

Effective Address Design and Management in Municipal GIS

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Background

- ❓ The City of Tempe contains ~89k active addresses
- ❓ 1 previous employee tasked with overseeing addresses on full-time basis used a manual process of editing physical documents
- ❓ Has never had centralized, authoritative address dataset
- ❓ Lack of quality address data is beginning to hinder operations across multiple departments

Challenges

- ❓ Community Development staff enter new permit information into 3rd party system and integration with other systems has proven difficult
- ❓ Multi-story, multi-family housing makes up increasing amount of new developments (i.e., stacked point features)
- ❓ Departments have their own operational requirements when using address data (e.g., Fire Medical Rescue, Police Dispatch)

Real-world implications

- ❓ Lack of centralized, high-quality addresses has real-world implications on departments' operational workflows
- ❓ Tempe's Fire and Medical Rescue division is dispatched via the Phoenix Fire Department but relies on internal address data in order to reach an emergency in an optimal amount of time.

Obstacles to Stakeholder Buy-In

- ❓ Limited staff lack familiarity with ArcGIS platform
- ❓ Reticence by management/staff to take on additional workflows
- ❓ Misbelief as to what addressing is (“Addressing should be maintained by GIS department”)

Achieving Stakeholder Buy-In

- ❓ Frame the place of authoritative address data in the context of open data and transparency (“open by default”)
- ❓ Underscore negative impact on cross-department integrations and workflows
- ❓ Leverage power of existing webGIS resources (e.g., ArcGIS Online) to streamline data creation and/or curation processes so as to mitigate technical obstacles and reticence by personnel

Using GIS as Technology Solution

? Addresses are created in ArcMap due to need to create address records which are stacked

The screenshot displays the ArcMap interface with a map of a residential area. The Table of Contents shows the 'Address_All' layer selected. The Catalog pane shows the file system structure. The Attributes table for the selected record (OBJECTID_12) is shown below.

OBJECTID_12	Status	St_Num	St_Dir	St_Name	St_Type	Bldg_Num	Suite	Floor	Bldg_Type	Addr_Type	Description	created_user	created_date	last_edited_user	last_edited_date	Shape
78943	Active	525	W	LAKESTIDE DR	<Null>	152			MF - units: Condo, Apt, Trailer	Unit (residential)	<Null>	<Null>	<Null>	ARLENEPA	04/05/2017 10:12:50 PM	Point

OBJECTID_12
Object ID
Null values not allowed
Create Features | Attributes
690375.607 884307.54 Feet

Using GIS as Technology Solution

? Review and edit existing addresses in ArcGIS Online

Home ▾ Address Demo

Details Add ▾ Edit Basemap Analysis Save Share Print Directions Measure Bookmarks Find address or place

Add Features

Address_All

Temporary Active Processing Retired

Address_All

Status *	Active
St_Num	942
St_Dir	W
St_Name	1ST
St_Type	ST
Suite	
Bldg_Type	Non Residential Use
Addr_Type	Main Building Address
Bldg_Num	
Floor	
Description	

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Using GIS as Technology Solution

? Provide staff with map interface to review submitted reports and to update layer when address has been corrected

The screenshot displays the 'Address Reporter Editor' web application. The main map area shows a street grid in Tempe, Arizona, with labels for 'TEMPE JUNCTION', 'Clark Park', 'Tempe High School', 'Daley Park', and 'NORM JUNCT'. A blue dot on the map indicates a selected location. An 'Address Editor' popup window is open, showing a 'Correction Status' dropdown menu with the text 'This address has not been corrected' and a 'Save' button. On the right side, a 'Layer Editor' panel is visible, showing a list of layers with 'Addresses' selected. Below the layer list, there are icons for map interaction and a 'Clear' button. The bottom of the map includes a scale bar (0 to 200 feet) and a copyright notice for Esri and other data providers.

Takeaways

- ❓ The City of Tempe's efforts to implement an authoritative address dataset reflects a broader culture change amongst the city's workforce
- ❓ Tempe is employing a "hybrid" approach to creating and maintaining addresses, i.e., workflows that incorporate both ArcGIS Desktop and webGIS components
- ❓ Placing the need for up-to-date addresses in the broader narrative of open data and municipal transparency has accelerated buy-in from stakeholders

Questions?