Electoral Boundaries

Product Description
May 2023

Geoscape

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Contents

1. Overview

1.1 Delivery Organisation - Geoscape Australia

Geoscape is the digital Australia – a comprehensive representation of our built environment. It is consistently formatted spatial data that describes the addresses, land, buildings and transport networks across Australia's complex cities, regional centres and rural communities.

Geoscape Australia is the trading name of PSMA Australia Limited, a self-funded public company owned by the governments of Australia. The organisation's first major initiative was to support the 1996 Census through the provision of Australia's first national digital basemap at street-level.

We were incorporated in 2001 and tasked with collating, transforming and delivering national spatial datasets. Our establishment reflected the desire of Australian governments to work together to establish national, location information infrastructure to advance the emerging information economy. Geoscape Australia is now a trusted source of essential national location data, with a diverse ecosystem of data partners.

The value of Geoscape data is in its richness. It enables a range of innovations and applications. To support broad use of the data, it is available through online subscription services in business-ready formats, as well as customised enterprise plans. Geoscape Australia has a network of solution partners that integrate Geoscape data into other products and services. The partner network includes traditional geospatial specialists and data engineers, as well as software developers, marketing service providers, systems integrators and consultancies.

1.2 Data Product Specification Title

Electoral Boundaries Product Description

1.3 Reference Date

May 2023

1.4 Responsible Party

PSMA Australia Limited trading as Geoscape Australia

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1.5 Language

English

1.6 Topic Category

Boundaries for electoral areas within Australia.

1.7 Informal Description of the Data Product

Electoral Boundaries is a national digital dataset of Australia's electoral divisions or electorates. The Electoral Boundaries dataset has two layers: Commonwealth Electoral Boundaries (CEB) and State Electoral Boundaries (SEB).

Electoral Boundaries are based on government data provided by the appropriate authorities. The Commonwealth and State/Territory Governments collect data to delineate the areas covered by each tier of government within Australia.

1.8 Distribution Format

This document is available in PDF format. For other formats and use of this document, contact Geoscape Support (support@geoscape.com.au).

1.9 Copyright and Disclaimer

Please see geoscape.com.au/legal/data-copyright-and-disclaimer/

1.10 Privacy

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2. Specification Scope

2.1 Scope Identification

Electoral Boundaries is a standalone data theme containing two layers called Commonwealth Electoral Boundaries (CEB) and State Electoral Boundaries (SEB).

2.2 Extent

National spatial coverage of Australia’s Commonwealth and State Electoral Boundaries.

3. Data Product Identification

3.1 Title

Electoral Boundaries

3.2 Alternate Titles

Geoscape Electoral Boundaries

3.3 Abstract

Electoral Boundaries is a digital representation of Australia's electoral divisions or electorates. This dataset provides an optimised aggregated national view of electoral boundary geometry and attribution. The dataset is created from multiple sources including jurisdictional data which is revised regularly and supplied in varying formats and at different levels of quality.

3.4 Purpose

Electoral Boundaries is designed to meet the needs of organisations that require a graphical representation of locations of electoral divisions to integrate with other data in servicing their business needs.

3.5 Topic Category

Vector spatial data defined by coordinates (latitude and longitude) with associated textual (aspatial) metadata.

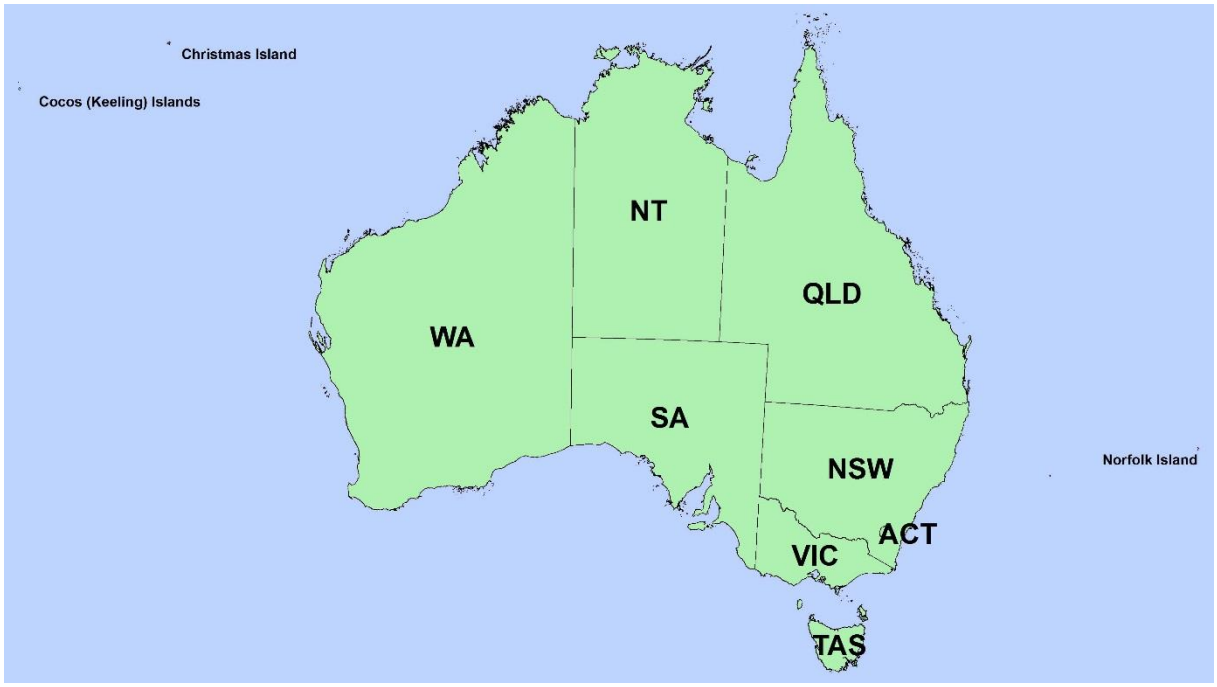
3.6 Geographic Description

The spatial coverage of Electoral Boundaries includes Australia's land mass. The Bounding Box for this data is as follows:

- North bounding latitude: -8°
- South bounding latitude: -45°
- East bounding longitude: 168°
- West bounding longitude: 96°

The area covers the land mass of Australia, including offshore islands (Christmas Island, Cocos (Keeling) Islands, and Norfolk Island).

The spatial domain is described by the polygon:



Geographic extent name

AUSTRALIA INCLUDING EXTERNAL TERRITORIES – AUS – Australia – Australia

The States and Territories within Australia are represented by the following:

State or Territory Name	Abbreviation	Character Code
New South Wales	NSW	1 (or 01)
Victoria	VIC	2 (or 02)
Queensland	QLD	3 (or 03)
South Australia	SA	4 (or 04)
West Australia	WA	5 (or 05)
Tasmania	TAS	6 (or 06)
Northern Territory	NT	7 (or 07)
Australian Capital Territory	ACT	8 (or 08)
Other Territories	OT	9 (or 09)

Note: Geoscape has aligned Other Territories (OT) with the Australian Bureau of Statistics (ABS). It includes the Territory of Christmas Island, Territory of Cocos (Keeling) Islands, Jervis Bay Territory and more recently the inclusion of Norfolk Island. OT does not include any other external Territory.

4. Data Content and Structure

The Electoral Boundaries dataset is a feature-based product. A data model is included (Appendix A - Data Model Diagram) with an associated data dictionary (Appendix B - Data Dictionary).

4.1 Feature-Based Data

The feature type is a spatial polygon. The table below outlines the features and their integration into related datasets.

Table 1: Feature descriptions and integration into related datasets

Entity	Description	Integration
Commonwealth Electoral Boundaries	Commonwealth Electoral captures the boundaries for Commonwealth Electorates. It may have many polygons defining its boundary.	No integration to other datasets (except State).
State Electoral Boundaries	State Electoral captures the boundaries for State Electorates. It may have many polygons defining its boundary.	No integration to other datasets (except State).

4.2 Feature-Based Application Schema (Data Model)

The Electoral Boundaries dataset Data Model Diagram is set out in Appendix A - Data Model Diagram.

4.3 Data Dictionary

4.3.1 Feature-Based Feature Catalogue

The feature catalogue in support of the application schema is provided in Appendix B - Data Dictionary.

Spatial attributes are added to the feature catalogue in the same manner as other attributes for completeness and conformance to the application schema.

Table 3 refers to all tables in the Feature Catalogue.

Table 2: Feature Catalogue

Column	Description
Name	The name of the column in the Integrated Database.
Data Type	The data type of the column based on the types defined in ISO 19103:2015. Parentheses capture Scale, Precision and Maximum Length, where applicable.
Description	A description of the column and what the expected contents are.
Primary Key	If 'Y' then this column must always have a unique value. (Has # entry in the data model tables).
Mandatory Field	Y = mandatory. If 'Y' (mandatory), this column is populated with data.
Foreign Key Table	Represents a table that this column is referred to.

Column	Description
Foreign Key Column	Represents a column in the 'Foreign Key Table' that this column is referred to by another table. (has * entry in the data model tables)
10 Character Alias	An alias for this column name - up to 10 characters maximum. Used to define the name of the column when in ESRI Shapefile format.

4.3.2 Feature-Based Content Scope

All geometry and metadata for polygons within the Electoral Boundaries dataset.

5. Reference System

5.1 Spatial Reference System

GDA94

Horizontal Datum: The Geocentric Datum of Australia 1994 (GDA94) is the target horizontal datum.

Coordinate System: Geographic Coordinate System Geocentric Datum of Australia 1994 (GDA94).

GDA2020

Horizontal Datum: The Geocentric Datum of Australia 2020 (GDA2020) is the target horizontal datum.

Coordinate System: Geographic Coordinate System Geocentric Datum of Australia 2020 (GDA2020).

5.2 Temporal Reference System

Gregorian calendar

5.3 Reference System Scope

The spatial objects and temporal attribution for the Electoral Boundaries dataset.

6. Data Quality

6.1 Positional Accuracy

Positional accuracy is an assessment of the closeness of the location of the spatial objects in relation to their true positions on the earth's surface.

The positional accuracy includes:

- a horizontal accuracy assessment
- a vertical accuracy assessment

The horizontal and vertical positional accuracy are the assessed accuracy after all transformations have been carried out.

Relative spatial accuracy of Electoral Boundaries reflects that of the jurisdiction source data.

6.2 Coordinates Referencing the GDA2020 Datum

Spatial features referencing the GDA2020 datum are produced using a coordinate transformation from the GDA94 datum using the following parameters.

shift_x = 0.06155,

shift_y = -0.01087,

shift_z = -0.04019,

rotate_x = -0.0394924,

rotate_y = -0.0327221,

rotate_z = -0.0328979,

scale_adjust = -0.009994

6.3 Attribute accuracy

Attribute accuracy is an assessment of the reliability of values assigned to features in the dataset in relation to their true 'real world' values.

Key attributes (name and the unique identifier) have a high degree of accuracy in the order of 99.09%. Other attributes derived from the processing of supplied data may have a lower degree of accuracy but less than previously released data. All attribute accuracies are dependent on the data accuracy supplied to Geoscape Australia.

For this product, feature and attribute accuracy is a measure of the degree to which the features and attribute values of spatial objects agree with the information on the source material. The allowable error in attribute accuracy was previously up to 5%.

A precise attribute accuracy assessment may not always be possible. In these cases an intuitive estimate of the expected attribute accuracy or the likely maximum error based on previous experience is acceptable.

6.4 Logical consistency

Logical consistency is a measure of the degree to which data complies with the technical specification. The allowable error in logical consistency previously ranged from 3% to 5%. The test procedures are a mixture of software scripts and onscreen, visual checks.

The data structure has been tested for conformance with the data model. The following have been tested and confirmed to conform:

- File names
- Attribute names
- Attribute lengths
- Attribute types
- Attribute domains
- Attribute order in file
- Object type
- Compulsory attributes populated

6.5 Topological consistency

Topological consistency is the measure of how features spatially relate to other features within and across themes. Topological inconsistencies are identified using a combination of automated rules and visual analysis. Where topological inconsistencies are identified they are notified back to the supplier organisation for remediation at the source. Some minor topological inconsistencies are corrected during product processing using automated rules. The level of topological consistency is dependent on the data supplied to Geoscape.

Electoral Boundaries has been processed to assure all polygons are stored as single part features to improve compatibility with a range of software applications. Due to this there can be a duplication of PIDs (e.g. STATE_ELECTORAL_PID) within a layer (e.g. State Electoral Boundaries) where there are multiple polygons represented by a single PID.

6.6 Completeness

Completeness is an assessment of the extent and range of the dataset in regard to completeness of coverage, completeness of classification and completeness of verification.

Attribute completeness

All attributes for each object are populated according to the data model, noting that some attributes are not mandatory.

Temporal accuracy for each layer is applicable to its most current release.

Quality scope

Polygon geometry accuracy and attribute accuracy for all included areas.

7. Data Capture

The digital Electoral Boundaries and their legal identifiers have been supplied by the Electoral Commission from each State and Territory as well as the Australian Electoral Commission. These boundaries undergo re-distribution depending on population of the electorate before each election.

8. Data Updates and Maintenance

8.1 Update Frequency

Geoscape Australia releases updates to datasets on either a monthly, quarterly, or as required frequency. Electoral Boundaries is updated as required with any updates delivered in the months of February, May, August and November when applied. As required means datasets are updated when significant change is provided by the jurisdictions for inclusion into the product.

8.2 Maintenance scope

Geoscape Australia's data maintenance occurs for existing objects with changed geometry and/or attributes, as well as data for new objects within the release period.

9. Delivery Format

9.1 Components

Electoral Boundaries is a vector data product and is made available for each state or territory in the formats listed below. The Australian Government releases Electoral Boundaries on data.gov.au in ESRI Shape and MapInfo TAB formats.

MapInfo

Format Name

TAB – MapInfo Professional

Specification

The MapInfo TAB format is a popular geospatial vector data format for geographic information systems software. It is developed and regulated by MapInfo as a proprietary format. This format includes files with the following extensions: *.tab, *.dat, *.id, *.map

TAB files support geospatial standards such as Open GIS, the OGC, ISO, W3C and others.

Language

English

Shape

Format Name

Shape – ESRI

Specification

This format includes files with the following extensions: *.shp, *.shx, *.dbf

ESRI Shapefile Technical Description, an ESRI White Paper, July 1998

Follow this link: www.esri.com/library/whitepapers/pdfs/shapefile.pdf

Language

English

10. Geoscape Partner Network

The value of Geoscape's products is in the richness of the partner networks who have specialist skills and knowledge to provide business-ready solutions. Our network includes traditional geospatial specialists, data engineers, software developers, marketing service providers, system integrators, independent software vendors, research organisations and consultancies.

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11. Contact Geoscape

Contact us to provide feedback on the Electoral Boundaries product or for further information on accessing Geoscape Data:

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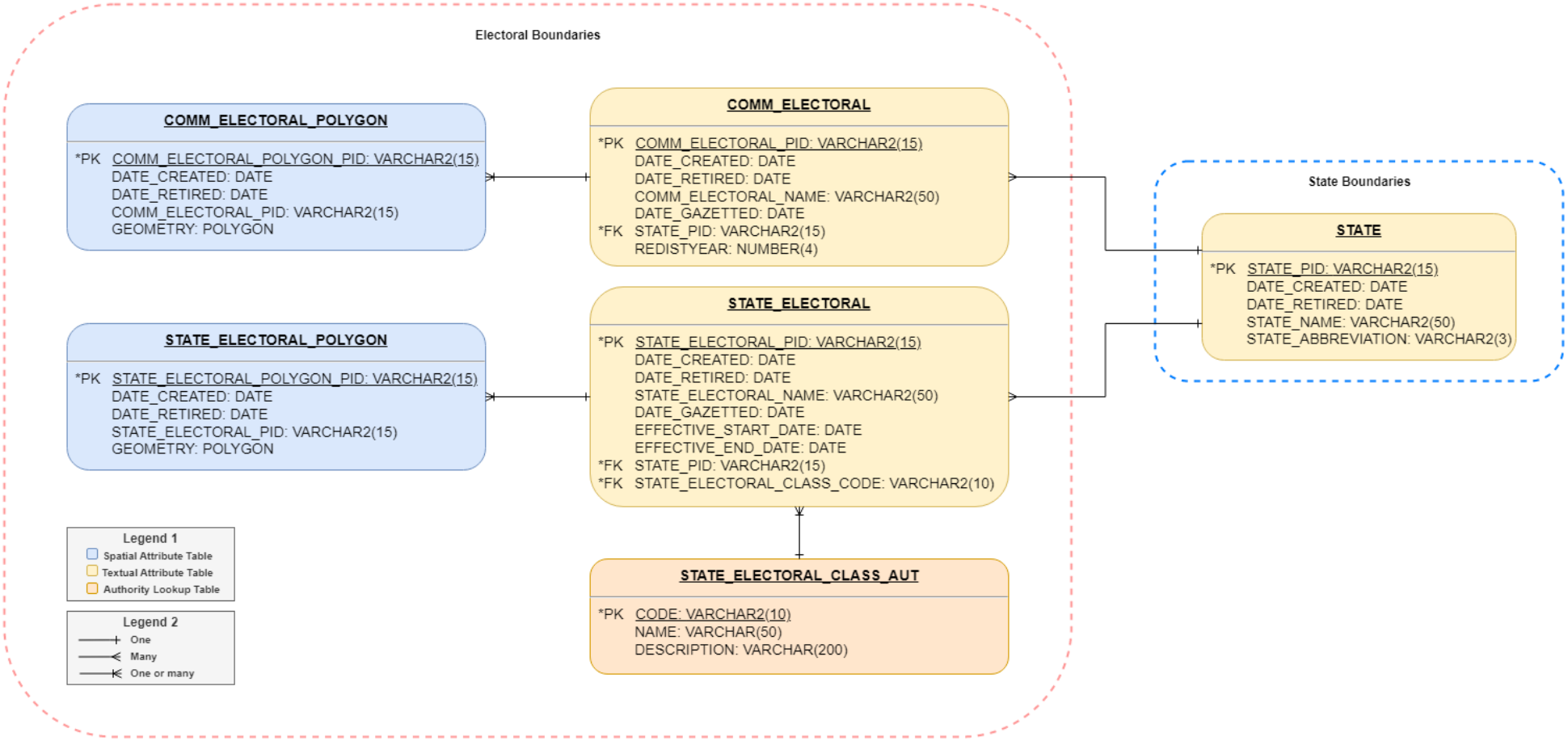
Appendix A - Data Model Diagram



Appendix B - Data Dictionary

Commonwealth Electoral Boundaries

Table 1: COMM_ELECTORAL

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
COMM_ELECTORAL_PID	varchar2(15)	The Persistent Identifier is unique to the real world feature this record represents.	Y	Y	-	-	CE_PID
DATE_CREATED	date	Date this record was created.	N	Y	-	-	DT_CREATE
DATE_RETIRED	date	Date this record was retired.	N	N	-	-	DT_RETIRE
COMM_ELECTORAL_NAME	varchar2(50)	Name of the Commonwealth electorate.	N	Y	-	-	NAME
DATE_GAZETTED	date	Gazetted date.	N	N	-	-	DT_GAZETD
STATE_PID	varchar2(15)	State Persistent Identifier.	N	Y	STATE	STATE_PID	STATE_PID
REDISTYEAR	number(4)	The field is the year of the boundary redistribution for each electorate.	N	N	-	-	REDISTYEAR

Table 2: COMM_ELECTORAL_POLYGON

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
COMM_ELECTORAL_POLYGON_PID	varchar2(15)	The Persistent Identifier is unique to the real world feature this record represents.	y	y	-	-	CE_PLY_PID
DATE_CREATED	date	Date this record was created.	N	Y	-	-	DT_CREATE
DATE_RETIRED	date	Date this record was retired.	N	N	-	-	DT_RETIRE

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
COMM_ELECTORAL_PID	varchar2(15)	Commonwealth electoral persistent identifier.	N	Y	COMM_ELECTORAL	COMM_ELECTORAL_PID	CE_PID
GEOMETRY	polygon	Polygon geometry.	N	Y	-	-	GEOMETRY

State Electoral Boundaries

Table 3: STATE_ELECTORAL

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
STATE_ELECTORAL_PID	varchar2(15)	The Persistent Identifier is unique to the real world feature this record represents.	Y	Y	-	-	SE_PID
DATE_CREATED	date	Date this record was created.	N	Y	-	-	DT_CREATE
DATE_RETIRED	date	Date this record was retired.	N	N	-	-	DT_RETIRE
STATE_ELECTORAL_NAME	varchar2(50)	Name.	N	Y	-	-	NAME
DATE_GAZETTED	date	Gazetted date.	N	N	-	-	DT_GAZETD
EFFECTIVE_START	date	Where available, the date the electorate becomes effective, often this is the first election date after redistribution. In some states the effective date and gazetted date are the same	N	N			EFF_START
EFFECTIVE_END	date	Where available, the date the electorate is no longer in effect, often this is the due to a redistribution.	N	N			EFF_END
STATE_PID	varchar2(15)	State Persistent Identifier.	N	Y	STATE	STATE_PID	STATE_PID

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
STATE_ELECTORAL_CLASS_CODE	varchar2(10)	State Electoral class code	N	N	STATE_ELECTORAL_CLASS_AUT	CODE	SECL_CODE

Table 4: STATE_ELECTORAL_POLYGON

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
STATE_ELECTORAL_POLYGON_PID	varchar2(15)	The Persistent Identifier is unique to the real world feature this record represents.	Y	Y			SE_PLY_PID
DATE_CREATED	date	Date this record was created.	N	Y			DT_CREATE
DATE_RETIRED	date	Date this record was retired.	N	N			DT_RETIRE
STATE_ELECTORAL_PID	varchar2(15)	State electoral Persistent Identifier.	N	N	STATE_ELECTORAL	STATE_ELECTORAL_PID	SE_PID
GEOMETRY	polygon	Polygon geometry.	N	Y			GEOMETRY

Table 5: STATE_ELECTORAL_CLASS_AUT

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
CODE	varchar2(10)	This is the persistent Identifier of the record.	Y	Y	-	-	CODE
NAME	varchar2(50)	Name.	N	Y	-	-	NAME
DESCRIPTION	varchar2(200)	Description of the State Electoral classes.	N	N	-	-	DESCRIPTIO

Table 6: Codes for the STATE_ELECTORAL_CLASS_AUT table

Code	DESCRIPTION	NAME
1	Jurisdiction Electoral Boundaries for the House of Assembly	House of Assembly

Code	DESCRIPTION	NAME
2	Jurisdiction Electoral Boundaries for the Legislative Assembly	Legislative Assembly
3	Jurisdiction Electoral Boundaries for the Legislative Council	Legislative Council
4	Jurisdiction Electoral Boundaries for the Legislative Assembly and Legislative Council	Legislative Assembly and Legislative Council
5	Jurisdiction Electoral Boundaries for the House of Assembly and Legislative Council	House of Assembly and Legislative Council