

City of Eules

Road Striping

David Allen, Senior GIS Manager
Nicholas Willette, GIS Manager

Street Striping Inventory

The project was to design and build an app and/or maps to catalog the street striping projects from past years and allow for an inventory of projects for future.

- Meet with Public Works to determine their needs
- Decide what components were needed
- Design / Build the feature layers
- Design / Build the apps

Designing the project

100 Street Marking
Storm Striping Co.

- Westpark Way from Hwy 10 to S. Pipeline (\$ 1,913.00)
- N. Main from Harwood to Bridge Fountain Park (\$ 8,520.00)
- Midway from Rusk to Victoria (\$ 500.00)
- Ash from fuller wiser to 360 SR. (\$ 2,863.00)
- Intersection Ash @ Main East bd. Side. (\$ 500.00)
- Midway from Rambling to 157 East Bd. (\$ 968.00)
- Intersection Ash @ Main West Bd. Side (\$ 500.00)
- Bear Creek from Mid-cities to Harwood (\$ 6,410.00)
- Midway from 157 to Whitetail (\$ 1,160.00)
- Fuller Wiser from 183 SR. to Harwood (\$ 7,292.00)
- Fuller Wiser from Balsam to Sage Ln. (\$ 1,656.00)
- SW side Glade Rd. @ Hwy 121 (\$ 795.00)
- City of Euless Animal Shelter (\$ 300.00)

They provided us with copies of their paperwork from previous years.

They liked to do summaries by year, and catalog each invoice with cost and a description of the work done.

13 Location For 2020 (\$ 33,377.00)



TO: CITY OF EULESS
 201 N Ector
 Euless, TX 76039
 817-885-1580
 kspargur@euless.tx.gov

INVOICE
 INVOICE NO: 2210
 Date: February 8, 2021

Attn: Finance/Kenny Spargur

QUOTE #	P.O. NUMBER	DATE COMPLETED	SHIPPED VIA	F.O.B. POINT	TERMS
1966	200196	February 2021			Upon receipt
QUANTITY	DESCRIPTION			AMOUNT	
	Westpark Way from Highway 10 to South Pipeline Addition of drive lane- New Layout				
	3,920' 4" line white line			999.60	
	100' White 4" line dbl coat			44.63	
	2 Directional turn arrows, 8' white dbl coat			175.00	
	1 Stencil: ONLY 8' white dbl coat			148.75	
	1 Stop Bar 24"x24" white dbl coat			64.26	
	Layout fee			512.55	
	Double coated where indicated				
	All work completed w/ glass beads for reflectivity				
	Sherwin Williams Premium Traffic Paint				
Please make all checks payable to:				PROJECT SUBTOTAL	\$1,944.79
STORM'S STRIPING CO. P.O. Box 182854 Arlington, TX 76096				City of Euless Sales Tax @ .0825	EXEMPT
				TOTAL DUE	\$1,944.79

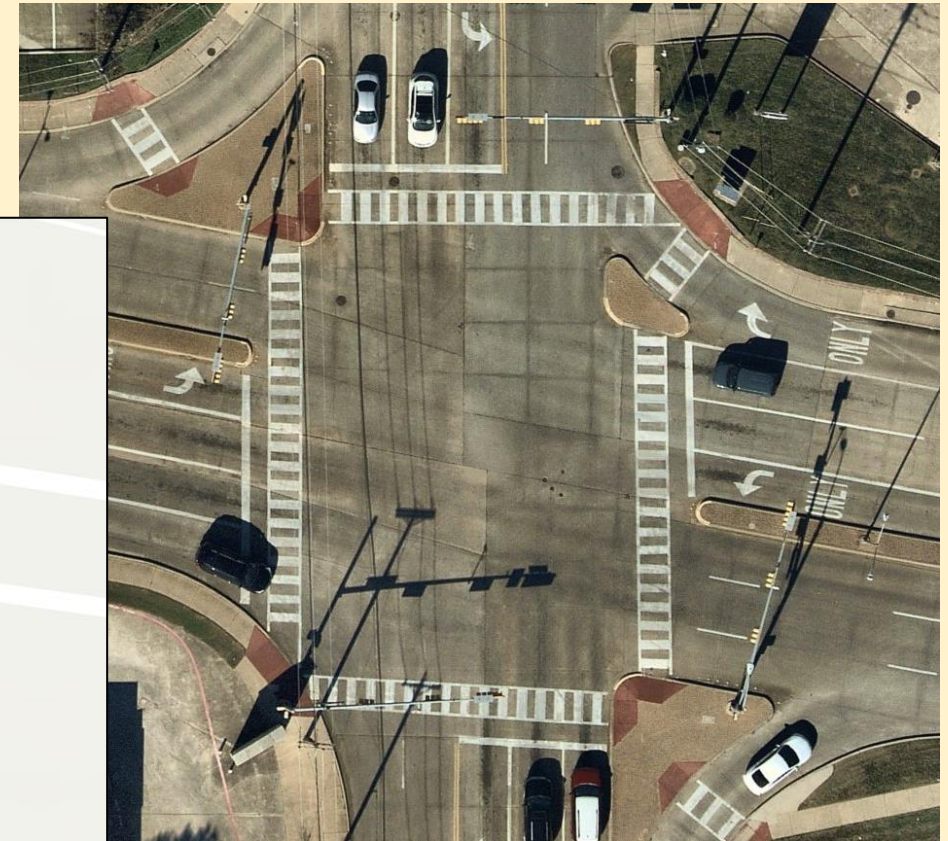
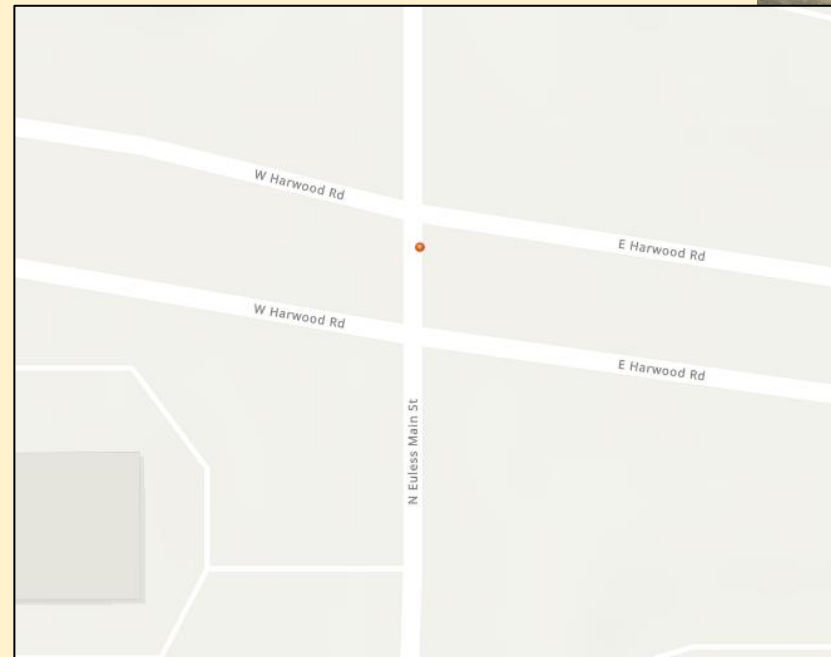
THANK YOU FOR YOUR BUSINESS!
 PLEASE CALL ON US AGAIN!!

* P.O. Box 182854 * Arlington * Texas * 76096 * T 817.845.9436 * E stormsstriping@gmail.com

Designing the Project

We made several feature layers to contain the data

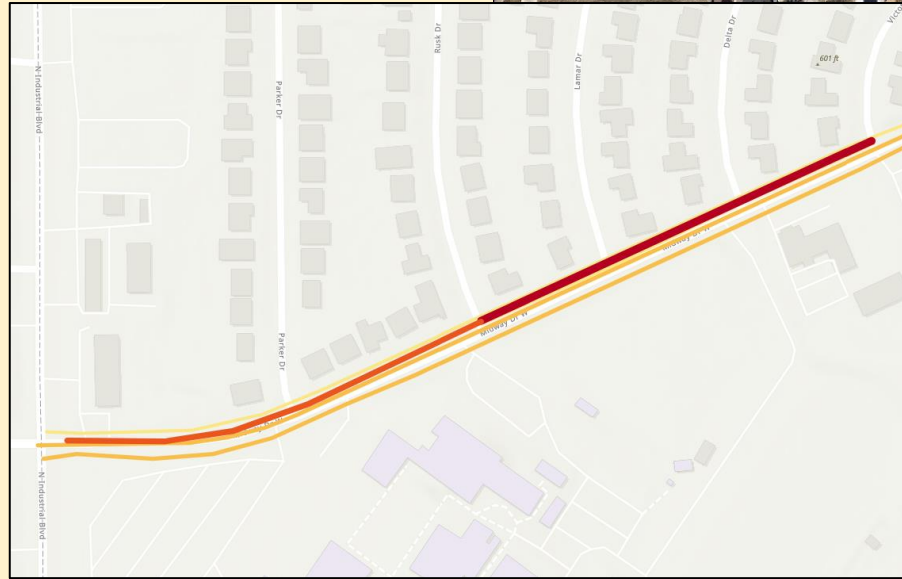
- The next two layers showed stripping areas as both points and polygons
- The points represent intersection painting (arrows, stop lines, crosswalks, etc...)



Designing the Project

We made several feature layers to contain the data

- The next two layers showed stripping areas as both points and polygons
- The lines represent linear striping in the roads



(single or double lines, dashed or solid, yellow or white ...)



Designing the Project

The layer fields match the invoice sheets provided as the sample

- PO Number
- Contractor Info
- Project Specifics
- Ten description fields were added to accept the details for each job

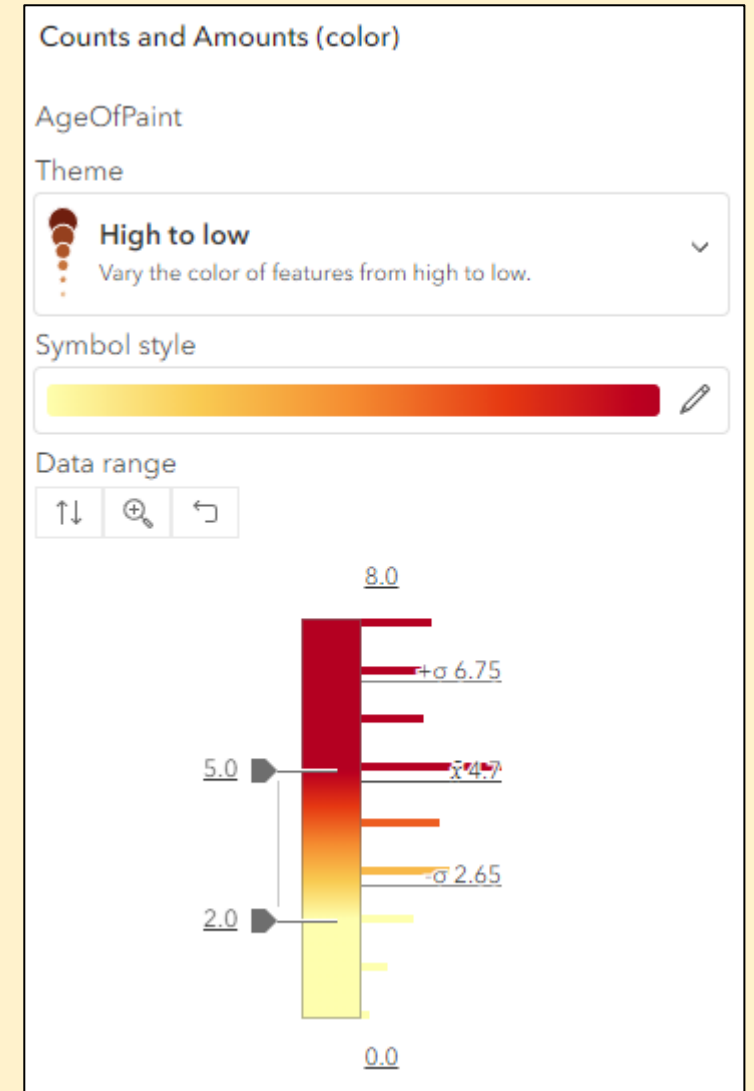
Display Name	Field Name
FID	FID
Shape_Leng	Shape_Leng
PO Num	PONum
Street Name	StreetName
Project Type	ProjectTyp
Status	Status
Date Completed	DateCompl
Name (Contr)	ContrName
Contact (Contr)	ContrConta
Phone (Contr)	ContrPhone
E-mail (Contr)	ContrEmail
Invoice Number	InvoiceNum
Project Cost	ProjCost

Designing the Project

The layer symbology was set to indicate the age of the striping by colors

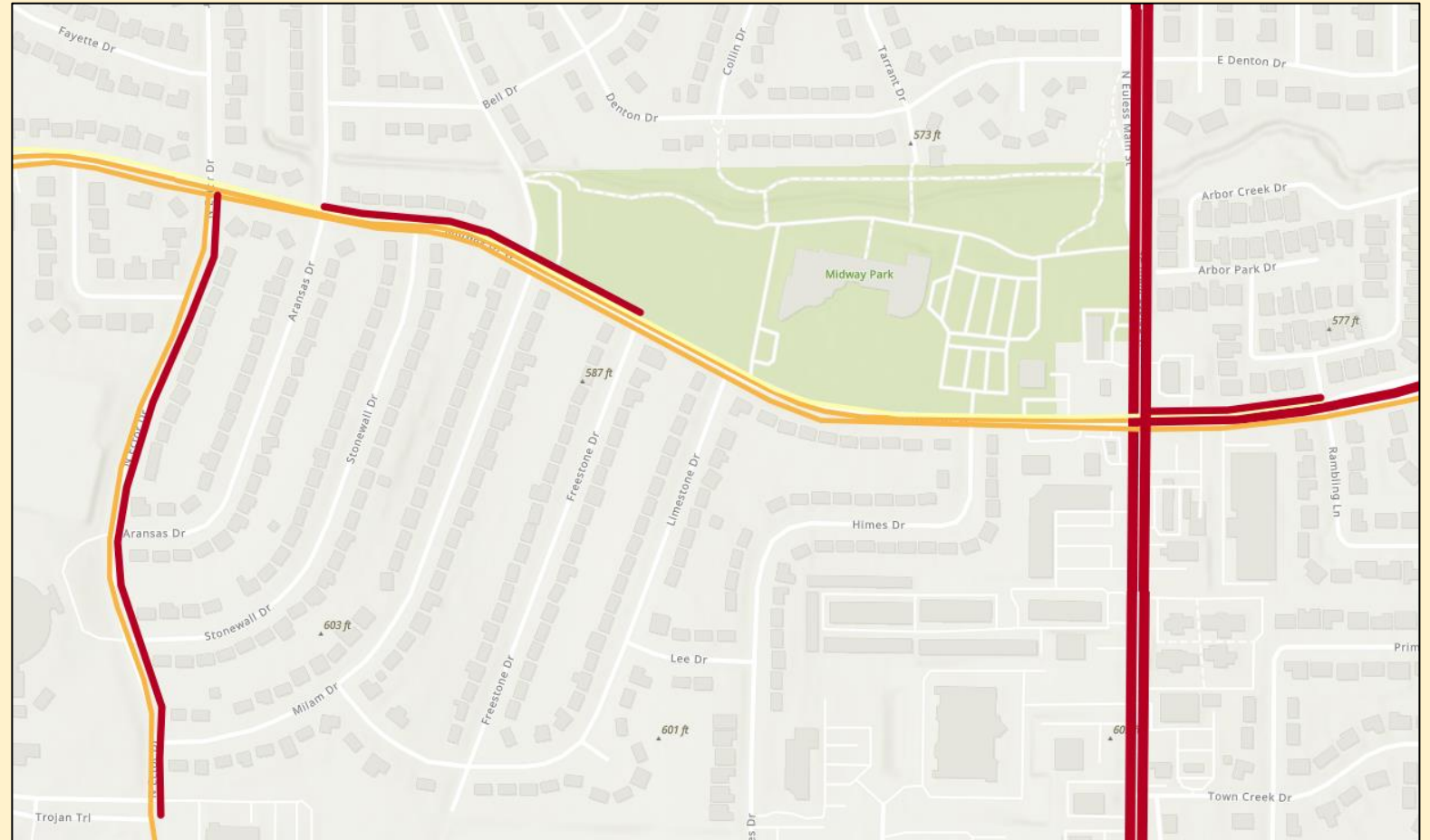
- An Arcade expression calculates the age on-the-fly
- The symbology uses the age value to color code the lines.

```
1 // Find the time since it was last painted ... in YEARS
2 // Round to the nearest YEAR
3 // Date 1 is TODAY() and date 2 is the COMPLETED DATE field
4 // DateDiff(date1_, date2_, 'units')
5 Round(DateDiff(Today(), $feature.DateCompl, 'years'))
6
```



Designing the Project

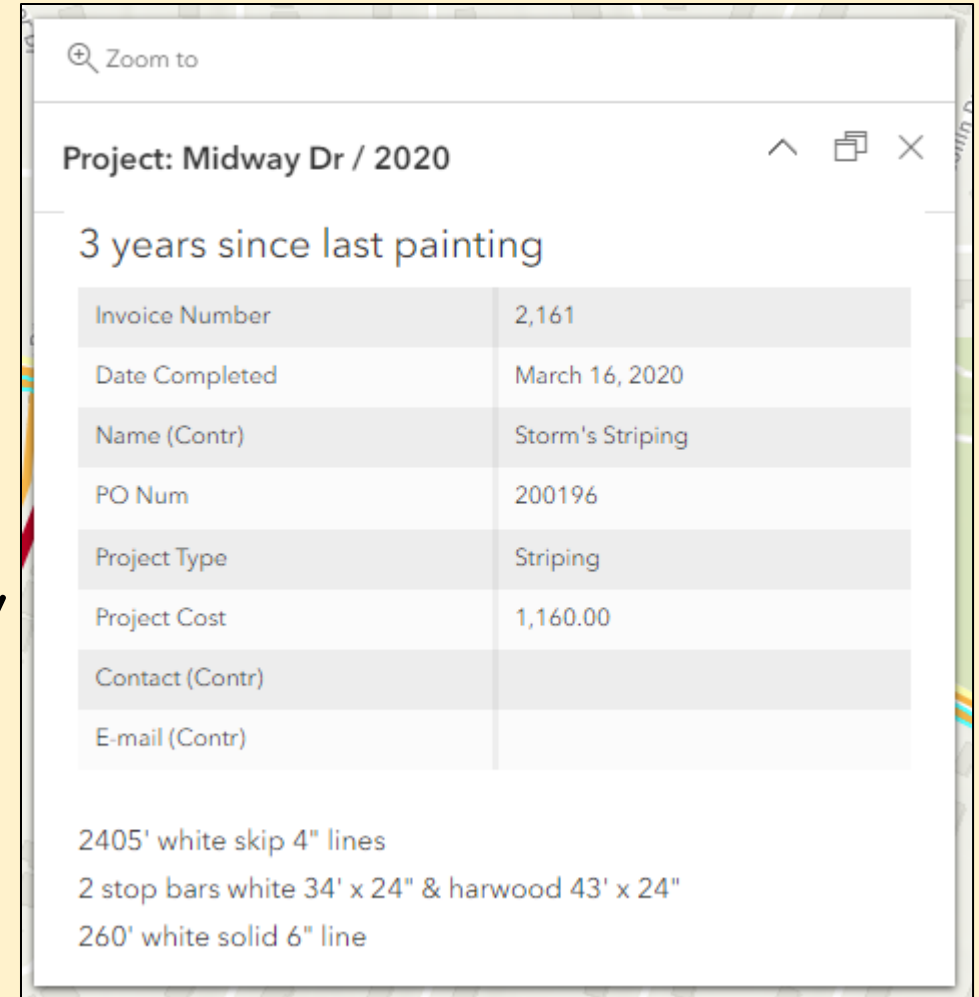
The layer symbology was set to indicate the age of the striping by colors



Designing the Project

The Pop-Up shows the data for each paint project

- The same DateDiff() Arcade expression shows the age on-the-fly
- The invoice data is shown in a fields list
- The ten description fields are displayed using an Arcade </> element and shows only the fields that are not null



Zoom to

Project: Midway Dr / 2020

3 years since last painting

Invoice Number	2,161
Date Completed	March 16, 2020
Name (Contr)	Storm's Striping
PO Num	200196
Project Type	Striping
Project Cost	1,160.00
Contact (Contr)	
E-mail (Contr)	

2405' white skip 4" lines
2 stop bars white 34' x 24" & harwood 43' x 24"
260' white solid 6" line

Designing the Project

The Pop-Up shows the data for each paint project

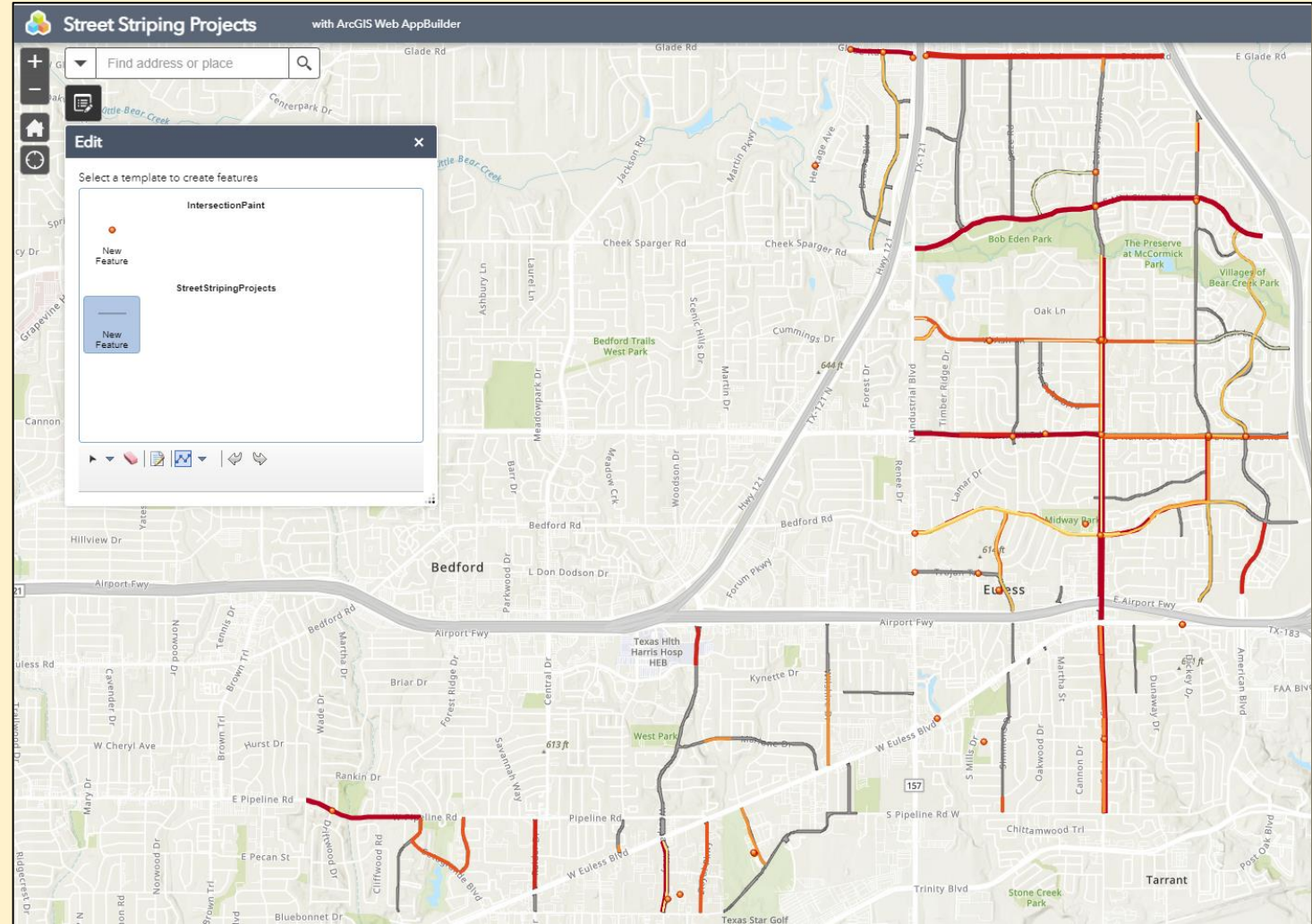
- The `IsEmpty()` function tests to see if the field has data
- The pop-up display will expand and contract to show only the fields with values

```
1
2 var Desc1 = When(IsEmpty($feature.ProjDesc1), '', $feature.ProjDesc1)
3 var Desc2 = When(IsEmpty($feature.ProjDesc2), '', '<br>' + $feature.ProjDesc2)
4 var Desc3 = When(IsEmpty($feature.ProjDesc3), '', '<br>' + $feature.ProjDesc3)
5 var Desc4 = When(IsEmpty($feature.ProjDesc4), '', '<br>' + $feature.ProjDesc4)
6 var Desc5 = When(IsEmpty($feature.ProjDesc5), '', '<br>' + $feature.ProjDesc5)
7 var Desc6 = When(IsEmpty($feature.ProjDesc6), '', '<br>' + $feature.ProjDesc6)
8 var Desc7 = When(IsEmpty($feature.ProjDesc7), '', '<br>' + $feature.ProjDesc7)
9 var Desc8 = When(IsEmpty($feature.ProjDesc8), '', '<br>' + $feature.ProjDesc8)
10 var Desc9 = When(IsEmpty($feature.ProjDesc9), '', '<br>' + $feature.ProjDesc9)
11 var Desc10 = When(IsEmpty($feature.ProjDesc10), '', '<br>' + $feature.ProjDesc10)
12
13 return {
14   | type : 'text',
15   // Start the formatted text with a back tick
16   | text : `
17   ${Desc1}
18   ${Desc2}
19   ${Desc3}
20   ${Desc4}
21   ${Desc5}
22   ${Desc6}
23   ${Desc7}
24   ${Desc8}
25   ${Desc9}
26   ${Desc10}
27   | `
28   | //End of the formatted text
29 }
```

The Editing App

The Edit tool allows the user to add more projects

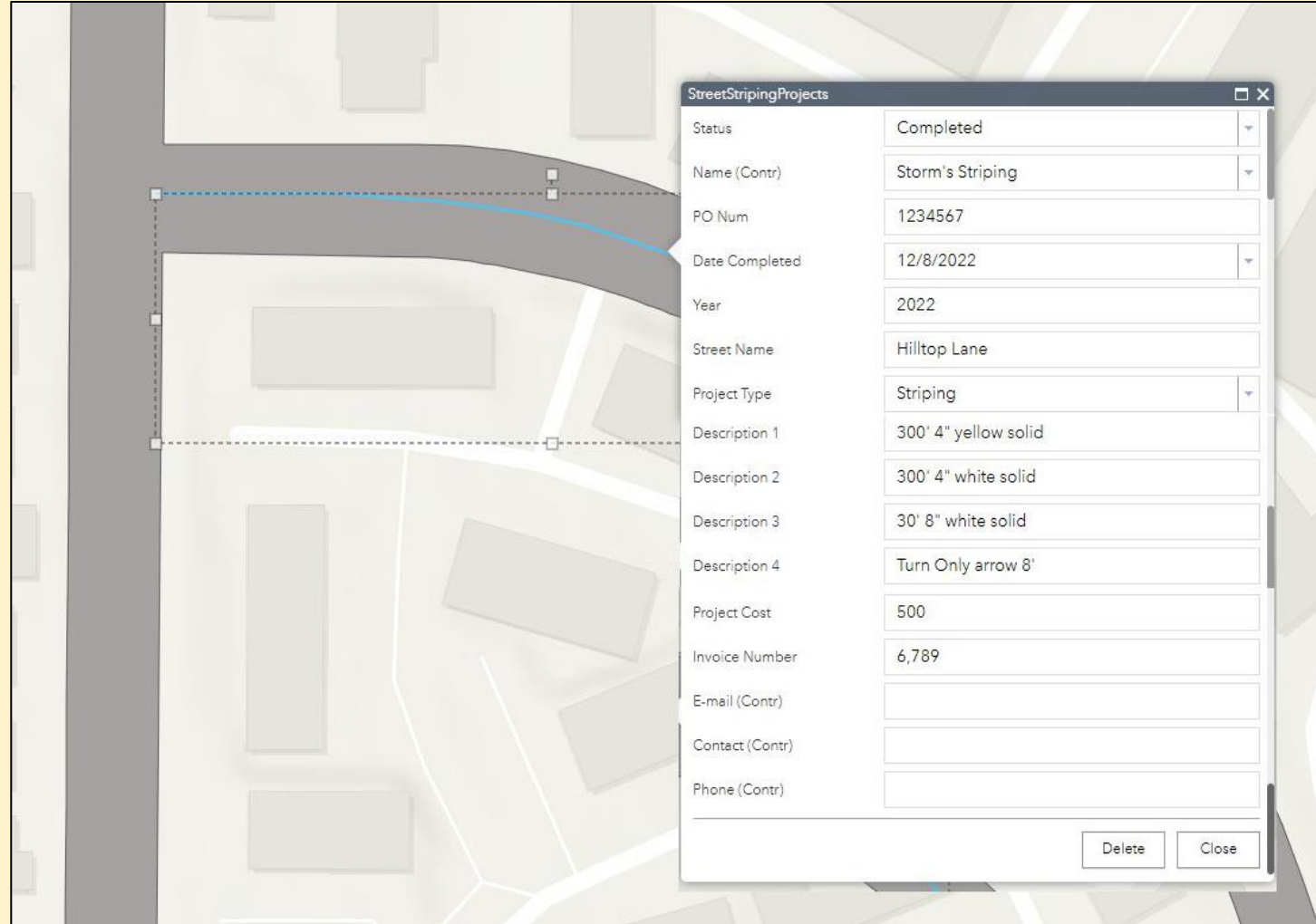
- Built in Web Appbuilder
- Uses the Edit widget




The Editing App

When a new line is added, the user can populate the attributes

- Pick lists are used for data integrity
- The age and colors are set automatically
- Existing features can also be edited / updated



The Dashboard

Street Striping Dashboard


Sort Projects by Year
All
 Sort Projects by Type
All


Number of Street Striping Projects

71

Total Cost of Striping

\$177,814

Intersection Painting Projects



Total Cost of Intersection Painting

\$61,669

Public View

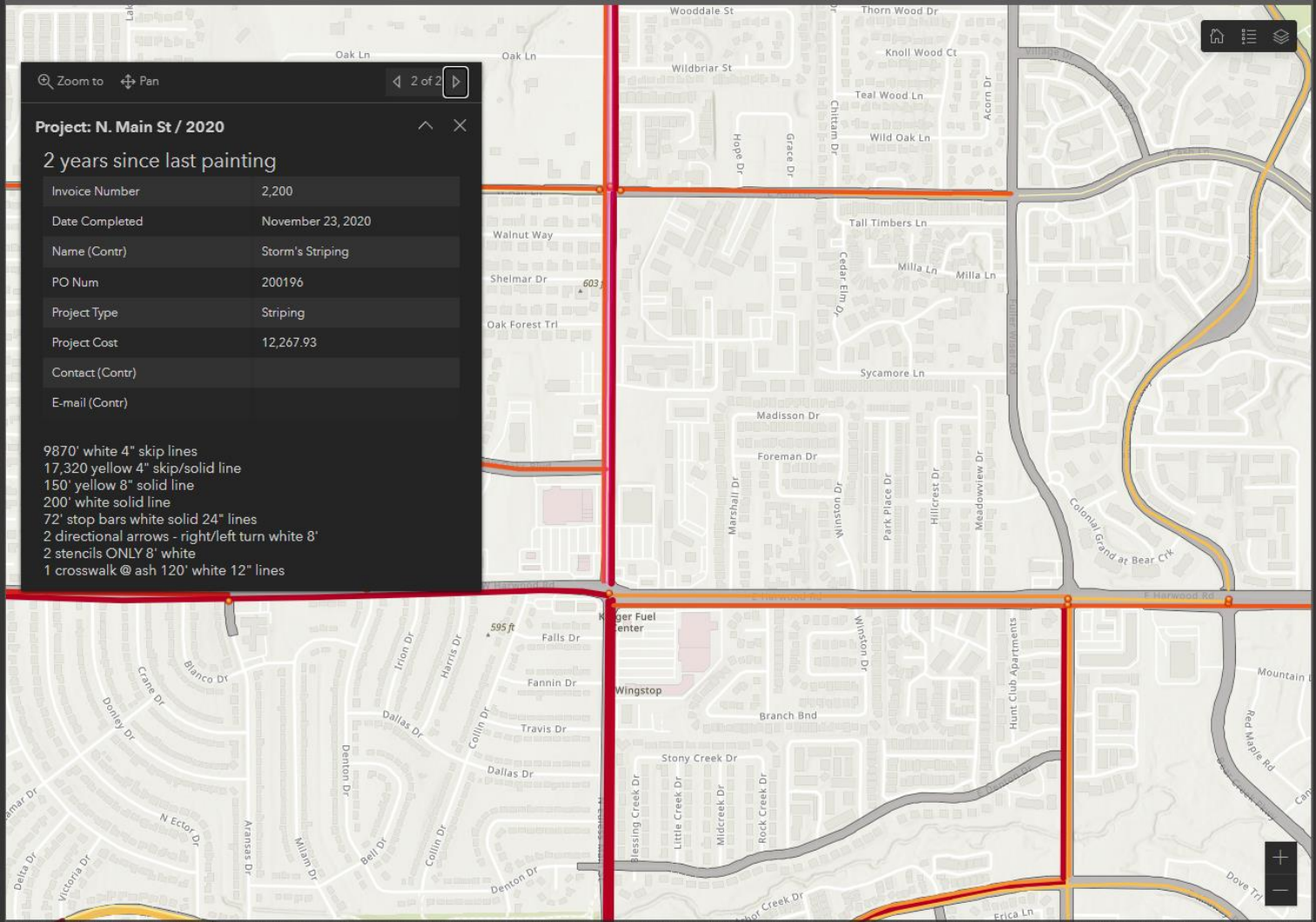
Zoom to 2 of 2

Project: N. Main St / 2020

2 years since last painting

Invoice Number	2,200
Date Completed	November 23, 2020
Name (Contr)	Storm's Striping
PO Num	200196
Project Type	Striping
Project Cost	12,267.93
Contact (Contr)	
E-mail (Contr)	

9870' white 4" skip lines
 17,320 yellow 4" skip/solid line
 150' yellow 8" solid line
 200' white solid line
 72' stop bars white solid 24" lines
 2 directional arrows - right/left turn white 8"
 2 stencils ONLY 8' white
 1 crosswalk @ ash 120' white 12" lines



Street Striping Projects

- Ash Ln
- Ash Ln
- Bear Creek Dr
- Bear Creek Pkwy
- Bear Creek Pkwy
- E Ash Ln
- E Harwood Rd
- E Mid Cities Blvd
- E Midway Dr
- E. Ash Ln
- E. Harwood Rd
- E. Midway Dr
- E. Midway Dr
- El Camino Real
- Fair Oaks Blvd

Intersection Painting

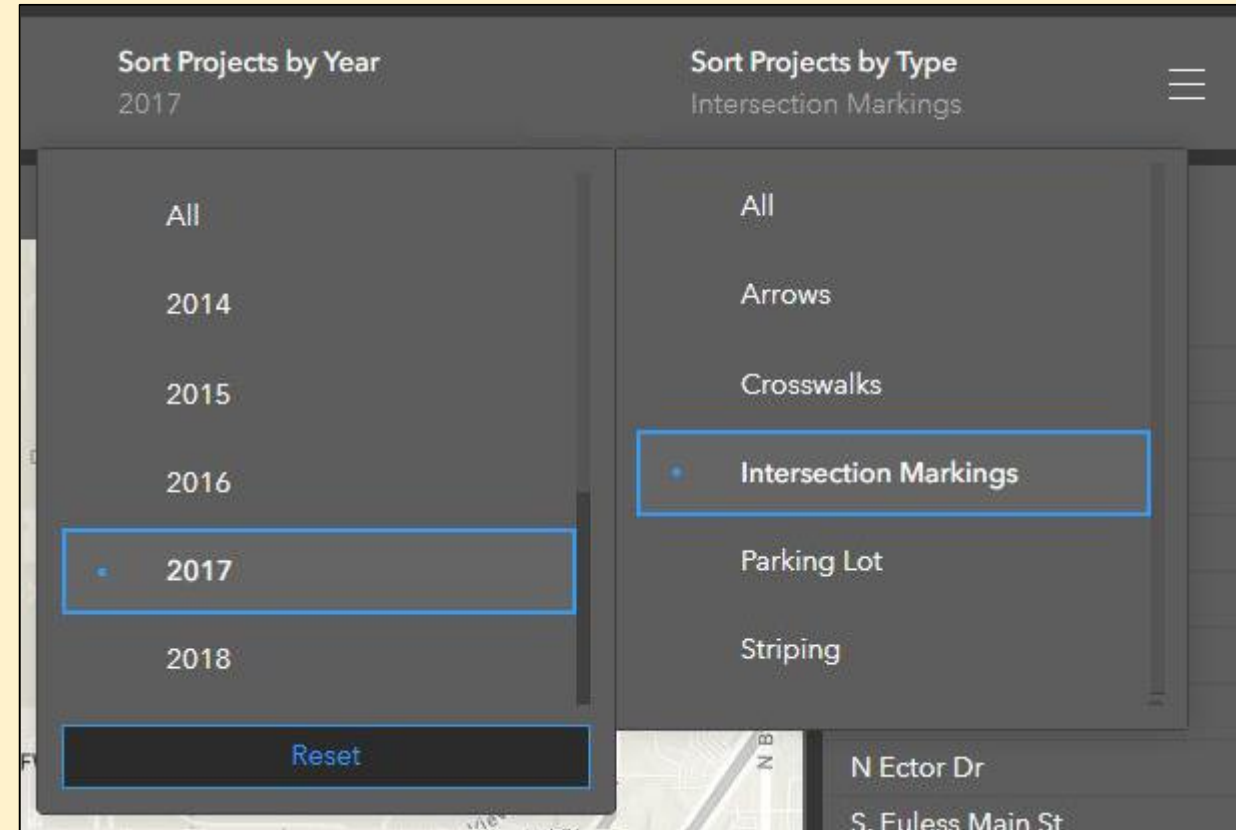
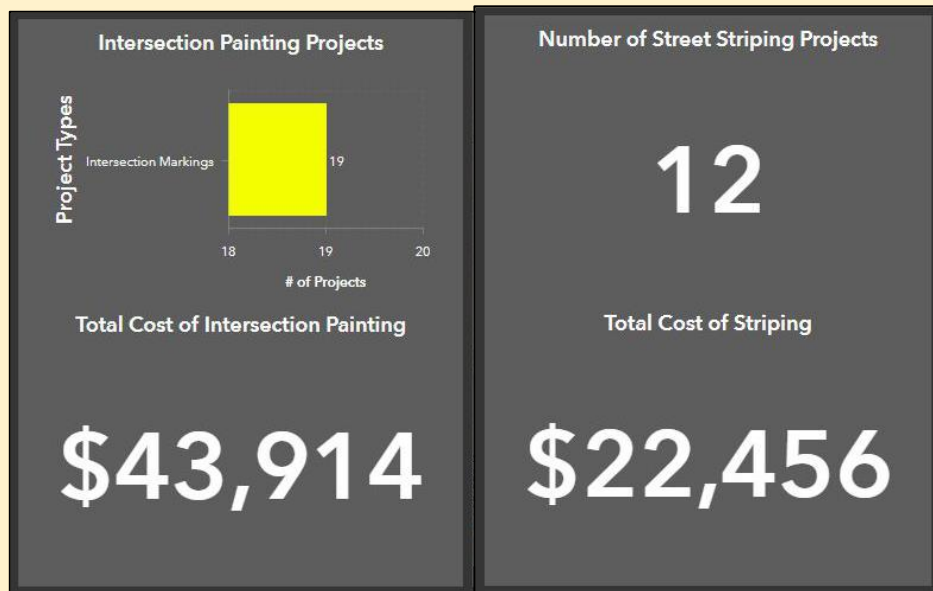
- Animal Shelter
- Aransas Dr
- Bear Creek Dr & N Main
- City Hall Parking Lot
- City Hall Parking Lot
- Del Paso St
- Dickey & Hwy 183
- Dickey Dr & Highway 10
- Driftwood & W Pipeline
- E. Ash Ln & Main Street
- Fuller Wisser & Mid Cities
- Fuller Wisser Rd & Mid Cities
- Fuller-Wisser Rd (S, E, & W)
- Glade & Heritage
- Glade & Rio Grande

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The Dashboard

The user can set filters on the data

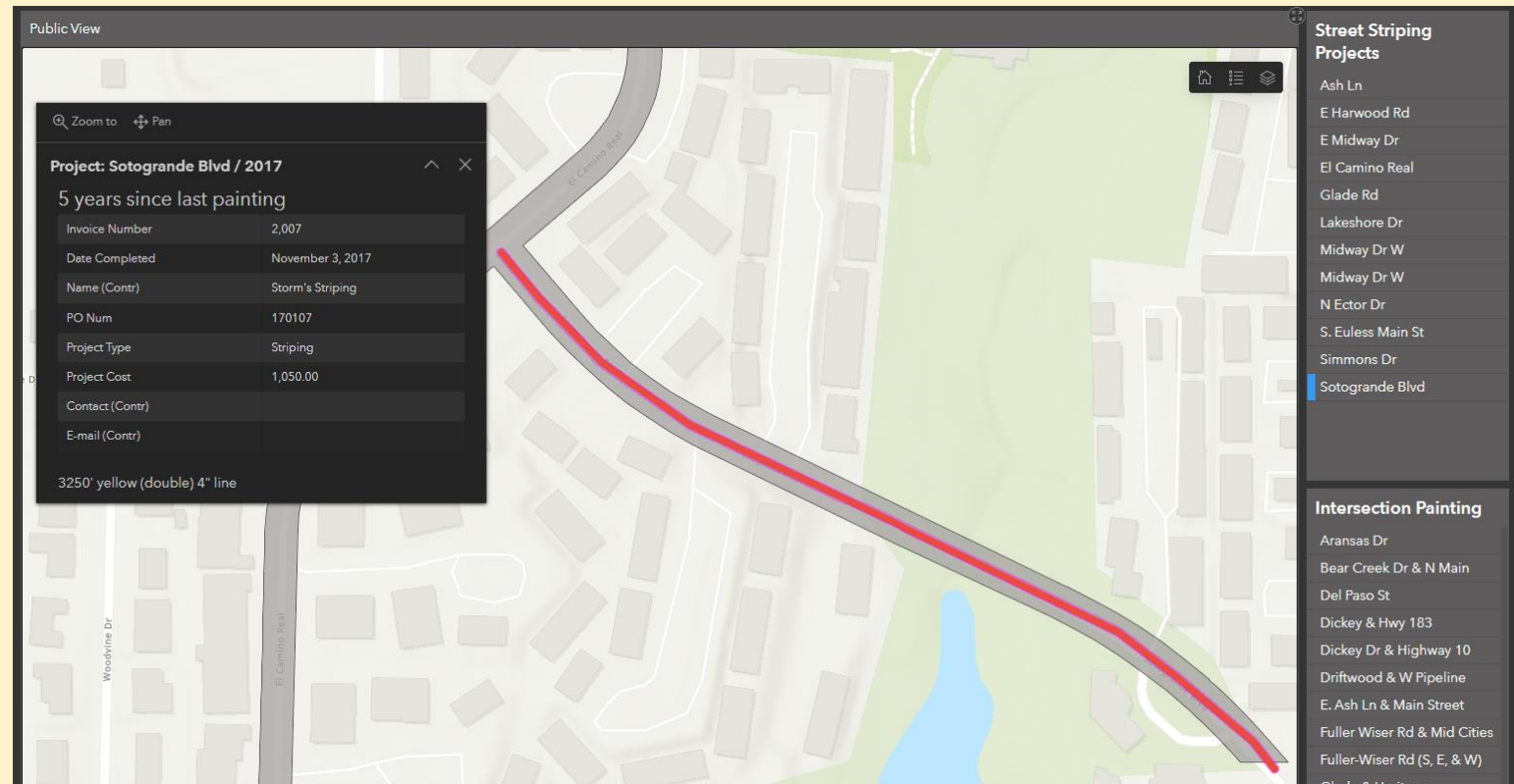
- Filter by year and project type
- The map and cost totals are update to match the filters
- Mimics their yearly total info



The Dashboard

The user can set filters on the data












- Selecting an entry in the list will isolate the feature, zoom the map to the location, and open the pop-up



Lessons Learned

Making a dashboard public presented problems

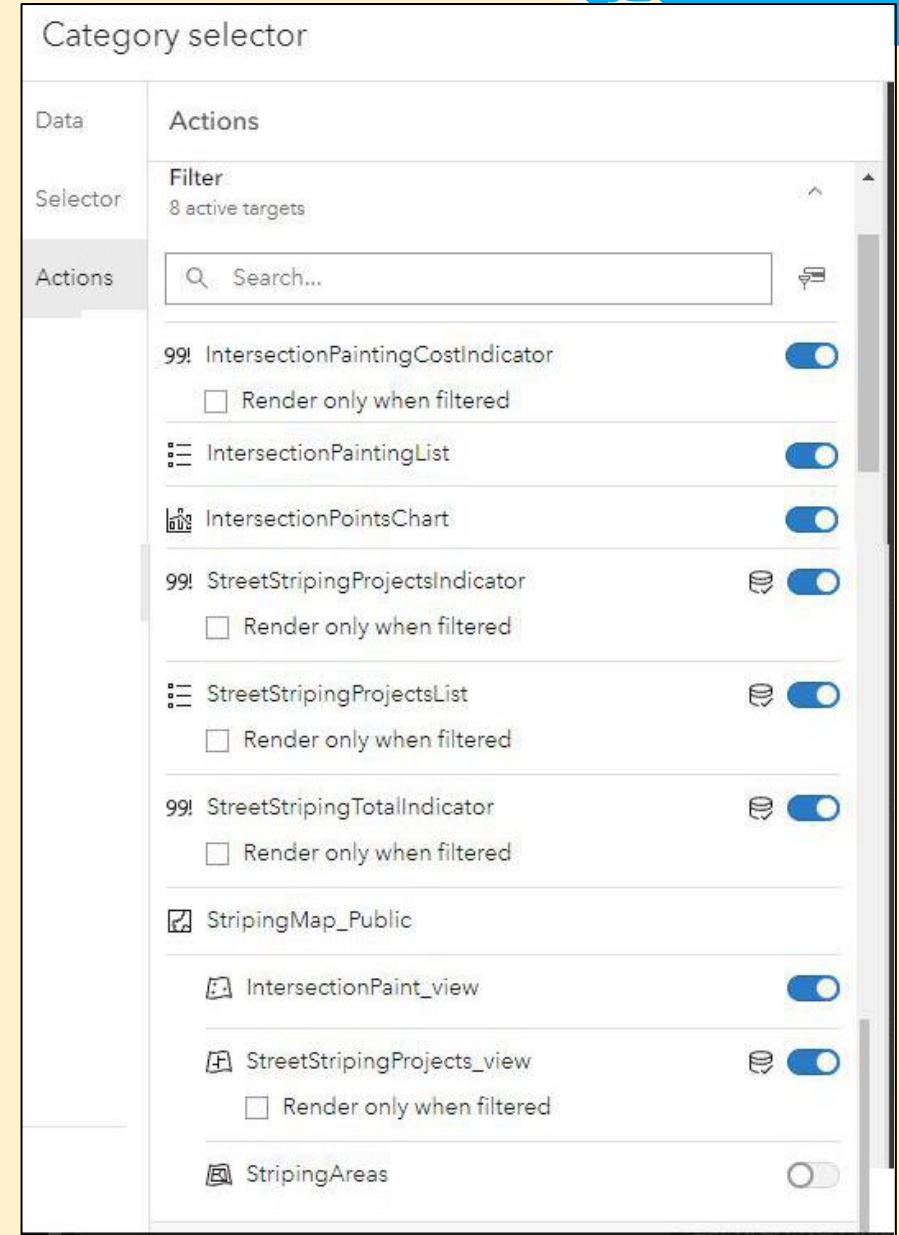
- The dashboard can't contain an editable layer unless you make it public (a bad idea)
- Instead make views of the data, use them in a separate map, then make them all public.
- After that, the dashboard can be public

<input type="checkbox"/>	Title		
<input type="checkbox"/>	StreetStripingMap_Public	 Web Map	 + 
<input type="checkbox"/>	Street Striping Dashboard (public)	 Dashboard	
<input type="checkbox"/>	StreetStripingProjects_view	 Feature layer (hosted, view) ▼	 + 
<input type="checkbox"/>	IntersectionPaint_view	 Feature layer (hosted, view) ▼	 + 

Lessons Learned

Name the dashboard elements

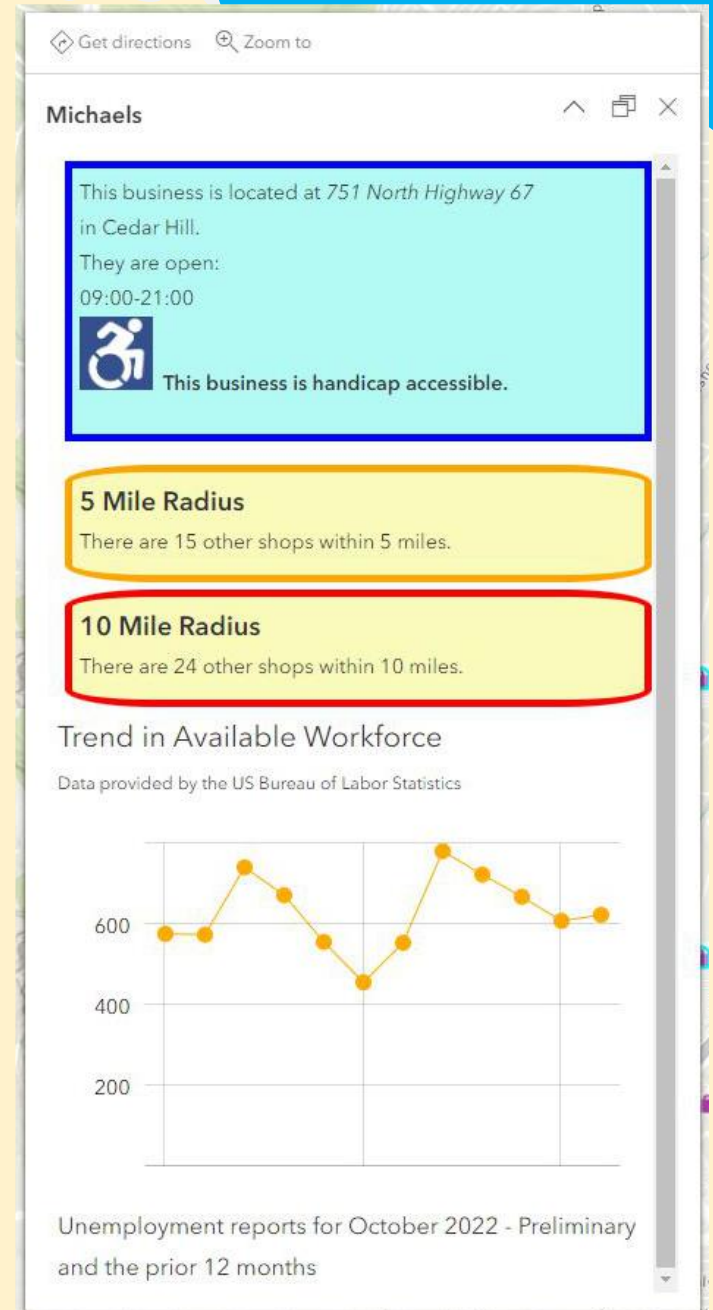
- Each element can have a user-defined name
- Setting them to unique and understandable names make it easier when finding them to define actions and filters



Lessons Learned

Control the Pop-up Display of Empty Field Values

- Use the `Arcade` element in map pop-ups
- This not only hides empty field values, you can also use HTML formatting in your text



The Striping Team

Questions?

- David Allen - DAllen@EulesTx.Gov Info@GISGuidebooks.com
- Nicholas Willette - NWillette@EulesTx.Gov