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# Gauging Citizen Sentiment with Crowdsource Polling

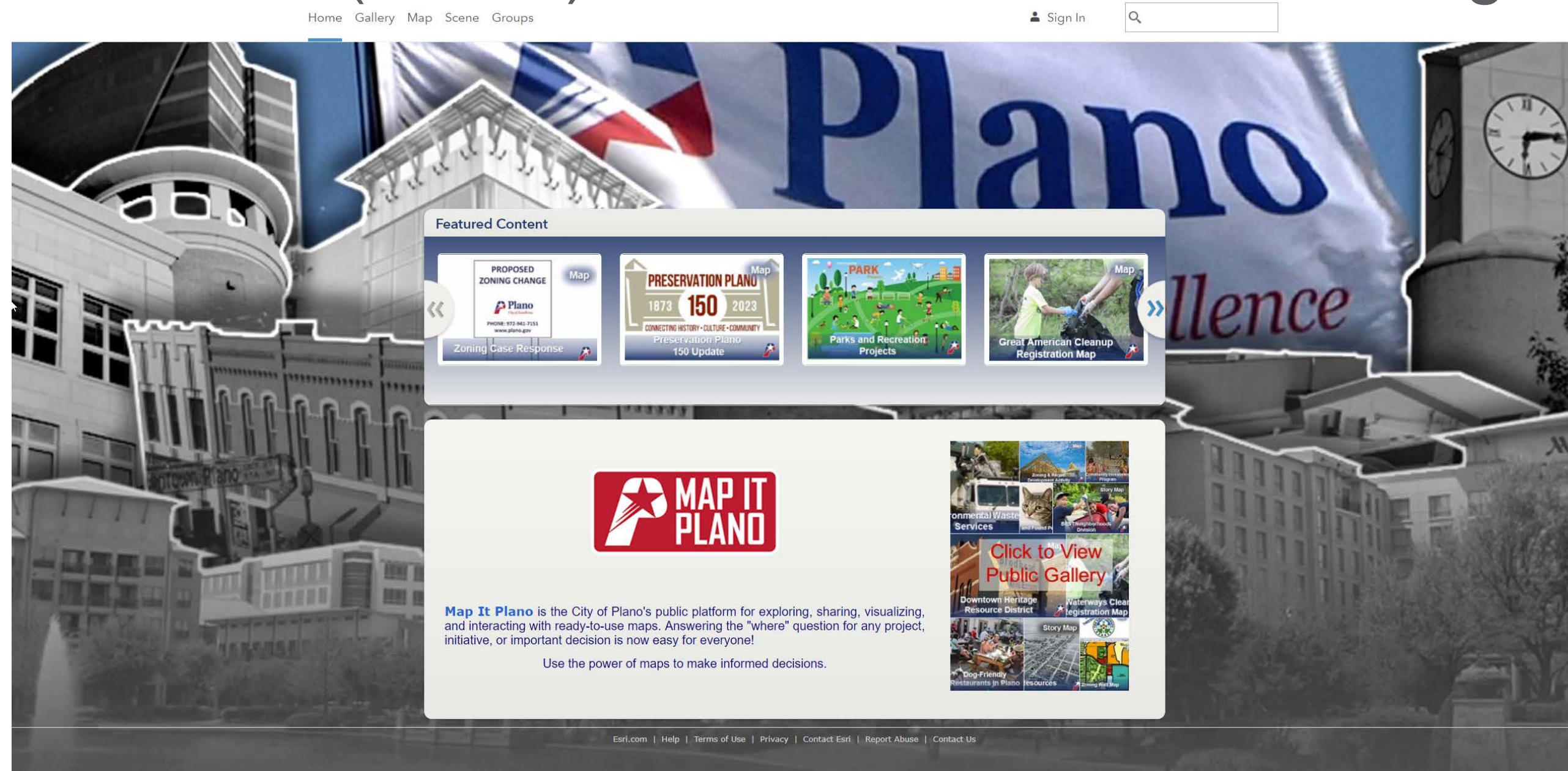
Shari Forbes, GISP

Business Intelligence Analyst/GIS I

City of Plano Technology Services Department

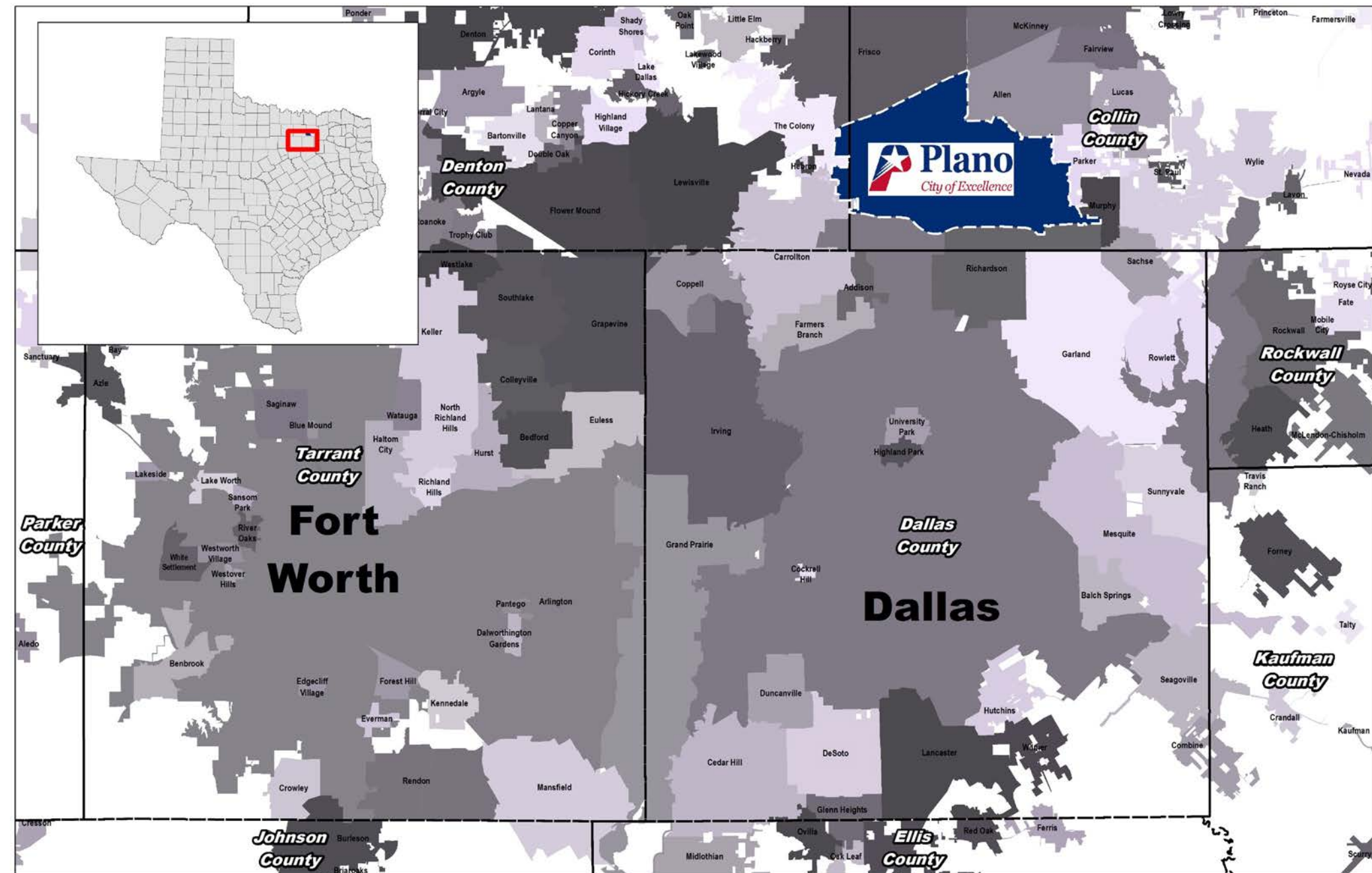
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- GIS Specialist/Tech/Analyst/Business Intelligence Analyst for 19 years
  - Planning Department support for 4 years
- ArcGIS Online(AGOL) launch Dec 2016 @ Plano.gov/Mapit



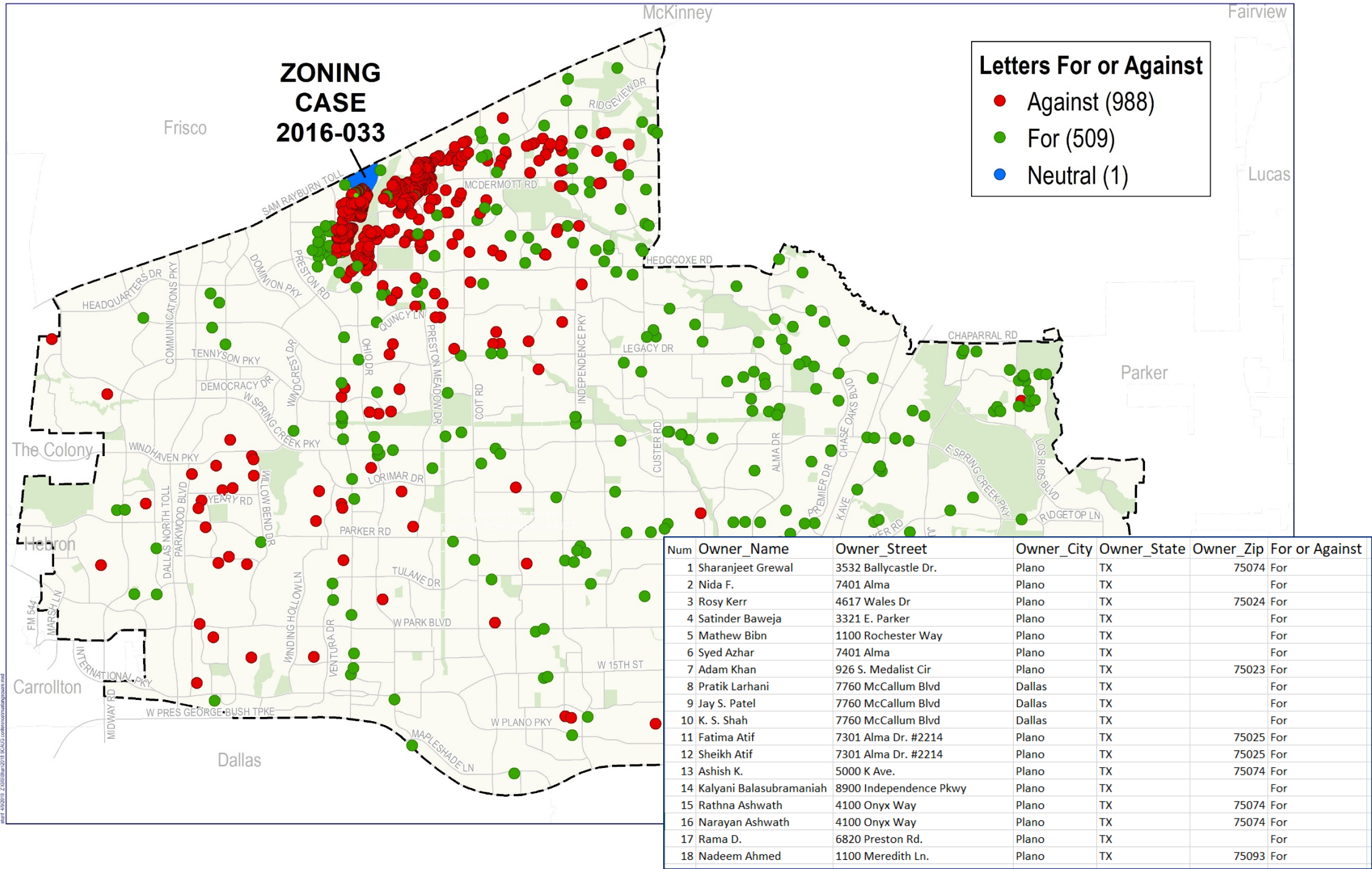
# Plano, Texas, established 1873

- 72 mi<sup>2</sup> → 46 mi<sup>2</sup> Residential
- Population 279,900
- >150,0000 Jobs
- 5.7% Undeveloped Land
- Average 39 Zoning Cases per Year



# Zoning Case Response – history & impetus

- 2017 Controversial Zoning Case
- Time & Labor to compile & map: Letters of Opposition → emails of opposition → chain emails → online petitions → Speaker cards → emails to mayor & director & manager → phone calls.....**AND** duplicate responses → duplicate & different responses over time



...how do we never have to do this again? Can we automate this?



# Zoning Case Response Application



<http://planogis.maps.arcgis.com/apps/CrowdsourcingPolling/index.html?appid=440f9aa7eae44ff0b53aadeb72ea4ff0>

# Zoning Case Response Solution

ArcGIS for Local Government

GALLERY COMMUNITY DOCUMENTATION

## Crowdsourcing Polling

Home Get Started

### Overview

Crowdsourcing Polling is a configurable web application template that allows users to submit comments or feedback on existing plans and proposals. The application is responsively designed to be used on tablets and desktop computers.

The Crowdsourcing Polling application presents a map that can be used to gauge sentiment on specific plans or proposals. Users can anonymously submit new comments and/or vote on the importance of the plan or proposal. They also can authenticate with their social media credentials and have an open dialog with other members of the community.

[REQUIREMENTS](#) [WHAT YOU GET](#) [WHAT'S NEW](#) [VIEW APPLICATION](#)

<http://solutions.arcgis.com/local-government/help/crowdsourcing-polling/>

### Crowdsourcing Polling

Home Get Started

Set up

Overview

- Create layers
- Create maps
- Configure Crowdsourcing Polling

Additional help

- Configure social media sign in
- Create a custom template
- Host on your web server
- Generate report IDs
- Moderate reports
- Send email notifications

- ArcMap (Standard or Advanced License)
- ArcCatalog
- ArcServer
- ArcGIS Online
- Crowdsourcing Polling Template

Take it for a test drive!!

# Zoning Case Response Solution

## THREE COMPONENTS

- 1. Feature Class
- 2. Related Table
- 3. Relationship Class

Feature class = project info pop-up

Feature Class Properties

General Editor Tracking XY Coordinate System Domain, Resolution and Tolerance  
Fields Indexes Subtypes Feature Extent Relationships Representations

Field Name	Data Type
TRAKITViewExport_TAXID	Text
TRAKITViewExport_SITUS_DISPLAY	Text
TRAKITViewExport_PROP_ID	Double
TRAKITViewExport_PARCEL_ID	Text
ProjectMain_OBJECTID	Long Integer
ProjectMain_PREFIX	Text
ProjectMain_YRMO	Double
ProjectMain_SEQ_NO	Double
ProjectMain_PROJECT_NO	Text
ProjectMain_PROJECT_NAME	Text
ProjectMain_PROJECTTYPE	Text
ProjectMain_PROJECTSUBTYPE	Text
ProjectMain_SITE_APN	Text

Click any field to see its properties.

Field Properties

Alias	PROJECT_NO
Allow NULL values	No
Default Value	
Domain	
Length	15

Import...

To add a new field, type the name into an empty row in the Field Name column, click in the Data Type column to choose the data type, then edit the Field Properties.

OK Cancel Apply

GlobalID or Unique ID field

Related table = comment form & pop-up

Table Properties

General Editor Tracking Fields Indexes Subtypes Relationships

Field Name	Data Type
OBJECTID	Object ID
REQUEST	Text
COMMENTS	Text
USERNM	Text
USERSTNUM	Long Integer
USERST	Text
USERCITY	Text
USERZIP	Long Integer
PROJECT_NO	Text
SHOW	Text
created_user	Text
created_date	Date
last_edited_user	Text

Click any field to see its properties.

Field Properties

Alias	Response
Allow NULL values	No
Default Value	N
Domain	REQUEST
Length	25

Import...

To add a new field, type the name into an empty row in the Field Name column, click in the Data Type column to choose the data type, then edit the Field Properties.

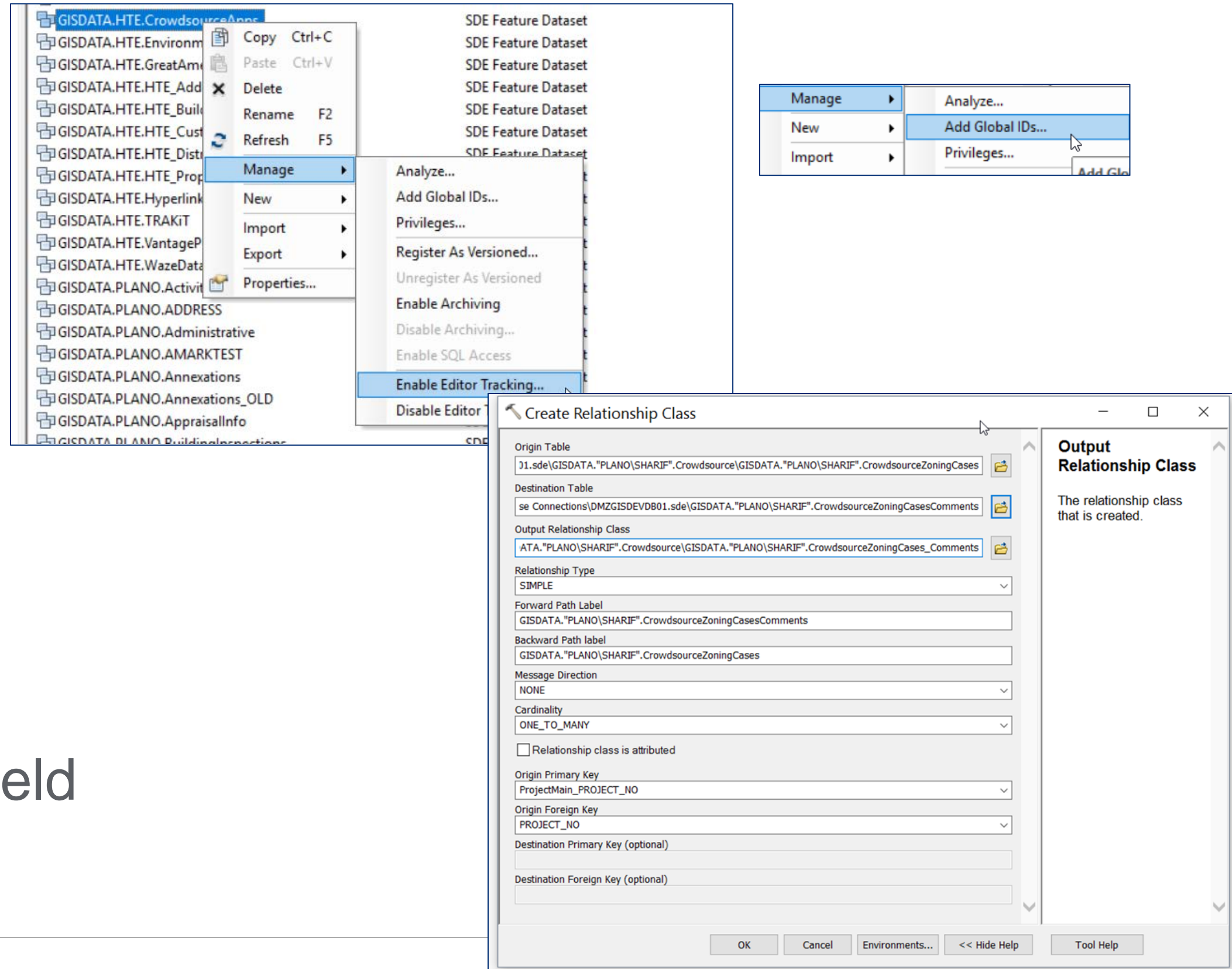
OK Cancel Apply

Take it for a test drive again!!



# Zoning Case Response Solution

- Domains
- Field Data Type
- Field length
- Allow NULL values
- Default Values
- Unique ID or GlobalID
- Enable Editor Tracking
- Create Attachments
- {PUBLICVIEW} Yes No
- {NUMVOTES} Numeric field



**ONE\_TO\_MANY RELATIONSHIP CLASS**

# AGOL Web Map – Configure the Pop-up (Feature class)

Home ▾ Zoning Case Response-PRODUCTION

Details Add ▾ Edit Basemap Analysis

About Content Legend

Contents

- ☒ ZoningCaseResponse - PRODUCTION
- ☒ Zoning Case Response
- ☒ ZoningCaseResponseLa
- ☒ City Limit
- ☒ AerialPhoto2017
- ☒ World Topographic Map
- ☒ ZoningCaseResponse - GISDATA.HTE.ZoningCa

Zoom to Transparency Set Visibility Range Rename Move up Move down Copy Hide in Legend Remove Remove Pop-up Configure Pop-up Create Labels Disable Editing Refresh Interval Show Item Details Save Layer

Configure Pop-up

ZoningCaseResponse - PRODUCTION

☒ Show Pop-ups

Pop-up Title

{ProjectMain\_PROJECT\_NO} ({ProjectMain\_PROJECTSUBTYPE})

Pop-up Contents

Display: A custom attribute display

CONFIGURE

Configure Attributes

custom configuration

Custom Attribute Display

Use the area below to define, format, and lay out the information you want to display.

The Planning & Zoning Commission (P&Z) of the City of Plano will hold a public hearing on **Zoning Case** {ProjectMain\_PROJECT\_NO} on {PZ\_DATE\_TXT}, 7:00 p.m., Plano Municipal Center, 1520 K Avenue, Senator Florence Shapiro Council Chambers. State law requires that cities notify all property owners within 200 feet of any proposed zoning changes.

Description: {Notes}

Information related to this Zoning Case can be found [here](#). Please note dates are subject to change.

PROPOSED ZONING CHANGE

P&Z Meeting Date: 5/7/2018

City Council Meeting Date: 5/29/2018

Persons wanting more information should contact:

Erica Marohnic, Planning Department  
[ericama@plano.gov](mailto:ericama@plano.gov)  
972-941-7151

Click on **BLUE** icon below to provide a comment

Please allow one business day for response to show on map.  
Take care to enter address correctly!

Legend

Zoning Case Responses

- In favor of request
- Neutral to request
- Opposed to request

html editor

image "float right" (trial and error)

COPY YOUR CUSTOM ATTRIBUTE DISPLAY AND PASTE IN ANOTHER DOCUMENT!!

OK

OK CANCEL

9

# AGOL Web Map – Configure the Pop-up (related table)

### Configure Pop-up

ZoningCaseResponse - GISDATA.HTE.ZoningCaseResponseComments

☒ Show Pop-ups

**Pop-up Title**

{USERNM} - {REQUEST}

**Pop-up Contents**

Display: No attribute information

No attribute information will display

[Configure Attributes](#)

### Configure Attributes

Check the fields you want to display and edit. Select a field to change its alias, order it, and format it.

<input type="checkbox"/> Display	<input type="checkbox"/> Edit	Field Name	Field Alias
<input type="checkbox"/>	<input checked="" type="checkbox"/>	{REQUEST}	Response
<input type="checkbox"/>	<input checked="" type="checkbox"/>	{COMMENTS}	Comments are optional and will become part of the permanent record.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	{USERNM}	First & Last Name
<input type="checkbox"/>	<input checked="" type="checkbox"/>	{USERSTNUM}	Street Number
<input type="checkbox"/>	<input checked="" type="checkbox"/>	{USERST}	Street Name
<input type="checkbox"/>	<input checked="" type="checkbox"/>	{USERCITY}	City

Directly editing SDE

### ZC2018-001 (STRAIGHT REZONING)

Response (required) **drop down (domain)**  
Neutral to request **default value Neutral**

Comments are optional and will become part of the permanent record. 2000

First & Last Name (required) 50  
**Allow NULL values No**

Street Number (required) **no null values & long integer field**

Street Name (required) 25  
**Allow NULL values No**

City (required) 255  
**Allow NULL values No**

Zip Code (required)  
**Allow NULL values No**

Cancel

**Comments**

**Bryce Chan - Opposed to request**

Edited by HTE on Thursday at 12:06 PM

OBJECTID*	REQUEST	COMMENTS	USERNM	USERSTNUM	USERST	USERCITY	USERZIP	
801	Opposed to request	I am opposed to putting a public service yard less than 500 feet of where my family lives. It's not appropriate in a residential neighborhood to have a servicing and storage of vehicle	Kelly Shiffer	4639	Saginaw Ct	Plano	75024	ZC2017-018
802	Opposed to request		Maria Malinovskaya	4647	Margo ct	Plano	75024	ZC2017-018
803	Opposed to request	We DO NOT want cars serviced and stored in the middle of a residential neighborhood! There are plenty of places this type of use could do, why would they put this right next to ho	Jonathan Shiffer	4639	Saginaw CT	Plano	75024	ZC2017-018
1201	Opposed to request		Rujing Tang	4540	Risinghill DR.	plano	75024	ZC2017-018
1601	Opposed to request		sarang sonawane	4644	cape charles dr	plano	75024	ZC2017-018
1602	Opposed to request		sushma gawai	4644	cape charles dr	plano	75024	ZC2017-018
1603	Opposed to request		Jacques Morris	4104	Hearthlight Court	Plano	75024	ZC2017-018
1604	Opposed to request		William Wilson	9705	Honeysuckle Dr	Frisco	75035	ZC2017-018
1605	Opposed to request	Why can't City of Plano build a park or easement in this area? The are close to Ohio drive is already over-crowded and we need a park in the area. I strongly oppose to this zoning	Jin Xiaoping	4620	Oak Shores Dr.	Plano	75024	ZC2017-018
1606	Opposed to request		Andrea Reiter	4012	Wind dance Cir	Plano	75024	ZC2017-018
1607	Opposed to request	This is a neighborhood, not a shipping yard. Traffic is already bad enough here. What if a child gets hit by a truck? STRONGLY OPPOSED	Wendy Pickrety	5716	Martin Rd	Plano	75024	ZC2017-018
1608	Opposed to request		Christina Welton	4632	Dalrock Drive	plano	75024	ZC2017-018
2001	Opposed to request		Leena Desai	4001	Foxtail lane	Plano	75024	ZC2017-018
2002	Opposed to request		Robert Unger	4301	Hawkhurst Drive	Plano	75024	ZC2017-018
2003	Opposed to request		Chloe Saba	10708	Nashville Dr	Frisco	75035	ZC2017-018
2004	Opposed to request		Una Tang	3816	Elgin Dr	Plano	75025	ZC2017-018
2005	Opposed to request		Clarence Mays	4609	Faulkner Drive	Plano	75024	ZC2017-018
2006	Opposed to request	Opposed	Kim Villarreal	7208	Regency Court	Plano	75024	ZC2017-018
2007	Opposed to request		Phong Vu	4659	Margo Ct	Plano	75024	ZC2017-018
2008	Opposed to request	Why can't City Of Plano build a park or easement in this area? The surrounding areas close t Ohio drive are already over-crowded. City of Plano had destroyed the trees and green	Xiaoqing Jin	4620	Oak Shores Dr.	Plano	75024	ZC2017-018
2009	Opposed to request		Robert Connor	4312	Cutter Springs Ct.	Plano	75024	ZC2017-018
2401	Opposed to request		Lauren Vasquez	4461	Stargazer	Plano	75024	ZC2017-018
2801	Opposed to request		Rahul Tapiawala	4437	Riptide Lane	Plano	75024	ZC2017-018
2802	Opposed to request	Opposed to this zoning so close to residential neighborhoods	Charles Lamping	5405	Baton Rouge Blvd.	Frisco	75035	ZC2017-022
3201	Opposed to request		Karthik mahadevan	4520	Sandy Water lane	Plano	75024	ZC2017-018
3601	Opposed to request	Too close to residential.	Robin Lee	4526	Oak Shores Dr	Plano	75024	ZC2017-018
3602	Opposed to request		Teresa Huntoon	4702	Grant Ct	Frisco	75035	ZC2017-018
3603	Opposed to request		Cliff Banks	8710	Argentine Way	Plano	75024	ZC2017-018
3604	Opposed to request	Unacceptable use of land in a residential area	Beverly McMahon	10312	Hunter Run	Frisco	75035	ZC2017-018
3605	Opposed to request	If it were for a police substation it would be fine opposed to anything else.	Beverly Gomon	4644	Canal	Plano	75024	ZC2017-018
3606	Opposed to request		Bernard Gomon	4644	Canal	Plano	75024	ZC2017-018
3607	Opposed to request		Cathy Gruen	10413	Samantha Drive	Frisco	75035	ZC2017-018
3608	Opposed to request		Richard Huang	4600	Stargazer dr	Plano	75024	ZC2017-022

# AGOL Web Map – Configure the Pop-up (more related table)

After response has been submitted, we only want to show name and their response

Configure Pop-up

ZoningCaseResponse - GISDATA.HTE.ZoningCaseResponseComments

☒ Show Pop-ups

Pop-up Title

{USERNM}

{REQUEST}

Pop-up Contents

Display: No attribute information

No attribute information will display

[Configure Attributes](#)

< ZC2018-001 (STRAIGHT REZONING)

Response (required)

Neutral to request {REQUEST}

Comments are optional and will become part of the permanent record. 1991

I like it

First & Last Name (required) 38

Shari Forbes {USERNM}

Street Number (required) 1520

Street Name (required) 20

K Ave

City (required) 250

Plano

Zip Code (required)

75074

Submit

Cancel

Comments

Bryce Chan Opposed to request

Edited by HTE on Thursday at 12:06 PM

Tareq Altakroui Opposed to request

Edited by HTE on Thursday at 12:06 PM

Chris Lee Opposed to request

Edited by HTE on Thursday at 12:06 PM

Submit button will appear when all required fields have data



# AGOL Web Map – Look & Feel

Editable Feature Service

Create a bookmark for  
view you want when  
app is opened

Home ▾ Zoning Case Response-PRODUCTION

Details Add ▾ Edit Basemap Analysis

About Content Legend

Contents

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- ☐ ZoningCaseResponse - GISDATA.HTE.ZoningCaseResponseComments

Layer Transparency

Opaque 0% 50% 100% Transparent

Save Share Print Directions Measure Bookmarks Find address or place

Bookmarked places

citywide

Add Bookmark

Map Service w/ Maplex Label Engine, Plano Blue symbology & zoomed out reference scale in .mxd

Map Service w/ Maplex Label Engine, red/green/blue symbology & zoomed in reference scale in .mxd

Use Vector Basemap for faster drawing

Contents

- ☒ ZoningCaseResponse - PRODUCTION
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- ☐ ZoningCaseResponse - GISDATA.HTE.ZoningCaseResponseComments



# AGOL Template – Configure

Crowdsource Polling Template is bare bones – majority of work is in the structure of your data and configuring your pop-ups

General Theme Options Custom URL Parameter

Zoning Case Response-PRODUCTION

Select Web Map

Application title  
Zoning Case Response

Help widget text Edit **customize splash screen**

We want your feedback on Zoning Cases in our community.

1. Search for a location or click an item in the list to view a specific case.
2. Click on the comments button (see pic below) to submit a response.



All responses will be provided to the Planning & Zoning Commission and will become part of the permanent record.

☒ Display the help widget as a splash screen

General Theme Options Custom U

Header text color

Header background color

Body text color

Body background color

Button text color

Button background color

Application logo

http://www.plano.gov/ImageRepository/Document?do

**customize colors**

#1E376C

General Theme Options Custom URL Parameter

Polling feature layer  
ZoningCaseResponse - PRODUCTION

Field storing the vote tally for each report  
Select field  
OBJECTID **{NUMVOTES} would go here**

Field used for sorting the list of features  
YRMO  
SEQ\_NO  
PROJECT\_NO  
PROJECT\_NAME  
PROJECTTYPE

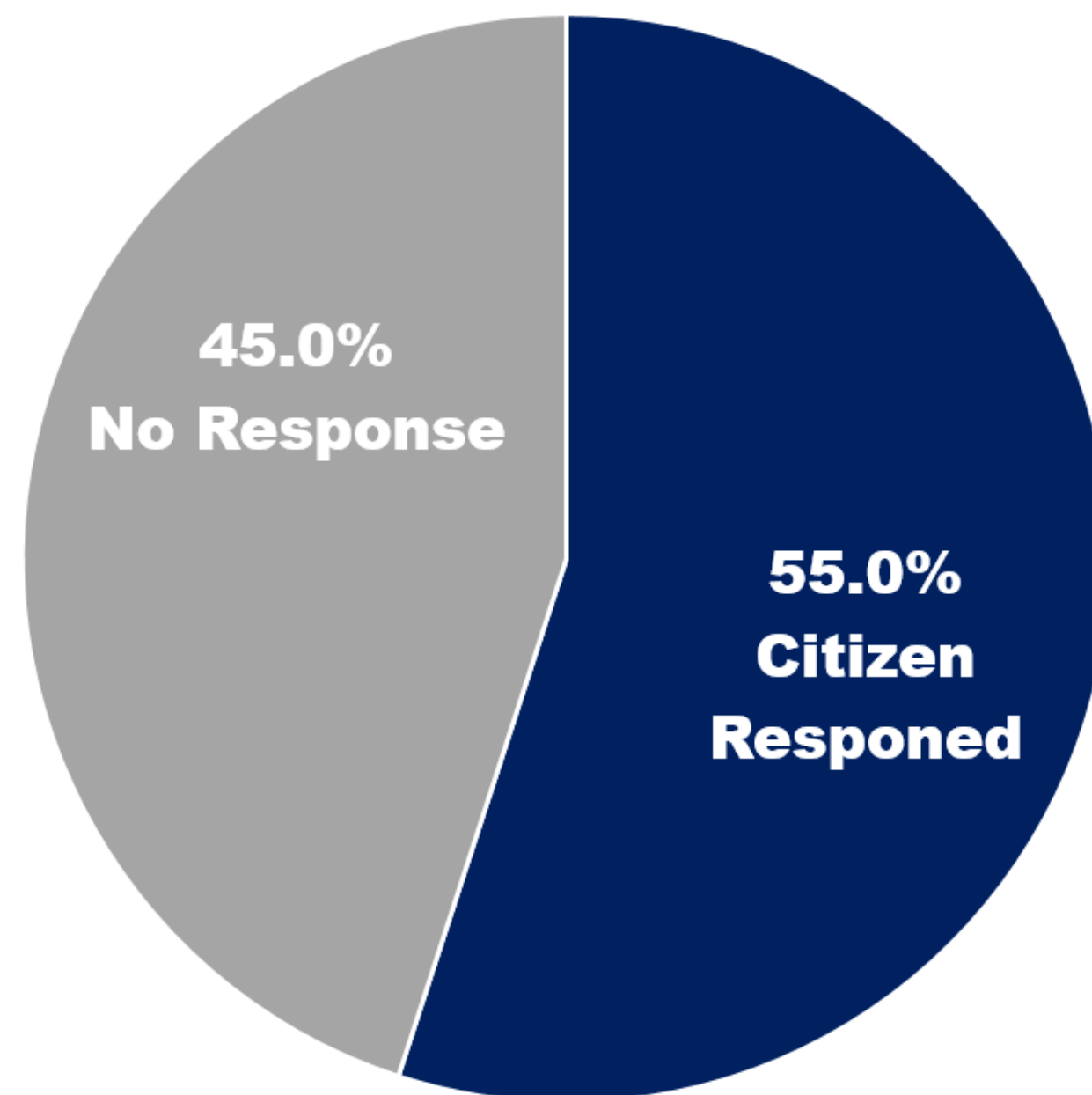
Worked with our marketing department for color scheme and Map It Plano logo



**SIX MONTHS LATER**

## Zoning Case Response since October 2017

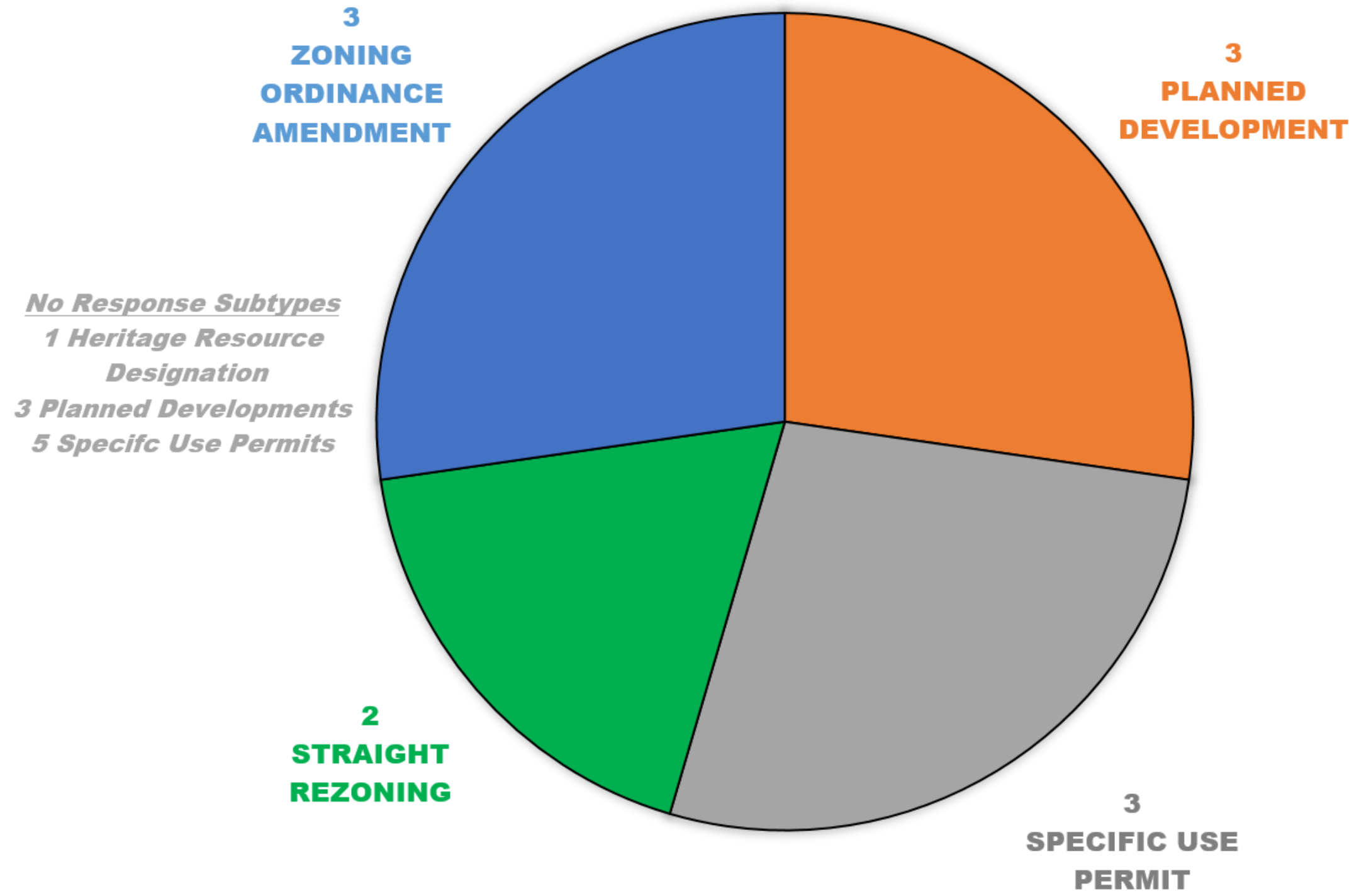
20 ZONING CASES  
11 HAD RESPONSES  
9 HAD NO RESPONSE



■ # of zoning cases that got a response

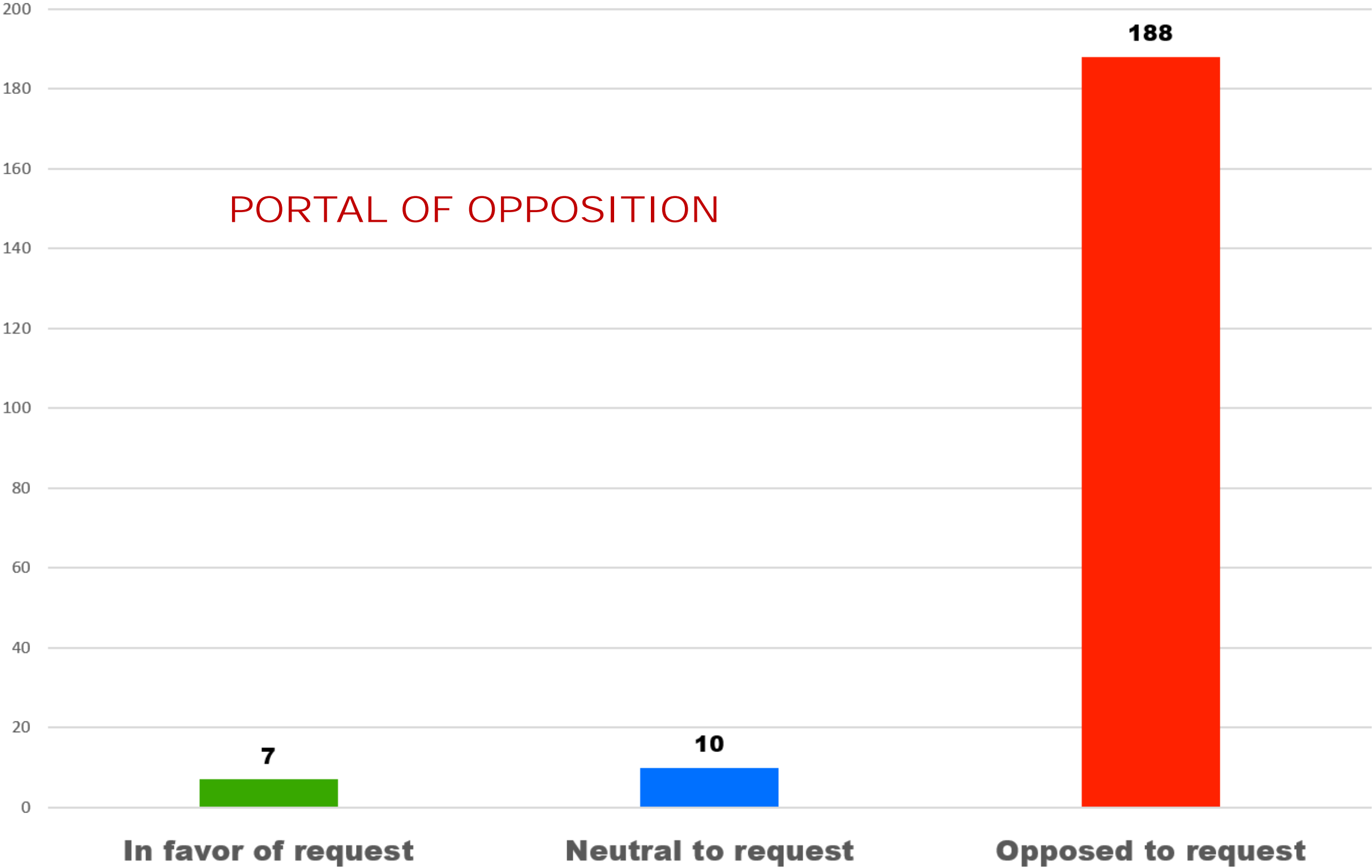
■ # of zoning cases that got ZERO response

## ZONING CASE RESPONSE SUBTYPE THAT RECIEVED RESPONSES

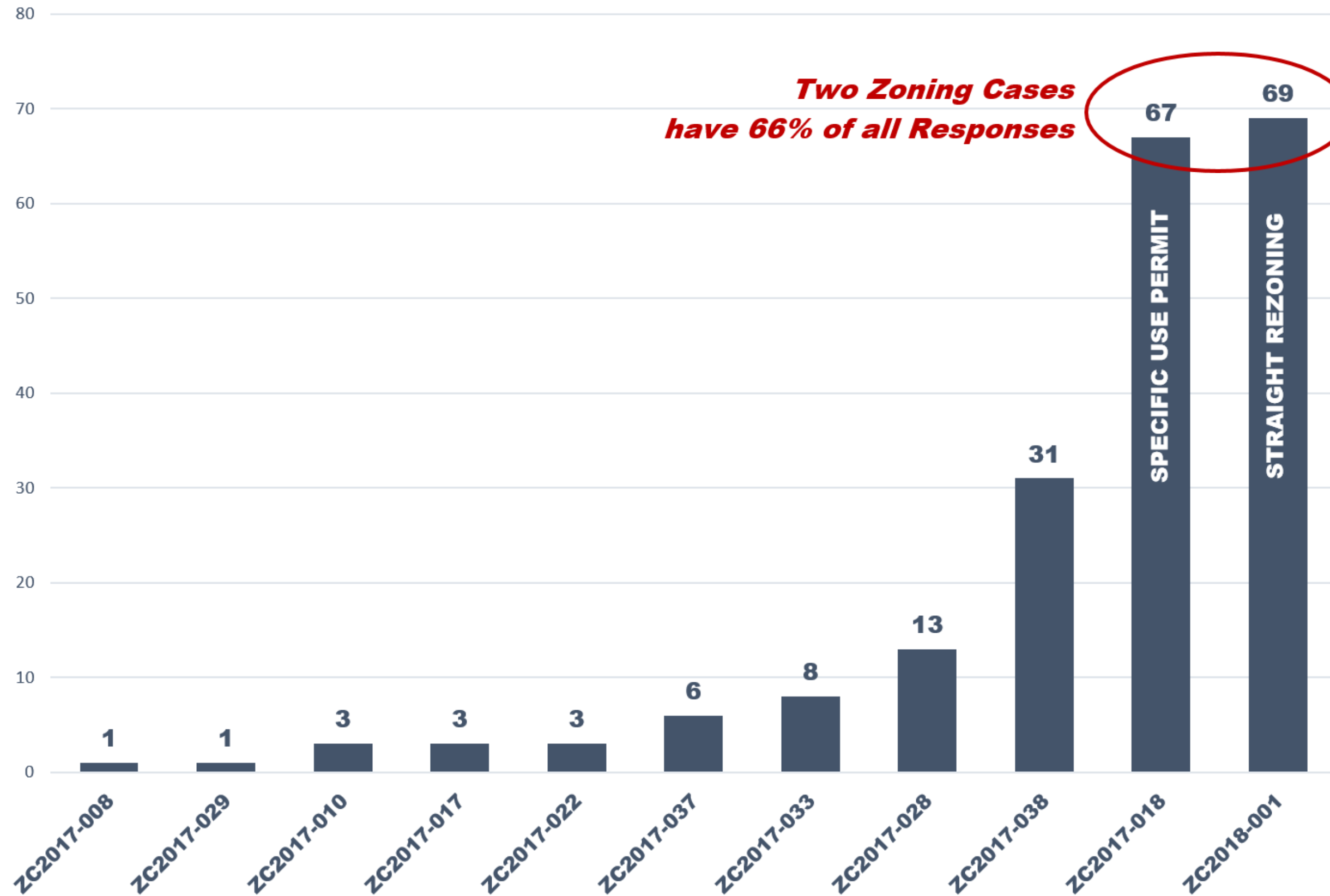


# Zoning Case Response

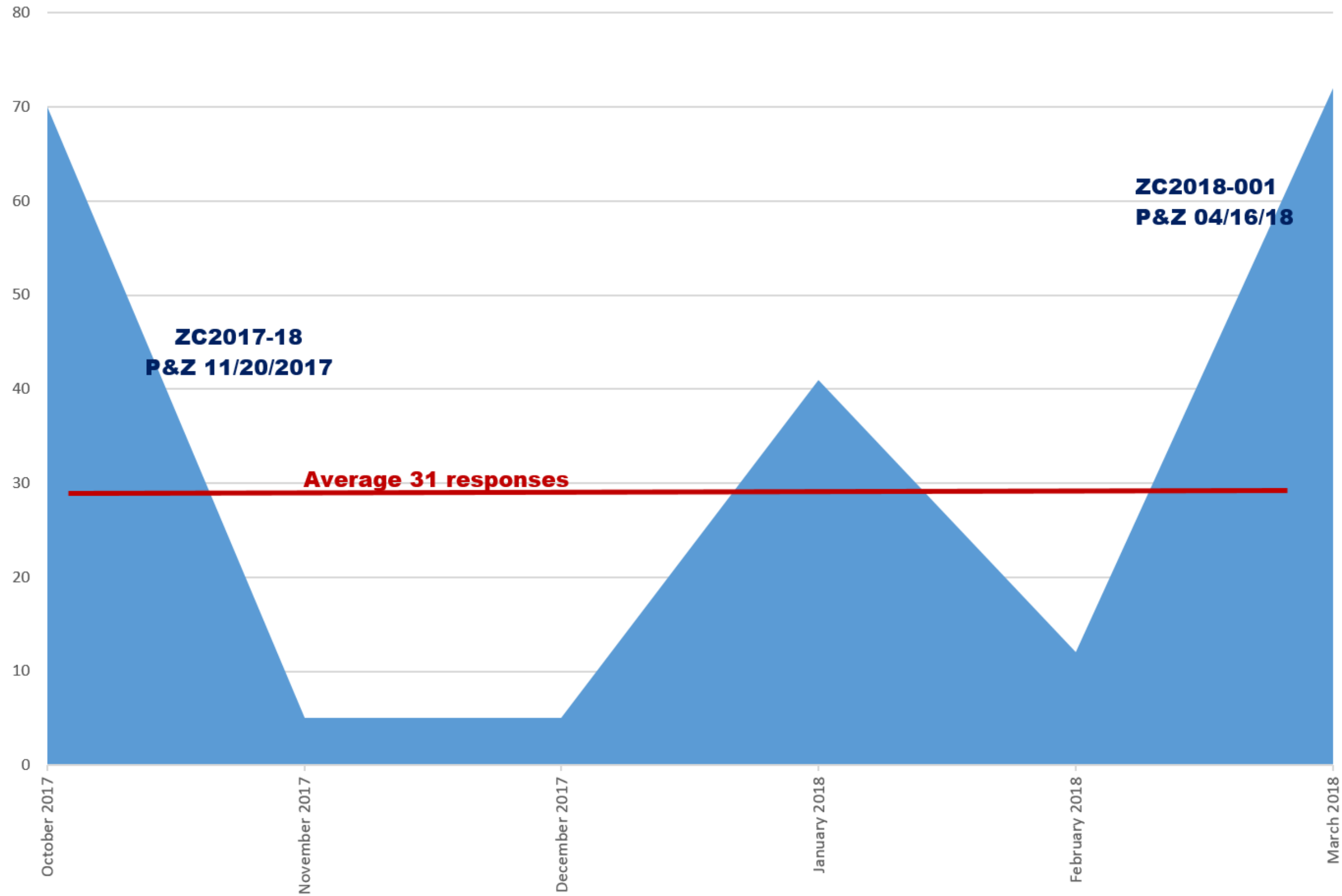
## Total Number of Responses by Type



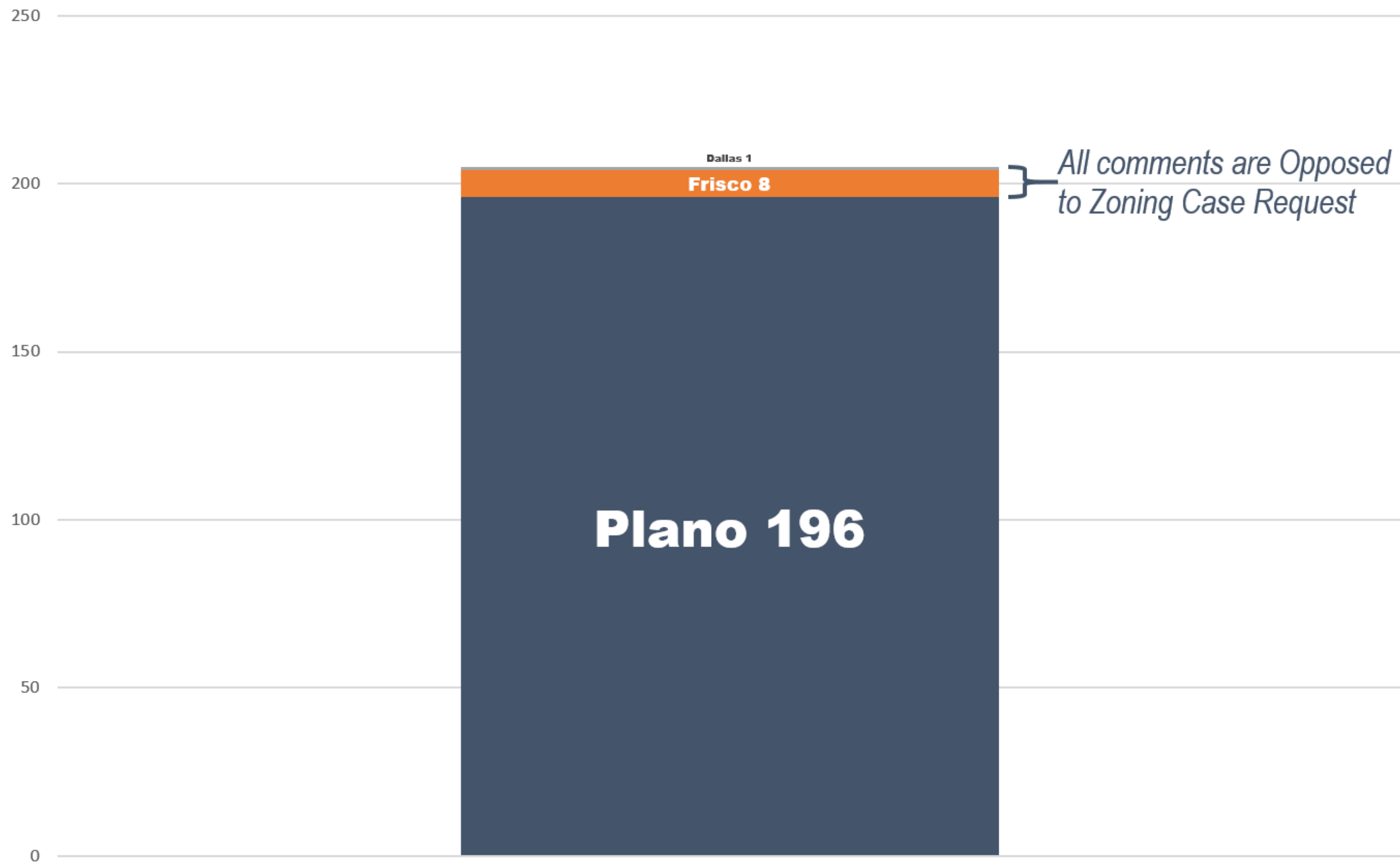
## Frequency of Responses Per Zoning Case



## Total Responses per Month

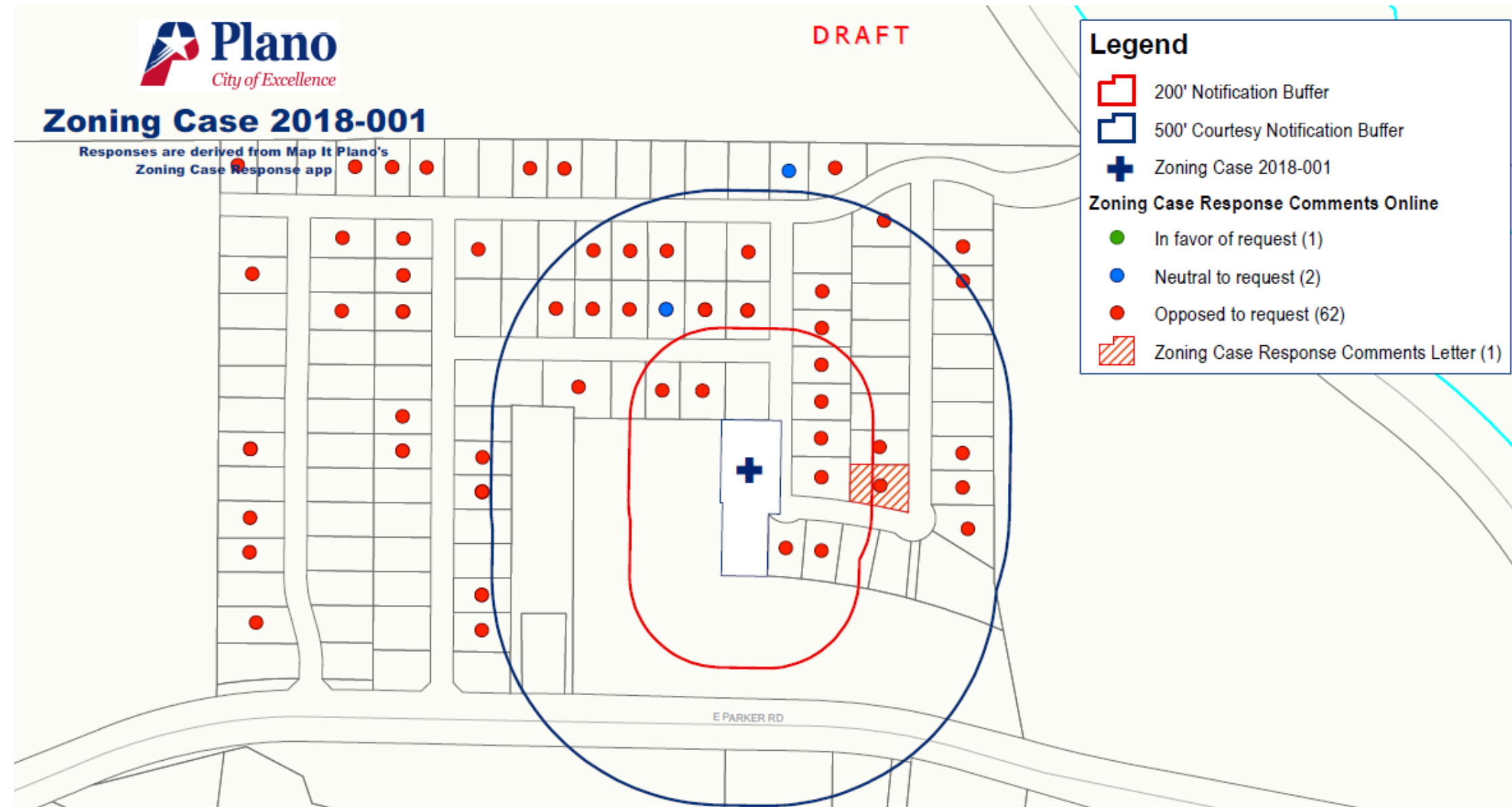


# Zoning Case Response Location of Responses



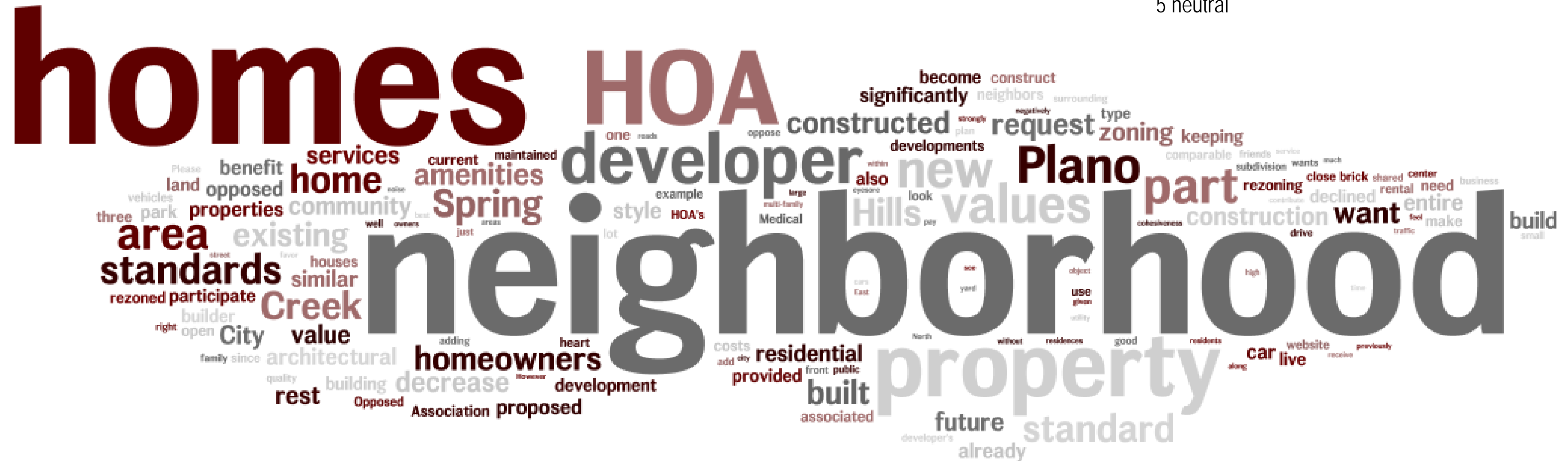
# Zoning Case Response – 200 foot Buffer Analysis

- 205 Total Responses
- 18 of 205 responses within the 200' buffer
- 15 out of 18 responses are located within the 200' buffer of the respective zoning case



# Zoning Case Response – 76 Written Comments

67 in opposition  
4 in favor  
5 neutral



# Zoning Case Response

## QUESTIONS?

***Thank you so much for attending! Enjoy SCAUG!***



# Thank you

Shari Forbes, GISP  
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City of Plano Technology Services Department

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