



THE STATE  
of **ALASKA**  
GOVERNOR MIKE DUNLEAVY

DEPARTMENT OF COMMERCE, COMMUNITY AND ECONOMIC DEVELOPMENT  
DIVISION OF COMMUNITY AND REGIONAL AFFAIRS

# ALASKA COMMUNITY PROFILE MAP CAD DATA AVAILABLE IN GIS

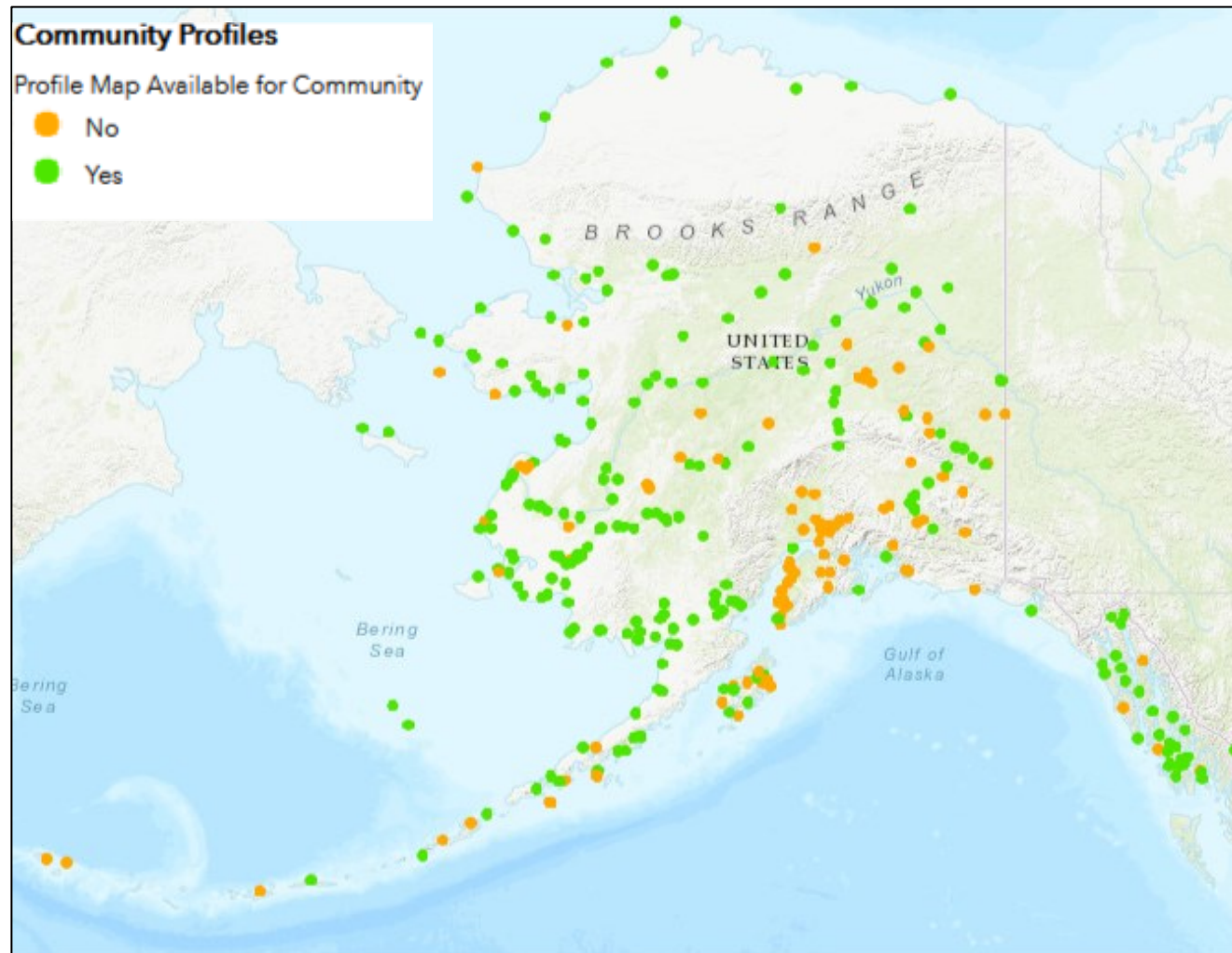
Marcus Oder  
GIS Analyst 3

Alaska GeoSummit  
October 26, 2023



# Community Profile Maps

Since 2001, a total of 212 communities have been mapped via 26 partnerships





# Community Profile Maps

## Legacy Community Profile Maps

- Profile creation coordinated through DCRA Planning Section
- The primary deliverable has always been a series of one or more PDF maps
- First profiles created 1976 – Last 2019, Denali Borough
- From 2001-2019, 26 acquisition projects created profiles for 212 places
- 227 places have a profile
- 212 places have CAD/Imagery/Metadata data package format started in 2001
- PDF Maps are available to public via online [DCRA Community Profile Web App](#)
- CAD/Imagery/Metadata packages can be requested for nominal processing fee and signed Data Agreement



# Conversion Project Overview

## CAD to GIS Conversion

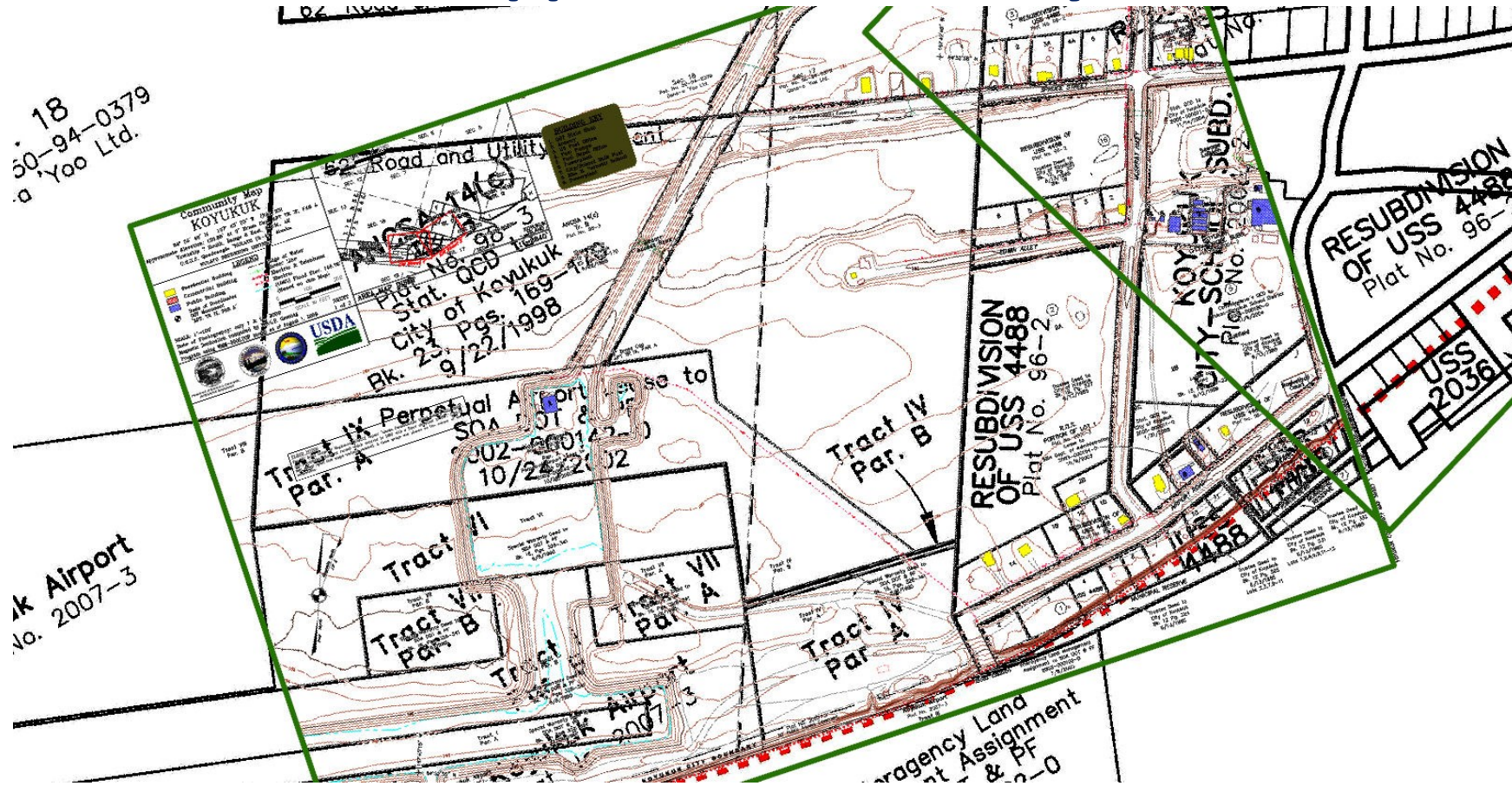
- Scripts developed in 2022 to convert entire set of 400+ legacy Community Profile AutoCAD files to a common single-projection geodatabase
  - Translation performed by CAD To Geodatabase Tool (ArcGIS Pro 2.9 version)
  - FC Outputs of Annotation (as points), Point, Polyline processed and aggregated
  - Un-needed Polygon and Multipatch FCs ignored
  - Common set of value-add derived attributes added during processing
- Master converted Feature Classes live in DCRA SDE Geodatabase
- Lookup Tables, Override Tables and SQL Spatial Views are used to filter out (and correct attributes of) published Hosted Feature Service





# Community Profile Map Deliverables

## Sample: Area Map to Detail Map Relation – Imagery suppressed for clarity





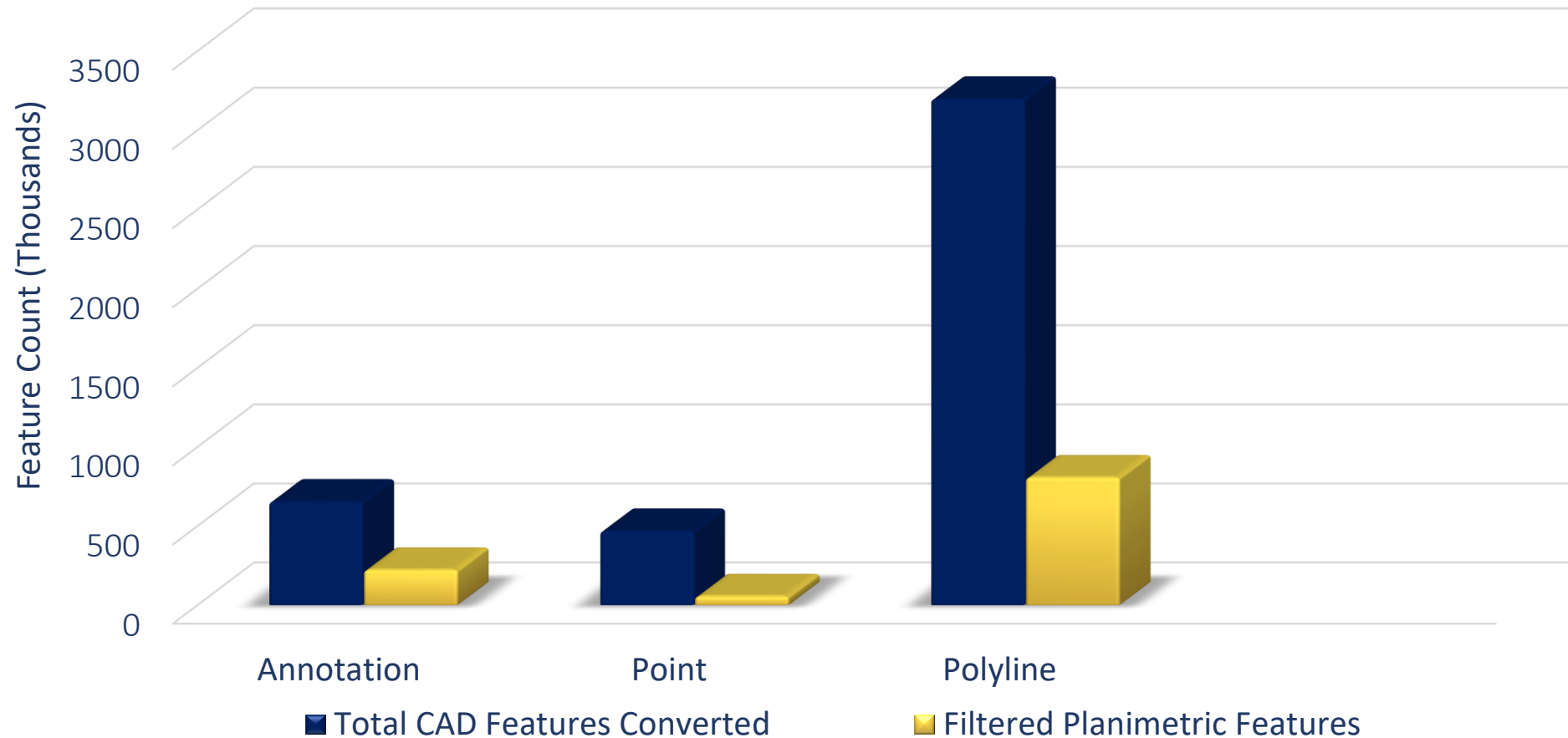






# Conversion Statistics

## Converted Features vs. Planimetric Features





# Conversion Statistics

Attribute	Metric
Communities with Profile	227
Communities with CAD Profile	212
Total CAD Projects	26
CAD Project years	2001 – 2011; 2013; 2018 – 2019
CAD Files Converted	436
CAD Features Converted	4.3 million
CAD Layers in Deliverable	3,800
Planimetric GIS Features	1.1 million



# What It Is

## What can be expected

- A static comprehensive set of planimetric points, text (as points), and polylines in raw translated from CAD form from all available legacy CAD files
- A framework, reference set, or starting point to be used as an input to creating future derived GIS data sets at the community, regional or statewide level
- A surveyed ground control as a basis of positional reference accuracy
- A start on a source of COGOed parcel boundaries
- A powerful visual check of significant infrastructure and parcel boundary locations (at least to the year the profile was created)
- Still a need for manual review as data is prone to displaying duplicate, overlapping, mis-coded features due to the great amount of variation in CAD file structure over time



# What It Isn't

## What shouldn't be expected

- A dataset that will grow or be updated over time
  - Only changes may be omission of features, layer reclassification of features, or text correction of features or other organizational changes, deliverable methods
- A ready-to-use traditional analyzable GIS dataset with useful attributes
- A completely clean, error free dataset



# Community Profile CAD Service Access

## Where to find the data

- [DCRA Community Database Online \(CDO\)](#)
- [State of Alaska Open Data Geoportal](#)
- Keyword: **Community Profile CAD**



The screenshot shows the State of Alaska Open Data Geoportal interface. At the top, there is a navigation bar with the state logo and links for "State Employees", "Departments", and "myAlaska". Below this, the main header reads "State of Alaska Open Data Geoportal" and "State of Alaska Open Data Geoportal". A secondary navigation bar includes links for "Home", "Imagery", "Elevation", "Partnerships", "Alaska Geospatial Council", "Get Involved", and "Terms". The main content area features a map of a community profile CAD with various colored overlays. To the right of the map, the title "Community Profile CAD" is displayed, followed by a user profile for a "Private Member" from the "Dept. of Commerce, Community, & Economic Development". At the bottom, there are two tabs: "Summary" and "Details". The "Summary" tab is active, showing the text "Temp AGOL Hosted Community Profile CAD Vectors as per User Request". The "Details" tab is also visible, with a "Map Feature Service" icon and text.



# Impacts

## Coordination, innovation, and sharing

- Profile maps were made with and for local communities to help inform planning and development
- Partnerships and coordination were critical to the initial funding of community profile projects
- This dataset, available for the first time in one centralized location, will be the best available GIS data for Alaska communities in the unorganized borough for future community infrastructure and mitigation planning
- Data will be critical as new projects develop from the Infrastructure Investment and Jobs Act (IIJA)
- Can be used to inform coastal and riverine erosion models



# Questions and Contact

## Questions?

Marcus Oder

GIS Analyst

(907) 269-4546

[Marcus.Oder@Alaska.Gov](mailto:Marcus.Oder@Alaska.Gov)