Create a Gun /Drug / Gang Free app for your Police Department

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Gun / Drug / Gang Free Zones

David Allen

34 years with the City of Euless – 2 years with the City of Roanoke

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‘Writing Arcade Expressions in ArcGIS Pro’ – *GISGuidebooks.com Press*

Gun / Drug / Gang Free Zones

What are these zones?

The zones themselves are established through the Texas Penal Code and differ for each type. They are based on their proximity to various property uses and have this enhancement effect on the crime's punishment (paraphrasing):

The punishment prescribed for an offense under this chapter is increased to the punishment prescribed for the next highest category of offense if it is shown beyond a reasonable doubt on the trial of the offense that the actor committed the offense in a place that the actor knew was within a gun, drug, or gang free zone.

Gun / Drug / Gang Free Zones

These zones apply to any city providing that:

a map produced or reproduced by a municipal or county engineer for the purpose of showing the location and boundaries of weapon-free zones is admissible in evidence and is prima facie evidence of the location or boundaries of those areas if the governing body of the municipality or county adopts a resolution or ordinance approving the map as an official finding and record of the location or boundaries of those areas.

Ugh – the city engineer has to do this and file it with the county? But wait …

This section does not prevent the prosecution from using or introducing any other map or diagram otherwise admissible under the Texas Rules of Evidence.

Gun / Drug / Gang Free Zones

Weapon Free Zones:

Within 300’ of a school, school property, or any location where a sponsored or UIL sanctioned event is taking place

Gun / Drug / Gang Free Zones

Drug Free Zones:

Within 1,000’ of a school, school property, school rented property, a public or private youth center, or a playground.

On a school bus.

Within 300’ of a public swimming pool or video arcade facility.

Within 1,000’ of a residential treatment center.

Gun / Drug / Gang Free Zones

Gang Free Zones:

Within 1,000’ of school or school property, a public or private youth center, a playground, or a residential treatment center.

Within 300’ of a shopping mall, movie theater, public swimming pool, or video arcade facility.

On a school bus.

Gun / Drug / Gang Free Zones

It can get a little tricky keeping track of the zones, so I handled it by making a layer called ‘GDG_Target_Premises’ and added these fields:

Address	Address	Text
Location_Name	Location Name	Text
Premises_Type	Premises Type	Text
Gun_Buffer	Gun Free Zone Buffer	Long
Drug_Buffer	Drug Free Zone Buffer	Long
Gang_Buffer	Gang Free Zone Buffer	Long

For Premises_Type you can build a domain of the various land uses described in the law.

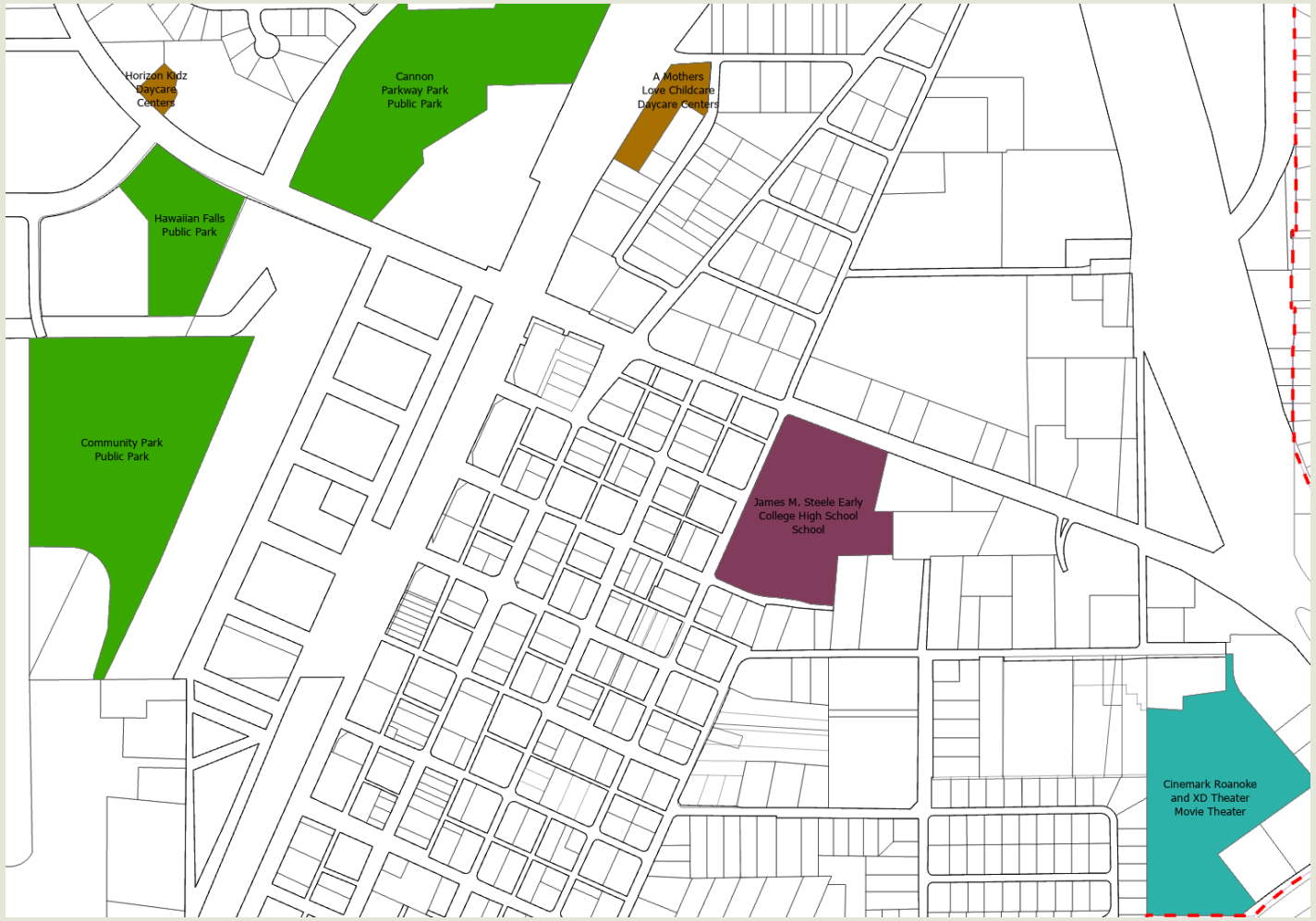
Then put the buffer distance in for each zone type that each premises could create – not that some can be the basis for multiple zones.

Gun / Drug / Gang Free Zones

Draw the premises polygons. Note that for all of the business types the entire property is included in the premises. If a day care occupies a space in a strip center, the entire property is marked Day Care – a school can also include all the playgrounds and athletic fields around it, etc...

One important thing to remember is that although this list doesn't have to be complete, it has to be right! Any business you include must be verified as functioning and meeting the criteria. Any items on the list that are not correct may open the window for a defense attorney to bring your entire map into question.

Gun / Drug / Gang Free Zones



Address	606 N Walnut St, Roanoke
Location Name	James M. Steele Early College High School
Premises Type	School
Gun Free Zone Buffer	300
Drug Free Zone Buffer	1000
Gang Free Zone Buffer	1000

Address	820 N HIGHWAY 377, Roanoke
Location Name	A Mothers Love Childcare
Premises Type	Daycare Centers
Gun Free Zone Buffer	0
Drug Free Zone Buffer	1000
Gang Free Zone Buffer	0

Address	850 E. Hwy 114, Roanoke
Location Name	Cinemark Roanoke and XD Theater
Premises Type	Movie Theater
Gun Free Zone Buffer	0
Drug Free Zone Buffer	0
Gang Free Zone Buffer	300

Gun / Drug / Gang Free Zones

How do you find the premises?

In Texas you can find the registered daycare centers in your jurisdiction very easily. Verify on the state registration site. You can enter your jurisdiction and download the results into a spreadsheet: https://www.dfps.texas.gov/Child_Care/Search_Texas_Child_Care/ppFacilitySearchDayCare.asp

For schools, city parks, and pools, you probably have this data already.

Then do a google search for theaters, treatment centers, youth centers, arcades, etc…

Remember to get locations outside your city but still within 1,000'. They count!!

Gun / Drug / Gang Free Zones

School Property:

You'll also want to scan your county ownership data for all property owned by a school district. Even if it has no structures, it will still count as a school owned premises.

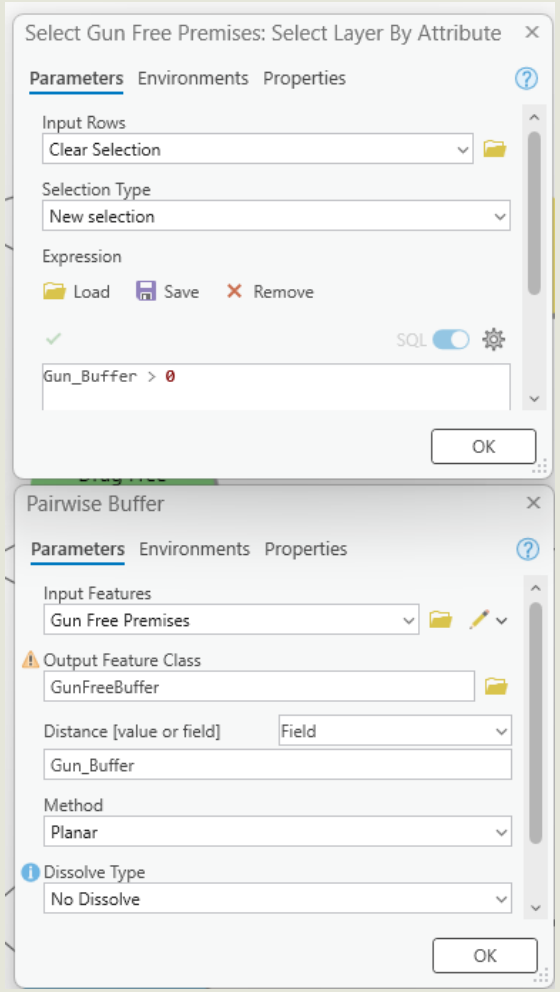
You may also need to look for stadiums of other ballfields not owned by the school but rented for school events. In Euless the Stars Skating Center counted … but only during school events.

Gun / Drug / Gang Free Zones

Get a little cooperation:

In Roanoke I enlisted the support of the police department to field verify some of the lesser known parks or rented school facilities.

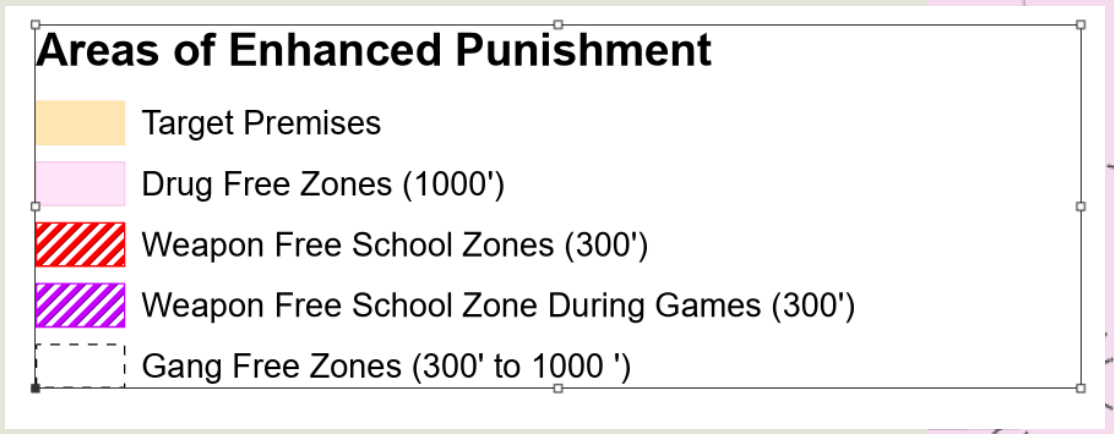
Gun / Drug / Gang Free Zones

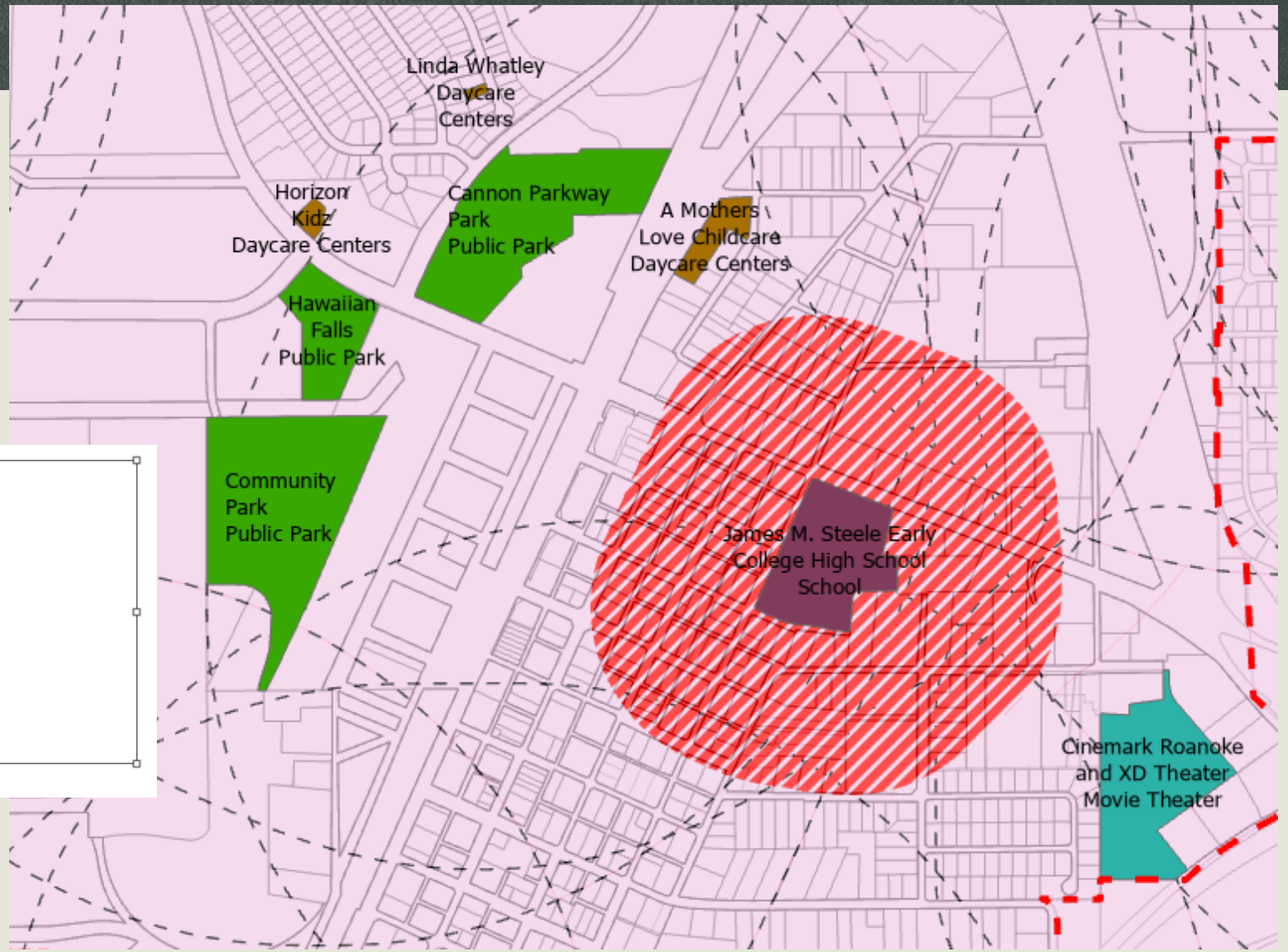


Next you need to make your buffers. I built a model to do this … and it's a very simple model.

Gun / Drug / Gang Free Zones

Boy do you get buffers!

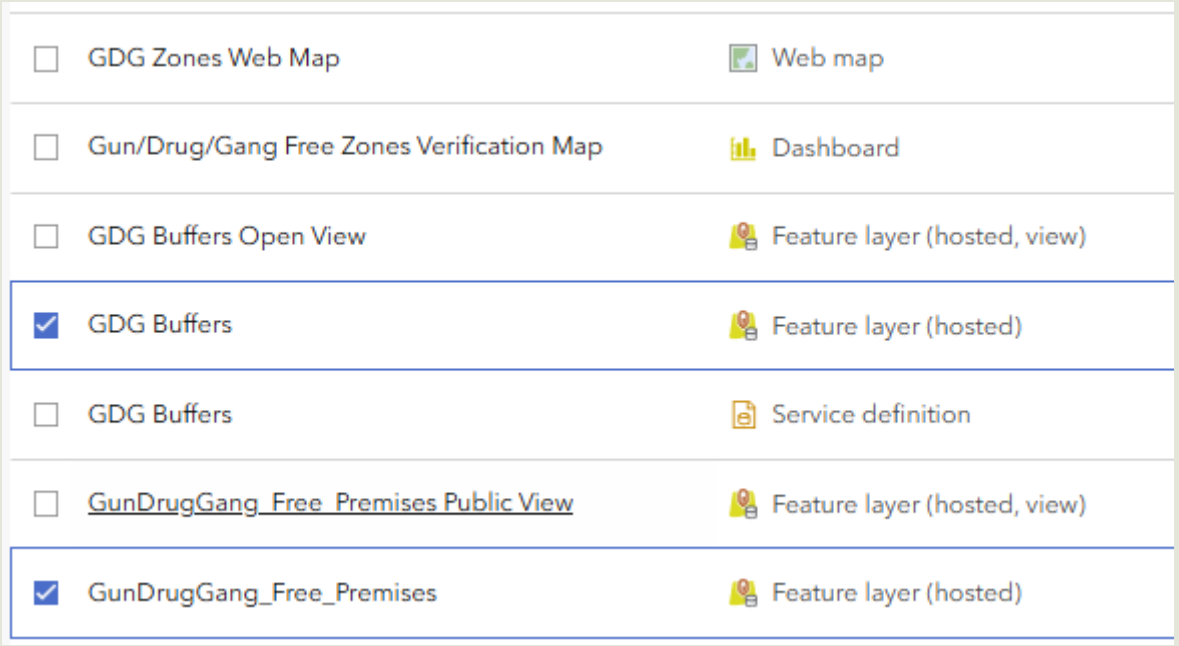




Gun / Drug / Gang Free Zones

Then I wanted to make an app to make lookup very easy.

I started by serving the premises file and all of these buffers to ArcGIS Online and made non-editable public views of the data.



When you update this data, just remake the files on your desktop and update the feature layers.
Just don't change the schema.

Gun / Drug / Gang Free Zones

To make the app, I made a web map with all the layers symbolized and labeled. I used the public views of the data so that the app can be used without a password.

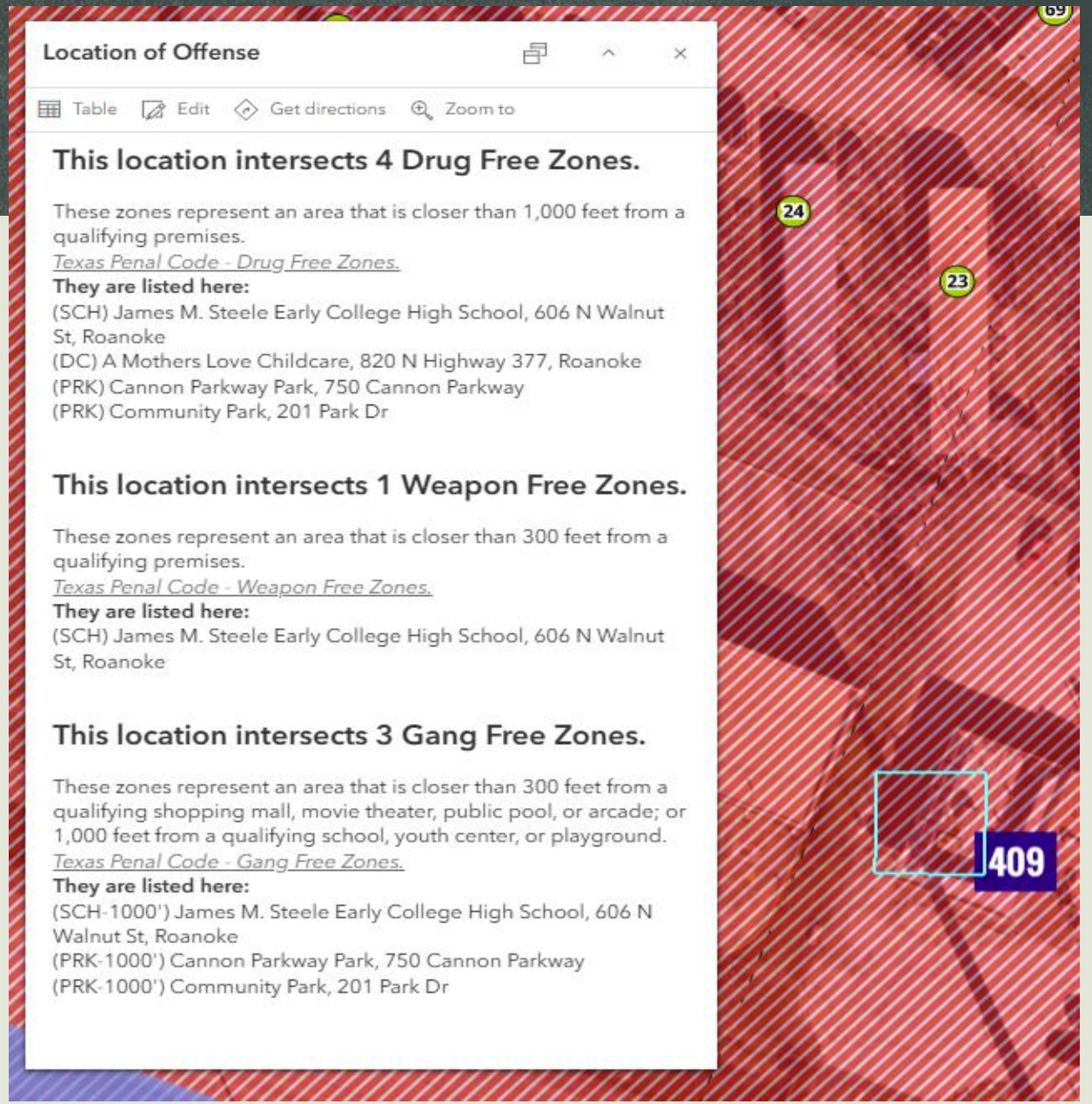
Gun / Drug / Gang Free Zones

Now the tricky bit. The pop-up in the Web Map has an Arcade expression that will take any location and use that as a cookie cutter to drill down through all the layers and return a list of all the zones that are intersected.

In Roanoke, I made a 50’ grid that covers the entire city (it’s a small town) and you actually use the grid for the intersection. You could also do this a the parcel level just as easily.

Gun / Drug / Gang Free Zones

The Pop-Up looks like this:



Gun / Drug / Gang Free Zones

The Arcade code uses three techniques to accomplish this.

The first is to do the intersection:

```
// Get the Weapon Free zones (individual polygons)
// FeatureSetByPortalItem(portalObject , itemId )
var weaponZones = FeatureSetByPortalItem(Portal('https://roanoketexas.maps.arcgis.com/'), '444906c8b63d4d82a2d1e65a5774bb53', 6)
// Do the intersect with the weapon zones
var intersectWeapons = Intersects(weaponZones,$feature)
//Count weapon zones
var countWeapons = '<div style="font-size:20px;">This location intersects ' + Count(intersectWeapons) + ' Weapon Free Zones.</div><br>'
```

Gun / Drug / Gang Free Zones

The second is to use a loop to create the list of intersected features from all the layers.

```
// Create a list of weapon free zones
var weaponList = '<strong>They are listed here:</strong><br>'
// Loop through the selected weapon free zones and append them to the list
for (var index in intersectWeapons){
  weaponList += "(" + index.Premises_Type + ") " + Proper(index.Location_Name) + ", " +
  Proper(index.Address) + "<br>"
}
```

Gun / Drug / Gang Free Zones

The third is to construct the display sentence.

```
var drugsYesNo = When(Count(intersectDrugs) > 0,
'These zones represent an area that is closer than 1,000 feet from a qualifying premises.<br>
<i><a href="https://statutes.capitol.texas.gov/Docs/HS/htm/HS.481.htm">Texas Penal Code - Drug Free Zones.</a>
</i><br>' + drugList,'')
```

Gun / Drug / Gang Free Zones

Then the Return statement puts it all together.

```
return {
  type : 'text',
  text : `
  <strong>${countDrugs}</strong>${drugsYesNo}<br><br>
  <strong>${countWeapons}</strong> ${weaponsYesNo}<br><br>
  <strong>${countGangs}</strong>${gangsYesNo}<br><br>
  `

 }
```

All done on the fly </> zzzzzzzz

Gun / Drug / Gang Free Zones

Then the public map with the Arcade popup is used in a pretty simple dashboard.

This location intersects 8 Drug Free Zones.

These zones represent an area that is closer than 1,000 feet from a qualifying premises.
Texas Penal Code - Drug Free Zones.
They are listed here:
(SCH) James M. Steele Early College High School, 606 N Walnut St, Roanoke
(DC) Horizon Kidz, 301 W Byron Nelson Blvd, Roanoke
(DC) Linda Whatley, 1117 Indian Trail Ct, Roanoke
(DC) A Mothers Love Childcare, 820 N Highway 377, Roanoke
(PRK) Linear Park, Howe Rd
(PRK) Cannon Parkway Park, 750 Cannon Parkway
(PRK) Community Park, 201 Park Dr
(PRK) Hawaiian Falls, 290 W Byron Nelson Blvd

This location intersects 1 Weapon Free Zones.

These zones represent an area that is closer than 300 feet from a qualifying premises.
Texas Penal Code - Weapon Free Zones.
They are listed here:
(SCH) James M. Steele Early College High School, 606 N Walnut St, Roanoke

This location intersects 5 Gang Free Zones.

These zones represent an area that is closer than 300 feet from a qualifying shopping mall, movie theater, public pool, or arcade; or 1,000 feet from a qualifying school, youth center, or playground.
Texas Penal Code - Gang Free Zones.
They are listed here:
(SCH-1000') James M. Steele Early College High School, 606 N Walnut St, Roanoke
(PRK-1000') Linear Park, Howe Rd
(PRK-1000') Cannon Parkway Park, 750 Cannon Parkway
(PRK-1000') Community Park, 201 Park Dr
(PRK-1000') Hawaiian Falls, 290 W Byron Nelson Blvd

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I've written a free step-by-step tutorial that you can download that will walk you through making the GDG Free app demonstrated here -

https://GISGuidebooks.com/GDGFree

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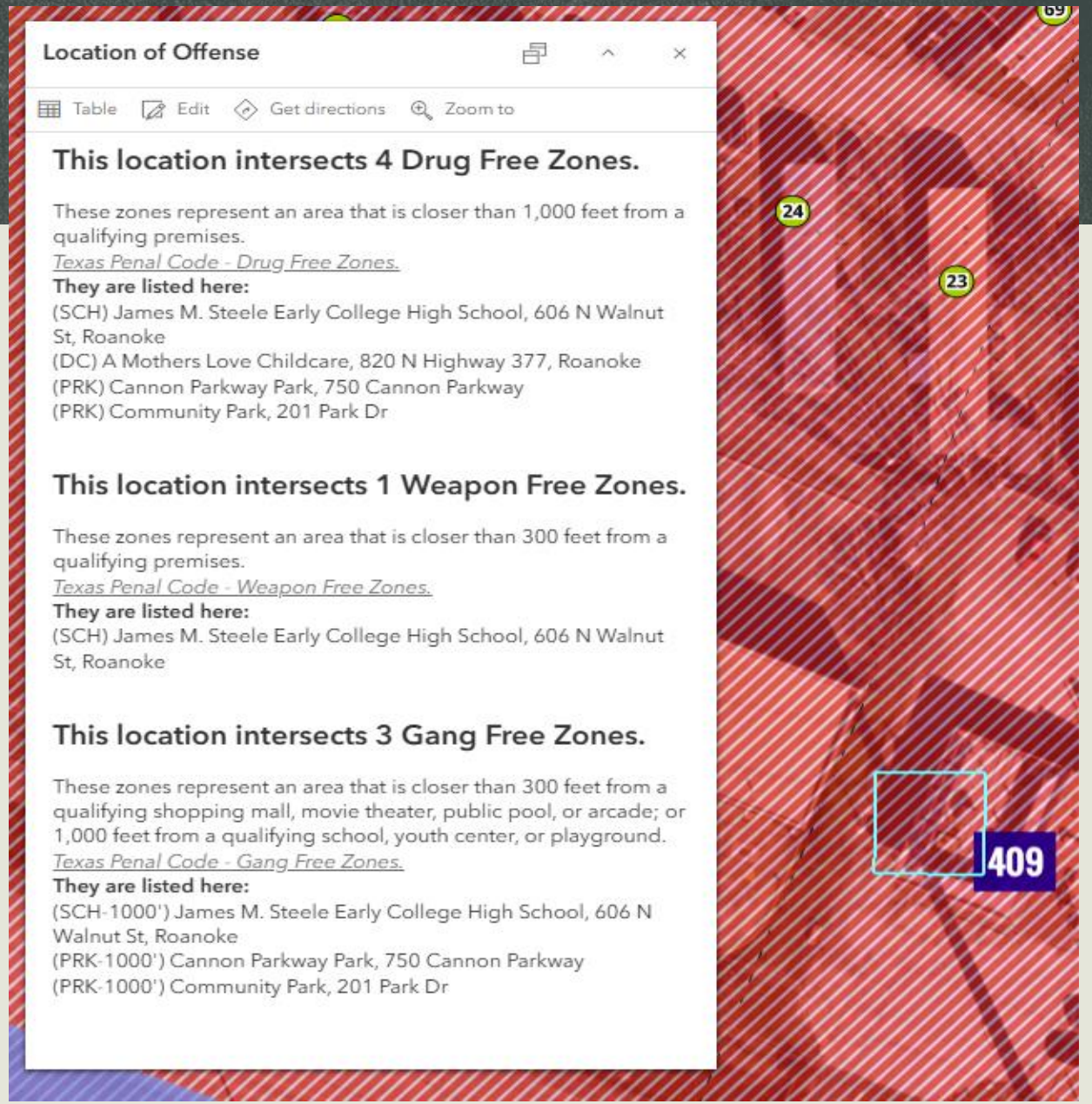
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