

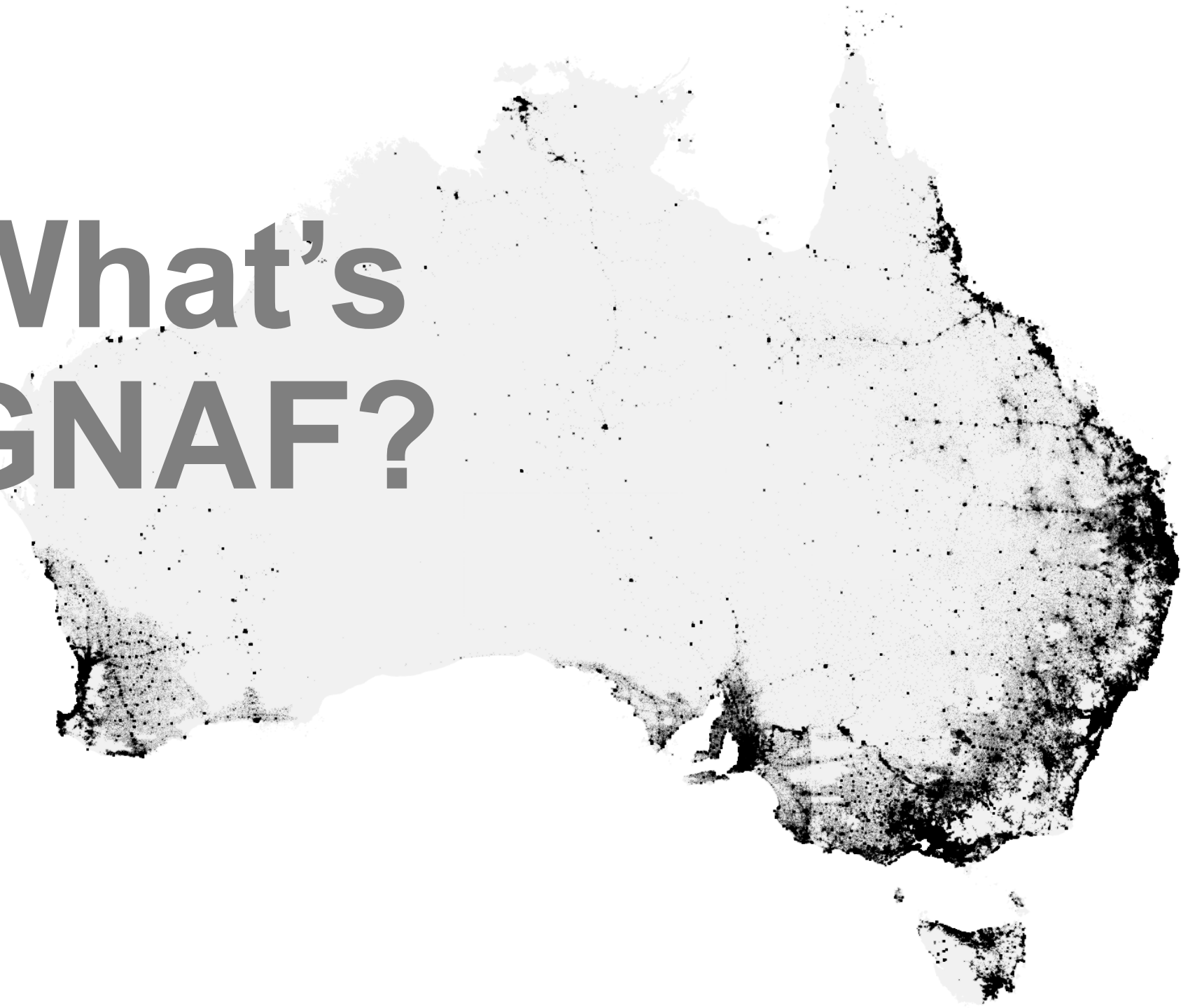
# Intro to GNAF

For Better Address

Hugh Saalmans - @minus34



**What's  
GNAF?**



A map of Australia is shown in the background, with a light beige color. Overlaid on the map are numerous small green dots, which represent validated addresses. The dots are most densely clustered along the eastern and southern coasts, as well as in the southwestern corner, with fewer dots in the central and northern regions.

**A national  
dataset of 13m  
validated  
addresses  
with coordinates**



Why  
is  
GNAF  
awesome?



**It underpins  
decision  
making &  
economic  
activity...**

**...at the  
national  
level**





**...the  
regional  
level**





...and at a  
granular level



**This  
week...**

A photograph of four men sitting in a row, reacting with intense excitement and surprise. They are all looking towards the left side of the frame, presumably at a screen. The man in the foreground is wearing a black shirt and has his mouth wide open in a shout, with his hands clasped in front of him. Behind him, three other men are also reacting: one in a yellow shirt has his hand to his mouth, another in a grey shirt has his mouth open, and a fourth man in the background is pointing his finger. The scene is dimly lit, suggesting a theater or a dark room.

**...GNAF  
becomes  
OPEN DATA!**

**Time for a  
deep dive!?**

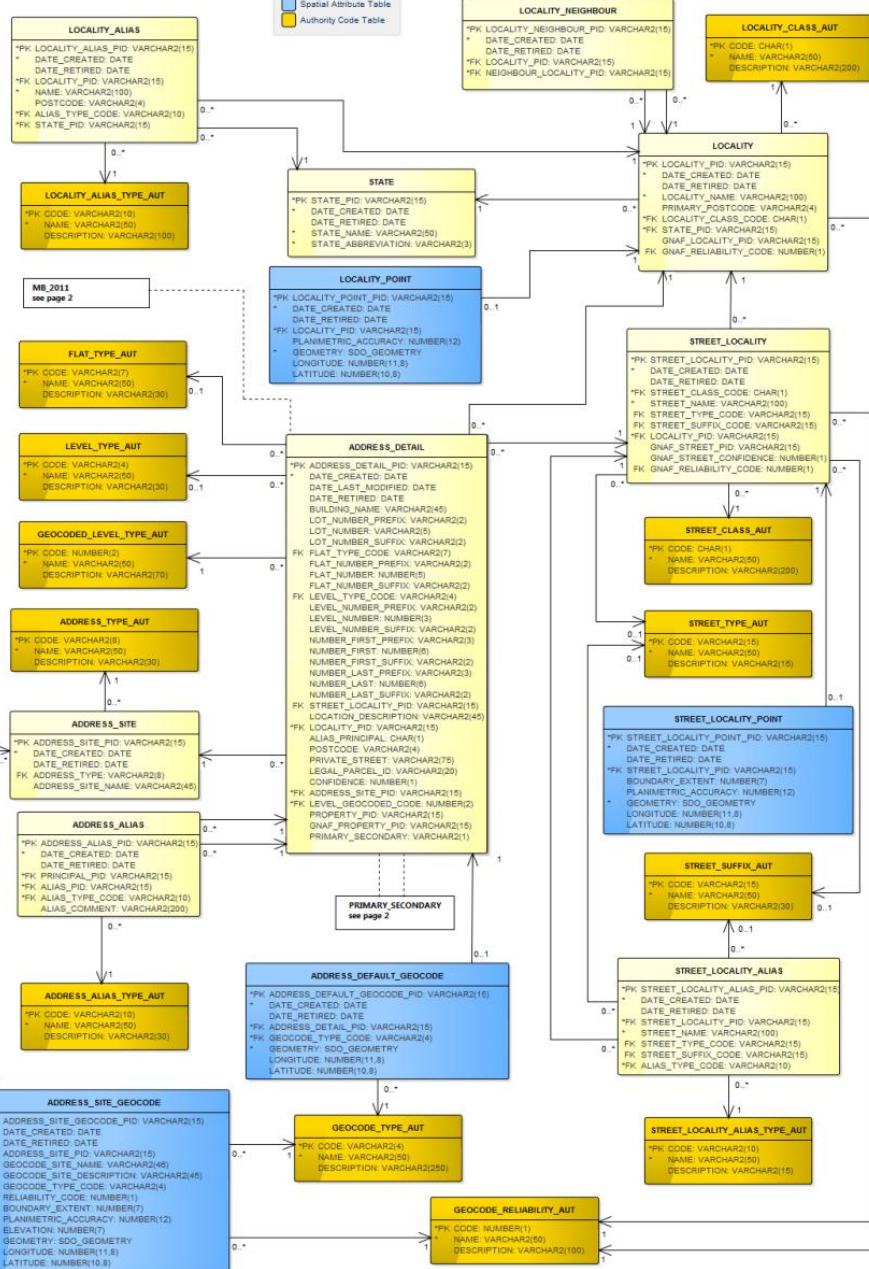


# The GNAF data model

## G-NAF Data Model - Page 1

### Legend

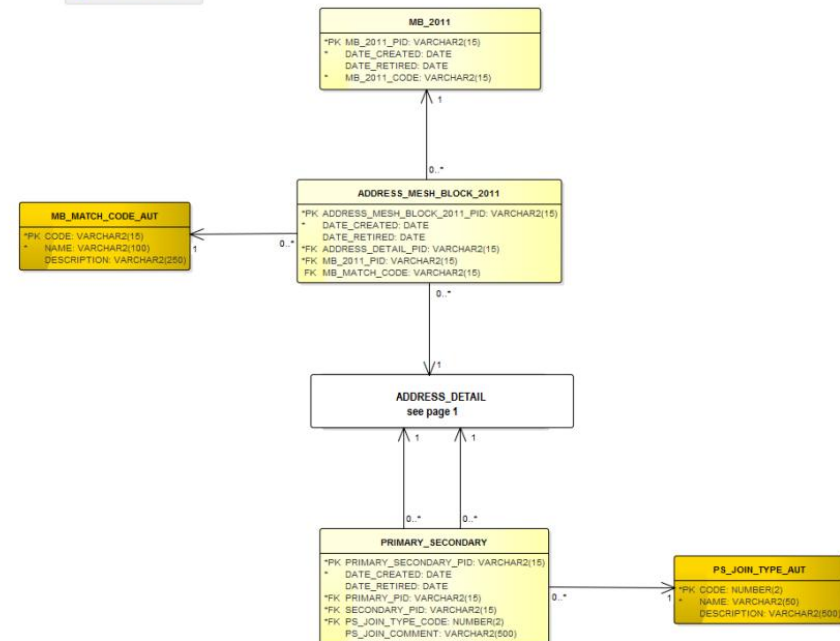
- Textual Attribute Table
- Spatial Attribute Table
- Authority Code Table



## G-NAF Data Model - Page 2

### Legend

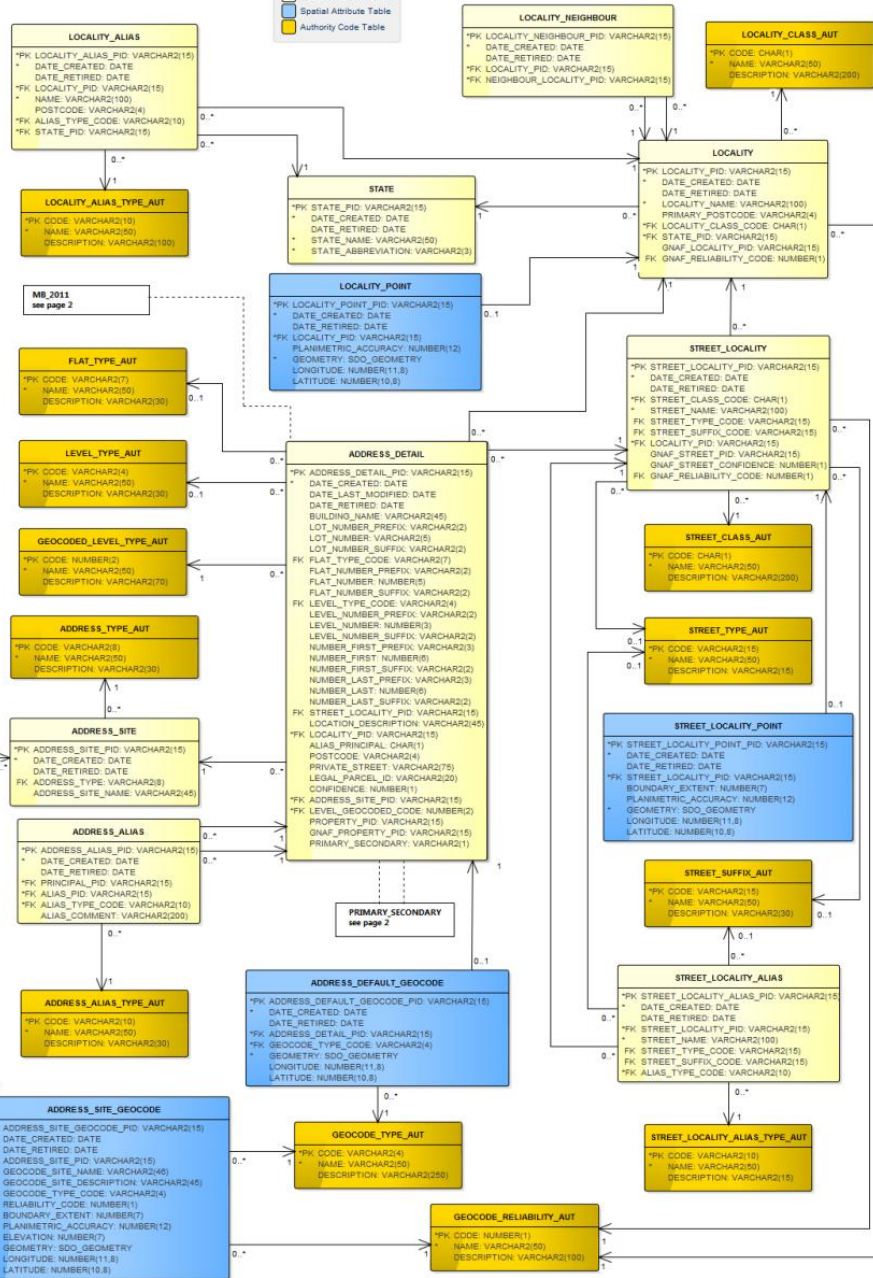
- Textual Attribute Table
- Spatial Attribute Table
- Authority Code Table



## G-NAF Data Model - Page 1

### Legend

- Textual Attribute Table
- Spatial Attribute Table
- Authority Code Table

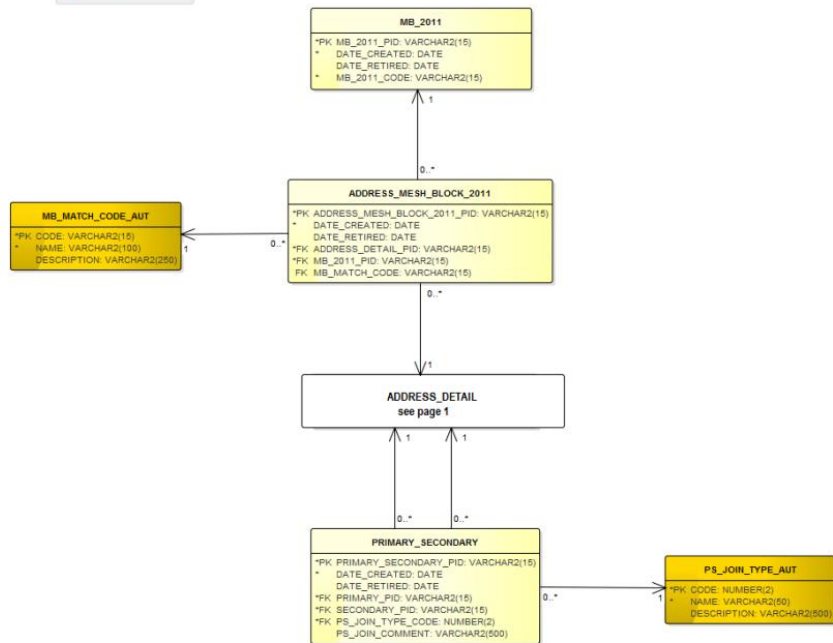


- 4.8 Gb  
- 144 PSV files  
- 31 tables  
- 39 foreign keys

## G-NAF Data Model - Page 2

### Legend

- Textual Attribute Table
- Spatial Attribute Table
- Authority Code Table

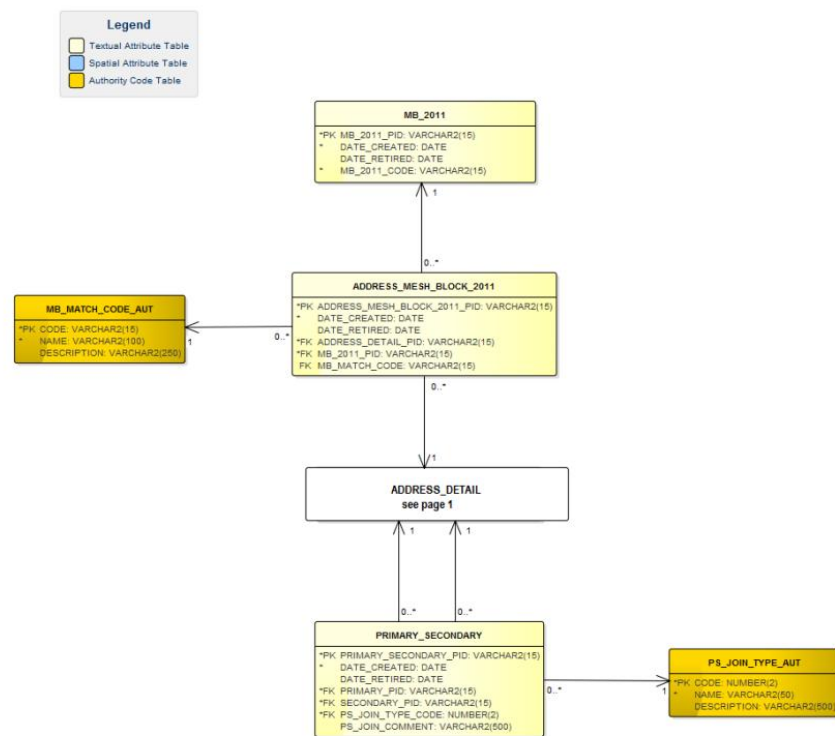

















G-NAF Data Model - Page 2



# Let's Simplify things...

-  address\_alias\_lookup
-  address\_aliases
-  address\_principals
-  address\_secondary\_lookup
-  localities
-  locality\_aliases
-  locality\_neighbour\_lookup
-  street\_aliases
-  streets



Introducing...  
**gnaf-loader!**



**Let's get  
started**

# Step 1: download the data



Australian Government



# Step 2: install the pre-reqs



(Psycopg2)

# Step 3:

run the code\*



<https://github.com/minus34/gnaf-loader>

\* Postgres dump & PSV files coming soon

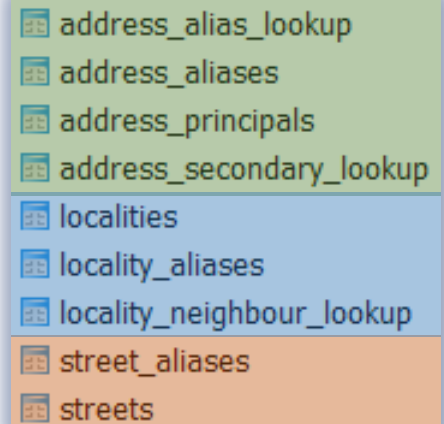











# Step 4: learn GNAF...

**ADDRESSES**

**STREETS**










**LOCALITIES**












	address_alias_lookup
	address_aliases
	address_principals
	address_secondary_lookup
	localities
	locality_aliases
	locality_neighbour_lookup
	street_aliases
	streets

# ADDRESSES (13m)

- Keyed by **gnaf\_pid**
- Represent an address **validated** by State Govt, Australia Post and/or the AEC
- Must link to a **street** and **locality**  
(via locality\_pid & street\_locality\_pid)
- Can be a **principal** address (20 FRED ST) or an **alias**/duplicate (20-30 FRED ST)
- Can be a **primary** address (10 JOHN ST) or **secondary** address (Unit 2, 10 JOHN ST)
- 95% have coordinates **inside the property**
- Link to the **ABS Census** (mb\_2011\_code) and **property** information (legal\_parcel\_id)










	address_alias_lookup
	address_aliases
	address_principals
	address_secondary_lookup
	localities
	locality_aliases
	locality_neighbour_lookup
	street_aliases
	streets

# STREETS (700k)

	address_alias_lookup
	address_aliases
	address_principals
	address_secondary_lookup
	localities
	locality_aliases
	locality_neighbour_lookup
	street_aliases
	streets

- Keyed by **street\_locality\_pid**
- Represent a **unique street name** in a **locality**
- i.e. Pacific Hwy, Chatswood  
    != to Pacific Hwy, Artarmon
- Must link to a **locality** (via locality\_pid)
- Can have an **alias** name  
    (Main St = Hume Hwy)

# LOCALITIES (16k)

	address_alias_lookup
	address_aliases
	address_principals
	address_secondary_lookup
	localities
	locality_aliases
	locality_neighbour_lookup
	street_aliases
	streets

- Keyed by **locality\_pid**
- Represent suburbs, towns, localities and topographic features
- Can have an **alias** name  
(CITY, ACT = CANBERRA, ACT)
- Are surrounded by **neighbouring** localities



**Thanks,  
enjoy!**

**BTW...**

**There's the  
Admin Bdys as  
well!**

