

*How State and
Local
Governments Are
Using Placekey in
ArcGIS Pro to
Access Previously
Unavailable
Insights and Drive
Data
Transparency*

Esri Dev Summit

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Nick O'Day, Chief Data Officer @ Johns Creek
John Votta, Business Operations & Strategy @ SafeGraph



Introduction to Placekey

- Placekey is a forever **free** and **open**, universal identifier for all places in the world with an address
- Launched in October, Placekey is an initiative of 500+ organizations who have endorsed a free, common identifier
- Placekey helps solve two core problems
 - Joining address data is hard given inconsistencies across datasets
 - Points of interest with shared or similar addresses can be hard to distinguish

No common key! How to join?

(1) Health Inspection Grades



facility_name	facility_address	facility_zip	score	grade
TOM'S #5	4497 W PICO BLVD	90019	93	A
STALKING HORSE BREWERY & FREEHOUSE	10543 W PICO BLVD	90064	91	A
THE COFFEE BEAN & TEA LEAF #333	11600 WILSHIRE BLVD # 199	90025	100	A
VILLAGE INN RESTAURANT	3710 W MLK BLVD STE #121	90008	96	A
MCDONALD'S # 6036	4166 MELROSE AVE	90029	91	A
LITTERATI CAFE	12081 WILSHIRE BLVD	90025	91	A

(2) Business Category Data



DBA NAME	STREET ADDRESS	ZIP CODE	CATEGORY
TOM'S NO 5 CHILIBURGERS/CHILI DOGS	4497 W PICO BLVD	90019-4244	Full-service restaurants
STALKING HORSE	10543 W PICO BLVD	90064-2319	Full-service restaurants
INTERNATIONAL COFFEE & TEA LLC	11600 WILSHIRE BLVD	90025-5781	Limited-service eating places
VILLAGE CAFE AND PIZZA	3710 W MARTIN LUTHER KING JR BLVD SUITE #121	90008-1761	Full-service restaurants
MCDONALDS #6036	4166 MELROSE AVENUE	90029-3507	Full-service restaurants
LITERATI CAFE	12081 WILSHIRE BLVD	90025-1201	Full-service restaurants

Cannot simply join on names or addresses as strings

How We Solve It Today

- Address normalization/decomposition
 - 123 Main St -> 123 Main Street
 - 123 main strt -> 123 Main Street
 - 123 Main Street -> 123 Main Street
- Fuzzy matching
 - Formulas
 - Hardcoded lookups
 - Machine learning models
- Geocoding

Meet Placekey - A Common Identifier

What (optional)

Address Encoding

Where H3 hierarchical hex-grid system

Large
Region

Dissecting the Placekey

What (optional)

223-227

Address
Encoding

POI
Encoding

Where H3 hierarchial hex-grid system

@5vg-7gq-tvz

Large
Region

Small
Region

- The Where component (@ 5vg-7gq-tv) represents a 15,000 square meter hexagon based on the H3 hex grid system. This helps narrow in on where in the world is this place.
- The What component (223-357) has two segments: the address encoding (223) and the POI encoding (357):
 - The Address Encoding (223) reflects the traditional address of the place within the Hexagon.
 - The POI Encoding (357) only exists for commercial or shared public spaces and reflects what is actually occupying the space (e.g. Starbucks, H&M)

Who is involved?

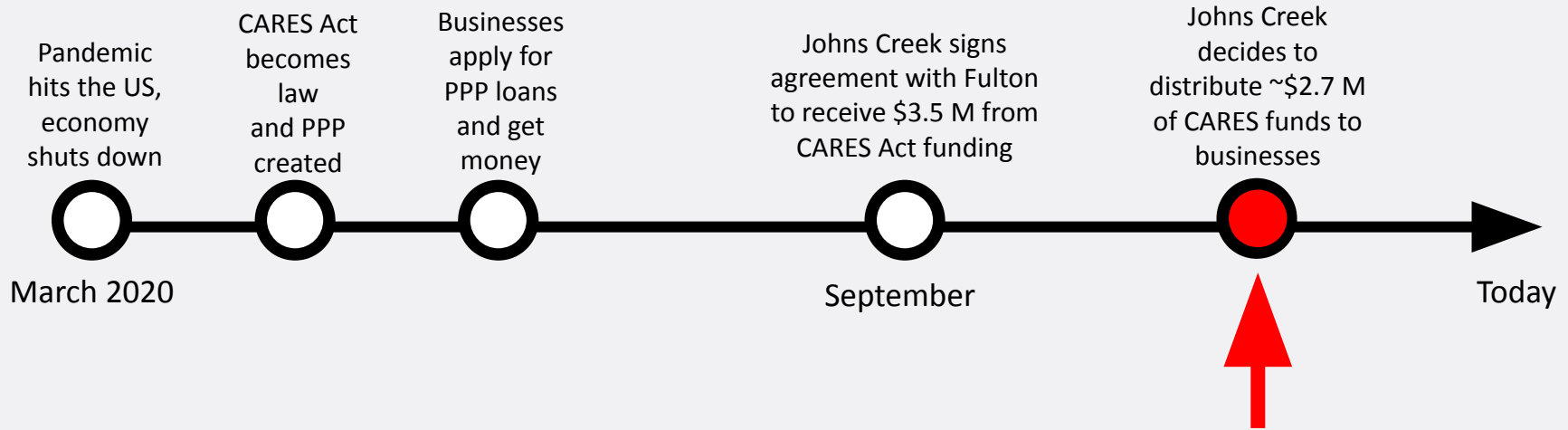
Broad coalition of organizations -
private sector, public sector, non-profit, academia



500+ other organizations

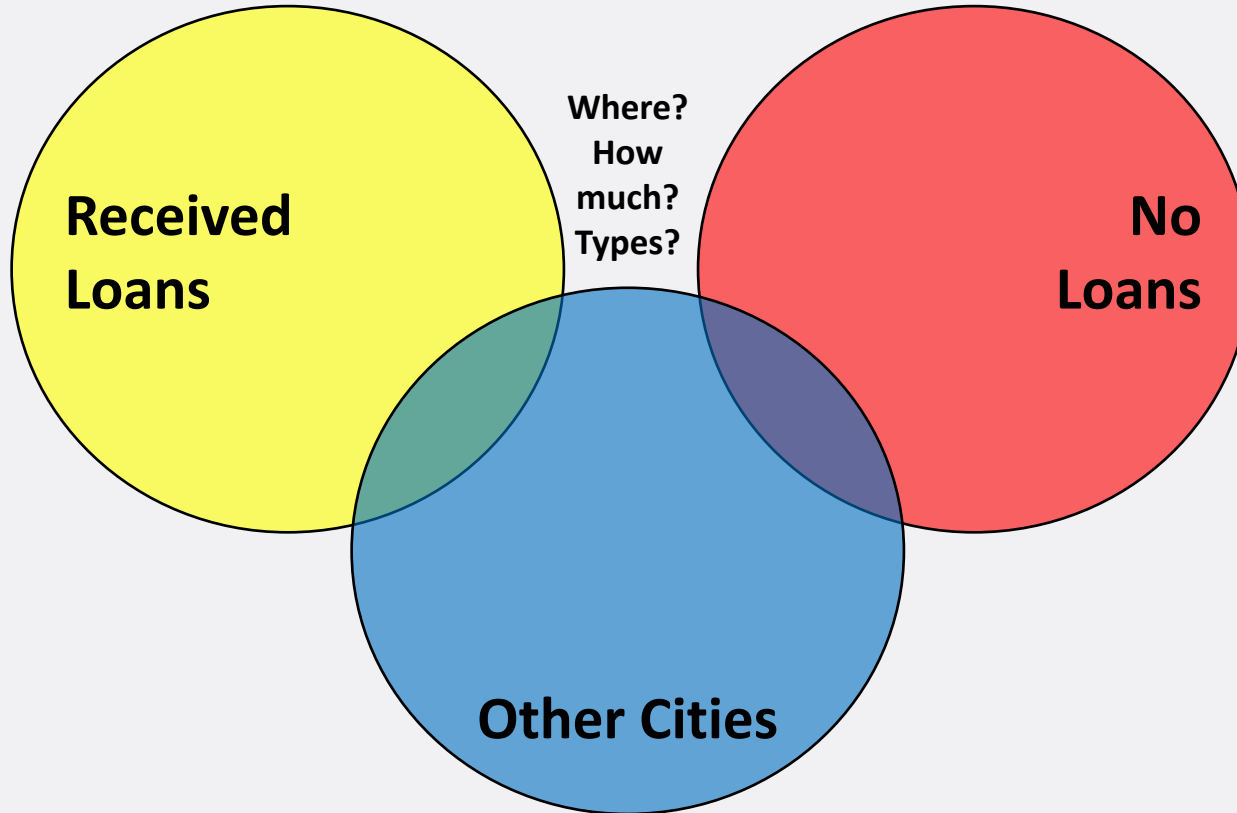
Understanding
the Problem:
Meet Nick
O'Day

Pandemic, CARES, & PPP

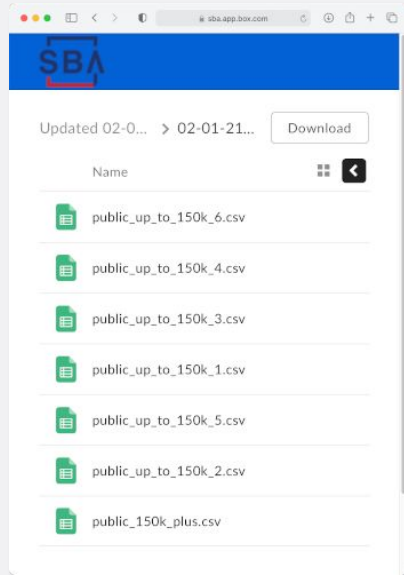


...but how do we do this equitably?

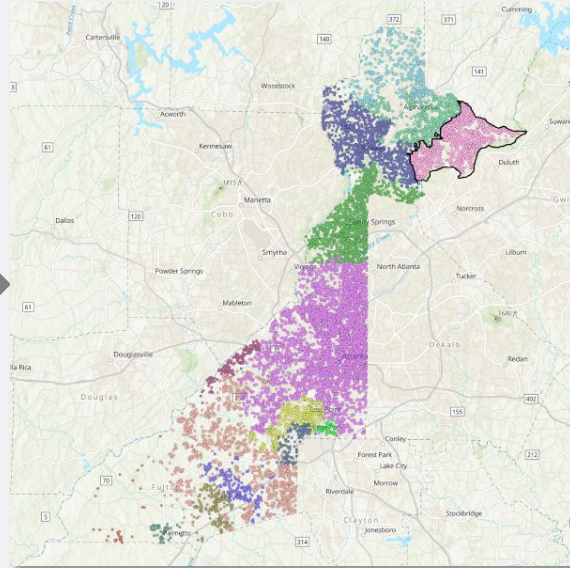
Questions we need to answer



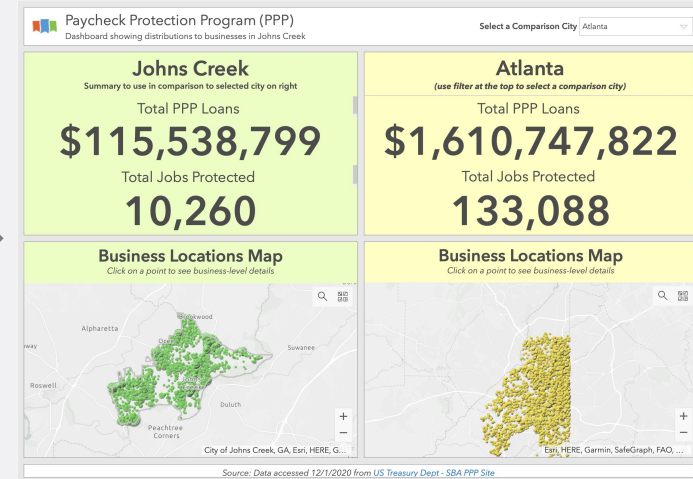
Outline the Process



Download PPP Data



Filter down to only Fulton
County and
create feature layer



Publish data to ArcGIS Online
and visualize in Dashboard

Compare datasets

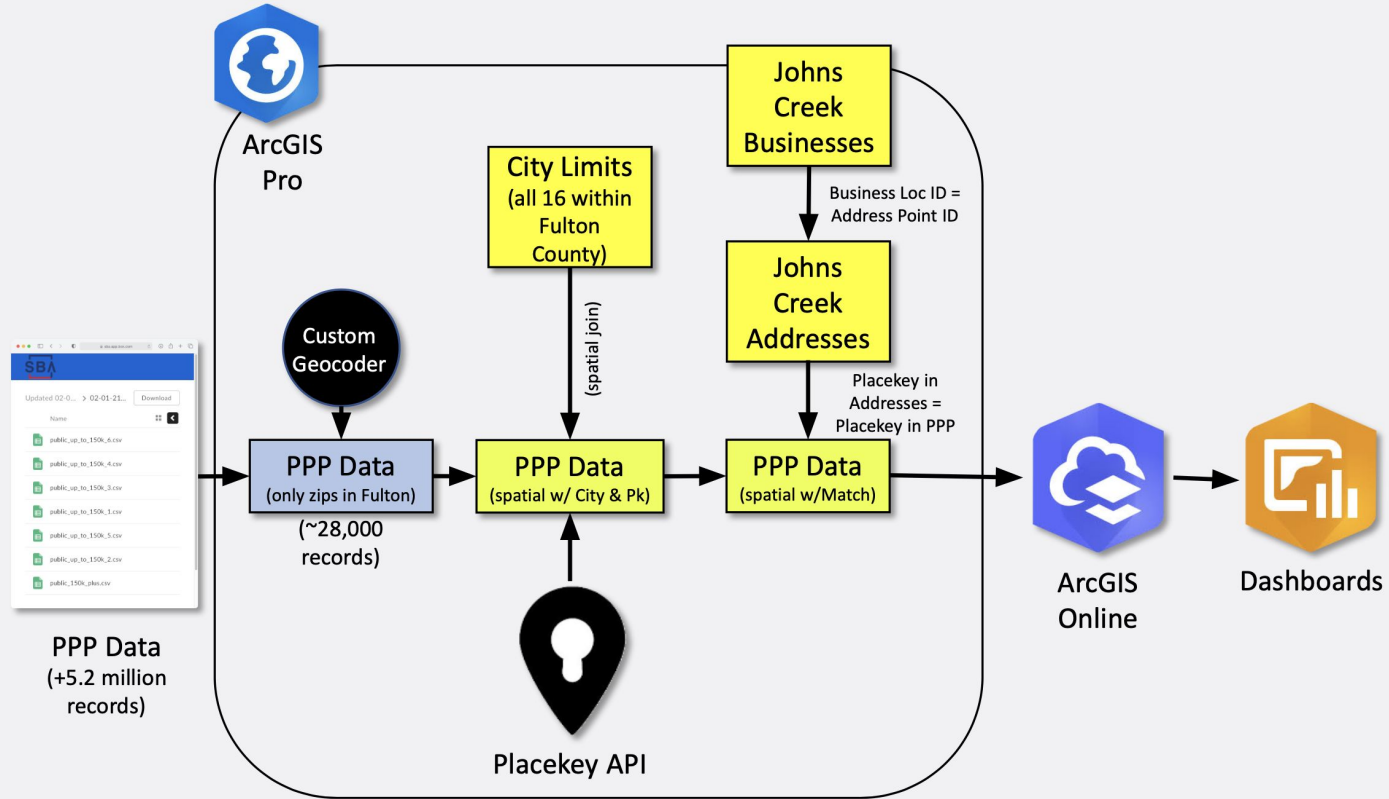
ID	4757
LoanAmount	13296
BusinessName	RADAR
Address	<Null>
City	ATHENS
State	GA
Zip	30601
NAICSCode	<Null>



***Actual example of data**

	Business Licenses	PPP Data	Maybe we can...
# Records	~3,000	+5,200,000	Manual process?
Easy to access?	ArcGIS Online REST API	7 huge individual csv files	Simplify workload?
Key or Business ID?	Yes	No... we have loan IDs	Link records easily?
Spatial?	Yes	No... what's that?	Spatial join?
Consistent Address?	Yes	No again...	Address match?
Unique Name/combo?	Yes	No, and stop asking	Legal name match?

The *actual* process



To learn more and get your free Placekey API key:

- Visit us:
→ placekey.io
- Read our docs:
→ docs.placekey.io/:
- Join the Placekey Community of 7k+! Job postings, data wrangling help, research opportunities, and more
→ placekey.io/community