SMART CITIES AND SERVICE IMPROVEMENTS COMMITTEE

Data Initiatives and Impacts Status Report

Presented by:

Arti Tangri, Data Architect, Information Technology Department

Matt Loesch, Assistant Director, Department of Public Works

Vince Pereira, IT Manager, Department of Transportation

Albert Gehami, Digital Privacy Officer, Information Technology Department

Agenda

Highlighting projects on equity, impact, and service improvement

- Background
- Department of Public Works (DPW)
- Department of Transportation (DOT)
- Looking forward: Building community partnerships

CITY DATA FACTS AND FOUNDATION WORK

2016 Open Data Policy Release

2017 Open Data Community Architecture (ODCA) Release

2019
- Launch Data Portal
- Spatial Data addition

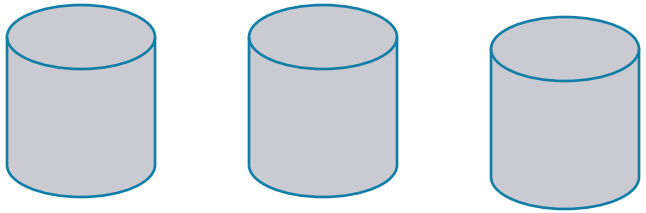
2022
- 39 Non-Spatial Datasets
- 145 Spatial Datasets
- 6 Showcases
- 80 Visitors per day

- People
  - Hiring and Upskilling
  - Building Community
- Processes
  - Data Chartering
  - Privacy and Security Review
  - Vision Zero Data
- Tools
  - Centralized Data Platform
  - Geospatial Information System (GIS)
  - Extract Transform Load (ETL) platform
  - Self-service data visualization tools

RESIDENT ENGAGEMENT THROUGH DATA

Data Articles

Data Stories



Raw Data

Key outcomes:

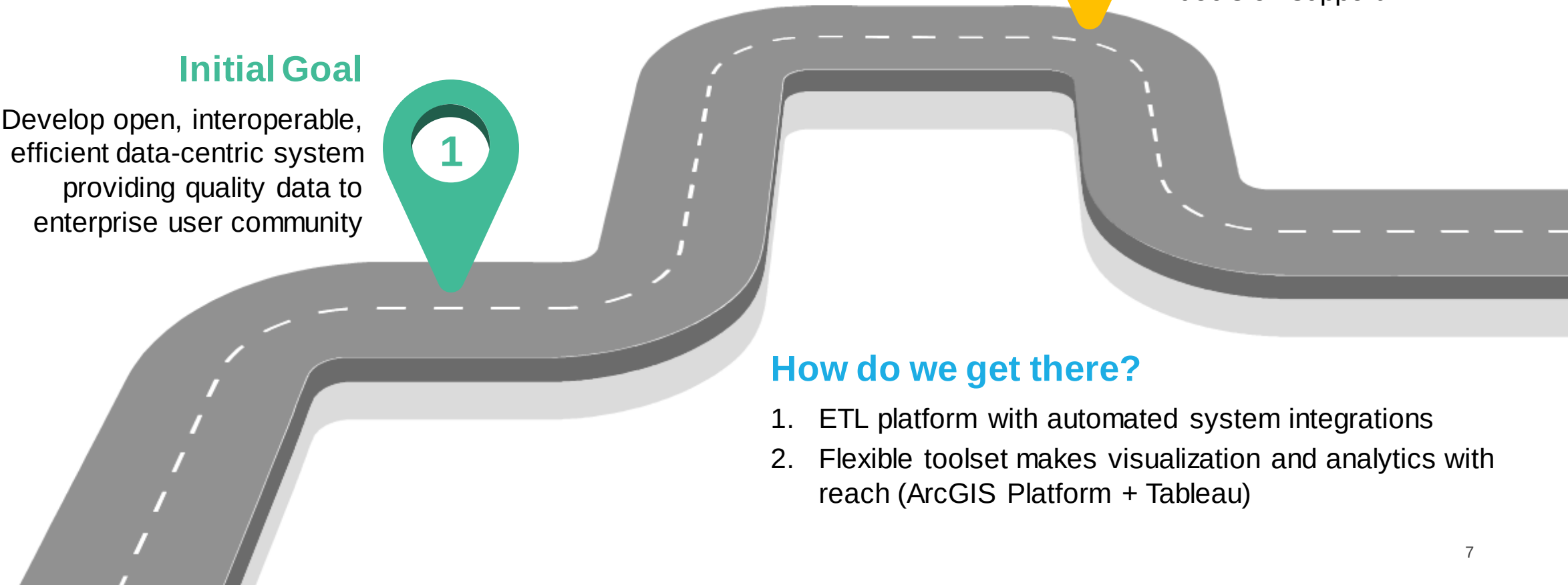
1. Improving City services
2. Measuring Community Impact
3. Supporting Equity
4. Building Community Partnerships

PUBLIC WORKS AND GIS

Data & Analytics Objectives

Initial Goal

Develop open, interoperable, efficient data-centric system providing quality data to enterprise user community



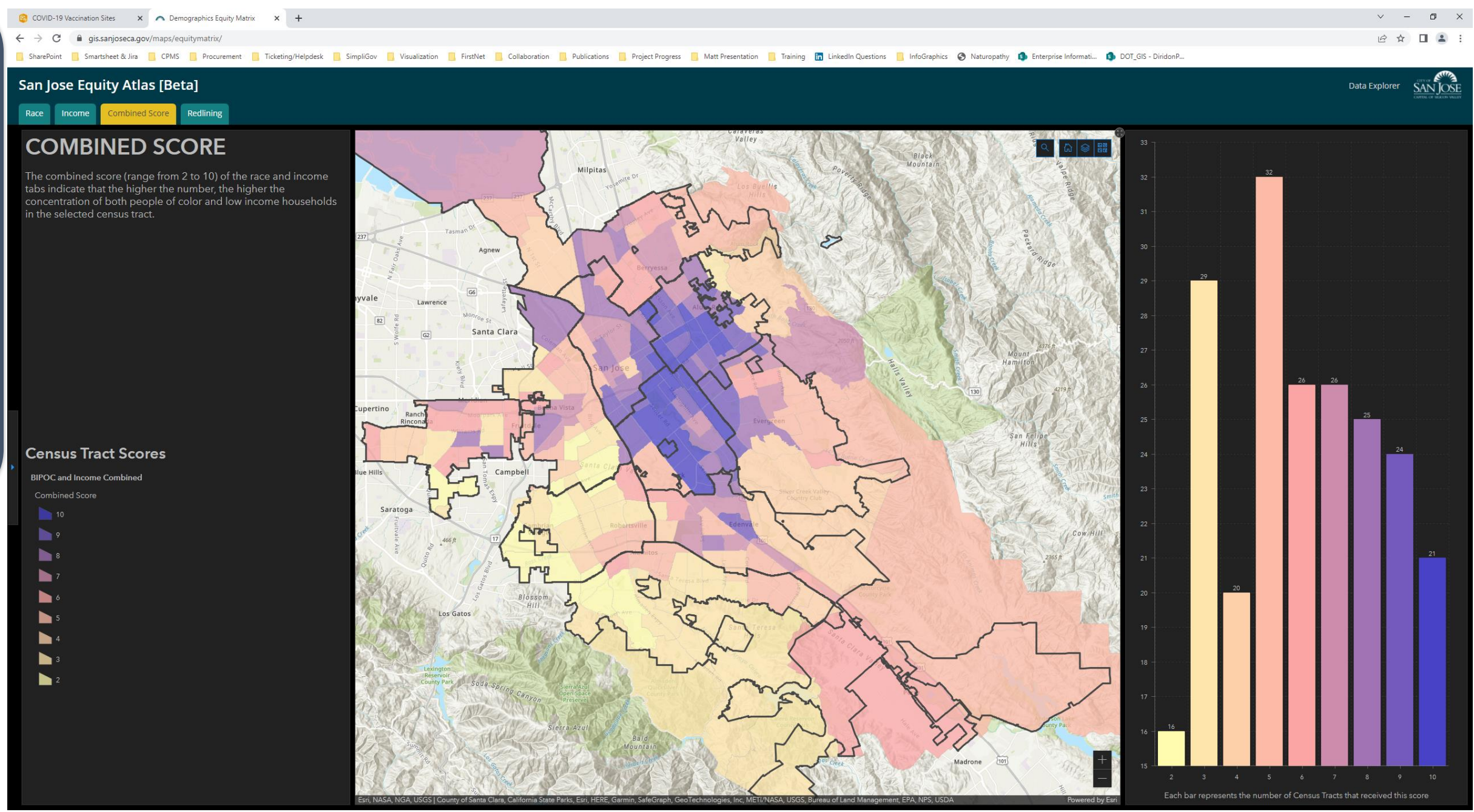
Next Objective

Shift data focus toward integration, analytics, and decision support

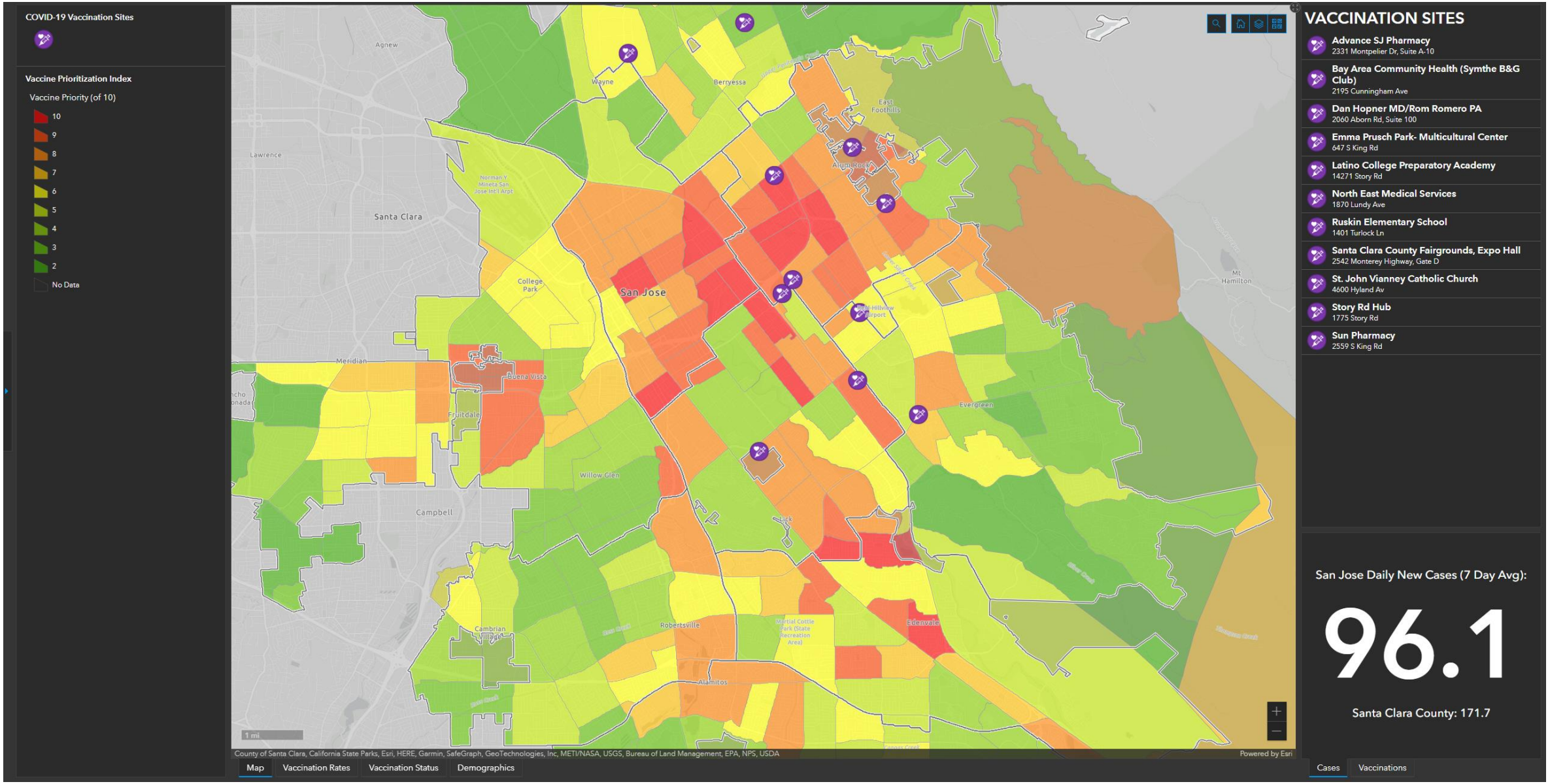
How do we get there?

1. ETL platform with automated system integrations
2. Flexible toolset makes visualization and analytics with reach (ArcGIS Platform + Tableau)

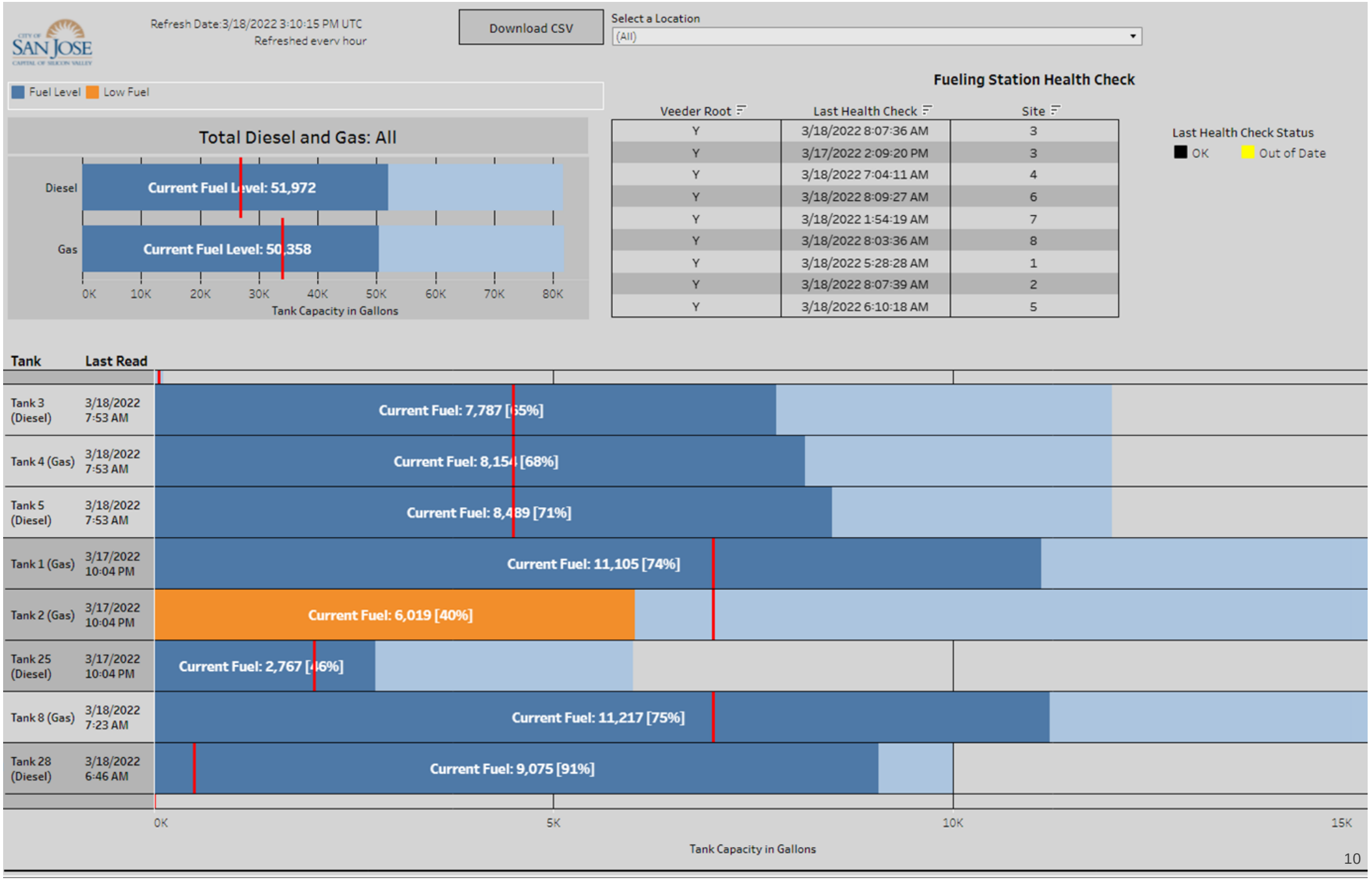
Equity


COVID-19 Vaccination Sites
Demographics Equity Matrix
gis.sanjoseca.gov/maps/equitymatrix/
SharePoint
Smartsheet & Jira
CPMS
Procurement
Ticketing/Helpdesk
SimpliGov
Visualization
FirstNet
Collaboration
Publications
Project Progress
Matt Presentation
Training
LinkedIn Questions
InfoGraphics
Naturopathy
Enterprise Informati...
DOT_GIS - DiridonP...
San Jose Equity Atlas [Beta]
Data Explorer
Race
Income
Combined Score
Redlining
COMBINED SCORE
The combined score (range from 2 to 10) of the race and income tabs indicate that the higher the number, the higher the concentration of both people of color and low income households in the selected census tract.
Census Tract Scores
BIPOC and Income Combined
Combined Score
10
9
8
7
6
5
4
3
2
Milpitas
Agnew
Lawrence
Santa Clara
San Jose
Cupertino
Campbell
Saratoga
Los Gatos
Blossom Hill
Sierra Azul
Bald Mountain
Madrone
Mount Hamilton
San Felipe Hills
Cow Hill
Esri, NASA, NGA, USGS | County of Santa Clara, California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA
Powered by Esri
16
29
20
32
26
26
25
24
21
2
3
4
5
6
7
8
9
10
Each bar represents the number of Census Tracts that received this score

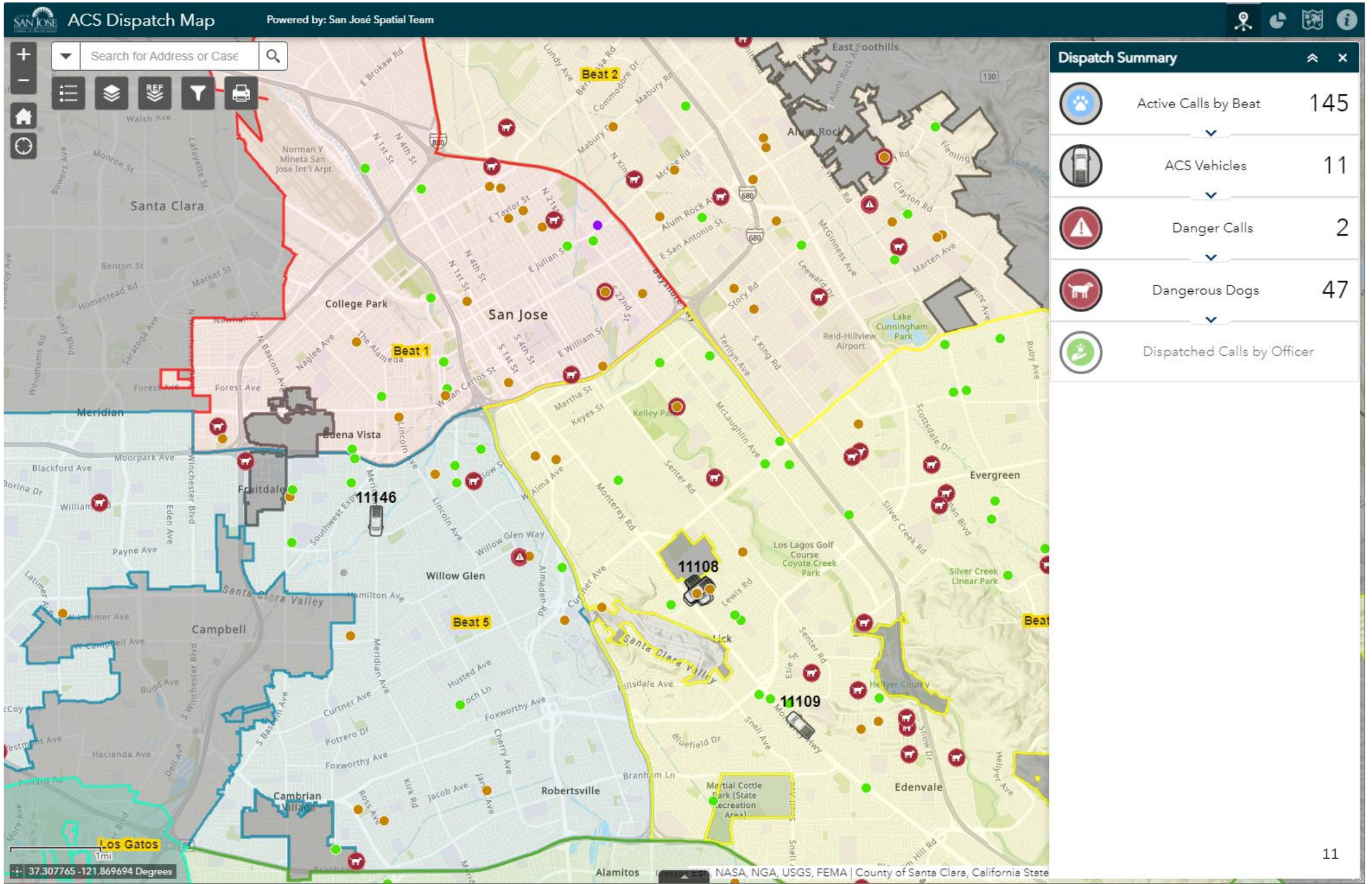
COVID-19 Vaccination



Fuel Monitor Dashboard

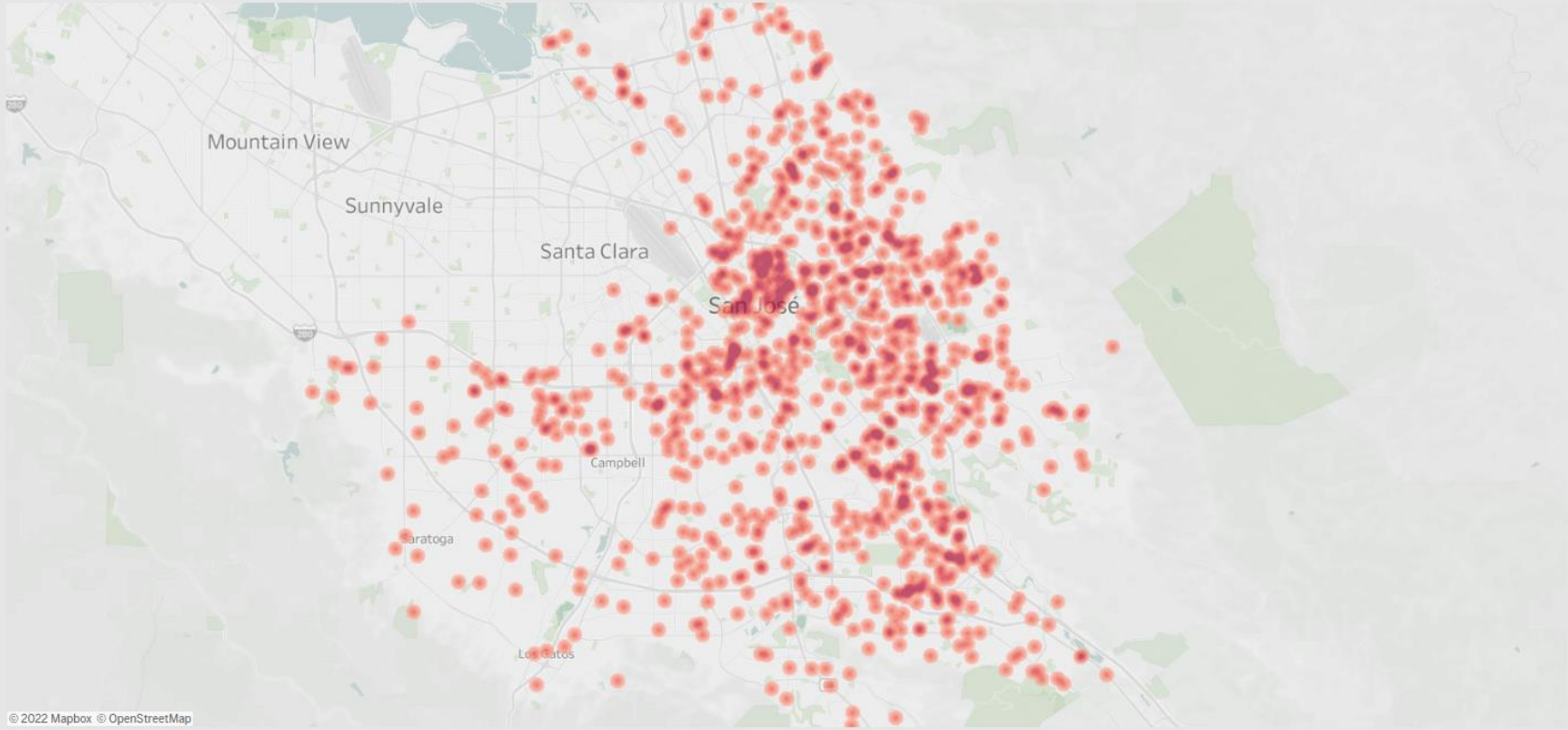


ACS Dispatch Map



ACS Dashboard

Heatmap of Cases in Santa Clara County



Average Completion Time
131.1 Hours

Cases
6,443

Refresh Date:
3/28/2022
6:11:07 PM UTC
Refreshed Daily

Case Date
Last 3 months

City	Danger Present?	Animal Type
(All)	(All)	(All)
CUPERTINO	Null	CAT
LOS GATOS	N	DOG
MILPITAS	Y	OTHER
SAN JOSE		
SARATOGA		

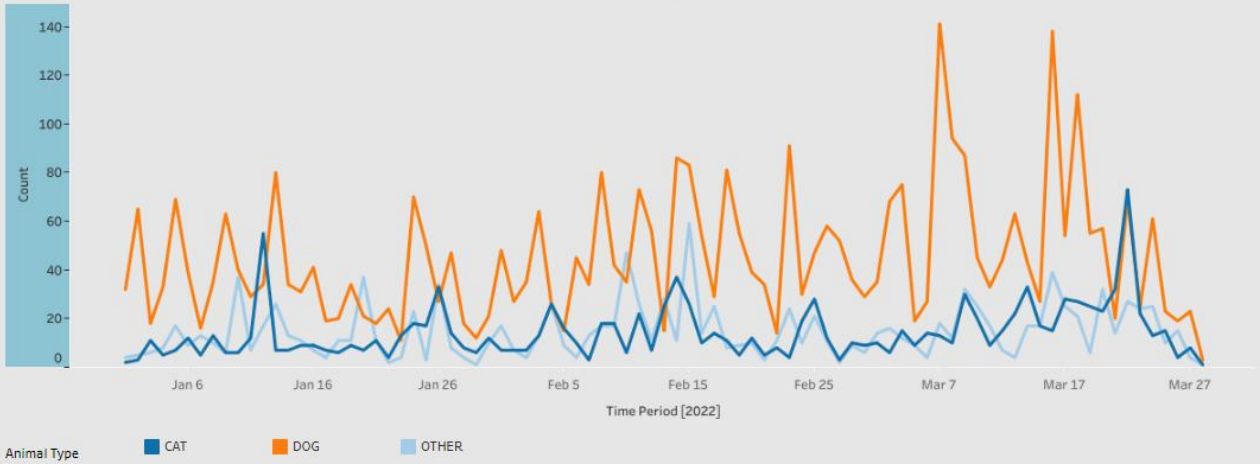
Cancel Apply Cancel Apply Cancel Apply

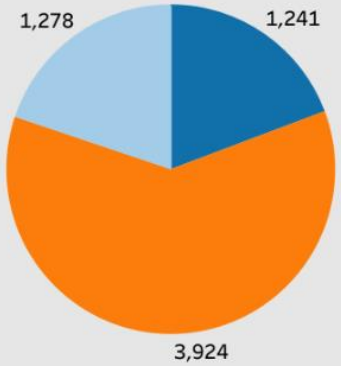
Case Type	
DEAD DMSTC	865
BITE INV	803
HUM NEG	527
DEAD WILD	479
STRAY ROAM	381
MUNI PERMIT	322
BITE RELEAS	251
INV ANIML	236
INV CRIM	200
INV AGGRS	183

District	
Null	529
1	318
2	645
3	1,149
4	690
5	585
6	509
7	839
8	483
9	387

Beat	
1	1,168
2	1,531
3	2,109
4	484
5	848
6	102
7	75
8	126

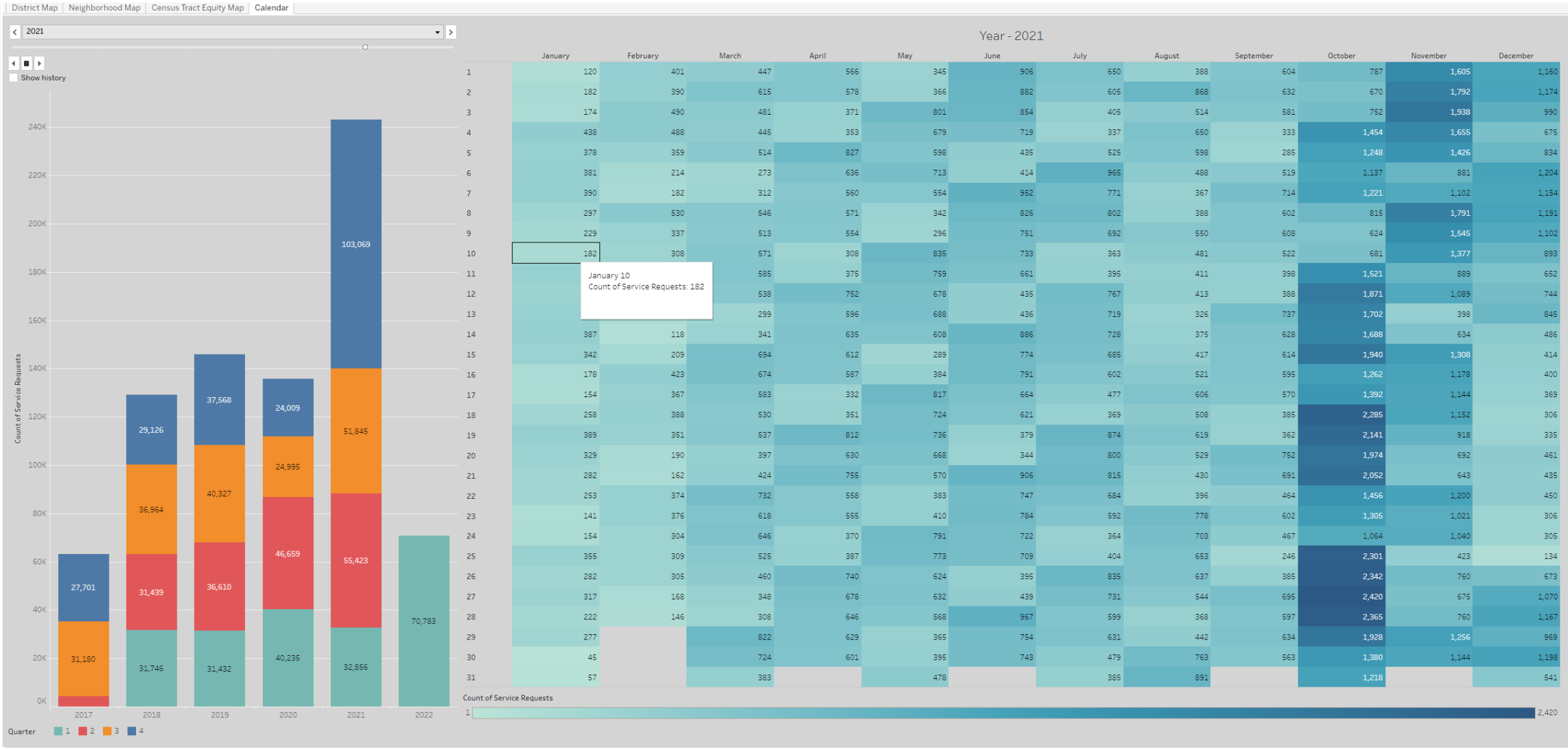
Case Count





	CUPERTINO	LOS GATOS	MILPITAS	SAN JOSE	SARATOGA	Grand Total
DISPATCHED	8	11	32	1,511	8	1,570
NEW	2	1	3	159		165
WORKING	89	107	226	4,219	67	4,708
Grand Total	99	119	261	5,889	75	6,443

311 Calls for Service



DOT DATA INITIATIVES

KUDOS – TEAM EFFORT

- Sewers Engineering Team
  - Alberto Gaxiola, Arpit Patel, and Anjali Athavale
- DOT IT Team
  - Paolo Cervantes, Yan Xu, and Jay Van Biljouw

CENTRALIZED DATA, SALESFORCE, ANALYTICS

- Data standardization and consolidation
  - Increased organization and scalability
  - Single source of truth
- Consolidated Department of Transportation (DOT) Data Repository
- Improved data management and governance
- Recent applications developed on Unity
  - Full Trash Capture Applications
    - Ensuring all debris is captured prior to getting to the water ways
  - CMMS (Computerized Maintenance Management System)
    - Centralized data base that collects and maintain all Sewer Maintenance activities
- Reporting & Analytics
  - Single Source creating Reports, Dashboard, and Analytics

IMPACTS

- Improved efficiency to service San Jose sewer system
  - Simplifies workflow process to complete tasks
  - Provides accurate and consistent process to obtain and store data
  - Provides avenues to service our residents more efficiently
    - Receive, update and close out service requests via a single platform
    - Reduces resolution time with increased efficiency, by enabling field staff to update the work activities ‘real-time’
    - Overall greater efficiency and optimization for sewer requests and maintenance needs
    - **Turning days of work into hours for both dispatch and the crews**
- Reduced time to produce historical data via Mobile App
  - Centralized storage (historical data) eliminates the need to check many drives and folders to obtain the data
  - Eliminates the need to consult with other colleagues to locate and obtain
  - **Reducing time to obtain and provide accurate information and analysis from 2-3 hours to 15 minutes**

SEWER REPAIR – SINGLE SOURCE

Sewer Repair Timeliness Core Service

Priority	On Time	Missed	Pending
Manhole	7	0	0
Other	4	0	0
Sanitary Lateral	82	4	0
Sanitary Main	8	0	0
Storm Lateral	2	1	0
Storm Main	1	0	0
B	**52**	**5**	**1**
Manhole	2	0	0
Other	7	1	0
Sanitary Lateral	37	3	1
Sanitary Main	5	0	0
Storm Lateral	1	0	0
Storm Main	0	1	0
C	**613**	**54**	**78**
Manhole	23	5	7
Other	88	4	2
Sanitary Lateral	260	12	40
Sanitary Main	208	27	24
Storm Lateral	7	0	1
Total	**769**	**64**	**206**

Requests with no *Priority* category were *Received* within the report's date range but have not yet been escalated as a project.

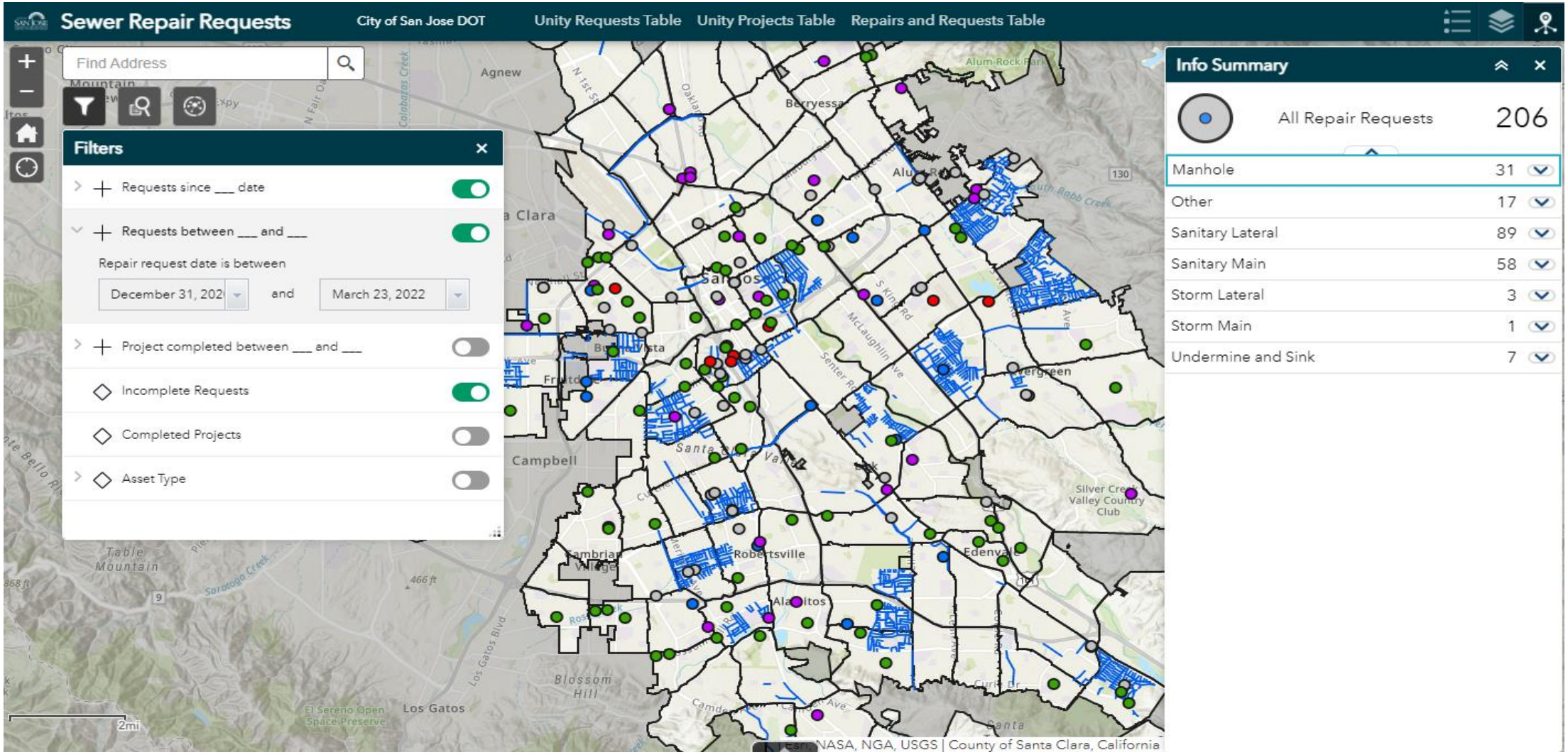
Received Between

12/31/2020 3/23/2022

Filters

Timeliness | Requests Received | Projects Completed | Validate

SEWER REPAIR MAP – SINGLE SOURCE



LOOKING FORWARD: BUILDING COMMUNITY PARTNERSHIPS

PEOPLE: GROWING CAPACITY FOR DATA EQUITY WORK

Muscle

Brains

Equity through Data & Privacy program (EDP)

PROCESSES: COMBINING CITY EFFORTS ON KEY INITIATIVES

Key players

- EDP
- Office of Racial Equity
- Library
- PRNS
- MOTI
- PW
- DoT
- ITD
- COVID-19 Recovery Task Force

Key initiatives

- Digital Inclusion
- COVID recovery
- SJ311
- Data Chartering for “next-gen” services

Improve services

Enhance Equity

Measure impact

TOOLS: LEVERAGING PRIVATE PARTNERSHIPS

Analytics tools

Power BI

ArcGIS

ESRI

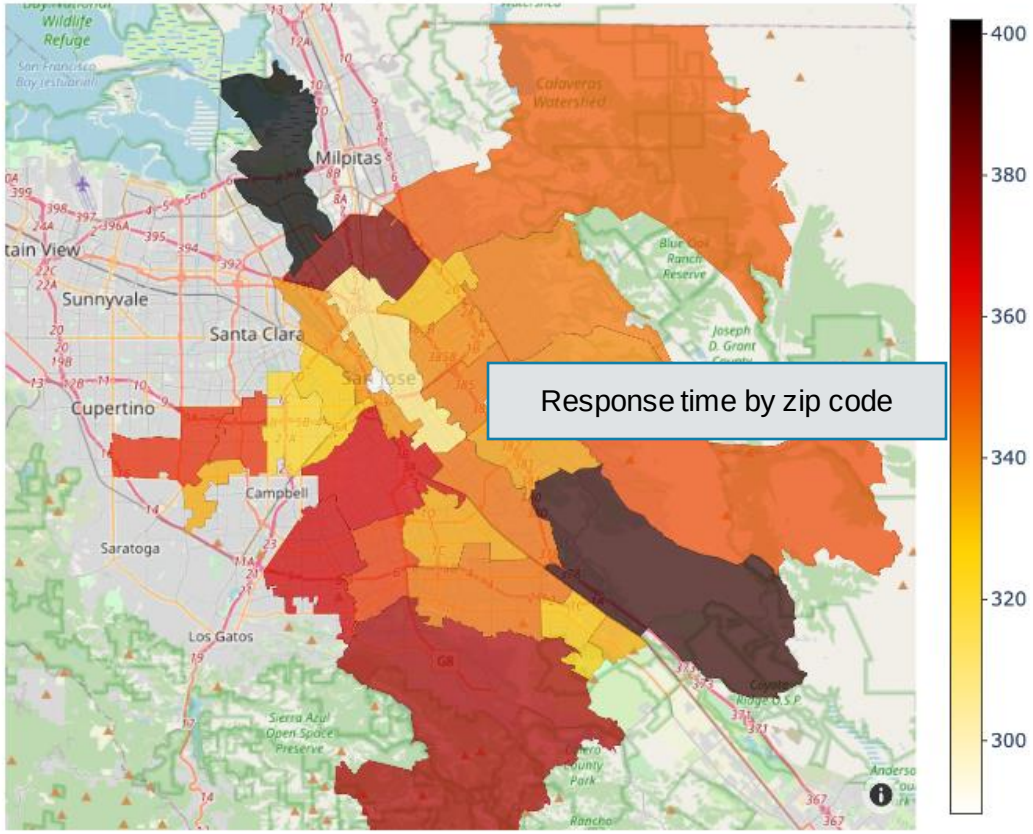
tableau

Infrastructure partners

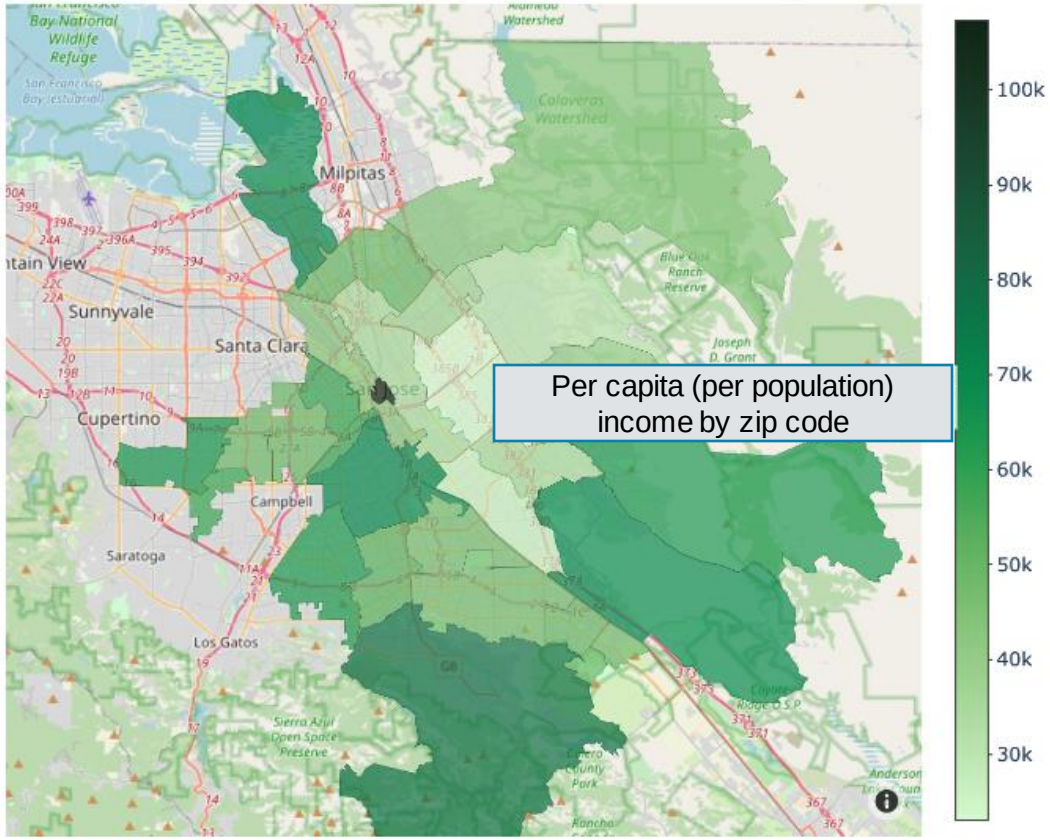
DELL Technologies

URBAN LOGIQ

Emergency vehicle average response time (seconds)



Per capita income

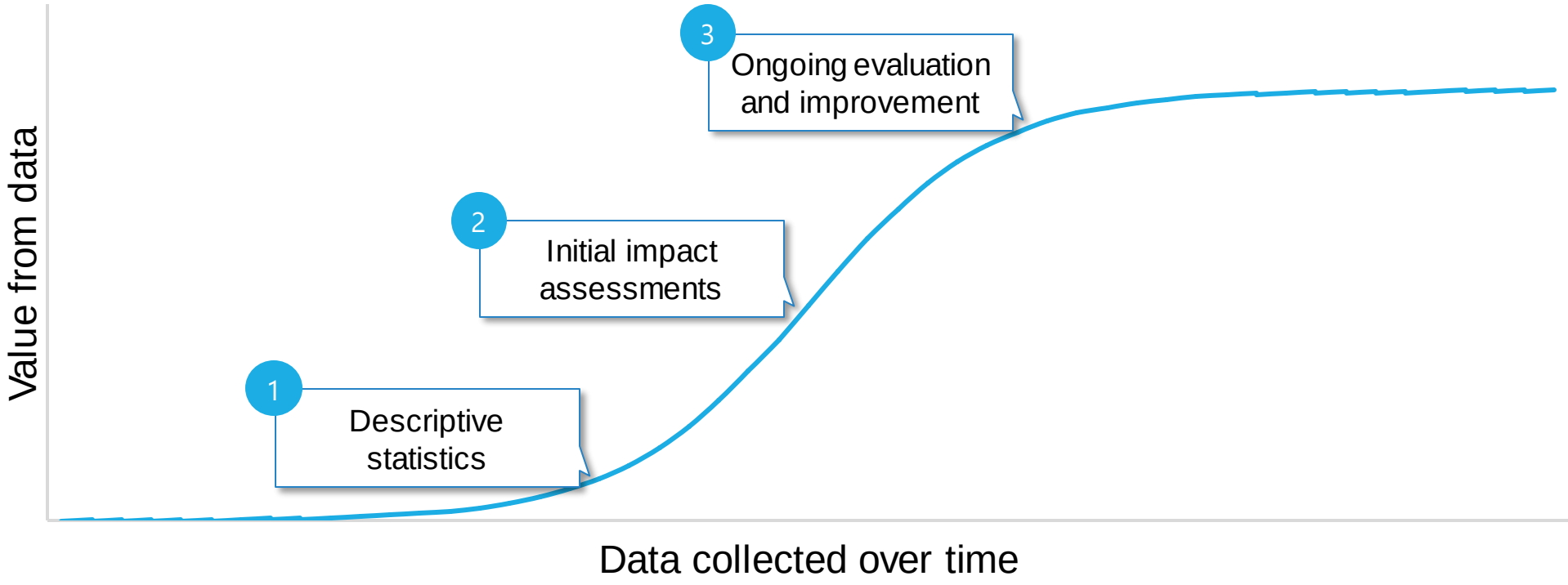


Kudos: Mayor's Office of Technology and Innovation, Data Kind Ambassadors Ramya Ravichandran and Edwin Zhang, City Data Equity Fellow Joy Hsu

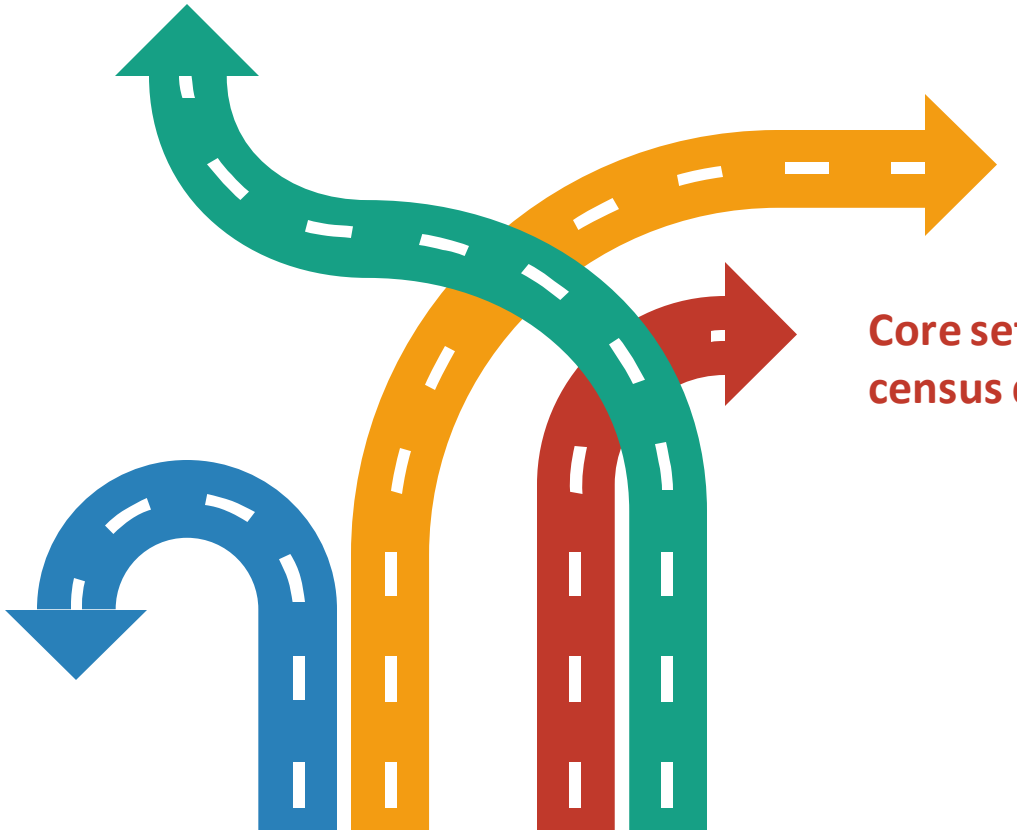
THANK YOU

APPENDIX

MEASURING IMPACT REQUIRES LONG-TERM INVESTMENT



Helps reduce duplication and ensure currency and promote consistent interpretation of data



Census 2020 and new ACS data becomes available

Core set of commonly used census data & standard schema

Applied consistently across various dashboards

Two Complementary Toolsets

ARCGIS

Real-time and map-centric

Houses Enterprise spatial data repository

Provides robust spatial toolset

TABLEAU

Leverages data and repository built and managed in ArcGIS

Provides many visualizations, including non-spatial

Handles large datasets well, including ability to download extracts