm that supported the adopted approach and recommendations.

In extending postcode-level analysis to the suburb level the challenge is that, being smaller than postcodes, suburbs may not have enough experience to produce a reliable claim frequency estimate.

The postcode-level review used a method that increases the statistical significance of the claim frequency estimate by using claim frequency from the neighbouring locations. This approach relies on the assumption that areas close geographically are similar in terms of CTP risk. In outer Adelaide this is not always the case. For example, there is a large contrast between the Adelaide Hills areas along the South-Eastern Freeway with a large proportion of residents daily commuting and the predominantly rural areas a short distance away from the freeway.

In view of the above, the approach taken was to base the reclassification recommendations solely on the own experience of a suburb or postcode. Instead of using claim frequency from the neighbouring locations, in cases when claim frequency was not statistically reliable, policy density was used to characterise the suburbs as district 1 or district 2.

### 4.3 Analysis period

The review used six years of CTP claims and vehicle registrations data, from 1 July 2013 to 30 June 2019. This period balanced the need for enough data to be statistically significant while ensuring the results reflected the current claims and vehicle registration distribution. This data was used to calculate the claim frequency for each suburb and postcode of South Australia.

### 4.4 Weighting

South Australian vehicle data is naturally weighted to private passenger vehicles because they make up 70% of registered vehicles. Different vehicle types have different claim frequencies that are used to determine the appropriate CTP premium for each premium class. To conduct the review consistently, vehicle types other than private passenger vehicles were weighted by the number and cost of claims to allow for the different expected claim frequencies.

### 4.5 Exclusions

Certain vehicle types were excluded from the claim frequency calculations for the following reasons:

- taxis - premiums are not rated by garaging address
- rideshare - premium class did not exist until after the analysis period
- public passenger omnibuses - premiums are not rated by garaging address
- trailers - exempt from premiums (however they are covered by CTP insurance)
- car carriers - have negligible claim experience
- unregistered vehicle permits - premiums are not rated by garaging address
- motor trade plates - premiums depend on vehicle types covered by the permit.

However, the results of the analysis still apply to these vehicle types (except taxis).

### 4.6 Criteria for transferring areas to different districts

#### 4.6.1 Transferring from district 2 to district 1

The following criteria were established to evaluate whether any suburbs should transfer from district 2 to district 1:

- Claim frequency greater than 2.0 claims per 1,000 vehicles
- At least 30 claims during the analysis period
- Each district is a single continuous region

Note that the claim frequency threshold was increased to 2.0 claims per 1,000 vehicles compared to the recommendation from the postcode level review and an additional requirement that the number of claims during the six-year analysis period must be at least 30 was added. These stringent criteria provide a strong justification that the boundary changes leading to premium increases are fair and reasonable as required by principle 1.

#### 4.6.2 Transferring from district 1 to district 2

The following criteria were established to evaluate whether any postcodes should transfer from district 1 to district 2:

- Claim frequency less than 1.6 claims per 1,000 vehicles
- Each district is a single continuous region

The claim frequency threshold was lowered to 1.6 claims per 1,000 vehicles compared to the recommendation from the postcode level review. This more stringent criterion strengthened the justification that the boundary changes leading to premium decreases are also fair and reasonable. The minimum claim count requirement was not applied because this would have excluded postcodes with low claim count expected to be in district 2.

#### 4.6.3 Divided postcodes created by the 2002 boundary setting

The 2002 district boundary divided seven postcodes: 5118, 5120, 5157, 5172, 5173, 5244 and 5252. Since 2002, new suburbs created in these postcodes have been automatically assigned to district 1. It was therefore appropriate to analyse these areas as part of this review.

The following criteria were established to evaluate whether to reclassify suburbs in divided postcodes:

- Number of registered vehicles per square kilometre (policy density) is less than 10
- District 1 is a single continuous region and unlikely to create pockets at the next review

The threshold of 10 policies per square kilometre was based on the policy density of district 1 and 2 suburbs within postcode 5118 (Gawler region). The breakdown showed that the three suburbs currently in district 2 have policy density below 10. Aligning the policy density threshold with the 2002 boundary was consistent with the historical continuity principle (principle 3).

The use of policy density instead of claim frequency for classifying suburbs in divided postcodes was necessary because of an insufficient number of vehicles garaged in these locations to give a meaningful claim frequency.

## 5 Analysis

The results, after applying the district classification criteria and the boundary review principles, are analysed below.

### 5.1 Transferring from district 2 into district 1

Table 2 details the district 2 areas that met the criteria for transferring to district 1.

**Table 2: District 2 areas transferring into district 1**

Postcode	Suburb	Claim frequency greater than 2.0	Number of claims
5173	Aldinga Beach*	2.5	107
5174	Sellicks Beach	2.4	31
5501	Lewiston	2.1	37
5501	Two Wells	2.3	46

\*Aldinga Beach includes Silver Sands

Although the 2002 district definition lists Silver Sands as a district 2 suburb in postcode 5173, current data from the Department for Planning, Transport and Infrastructure states Silver Sands is not an official suburb/locality but an area within Aldinga Beach.

Transferring the suburbs of Sellicks Beach, Lewiston, and Two Wells has divided the postcodes of 5174 and 5501. To move the entire postcodes would create an unfair outcome and violate principle 1. This principle is more important to adhere to in this case. In postcode 5174 the only other suburb is Sellicks Hill, which is rural and had only three claims in the analysis period. Postcode 5501 contains a number of other localities extending almost to Port Wakefield, all of which are rural and have had few or no claims. It would be unfair to increase the premiums of motorists in these rural areas based on the whole of postcode claim frequency.

To ensure that defining each district as a single continuous region (principle 4) does not give an unfair advantage to regional towns, regional towns with enough registered vehicles to provide a statistically significant result were reviewed. All of these had a claim frequency below the threshold of 2.0, with most below 1.2. This check included Mount Gambier, Whyalla, Murray Bridge, Port Lincoln, Port Pirie and Port Augusta. The results confirmed that these towns had acceptable claim frequencies for remaining in district 2.

## 5.2 Transferring from district 1 into district 2

Analysis identified the following district 1 areas as meeting the criteria for transferring to district 2.

**Table 3: District 1 areas transferring into district 2**

Postcode	Claim frequency less than 1.6
5153	1.52
5154	1.23
5157	1.23
5241	1.52
5243	1.68*
5244	1.33
5252	1.08
5201	1.57
5233	1.16

\* Postcode 5243 is marginally above the claim frequency threshold but is considered to meet the criteria because it would form an isolated pocket of district 1 within district 2 once postcode 5233 is transferred, breaking the principle that district 1 must be a single continuous region (principle 4).

## 5.3 Divided postcodes created by the 2002 boundary setting

Seven postcodes (5118, 5120, 5157, 5172, 5173, 5244 and 5252) were divided between districts 1 and 2. The recommendations in sections 5.1 and 5.2 make postcode 5173 wholly district 1 and postcodes 5157, 5244 and 5252 wholly district 2. This left three divided postcodes (5118, 5120, 5172) for further consideration.

The district 1 suburbs in these postcodes that meet the criteria for reclassification into district 2 are listed in Table 4.



**Table 4: Suburbs within divided postcodes transferring from district 1 into district 2**

Suburb	Postcode	Vehicle density
Ward Belt	5118	5
The Range	5172	6
Dingabledinga	5172	8
Montarra	5172	17

In addition to the three suburbs with the vehicle density less than 10, Table 4 includes Montarra. Although this suburb is over the threshold, it has a very small number of registered vehicles and would otherwise be connected to the rest of district 1 only at one corner, breaking the principle that each district must be a single continuous region (principle 4).

## 6 Results

Table 5 summarises the boundary movements resulting from the 2020 review. These will come into effect for CTP insurance policies from 1 July 2020.

**Table 5: Transferred postcodes and suburbs**

Boundary change	Postcode/suburbs transferred
Postcodes transferred from district 1 into district 2	5153, 5154, 5157, 5201, 5233, 5241, 5243, 5244, 5252
Suburbs in divided postcodes transferred from district 1 into district 2	Dingabledinga, Montarra, The Range, Ward Belt
Suburbs transferred from district 2 into district 1	Aldinga Beach, Sellicks Beach, Lewiston, Two Wells

The 2020 definition of the boundary is comprehensively described in the Appendix of this report, as is the 2002 definition for comparison.

While the newly defined boundary alters the contribution each area makes to the CTP scheme funding, the overall funding remains the same. This result assures the Regulator that premiums are fair and reasonable to motor vehicle owners.

## 7 Future boundary reviews

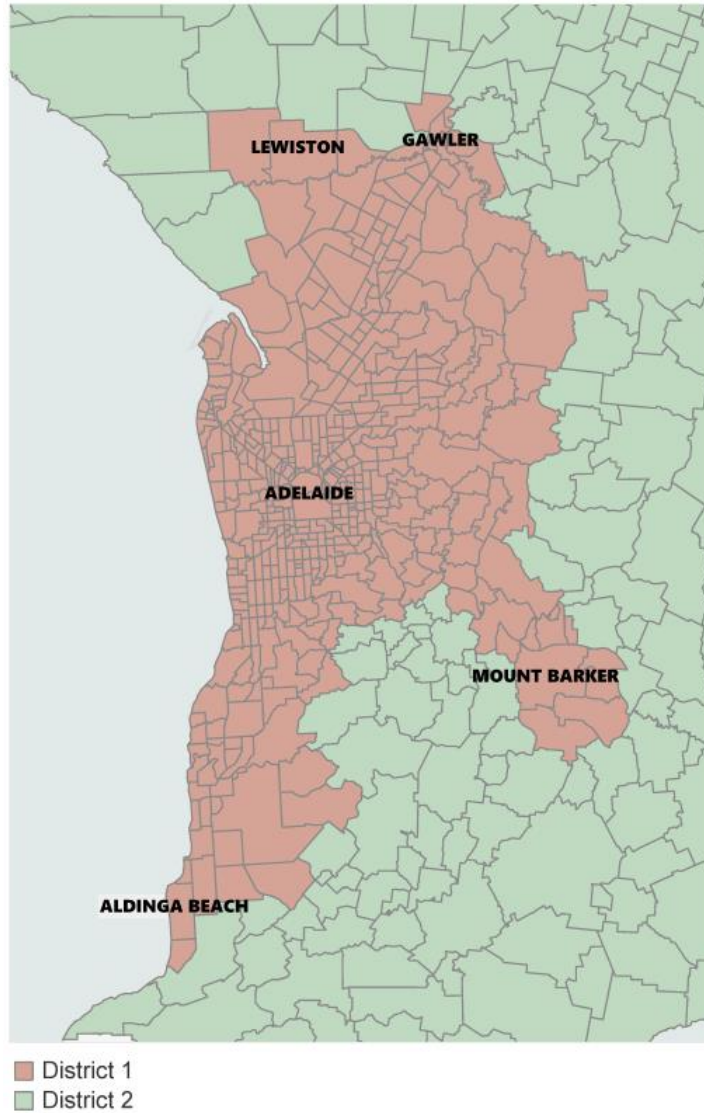
The boundary requires ongoing review as South Australia continues to change. Periodic review also helps to ensure premiums are applied fairly across the community. The Regulator will adopt a 10-year review cycle unless indicated otherwise. This period allows for enough data to accumulate for claim frequency analysis. The next review of South Australia's CTP insurance rating district boundary is planned for 2030.

## Appendix 1: 1 July 2020 boundary map

---

Figure 1 shows the shape of the new district 1 and surrounding district 2 regions.

**Figure 1: Final shape of district 1 after applying boundary changes.**



## Appendix 2: Boundary definitions

**Table 1: Definition of the 2020 Boundary**

<p><b>Insurance Rating District 1 consists of the following postcodes:</b></p> <ul style="list-style-type: none"> <li>• All postcodes between 5000 and 5200 inclusive (with the exception of 5001, 5153, 5154 and 5157), and</li> <li>• Postcodes 5231, 5232, 5240, 5242, 5245, 5250, 5251, 5501, 5942, 5950 and 5960.</li> </ul>
<p><b>Insurance Rating District 2 includes any area within South Australia outside of the above postcodes, plus the localities listed within the following postcode areas:</b></p> <ul style="list-style-type: none"> <li>• 5118 – Concordia, Kangaroo Flat, Kingsford, Ward Belt</li> <li>• 5120 – Buckland Park</li> <li>• 5172 – Hope Forest, Kuitpo Colony, Kyeema, Pages Flat, Willunga Hill, Willunga South, Yundi, The Range, Dingabledinga, Montarra</li> <li>• 5174 – Sellicks Hill</li> <li>• 5501 – Long Plains, Calomba, Avon, Middle Beach, Port Gawler, Lower Light, Dublin, Thompson Beach, Webb Beach, Parham, Windsor, Wild Horse Plains</li> </ul>

**Table 2: Definition of the 2002 Boundary**

<p><b>Insurance Rating District 1</b></p> <ul style="list-style-type: none"> <li>• All postcodes between 5000 and 5201 inclusive (with the exception of 5001 and 5174), and</li> <li>• Postcodes 5231, 5232, 5233, 5240, 5241, 5242, 5243, 5244, 5245, 5250, 5251, 5252, 5942, and 5950.</li> </ul>
<p><b>Insurance Rating District 2 includes any area within South Australia outside of the above postcodes, plus the localities listed within the following postcode areas:</b></p> <ul style="list-style-type: none"> <li>• 5118 – Concordia, Kangaroo Flat, Kingsford</li> <li>• 5120 – Buckland Park</li> <li>• 5157 – Ashbourne, McHarg Creek</li> <li>• 5172 – Hope Forest, Kuitpo Colony, Kyeema, Pages Flat, Willunga Hill, Willunga South, Yundi</li> <li>• 5173 – Aldinga Beach, Silver Sands</li> <li>• 5244 – Harrogate</li> <li>• 5252 – Kanmantoo</li> </ul>