

ScribeKey's Overture To Esri Pipeline

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Overture Maps Data

- Overture Maps Foundation: Formed by Amazon, Microsoft, Meta, Esri, TomTom – 2022, goal is to provide an open-source, global base map.
- Up until now full global coverage for streets, addresses, places, buildings only exists through Google, HERE, and TomTom.
- TomTom is increasingly leveraging Overture as a foundation for its base map.
- Streets are not routable (from OpenStreetMap), or suitable for address-range style geocoding, but other layers including addresses, places, buildings (3D), infrastructure and others provide valuable supplemental layers to existing state and local data portals.
- Any use by states, countries, etc. involves ability to freely distribute data to constituents, in contrast to commercial datasets.

Meta, Microsoft, AWS and TomTom launch the Overture Maps Foundation to develop interoperable open map data

Steering (4)



General (1)



ABOUT ▾ RESOURCES ▾

Overture provides free and open map data

Get Started

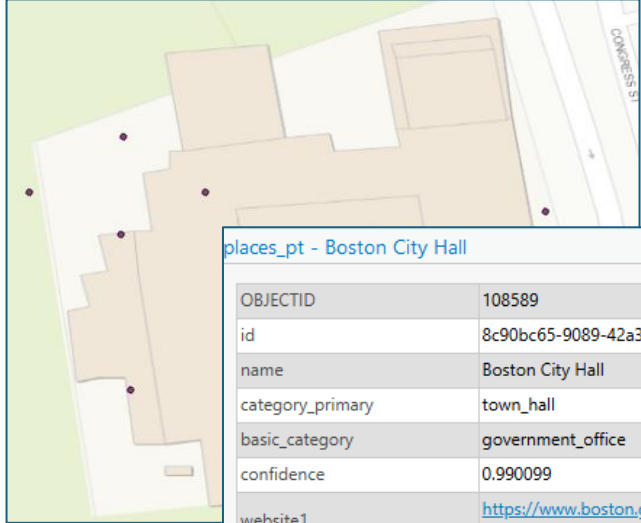
Learn More

Overview

- In its native format of GeoParquet with nested multi-value attributes, Overture data is not initially in a format that can be easily used with ArcGIS Pro.
- For this reason, ScribeKey has developed a pipeline to convert Overture data, using BigQuery and ArcPy, into Esri file geodatabase format.
- Pipeline involves querying to split out different geometry types, e.g., infrastructure points, lines, and areas, as well as flattening/unnesting JSON structs/arrays, e.g., names common, saving to GeoParquet, then converting to Esri feature classes and related non-geometry tables.
- The Overture data package also includes value-added components, including ArcGIS Pro projects and maps, geocoding locators, network datasets, 3D buildings, Microsoft Power BI Pivot-Maps, a streamlined HTML data dictionary, and a comprehensive geodatabase data profile.
- ScribeKey can easily generate data for any Area Of Interest (AOI) on the globe at any administrative level: city, county, state, country, multi-country in a relatively short amount of time.
- ScribeKey can also easily generate other formats including GeoPackages, GeoJSON, etc.

Overture GeoParquet Nested JSON

```
{
  "names": {
    "primary": "Boston City Hall",
    "common": null,
    "rules": null
  }
}
```



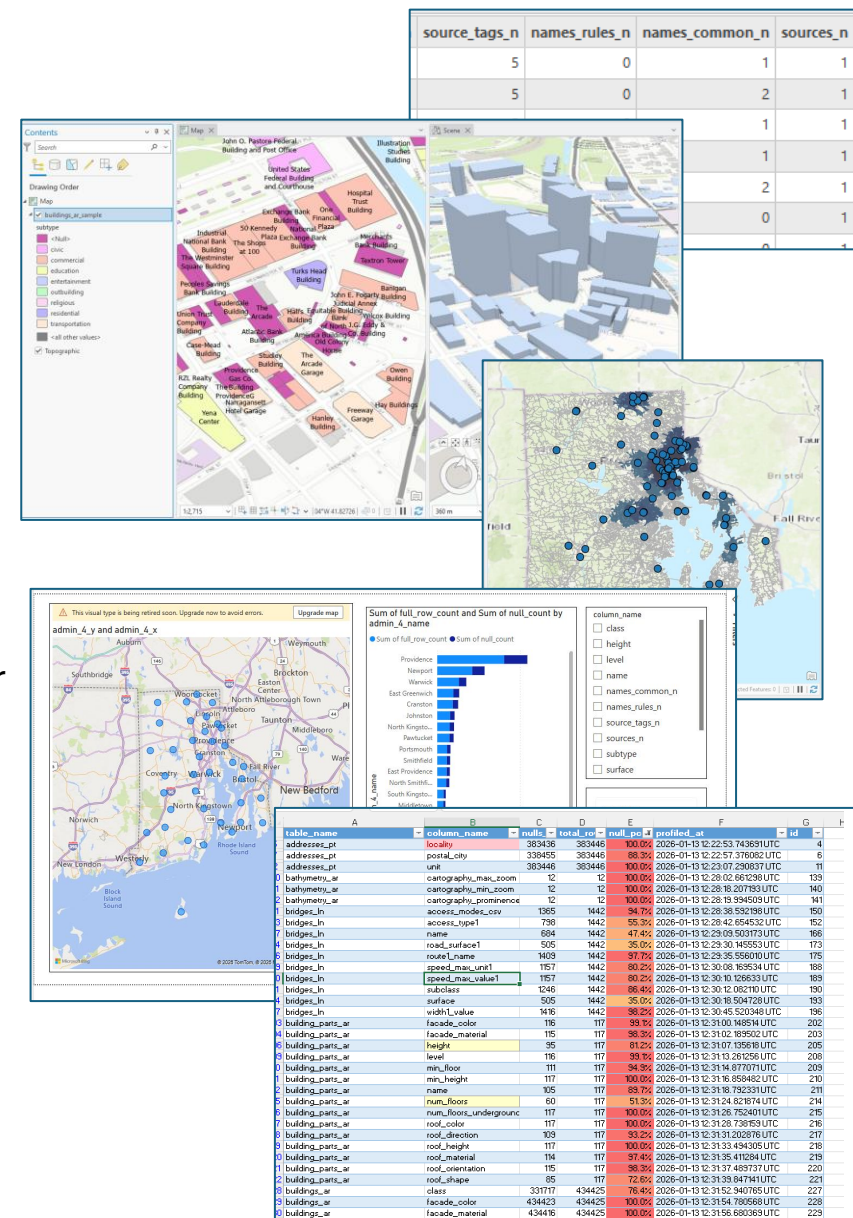
places_pt - Boston City Hall

OBJECTID	108589
id	8c90bc65-9089-42a3-8435-6920b516bd0
name	Boston City Hall
category_primary	town_hall
basic_category	government_office
confidence	0.990099
website1	https://www.boston.gov/departments/ma-office/contact-boston-city-hall
social1	https://www.facebook.com/110147299031

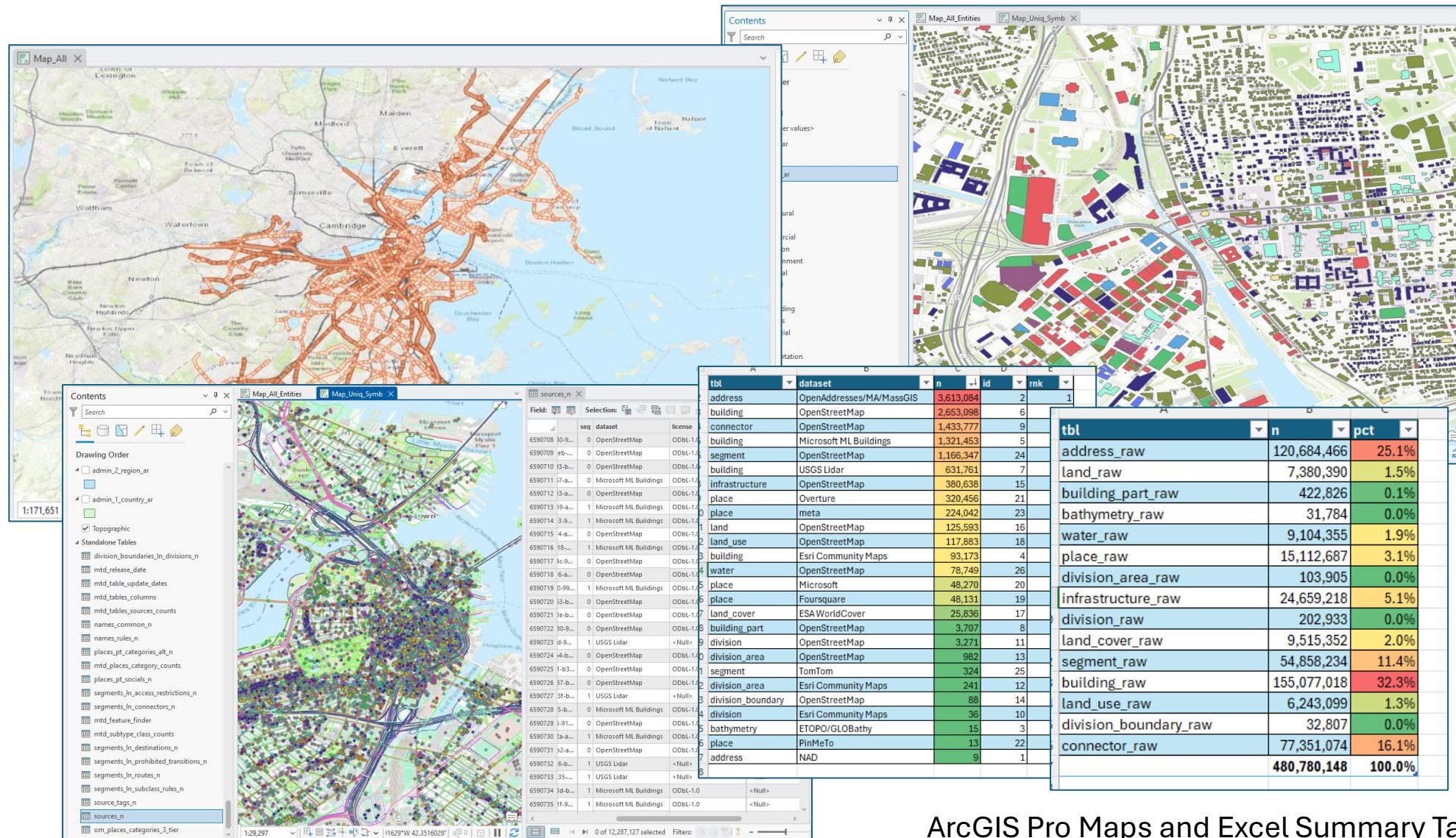
File Geodatabase Feature Class

In Addition To Data: ScribeKey Value-Add Components

- Multi-value structs/arrays split out into scalars, with 1-to-N tables for sources, names, etc. - _n attributes populated for each feature.
- Metadata summary tables for sources, updates, feature types, etc.
- Geocoding Support: 3 Locators from Places, Addresses, Point-Feature Stack (Infrastructure, Land, etc. added to Places)
- Network Dataset: Basic network, while not adequate for full door-to-door routing, still supports Network Analyst Solvers * Service Area, * Closest Facility, Location Allocation, OD Cost Matrix.
- 3D Buildings creation and rendering with both multi-patch features and Scene Layer Packages (.slpk).
- Geospatial Business Intelligence (BI) – Drill-down pivot maps, rich infographics for summary statistics of * feature taxonomy, * data sources, * updates, * data coverage, and more.
- Streamlined HTML Data Dictionary and comprehensive Geospatial Data Profile.
- On-demand scalability: Any city, county, state, country with very short turnaround times.



ArcGIS Pro Project File, Maps, Features, Tables

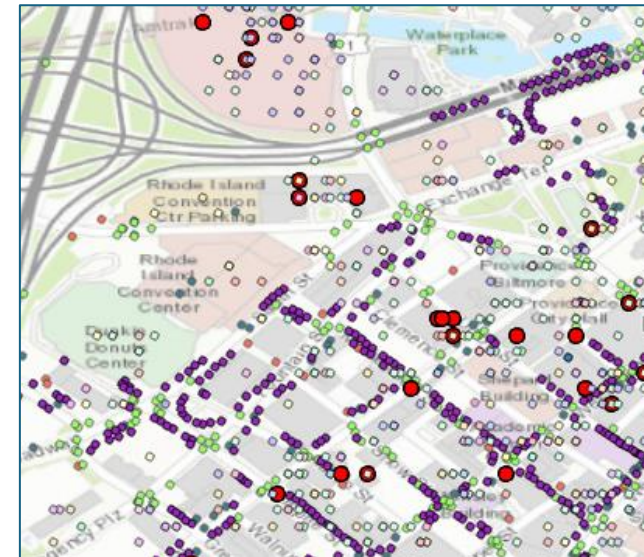
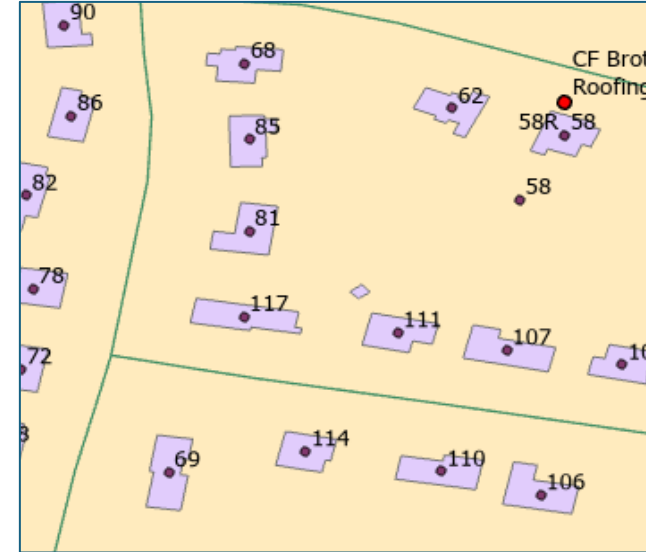


ArcGIS Pro Maps and Excel Summary Tables

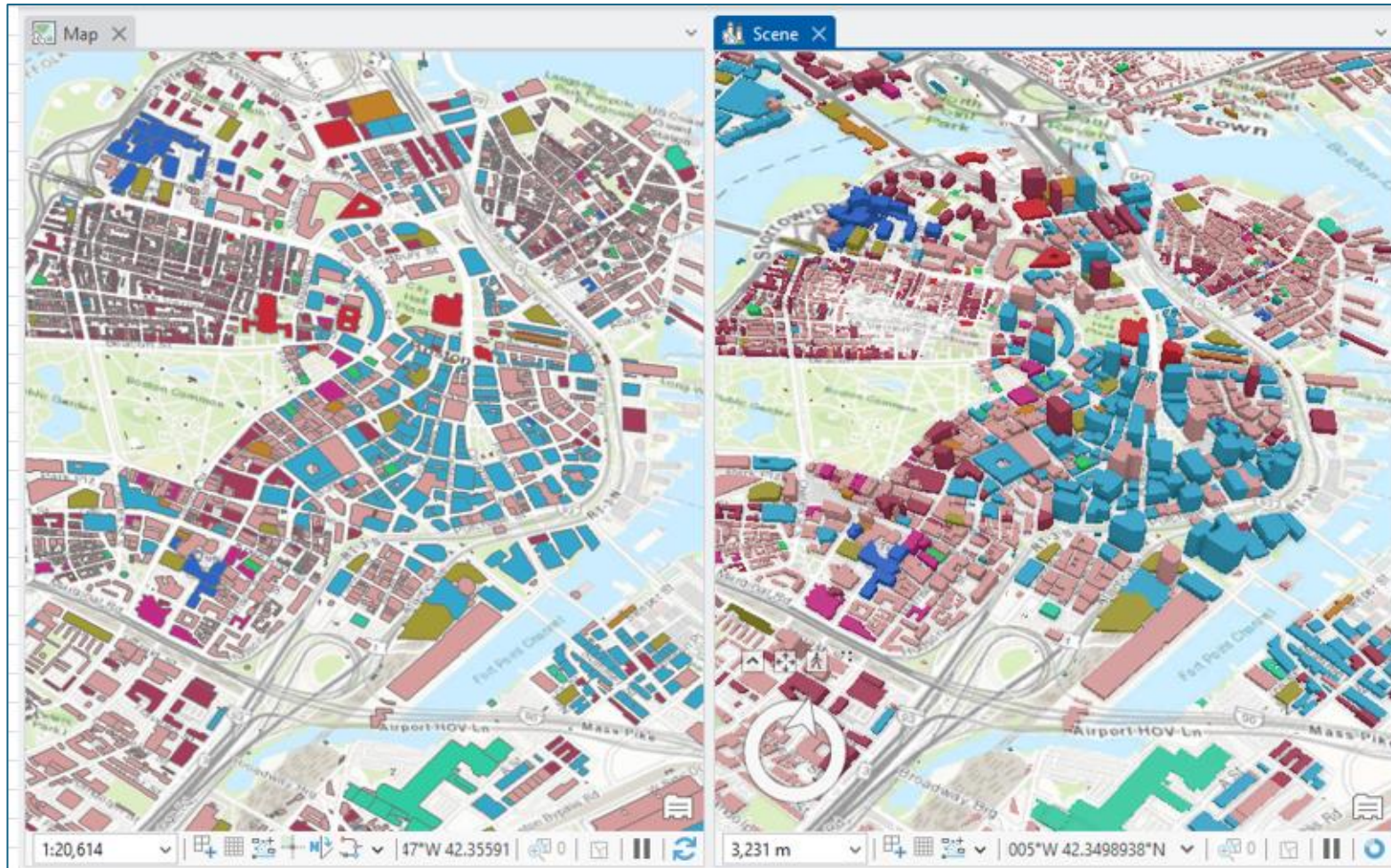
Geocoding Locators

ScribeKey has created 3 point-based Overture locators:

1. Places: Use a name, e.g., CF Brothers Roofing, to geocode. →
2. Addresses: Use an address e.g., 58 Ruthellen Rd., to geocode.
3. Composite POI feature locator using a stack from Places, Infrastructure, Land, Division, and Water point features – a broader more generalized point place locator. →



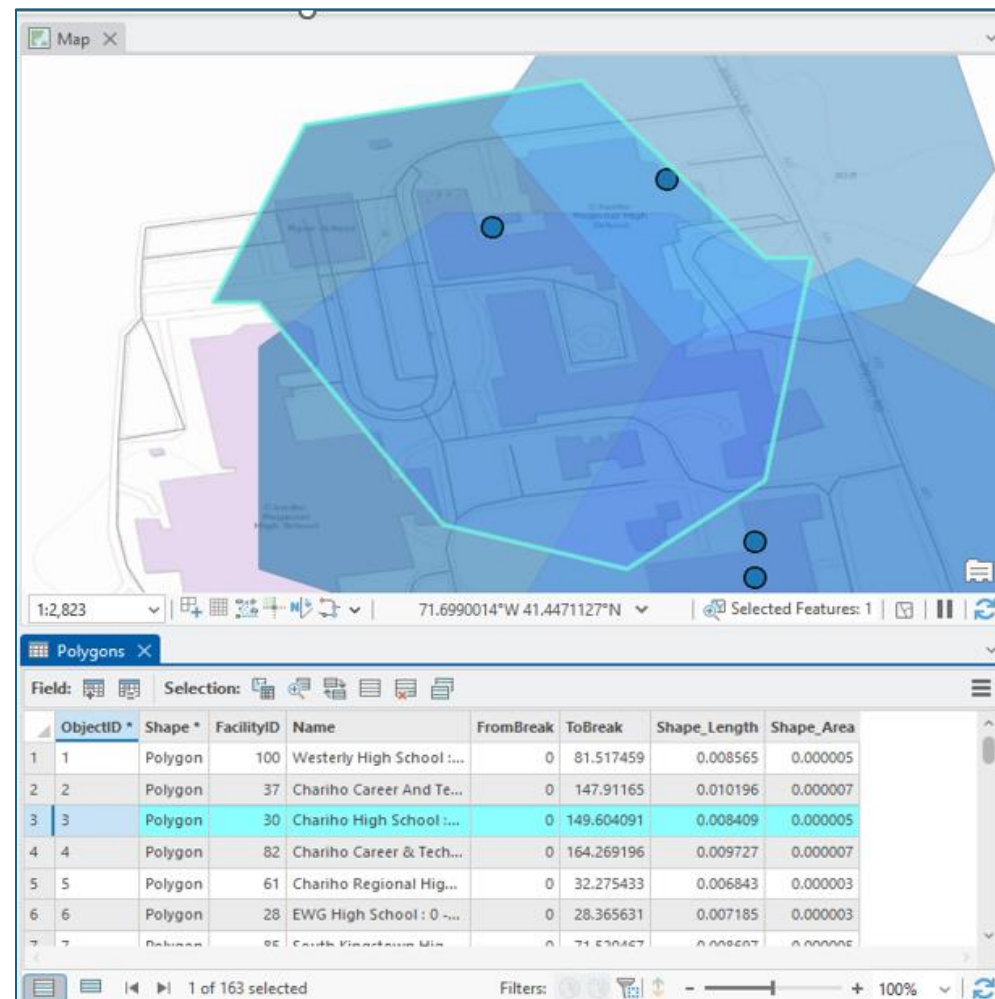
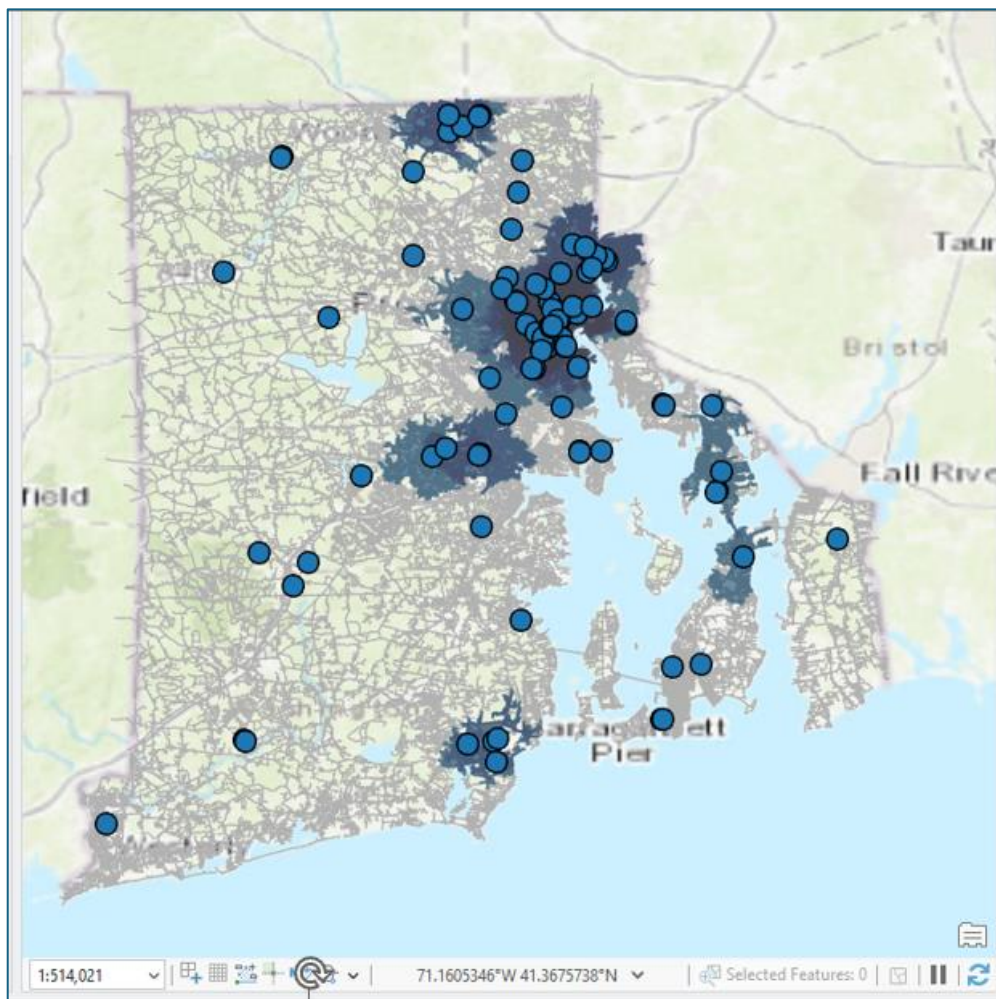
3D Buildings



Buildings Map and 3D Scene, Boston, MA.

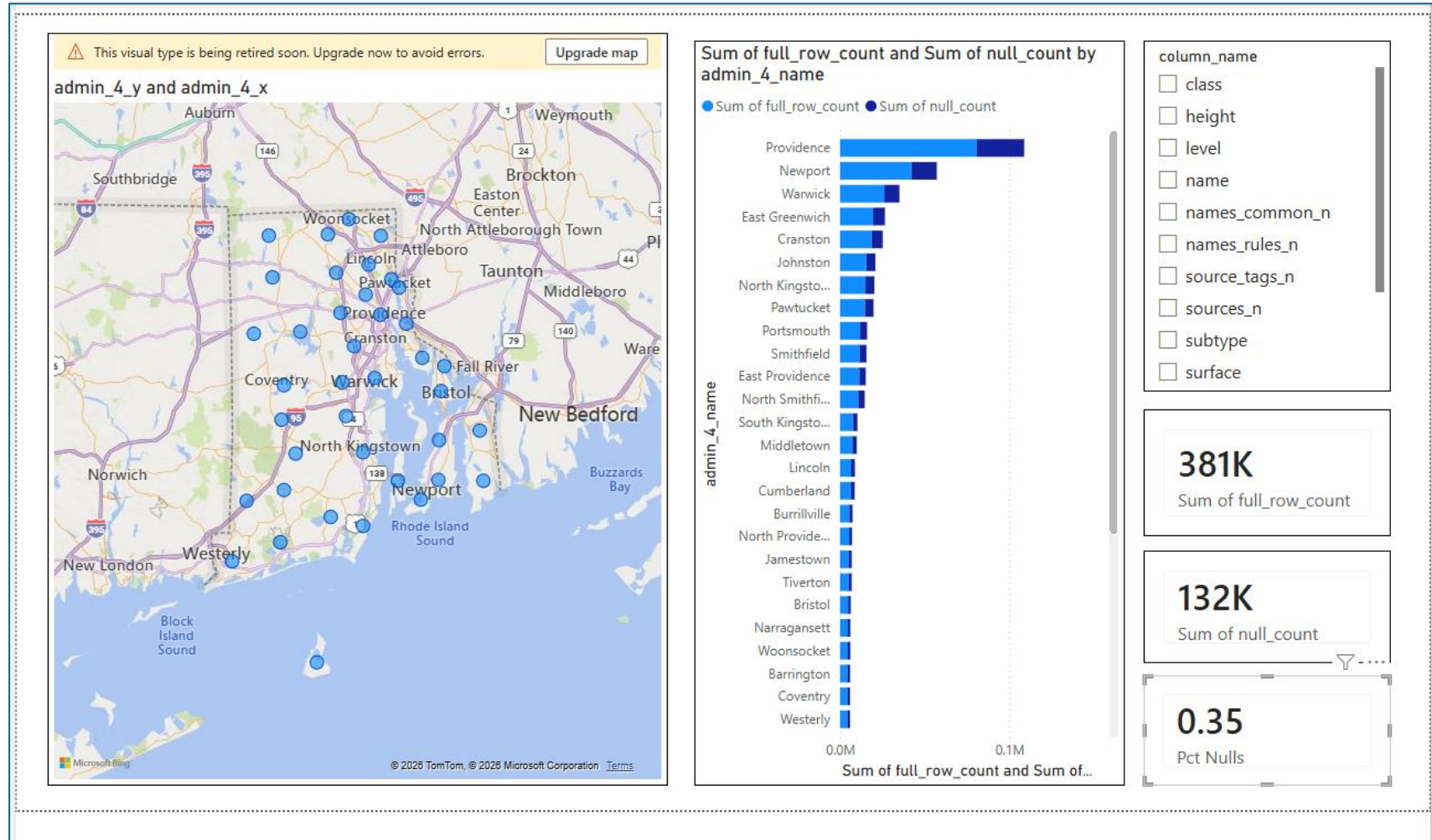
3D building generation is the most processing-intensive component.
(Maps open centered on the capital area at 1:12,000 scale.)

Esri Network Analyst Solvers



Overlapping Service Areas: Rhode Island High Schools

ScribeKey Geospatial-Business-Intelligence (BI) *



Microsoft Power BI – Pivot/Drill-Down Maps and synchronized infographics.

Here, null-valued attribute counts for Rhode Island layers.

(Tableau also available)

Summary Metadata Tables – Data Profiling

	A	B	C	D	E	F	G	H
	table_name	column_name	nulls	total_row	null_pc	profiled_at	id	
5	addresses_pt	locality	383436	383446	100.0%	2026-01-13 12:22:53.743691 UTC	4	
7	addresses_pt	postal_city	338455	383446	88.3%	2026-01-13 12:22:57.376082 UTC	6	
2	addresses_pt	unit	383446	383446	100.0%	2026-01-13 12:23:07.290837 UTC	11	
0	bathymetry_ar	cartography_max_zoom	12	12	100.0%	2026-01-13 12:28:02.661298 UTC	139	
1	bathymetry_ar	cartography_min_zoom	12	12	100.0%	2026-01-13 12:28:18.207193 UTC	140	
2	bathymetry_ar	cartography_prominence	12	12	100.0%	2026-01-13 12:28:19.994509 UTC	141	
1	bridges_ln	access_modes_csv	1365	1442	94.7%	2026-01-13 12:28:38.532198 UTC	150	
3	bridges_ln	access_type1	798	1442	55.3%	2026-01-13 12:28:42.654532 UTC	152	
7	bridges_ln	name	684	1442	47.4%	2026-01-13 12:29:09.503173 UTC	166	
4	bridges_ln	road_surface1	505	1442	35.0%	2026-01-13 12:29:30.145553 UTC	173	
6	bridges_ln	route1_name	1409	1442	97.7%	2026-01-13 12:29:35.556010 UTC	175	
9	bridges_ln	speed_max_unit1	1157	1442	80.2%	2026-01-13 12:30:08.169534 UTC	188	
0	bridges_ln	speed_max_value1	1157	1442	80.2%	2026-01-13 12:30:10.126633 UTC	189	
1	bridges_ln	subclass	1246	1442	86.4%	2026-01-13 12:30:12.082110 UTC	190	
4	bridges_ln	surface	505	1442	35.0%	2026-01-13 12:30:18.504728 UTC	193	
7	bridges_ln	width1_value	1416	1442	98.2%	2026-01-13 12:30:45.520348 UTC	196	
3	building_parts_ar	facade_color	116	117	99.1%	2026-01-13 12:31:00.148514 UTC	202	
4	building_parts_ar	facade_material	115	117	98.3%	2026-01-13 12:31:02.189502 UTC	203	
6	building_parts_ar	height	95	117	81.2%	2026-01-13 12:31:07.135618 UTC	205	
9	building_parts_ar	level	116	117	99.1%	2026-01-13 12:31:13.261256 UTC	208	
0	building_parts_ar	min_floor	111	117	94.9%	2026-01-13 12:31:14.877071 UTC	209	
1	building_parts_ar	min_height	117	117	100.0%	2026-01-13 12:31:16.858482 UTC	210	
2	building_parts_ar	name	105	117	89.7%	2026-01-13 12:31:18.792331 UTC	211	
5	building_parts_ar	num_floors	60	117	51.3%	2026-01-13 12:31:24.821874 UTC	214	
6	building_parts_ar	num_floors_underground	117	117	100.0%	2026-01-13 12:31:26.752401 UTC	215	
7	building_parts_ar	roof_color	117	117	100.0%	2026-01-13 12:31:28.738159 UTC	216	
8	building_parts_ar	roof_direction	109	117	93.2%	2026-01-13 12:31:31.202876 UTC	217	
9	building_parts_ar	roof_height	117	117	100.0%	2026-01-13 12:31:33.494305 UTC	218	
0	building_parts_ar	roof_material	114	117	97.4%	2026-01-13 12:31:35.411284 UTC	219	
1	building_parts_ar	roof_orientation	115	117	98.3%	2026-01-13 12:31:37.489737 UTC	220	
2	building_parts_ar	roof_shape	85	117	72.6%	2026-01-13 12:31:39.847141 UTC	221	
8	buildings_ar	class	331717	434425	76.4%	2026-01-13 12:31:52.940765 UTC	227	
9	buildings_ar	facade_color	434423	434425	100.0%	2026-01-13 12:31:54.780568 UTC	228	
0	buildings_ar	facade_material	434416	434425	100.0%	2026-01-13 12:31:56.680369 UTC	229	

Null attribute counts – tabular view

Data Dictionary *

ScribeKey Overture Maps — January 2026

Data Dictionary

Entity Table

[Entity Table](#) | [Feature Finder](#) | [Places Category Counts](#) | [Subtype Class Counts](#) | [Tables Sources Counts](#)

Id	Entity Name	Entity Type	Group	Description
1	addresses_pt	point	basic	All address features.
2	admin_1_country_ar	polygon	derived	Subset of division_area where subtype = 'country' and class = 'land'
3	admin_1_country_pt	point	derived	Centroid of admin_1_country_ar.
4	admin_2_region_ar	polygon	derived	Subset of division_area where subtype = 'region' and class = 'land' (aka state, province).
5	admin_2_region_pt	point	derived	Centroid of admin_2_region_ar.
6	admin_3_county_ar	polygon	derived	Subset of division_area where subtype = 'county' and class = 'land'
7	admin_3_county_pt	point	derived	Centroid of admin_3_county.
8	admin_4_locality_ar	polygon	derived	Subset of division_area where subtype = 'locality' and class = 'land'.
9	admin_4_locality_pt	point	derived	Centroid of admin_4_locality_ar.
10	aoi_ar	polygon	basic	The area of interest for the dataset.
11	aoi_ar_bbox_buffer	polygon	basic	A bounding box of the area of interest plus 20% used for clipping large polygons, e.g., be
12	aoi_ar_sub_level	polygon	basic	The next division_area level down from the area of interest used to create the original su
13	bathymetry_ar	polygon	basic	All bathymetry features.
14	bridges_ln	polyline	derived	Subset of segment where the feature type is a bridge and across all segment subtypes r
15	building_parts_ar	polygon	basic	All building_part features.
16	buildings_ar	polygon	basic	All building features.

[Entity Table](#) | [Feature Finder](#) | [Places Category Counts](#) | [Subtype Class Counts](#) | [Tables Sources Counts](#)

places_pt

Attribute Table

point

All place features.

[← Back to Entity Table](#)

Id	Attribute	Data Type	Definition	Sample Values
1	id	String	A globally-unique GUID string assigned to the feature by Overture and intended to remain stable across dataset updates.	10a70150-8cb2-4f8a-9fb4-cfc8f0f9a335, 4059076e-1da
2	name	String	The primary name associated with the feature.	Avalon North Station, Boston Burger Company, Cal's
3	category_primary	String	The primary descriptive category assigned by Overture to classify the feature.	accommodation, active_life, acupuncture, airport,
4	basic_category	String	A broad descriptive category assigned by Overture to classify the place or feature type.	accommodation, airport, alternative_medicine, anti
5	confidence	Double	A numeric score indicating confidence in the accuracy or reliability of the record.	0.3699224889278412, 0.9469448924064636, 0.96020972
6	website1	String	The first website address associated with the feature.	http://cambridgemessagecollaborative.com/, http://
7	social1	String	The first social media profile or web link associated with the feature.	https://www.facebook.com/105669292825779, https://
8	email1	String	The first email address associated with the feature.	feedback@jgrimsbys.com, info@red-stone-grill.com,
9	phone1	String	The first telephone number associated with the feature.	+13396007321, +14138279353, +15084288732, +1508636
10	brand_name_common_1	String	The first standardized or normalized brand name associated with the feature.	
11	brand_name_rule_1	String	The first brand-name rule applied when generating standardized brand values.	
12	category_alt1	String	The first alternate category value assigned by Overture to the feature.	breakfast_and_brunch_restaurant, burger_restaurant
13	addr_freeform	String	A full free-form postal address string that typically includes number and street name	1 Nashua St, 1000 Race Ln, 1068 Riverdale St, 1100

Attribute Table Sample Values

Interlinked HTML Data Dictionary Pages: Entities, Attributes, Features, Sources, and Feature Type Taxonomy.

Comprehensive Geospatial Data Profile

The screenshot shows a Microsoft Access database titled 'All Acces...'. The ribbon includes tabs for File, Home, Create, New Tab, External Data, Database Tools, and Help. The 'Table Fields' tab is active, showing options for View, Paste, Cut, Copy, Format Painter, Filter, Sort & Filter, Records, Find, Replace, Go To, and Window. The left pane shows a list of tables and queries, including GD_DOM, GD_REL, GD_SUB, GD_VAL, MD_DOM, MD_VAL, SK_IN, SK_COL, SK_COL_IGN, SK_COL_USE, SK_DB, SK_DOM_MCH, SK_IDX, SK_REG_MCH, SK_REL, SK_TAB, SK_TAB_CLP, SK_TAB_IGN, SK_TAB_USE, SK_VAL, SK_XML, DUB_COR_VW, SK_COL_VW, SK_DB_VW, SK_TAB_VW, and SK_VAL_VW. The main area displays three stacked tables:

OBJECTID	DB_NM	DATASET_NM	DB_TAB_NM	TAB_NM	TAB_ALIAS	ENT_TYPE	NUM_ROWS
1	om_fc_template_01.gdb		om_fc_template_01.gdb.addresses	addresses	addresses	Point	3,613,093
2	om_fc_template_01.gdb		om_fc_template_01.gdb.bathymetry	bathymetry	bathymetry	Polygon	31,291

OBJECT	DB_NM	DB_TAB_NM	TAB_NM	COL_NM	COL_ALIAS	DATA_TYP	DATA_LEN	UNIQ	IDX	COL_DEF	DEF_S
1	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	OBJECTID	OBJECTID	OID	4		Y		
2	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	Shape	Shape	Geometry	0				
3	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	id	id	Integer	4				

OBJECTID	DB_NM	DB_TAB_NM	TAB_NM	COL_NM	COL_VAL	NUM_VALS	PCT_TOTAL	TIME_STAMP	Click to Add
32	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	street	NORTH PLEASANT	4	0.0400	251125142335	
33	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	street	UNIVERSITY DRIVE	1	0.0100	251125142335	
34	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	street	MONTAGUE ROAD	1	0.0100	251125142335	
35	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	street	LESSEY STREET	1	0.0100	251125142335	
36	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	street	NORTH CAMPUS	1	0.0100	251125142335	
37	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	street	BELCHERTOWN	1	0.0100	251125142335	
38	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	street	SOUTH EAST STREET	1	0.0100	251125142335	
39	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	street	BRANDYWINE LANE	2	0.0200	251125142335	
40	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	street	CHESTNUT STREET	1	0.0100	251125142335	
41	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	street	SPENCER DRIVE	1	0.0100	251125142335	
42	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	number	2300	3	0.0300	251125142335	
43	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	number	303	1	0.0100	251125142335	
44	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	number	599	1	0.0100	251125142335	
45	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	number	408	1	0.0100	251125142335	
46	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	number	61	3	0.0300	251125142335	
47	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	number	200	1	0.0100	251125142335	
48	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	number	1	6	0.0600	251125142335	
49	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	number	156	1	0.0100	251125142335	
50	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	number	462	6	0.0600	251125142335	
51	om_fc_template_01.gdb	om_fc_template_01.gdb	addresses	number	51	2	0.0200	251125142335	

ScribeKey's Geospatial Data Profiler captures detailed metadata describing the structure and contents of all feature classes, tables, attributes, domains, domain values, and relationships in an Esri file geodatabase or collection of shapefiles.

The data profile is captured in an easy-to-use and easy-to-share Microsoft Access database.

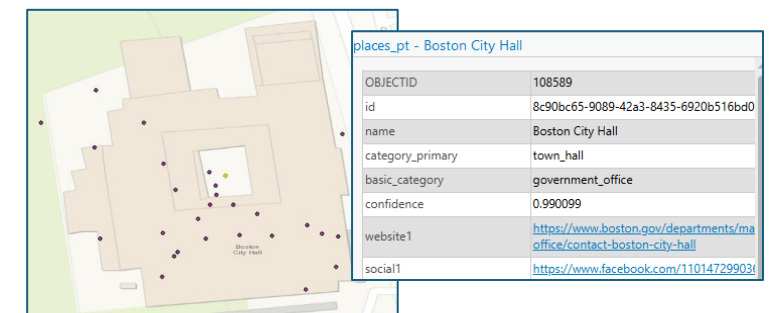
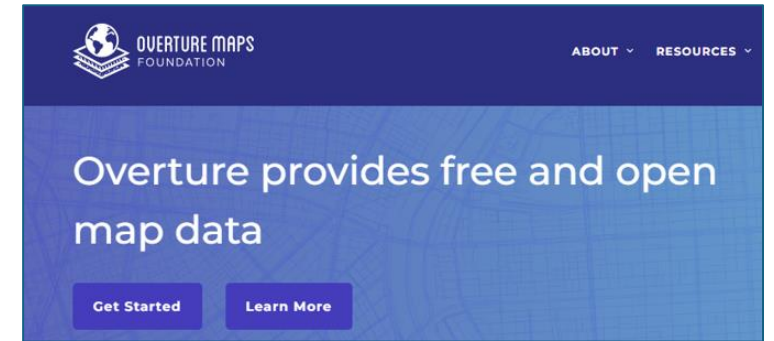
Infrastructure Taxonomy

Sum of n	Column Labels			
Row Labels	infrastructure_ar	infrastructure_ln	infrastructure_pt	Grand Total
aerialway	2	26	4	32
airport	135	618	193	946
barrier	3,512	223,787	104,053	331,352
bridge	2,064	19,419	69	21,552
communication	29	4	893	926
emergency			1,031	1,031
manhole	1		701	702
pedestrian	592	336	45,681	46,609
pier	410	920		1,330
power	12,217	1,784	31,758	45,759
quay	9	18	3	30
recreation		71	6	77
tower	87		826	913
transit	66,029	606	68,908	135,543
transportation	90		137,707	137,797
utility	1,177	1,453	529	3,159
waste_management	259	1	12,547	12,807
water	186	205	1,134	1,525
Grand Total	86,799	249,248	406,043	742,090

The Overture Infrastructure data contains point, line, and area features. These layers, sourced from OpenStreetMap, are often not found in public GIS data portals. (Greater London, UK data, in pivot table.)

Recap and Summary

- Overture Maps Foundation provides monthly updates to global open geospatial base map data, which also includes places POIs, 3D buildings, and several infrastructure layers.
- ScribeKey's Overture data can be easily used in ArcGIS Pro.
- This data is freely shareable to the public.
- ScribeKey provides sample datasets to facilitate exploration and evaluation of Overture data in an ArcGIS Pro environment.



Esri File Geodatabase Feature Classes and Tables

Overture GeoParquet
Nested JSON

```
{  
  "names": {  
    "primary": "Boston City  
Hall",  
    "common": null,  
    "rules": null  
  }  
}
```



ScribeKey Overture To Esri Pipeline

Contact Brian Hebert, ScribeKey,
via LinkedIn for more information
or to request a sample.