

Intro to GNAF

For Better Address

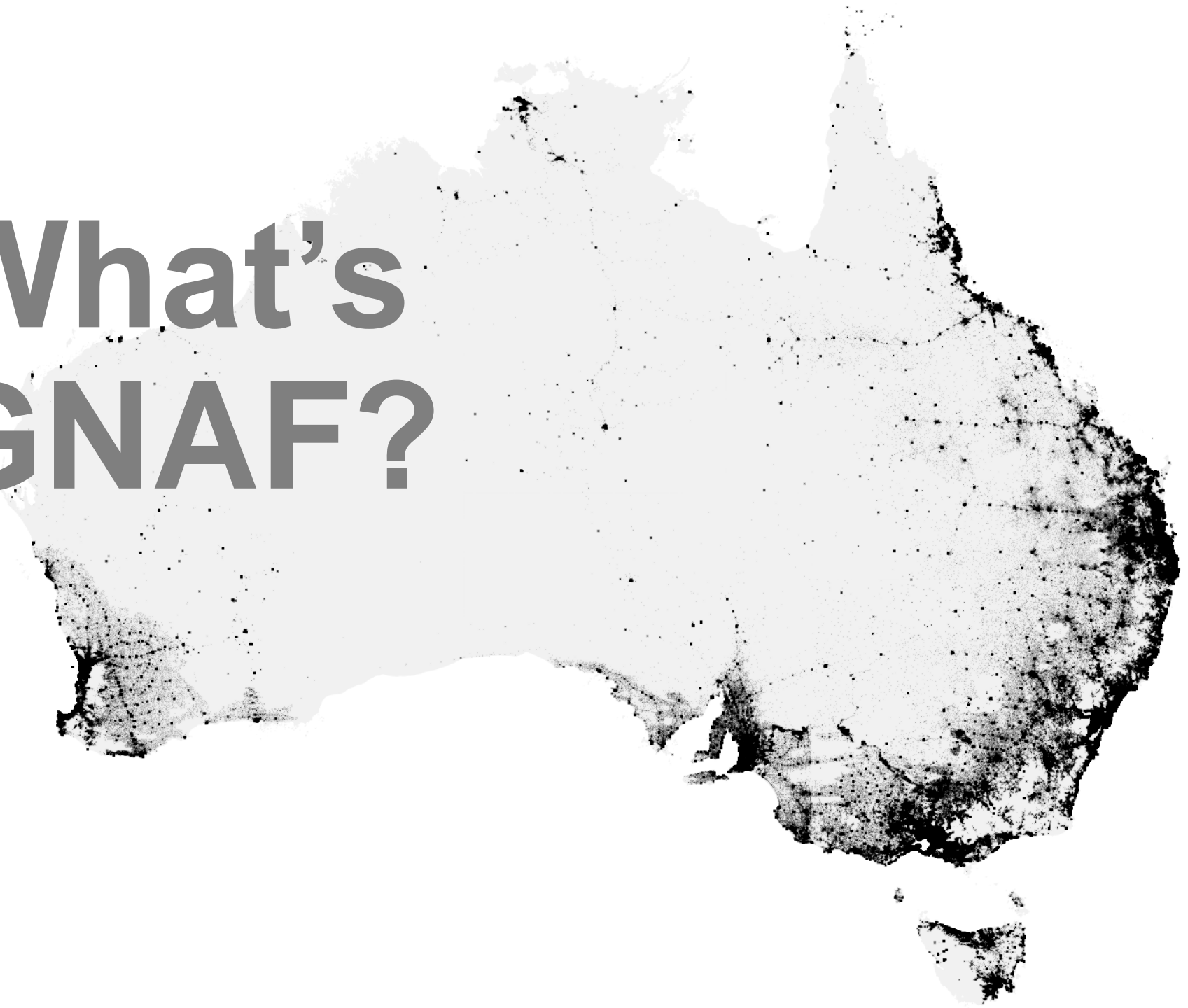
RETURN
TO
SENDER

Hugh Saalmans



@minus34

**What's
GNAF?**



A map of Australia is shown in a light green color. Overlaid on the map are numerous small, dark green dots representing individual addresses. The dots are most densely packed in the eastern and southern coastal regions, with fewer dots in the central and western inland areas. The text is overlaid on the left side of the map.

**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

GNAF

is now...



OPEN DATA!!!



**& there's the
Admin Bdys as
well!**

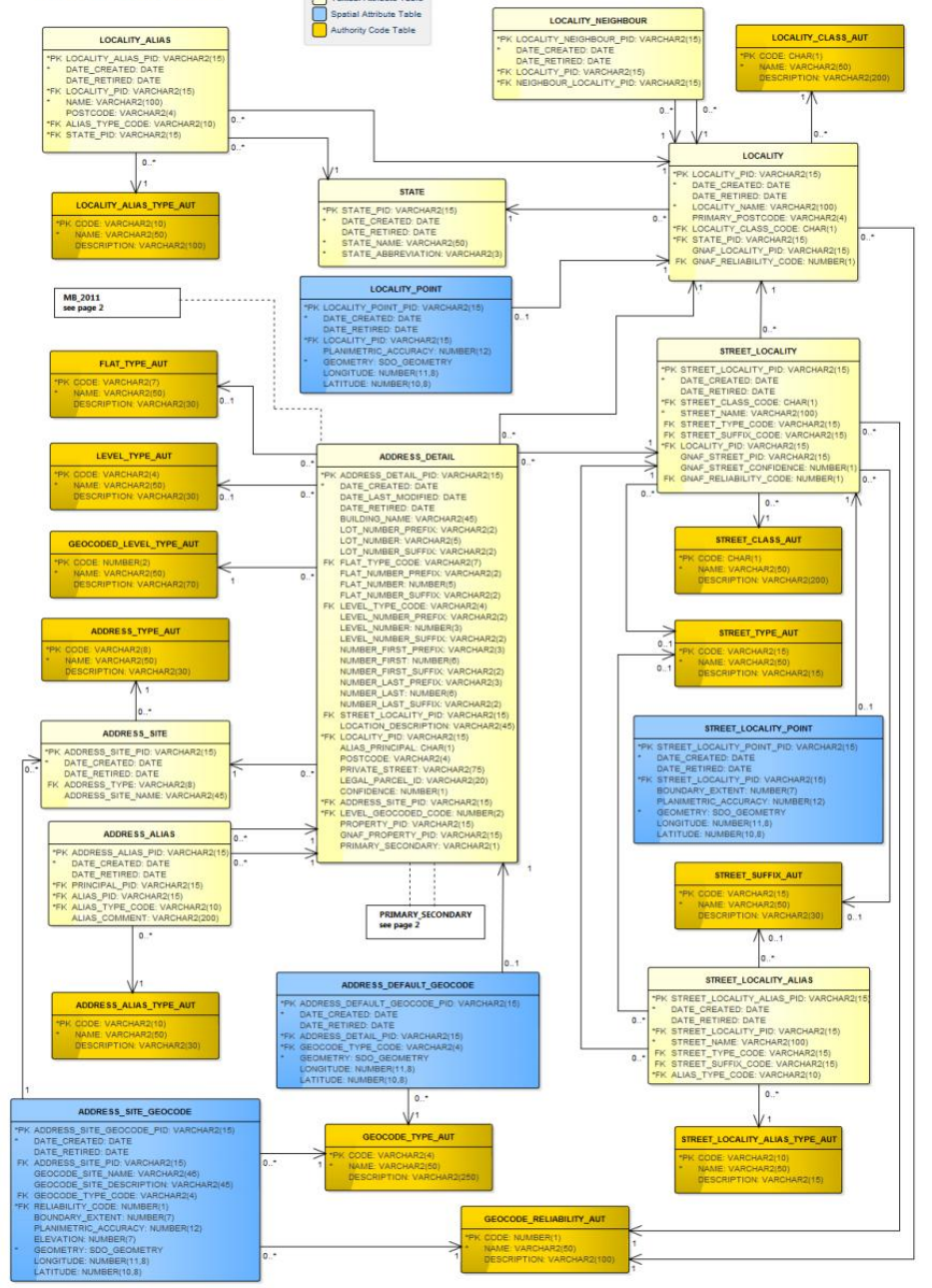


**Time for a
deep dive!?**

G-NAF Data Model - Page 1

Legend

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

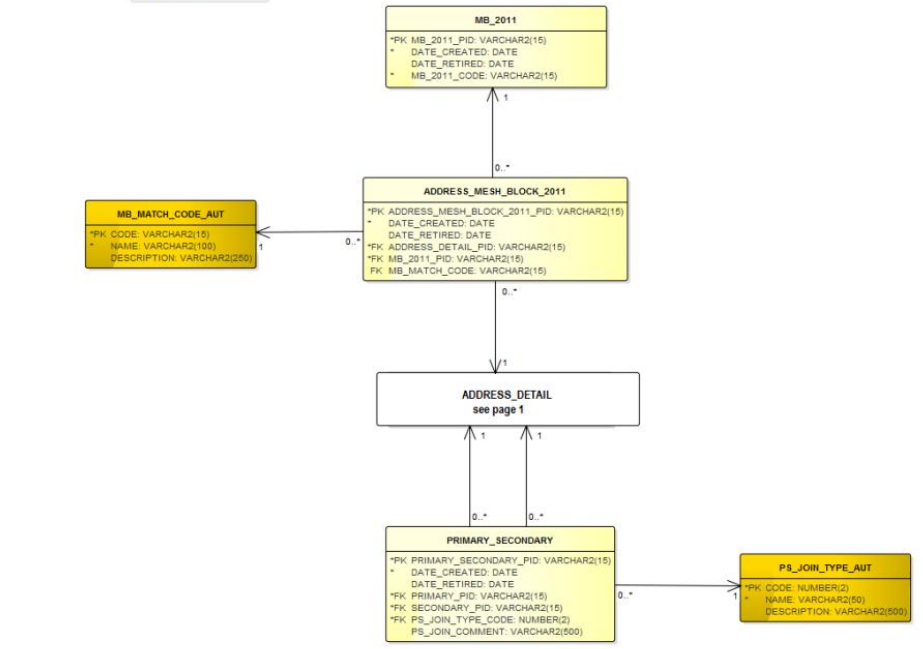


The GNAF data model

G-NAF Data Model - Page 2

Legend

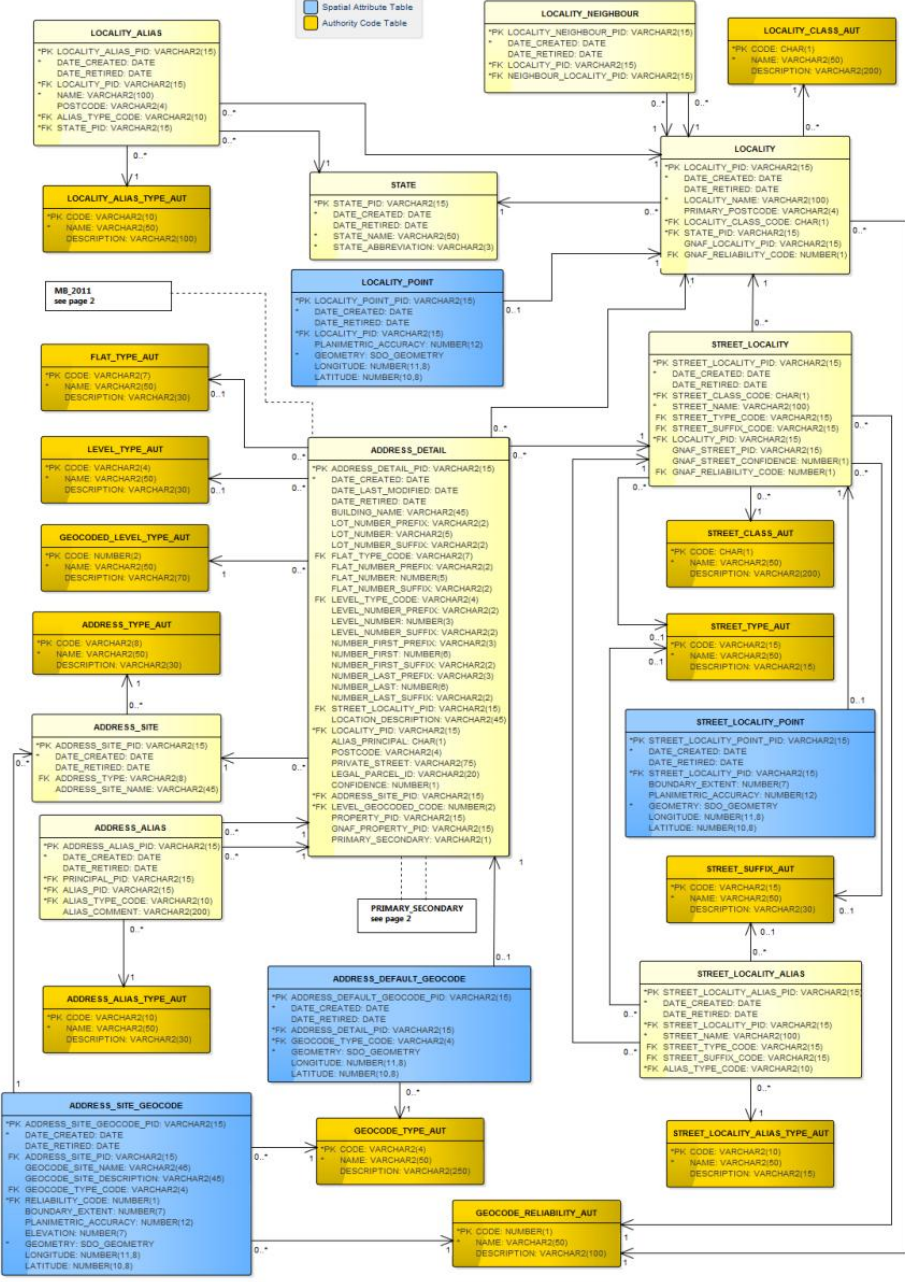
- Textual Attribute Table
- Spatial Attribute Table
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G-NAF Data Model - Page 1

Legend

- Textual Attribute Table
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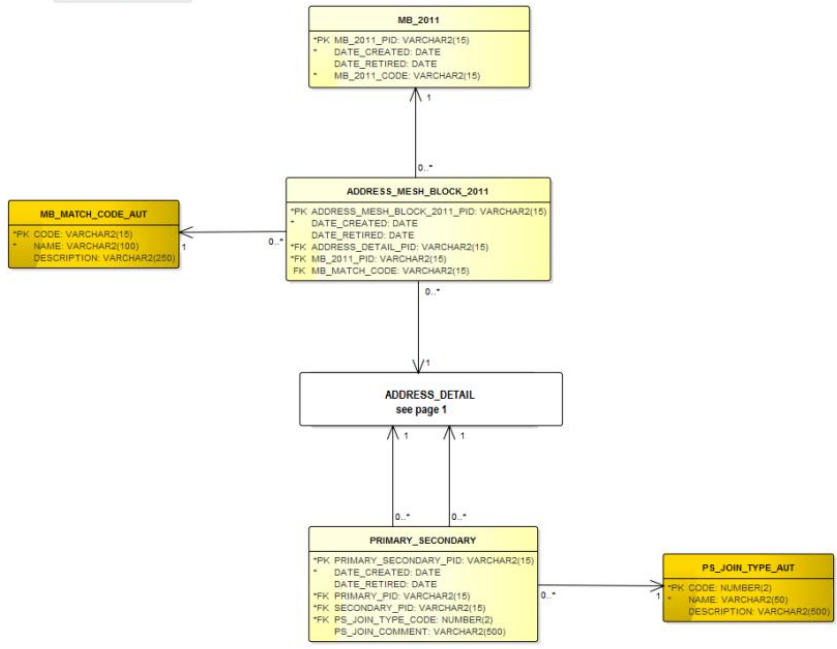


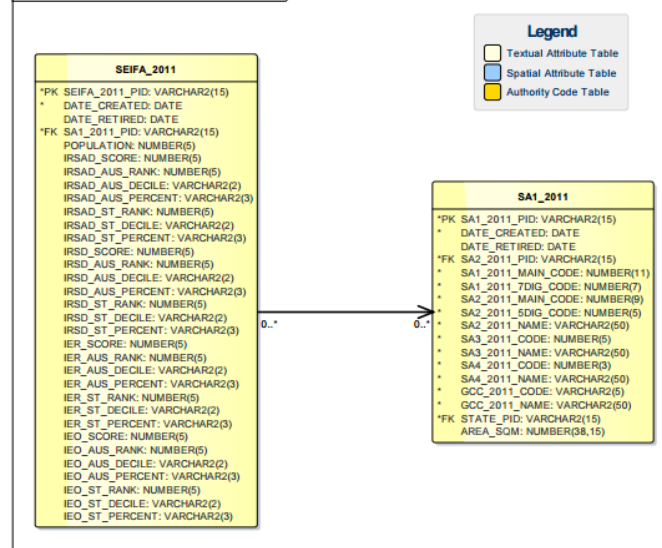
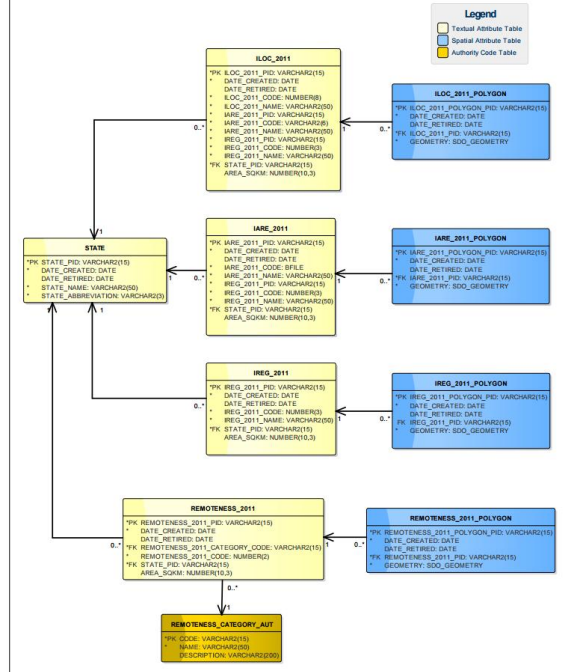
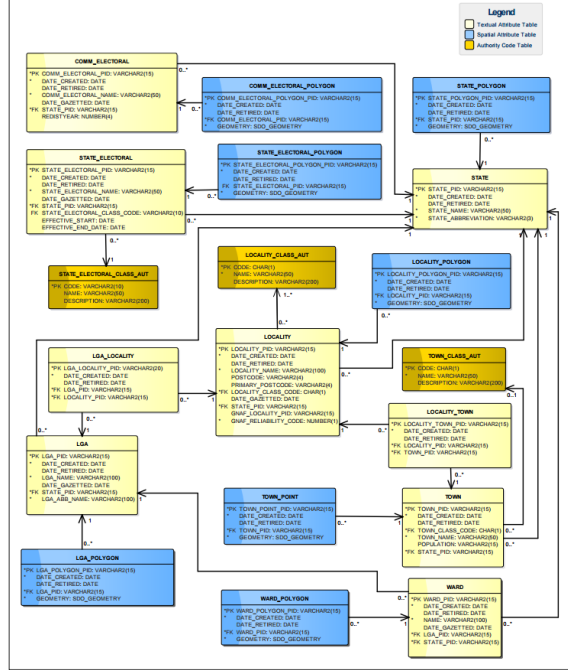
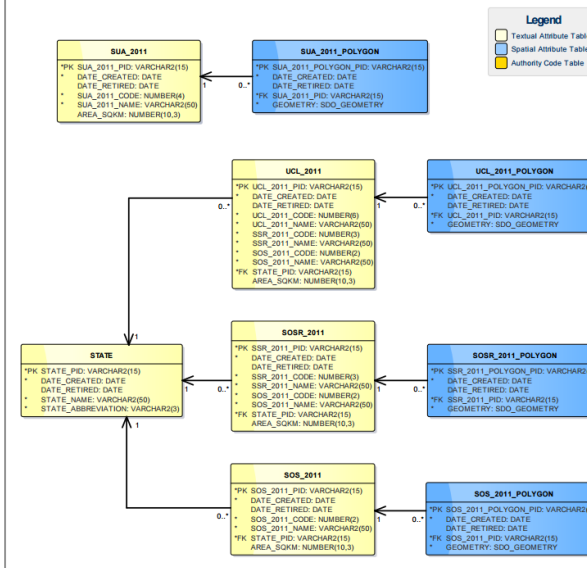
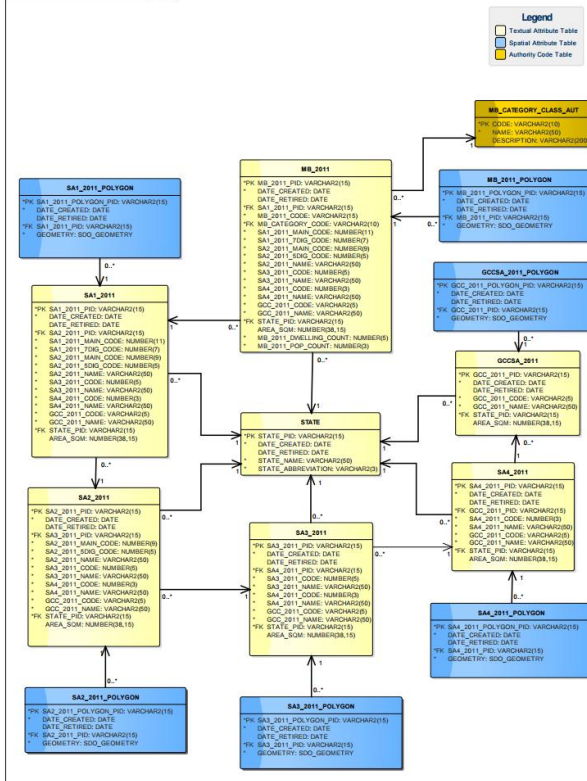
- 4.8 Gb
 - 144 PSV files
 - 31 tables
 - 39 foreign keys

G-NAF Data Model - Page 2

Legend

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





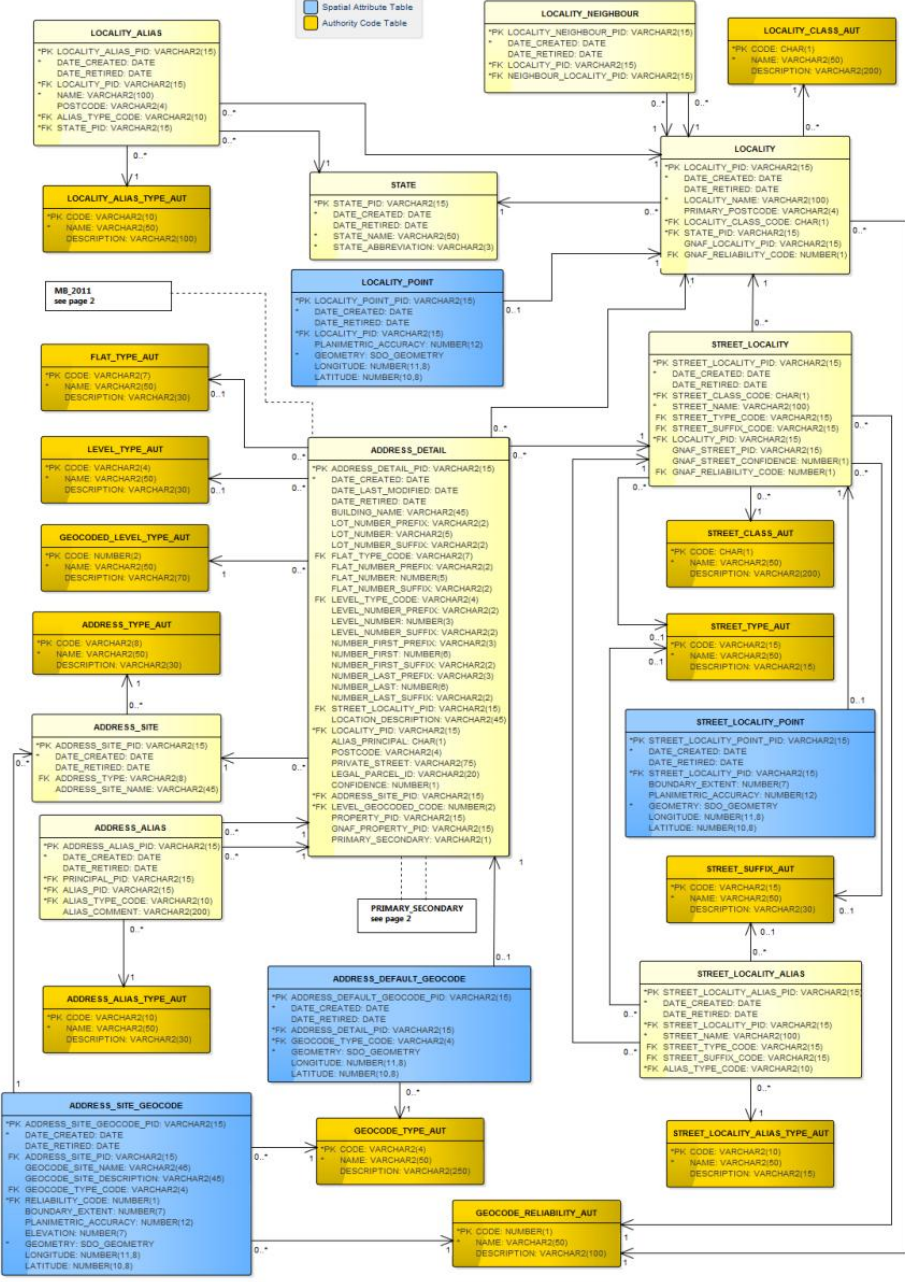
The Admin-bdys data model



G-NAF Data Model - Page 1

Legend

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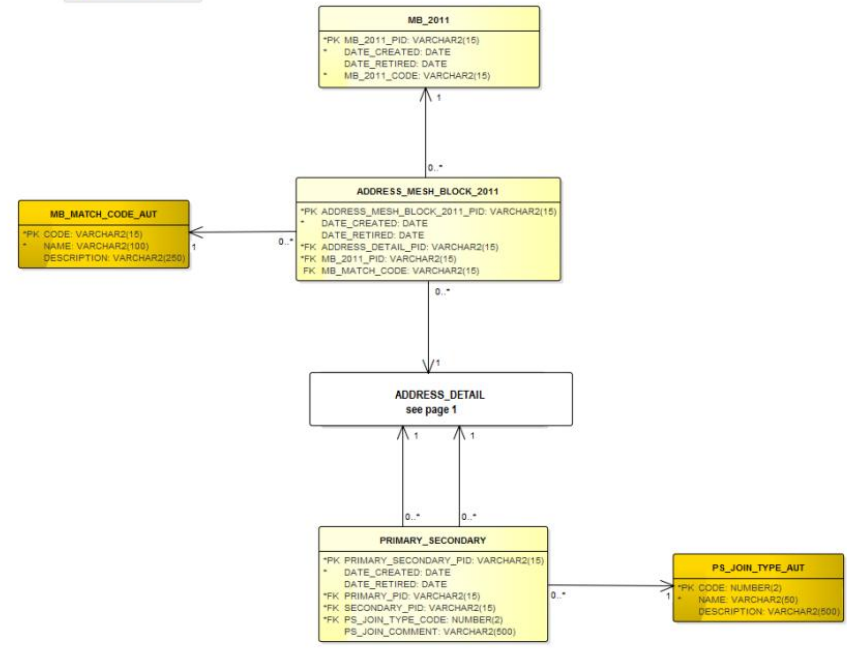


Let's Simplify things...


G-NAF Data Model - Page 2

Legend

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



- address_alias_lookup
- address_aliases
- address_principals
- address_secondary_lookup
- localities
- locality_aliases
- locality_neighbour_lookup
- street_aliases
- streets

A close-up photograph of a clear glass decanter pouring a clear liquid into a glass of red wine. The liquid is captured mid-pour, creating a dynamic splash in the wine. The background is a soft, out-of-focus grey.

Introducing...
gnaf-loader!

**Let's get
started**

Step 1: download the data



Australian Government



<http://data.gov.au/dataset/geocoded-national-address-file-g-naf>

<http://data.gov.au/dataset/psma-administrative-boundaries>

Step 2: install the pre-reqs



(Psycopg2)

Step 3:

run the code*



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

- * or download the [Postgres dump files](#)
- * or fire up a Docker container

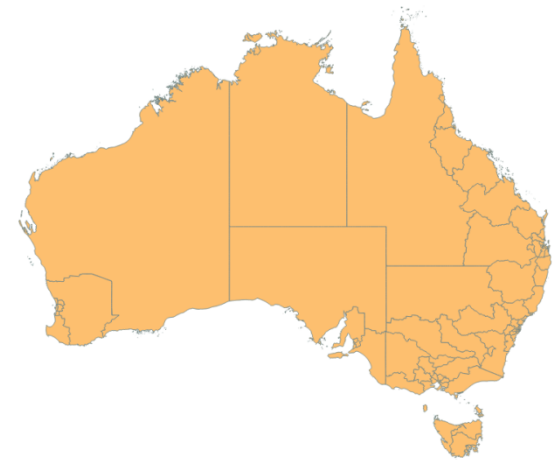
**Here's what
you get**

address_alias_lookup
address_aliases
address_principals
address_secondary_lookup
localities
locality_aliases
locality_neighbour_lookup
street_aliases
streets

GNAF

- Loaded into Postgres nationally or by selected states
- De-normalised & flattened into 9 tables
- locality_pid niggles removed
- All dots created and indexed

ADMIN-BDYS



- Loaded into Postgres nationally or by selected states
- Merged into spatial tables
- Optimised for analysis (ST_Subdivide rocks!)
- Melbourne split into its 2 postcodes (3000 & 3004)
- Derived postcode layer created

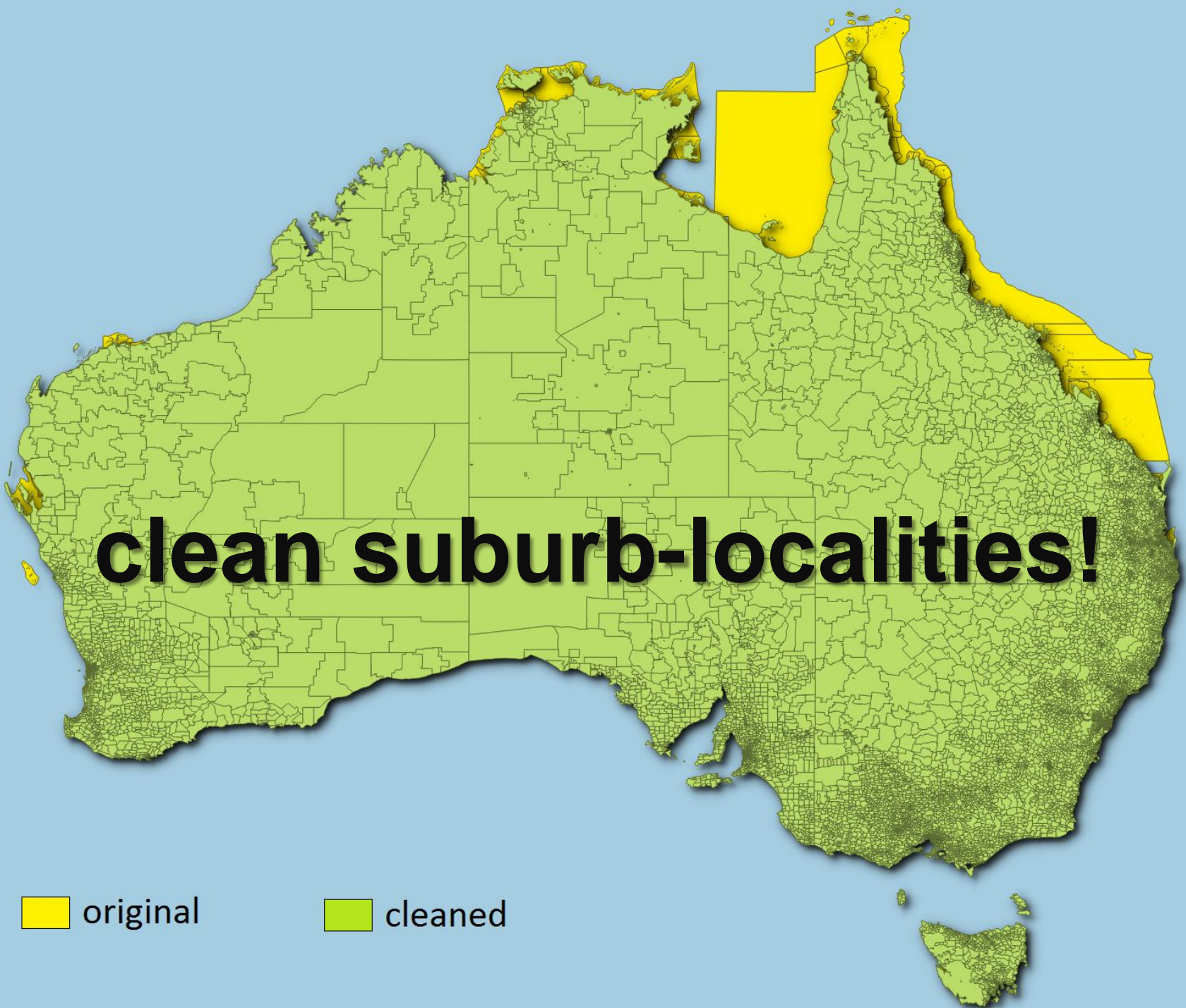


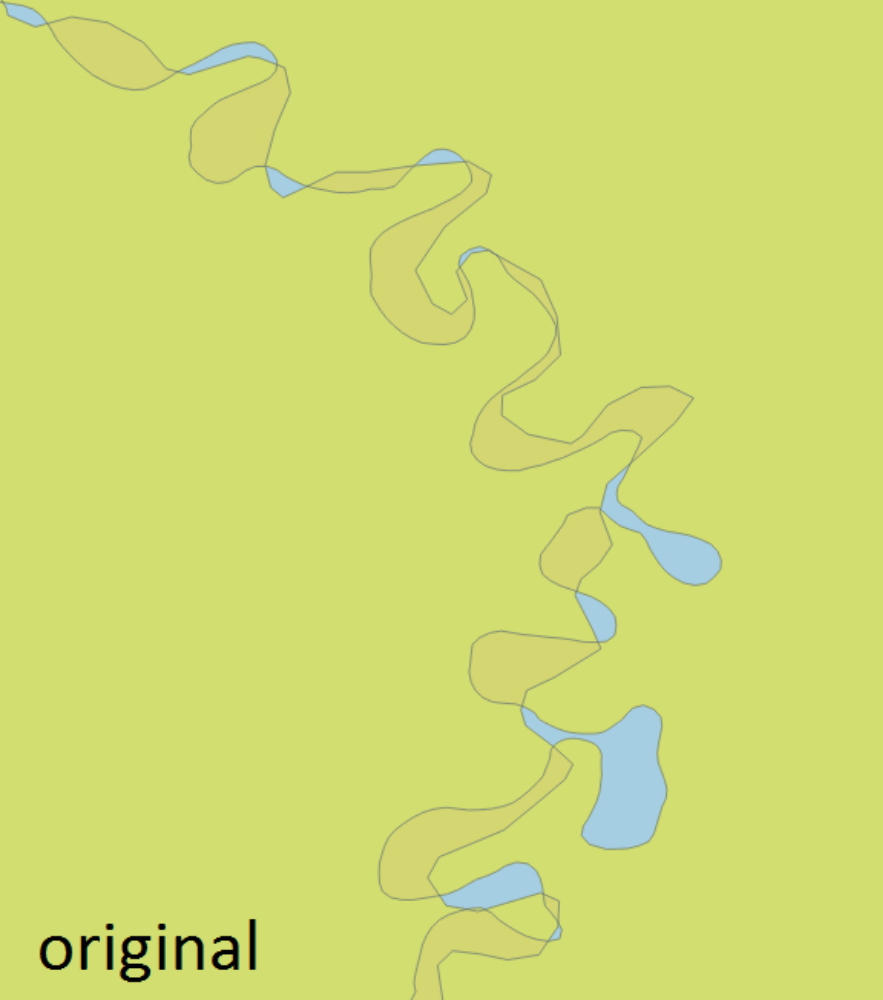
AS SEEN ON
TV

But Wait...
THERE'S MORE!

FREE!

Offer ends
November 1





GitHub

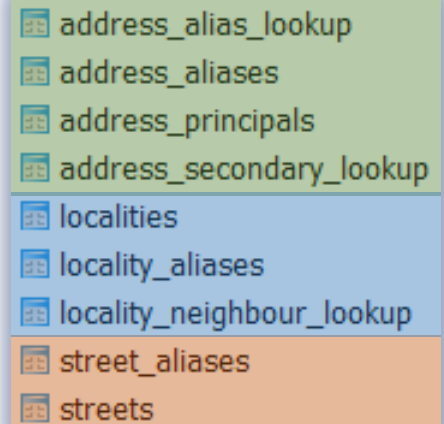
<https://github.com/iag-geo/psma-admin-bdys>

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
 != 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!**