

Developing an Open Data Site and Responsive Mapping Applications

The City of Norman

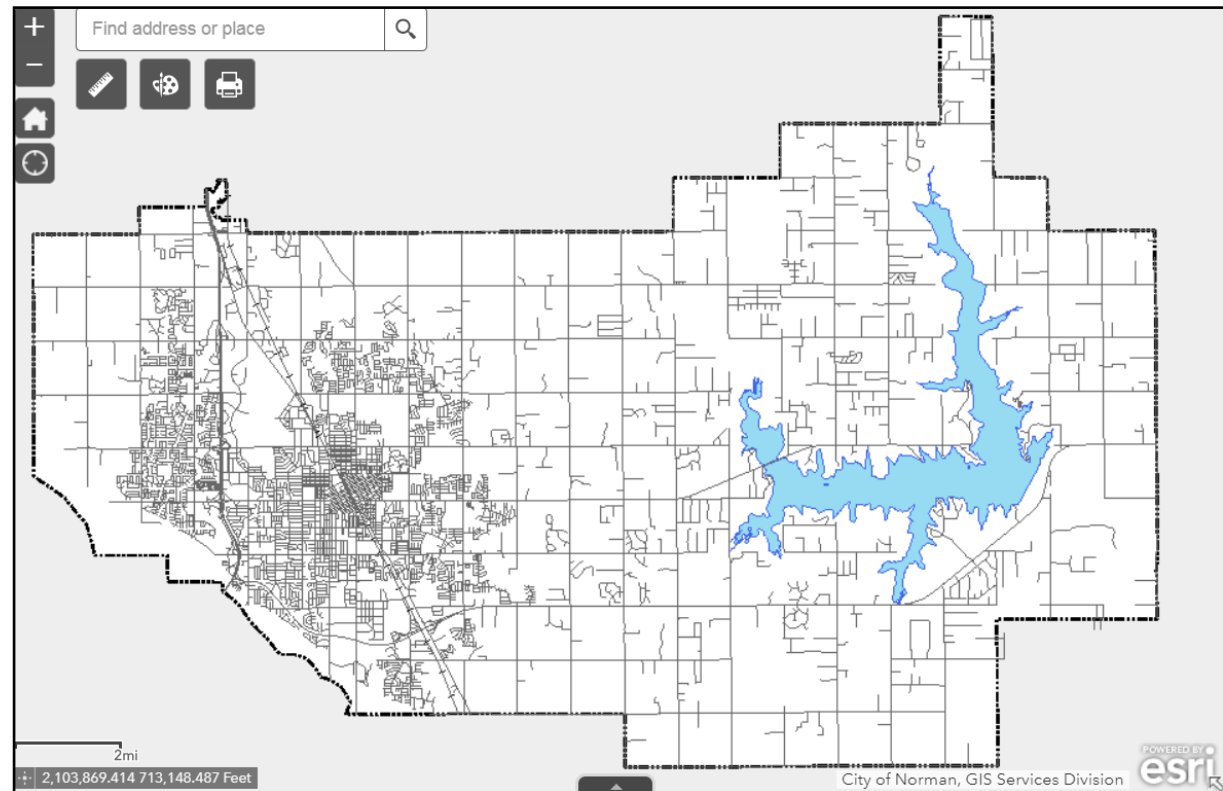
Joyce Green, Rick Hoffstatter, Michelle Matthews, & Scott Woodruff

September 25, 2018



City of Norman

- Land Area - 189.5 Square Miles
- 122,553 Residents (December 31, 2017)
- Approximately 44,000 parcels



GIS @ City of Norman – Before

- ❖ On-premise - ArcGIS Production Server
 - Internal use only
 - Supports:
 - Desktop users
 - Web maps to support City business practices
 - Third party applications
- ❖ On-premise, Outside Firewall (DMZ) – ArcGIS Server
 - External and Internal Use
 - Supports
 - Primary Public Interface for Web Applications
 - External access to City GIS data through map services
- ❖ Cloud - ArcGIS Online (AGO)
 - External and Internal Use
 - Supports
 - Specialized Applications
 - Hosted Feature Layers



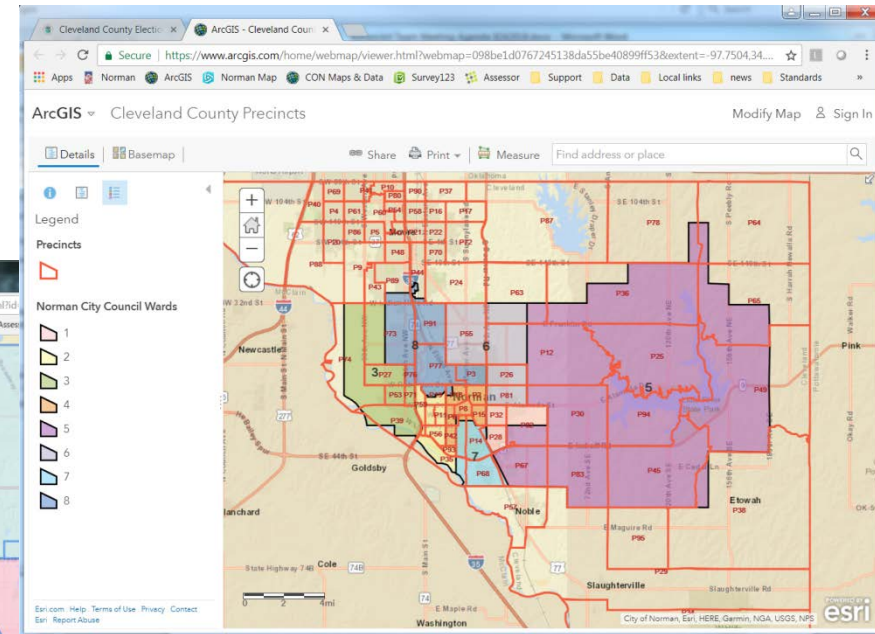
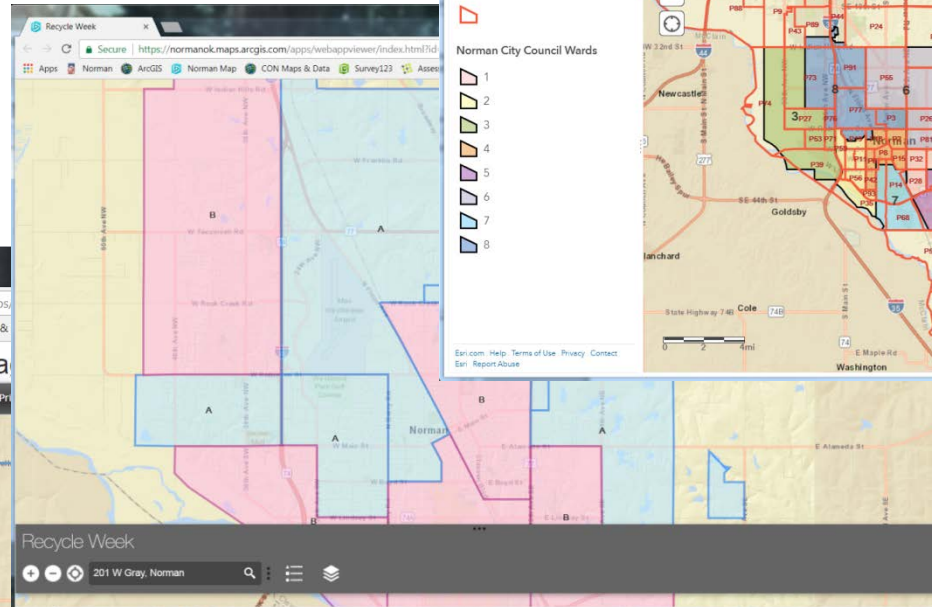
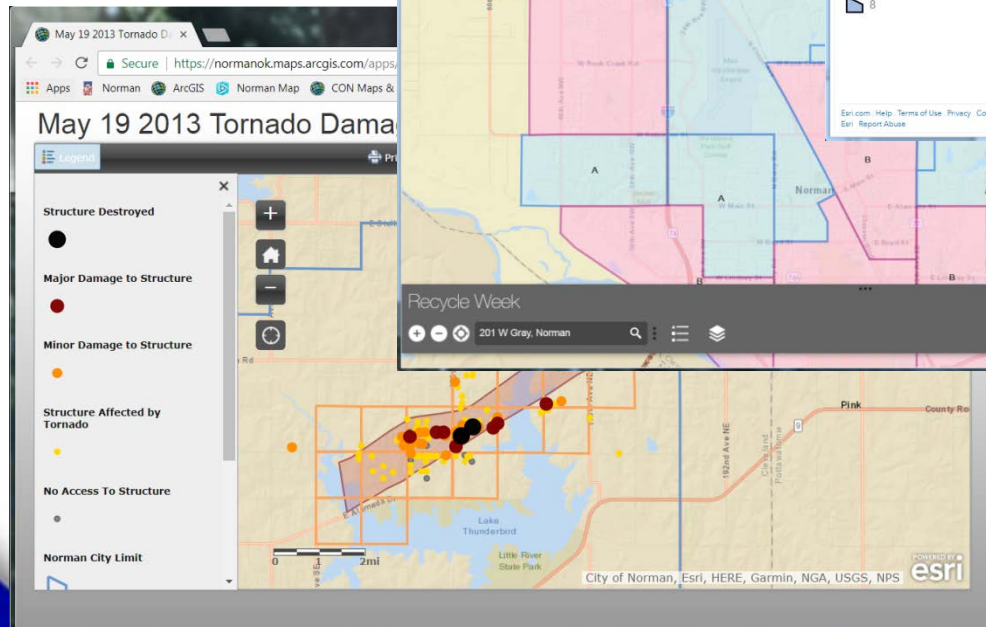
Why Change?

- Opportunity to consolidate web applications
- Upgrading from 10.1 to 10.5.1 broke some functionality
- Lack of dedicated development staff
- Commercial off the shelf software solutions
- Implement responsive design
- Provide data to our users in a simple interface



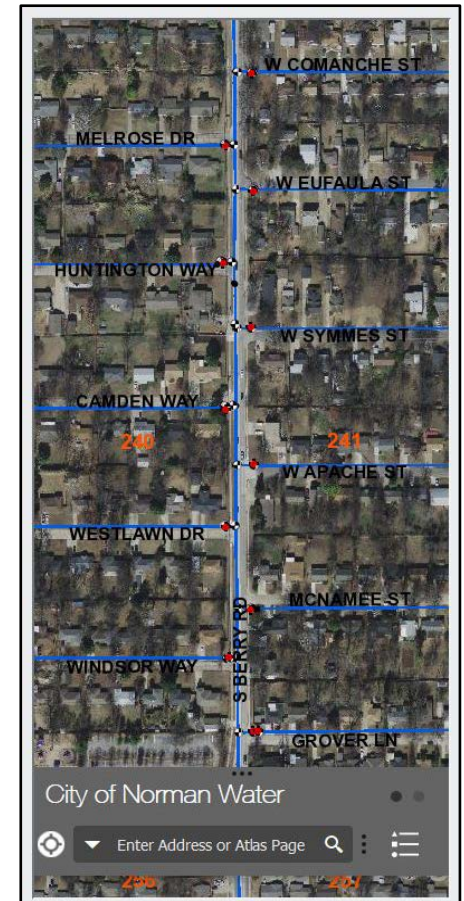
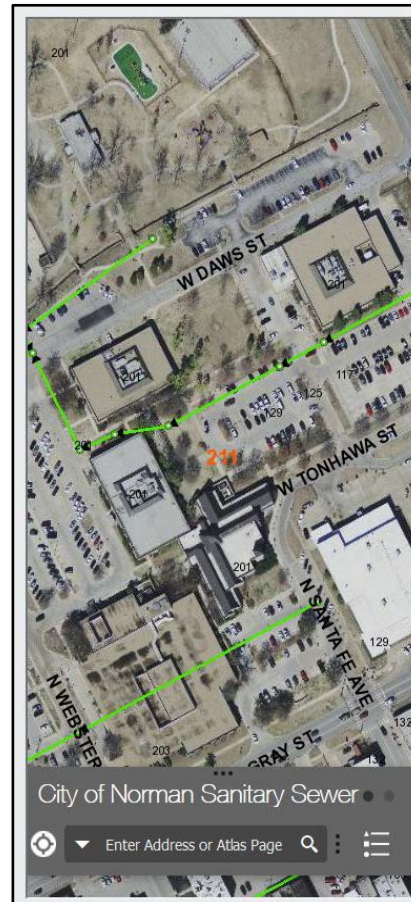
AGO & Hub Implementation

- Created AGO Site - June 20, 2012
 - A ward map
 - 2013 Tornado Damage Map
 - Recycling



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 - Annual Development Report
 - Water Distribution Model



Major Infrastructure Projects Map Series



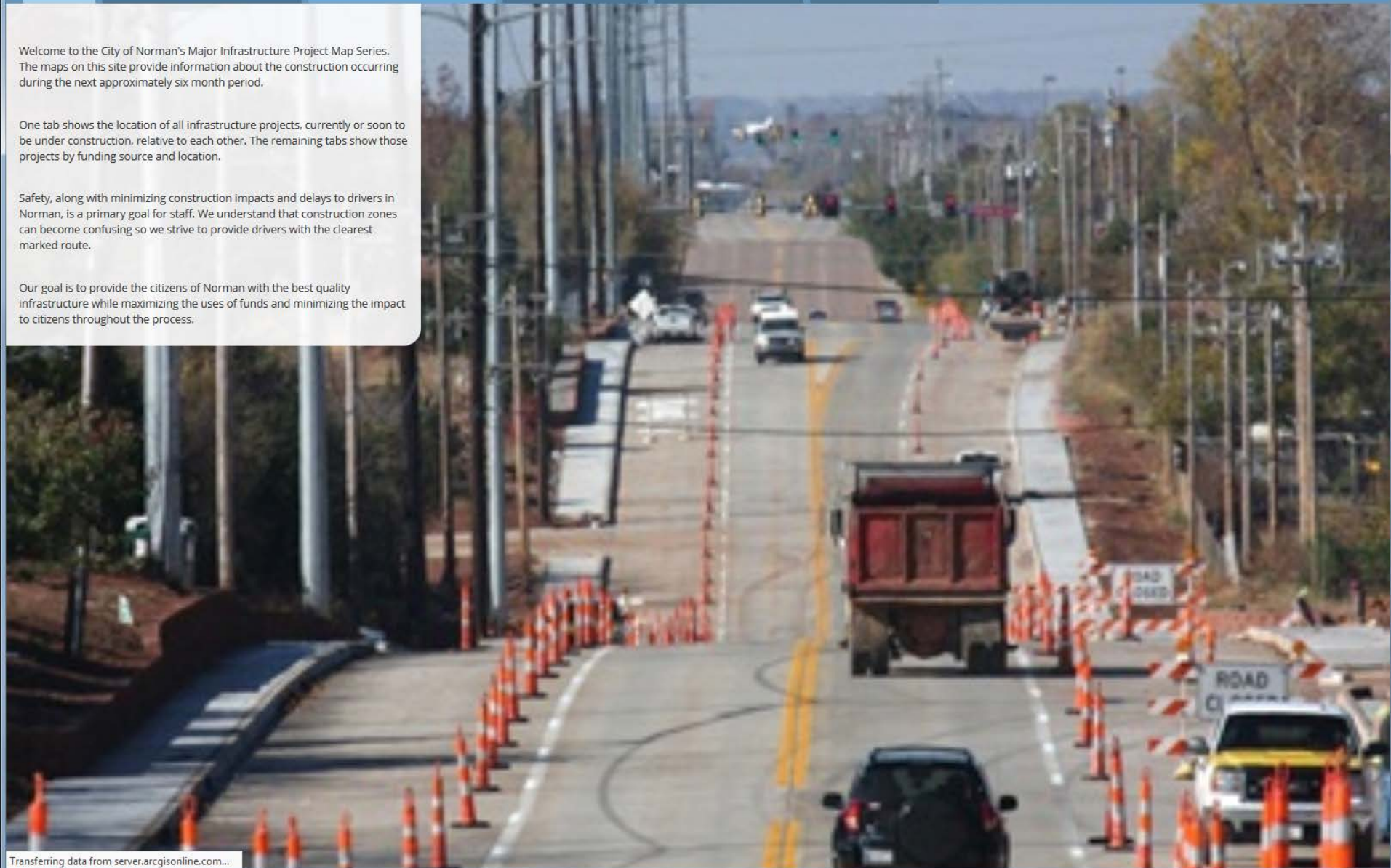
Welcome All Major Infrastructure Projects Capital Improvement Projects Bond Election Projects Disaster Relief Projects Other Construction

Welcome to the City of Norman's Major Infrastructure Project Map Series. The maps on this site provide information about the construction occurring during the next approximately six month period.

One tab shows the location of all infrastructure projects, currently or soon to be under construction, relative to each other. The remaining tabs show those projects by funding source and location.

Safety, along with minimizing construction impacts and delays to drivers in Norman, is a primary goal for staff. We understand that construction zones can become confusing so we strive to provide drivers with the clearest marked route.

Our goal is to provide the citizens of Norman with the best quality infrastructure while maximizing the uses of funds and minimizing the impact to citizens throughout the process.



2017 Annual Status Report on Development and Norman 2025

Since the 1997 adoption of the Norman 2020 Land Use and Transportation Plan (Norman 2020), and its successor, the Norman 2025 Land Use and Transportation Plan (NORMAN 2025), adopted in 2004, the Planning and Community Development Department staff has produced an annual report on the status of development in the City of Norman. This year's report summarizes development activity for calendar year 2017. Staff provides this annual report to Planning Commission and City Council members to allow comparison of the pace of growth anticipated by the land use plan and its companion document Norman 2025 Land Demand Analysis (Land Demand) to the actual rate of development that has occurred in the community.

This report consists of nine sections. Each section describes different aspects of development and planning that has occurred in the City of Norman during 2017. The section begins with a narrative and is followed by maps and tables that include statistical summaries of the amount, type, and location of development and construction in Norman for Calendar Year 2017. Several tables include information dating back five years. These tables put the current year's development into a temporal context and illustrate trends and changes that have occurred in recent years. A PDF of the report is available [here](#).





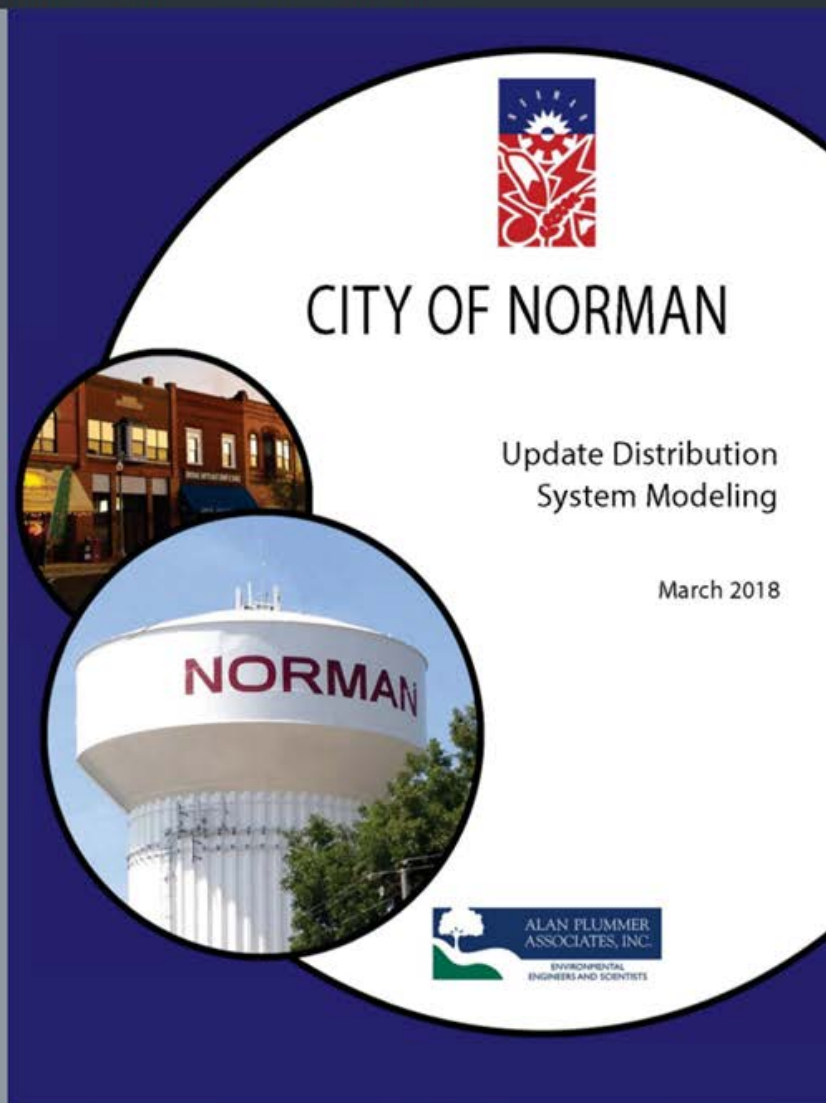
1 Distribution System Modeling Update

Capital Improvement Project (CIP) Categories from APAI's Distribution System Modeling Report

- **Future Development:** These projects are located in future development areas and would only be required when growth is experienced in these areas. Consequently, it is assumed that the developer will be responsible for the cost of these projects, not the City. The seven projects in this category account for approximately 4.1 miles of water line installation and approximately \$6.4 million.
- **Low Fire Flow:** CIP projects in this category were recommended to increase available fire flows at hydrants throughout the distribution system. This category accounts for the greatest number of projects on the CIP list; however, it does not represent the largest quantity of pipeline installation. The 48 projects identified for low fire flow concerns account for approximately 8.4 miles of pipeline and \$10.9 million.
- **High Headloss:** Pipelines experiencing a unit headloss approximately equal to or greater than 7 ft/1,000 ft were identified in the model and a CIP project was created to increase the pipeline size to reduce headloss. There are five CIP projects identified as primarily caused by high headloss that account for 1.6 miles of water lines and approximately \$2.8 million.
- **Maintenance:** CIP projects falling under the category of Maintenance have all been previously identified by NUA as pipelines that will need replacement soon due to pipe age or condition. In general, pipelines identified in the Maintenance category are sized appropriately for future flows and do not need to be replaced with larger lines, though there are some exceptions. These pipelines would be replaced to proactively prevent pipe failures in the future. The Maintenance category comprises the majority of CIP projects in total length and cost accounting for

2 Existing Water System Scenario: Max Day Minimum Pressures

3 Existing Water System Scenario: Max Day Available Fire Flow



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GIS Interface Pre-Hub

Norman Interactive Map: x

maps.normanok.gov/index.html


Apps | Norman | ArcGIS | Norman Map | CON Maps & Data | Survey123 | Assessor | Support | Data | Local links | news | Standards | business | Imported From IE

Norman Interactive Mapping Website




General Interactive Map

Click on map to enter site. This interactive web mapping application contains the information that was found in the previous version of the city's web mapping website. The new version incorporates responsive design. The legend and layer list are collapsed to allow the map to be used on mobile devices.



Interactive Zoning Map

This interactive mapping application allows users to determine the zoning classification, special use overlay zones, historic districts and flood districts for any area of the City. The map includes navigation tools and allows users to search by address. Users may also add graphics and text to the map and output it in a pdf format for printing or to save for later use.



Norman Oil Well Locations

This interactive mapping application allows users to determine location of oil and injection wells in the City of Norman. The map includes navigation tools and allows users to search by address. Users may choose among 3 modes at the bottom right of the map: basic, aerial, and zoning. Clicking on a well will pop-up additional information about the well including the well name and the Well API, which corresponds to the API Number in the Oklahoma Corporation Commission's database.

Welcome to the City of Norman's interactive mapping website. This site works best in Firefox or Chrome. It is compatible with Internet Explorer 9 or better. This site contains a variety of thematic maps in addition to the general interactive map that contains the same information as the previous version of the City's mapping website. While General Map is a fairly comprehensive application, the amount of data displayed may make its performance slow. If one of the thematic services meets your needs, it will perform more efficiently. The City will continue to add more dedicated thematic mapping applications over the coming months.

The City of Norman provides this website for your convenience. The data are to be used for general reference only. All data are provided as is, with all faults, and without warranty of any kind, expressed or implied.

Map produced by the City of Norman, Geographic Information Systems Office. The City of Norman assumes no responsibility for errors or omissions in the information presented.

Norman Interactive Base Map


maps.normanok.gov/maps/InteractiveBaseMap.html

Most Visited | Purchase Plans | Files...

Norman Interactive Base Map

201 West Dewitt, Norman | Locate | Help

Zoom In | Zoom Out | Prev Extent | Next Extent | Pan



Select Map Layers

Labels

- ☒ Address Number
- ☒ Street Names
- ☒ Major Street Names
- ☒ Centerline Labels (10,000+)
- ☒ Subdivision Labels
- ☐ Block Number
- ☐ Lot Number
- ☐ Deed Dimension

Water

Visible Active Layer

- ☐ Hydrant
- ☐ WMains

Sewer

Visible Active Layer

- ☐ Lift Station
- ☐ Manhole
- ☐ Force Main
- ☐ Gravity Main
- ☐ Laterals

Storm Drainage

Visible Active Layer

- ☐ Storm Drainage Points

Legend

Measurement Tools

Drawing Tools

Add Text

Generate PDF

Export GIS Layers

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Clear Graphics



Open Data & Mapping

Connecting People with Information

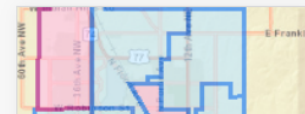
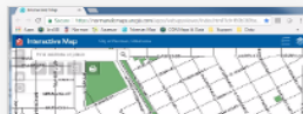
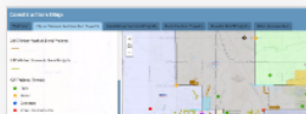
The City of Norman provides these applications and data for your convenience. The data are to be used for general reference only. All data are provided as is, with all faults, and without warranty of any kind, expressed or implied, including but not limited to, the implied purpose. The City of Norman does not warrant that the data will meet your requirements nor that operation of the data and/or application will be uninterrupted and error free. Maps and data generated using these applications may be e-mailed or printed, with the understanding that they will be used for general reference only, without any claims of completeness or accuracy.

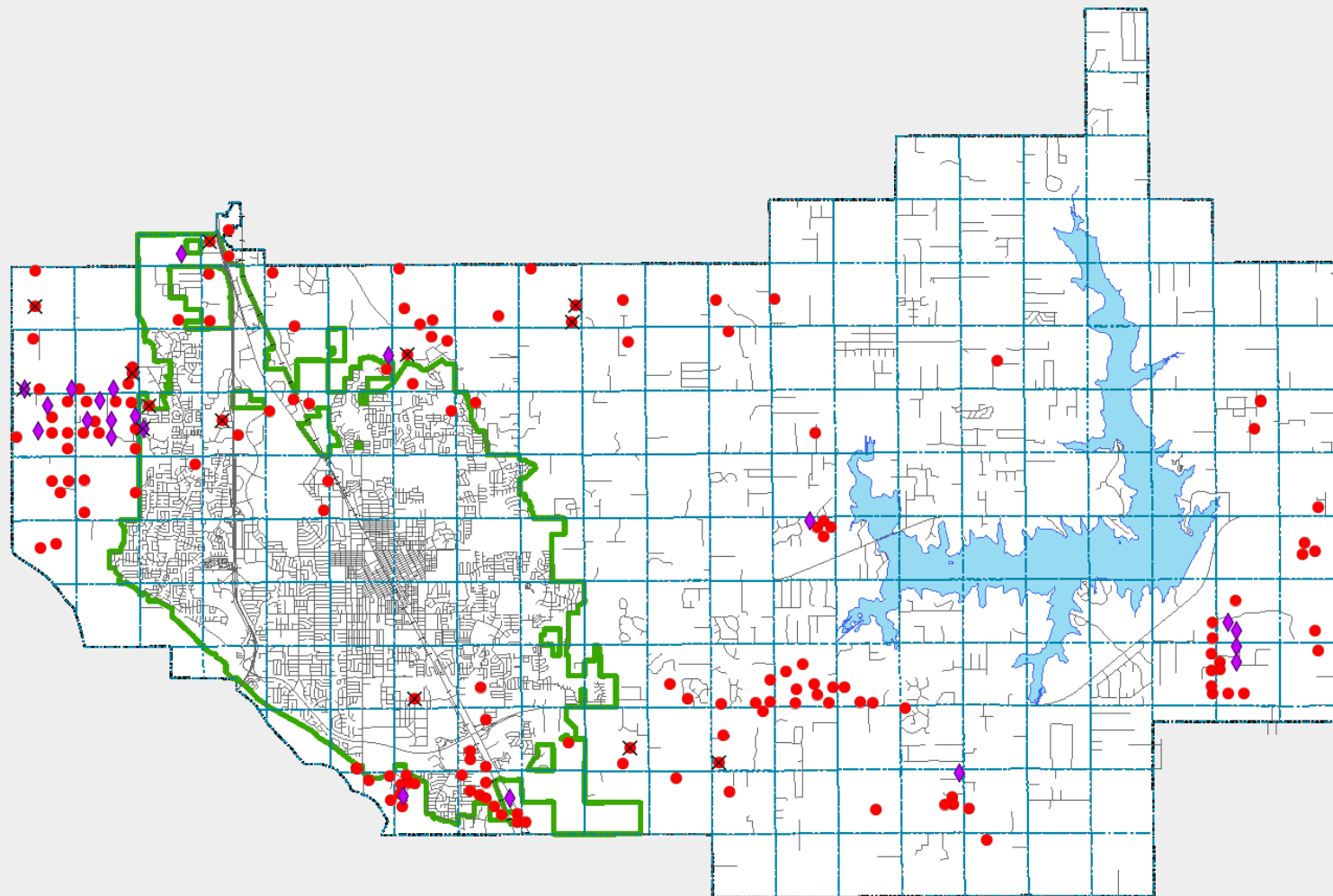
Find Maps and Data



Mapping Applications & Story Maps

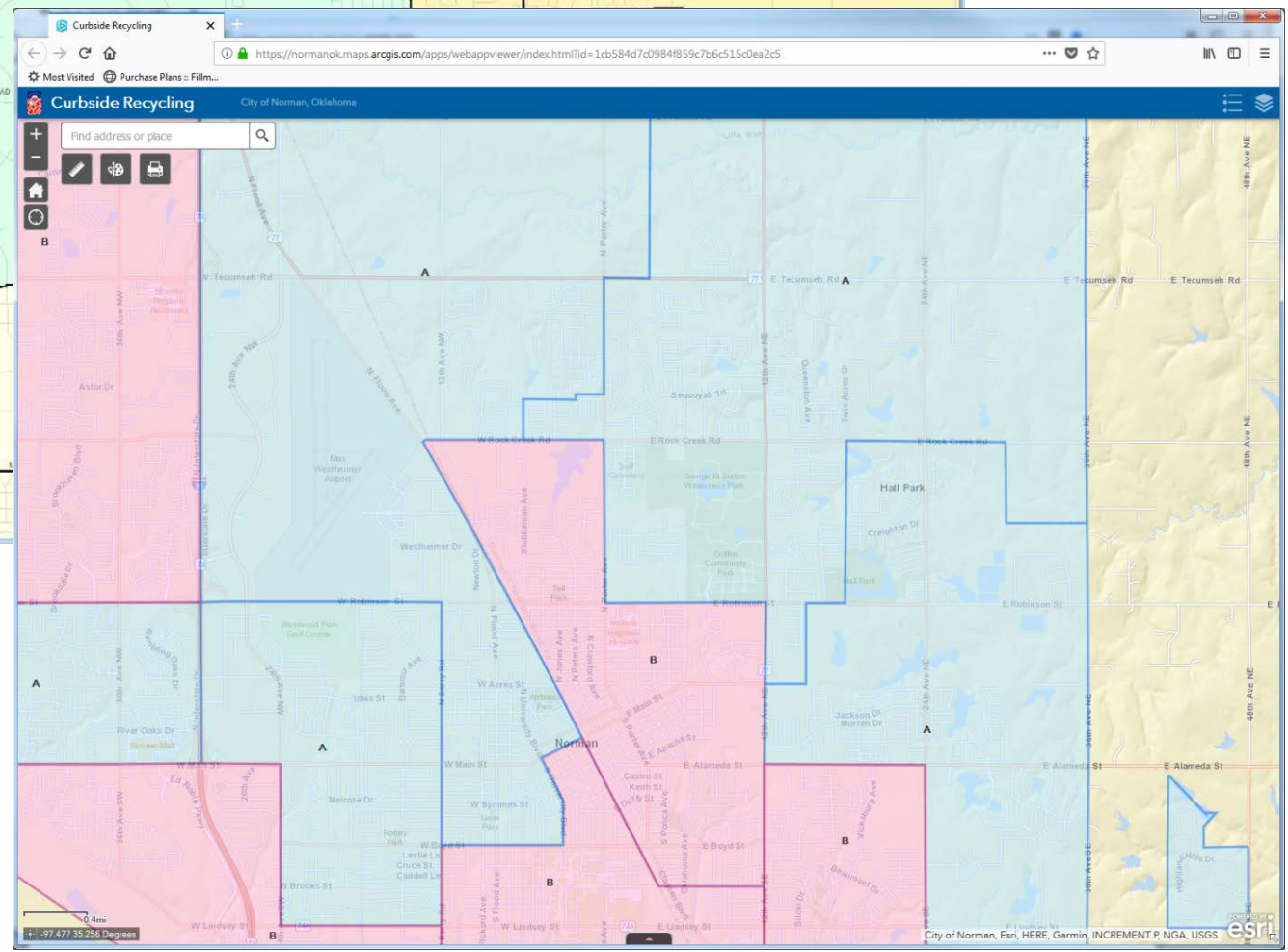
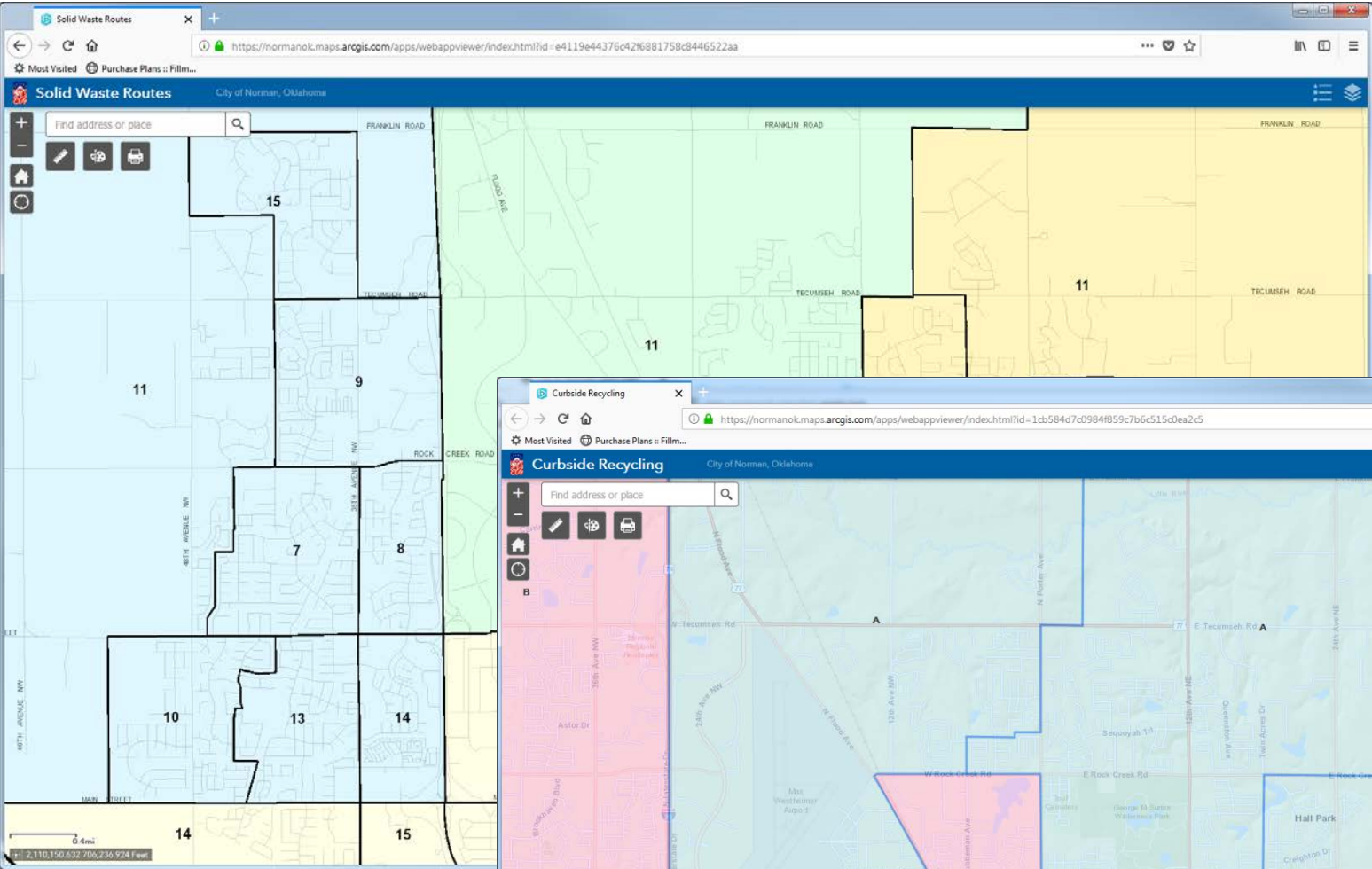
The applications below are provided to allow users to explore Norman.





2mi

2,227,907.053 742,662.276 Feet



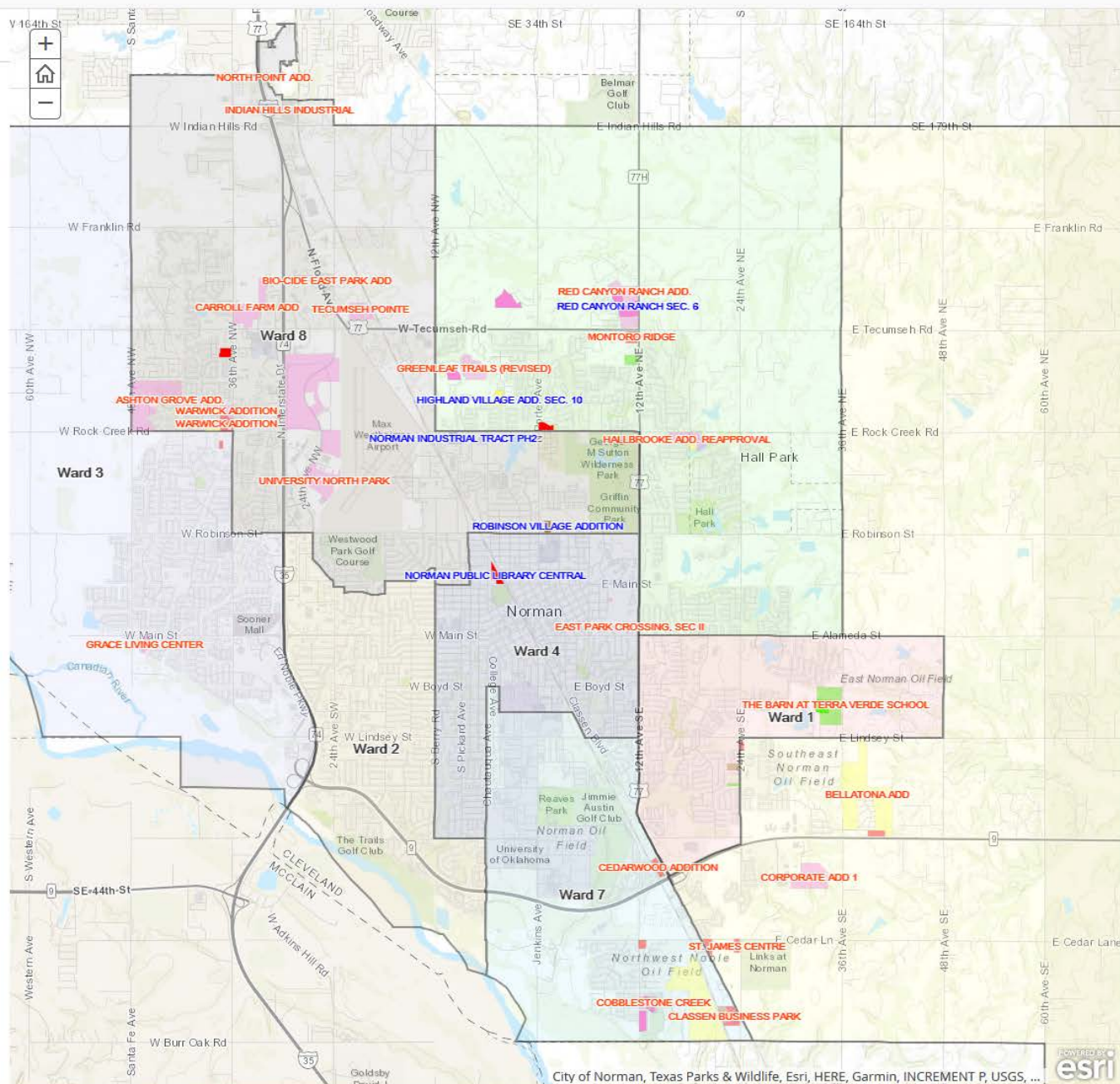
Current Plat Activity

Final Plats (194 Total Lots)

-  Agriculture Zoning (1 Lot)
-  Single Family Zoning (36 Lots)
-  Office Zoning (0 Lots)
-  Multi-Family Zoning (1 Lot)
-  Commercial Zoning (8 Lots)
-  Industrial Zoning (1 Lot)
-  PUD Zoning (147 Lots)

Preliminary Plats (1,628 Total Lots)

-  Agriculture Zoning (5 Lots)
-  Single Family Zoning (1,015 Lots)
-  Office Zoning (0 Lots)
-  Multi-Family Zoning (41 Lots)
-  Commercial Zoning (22 Lots)
-  Industrial Zoning (15 Lots)
-  PUD Zoning (530 Lots)



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- ArcGIS Hub & Open Data
 - Consolidate Data & Applications
 - Provide Downloads
 - Responsive design
- Social Media



Social Media & Usage Statistics

Citywide Garage Sale

Overview Usage Settings

Usage details for the period:

July 31, 2018 - August 5, 2018

Start Date:

7/31/2018

Set a Custom Date Range

End Date:

8/5/2018

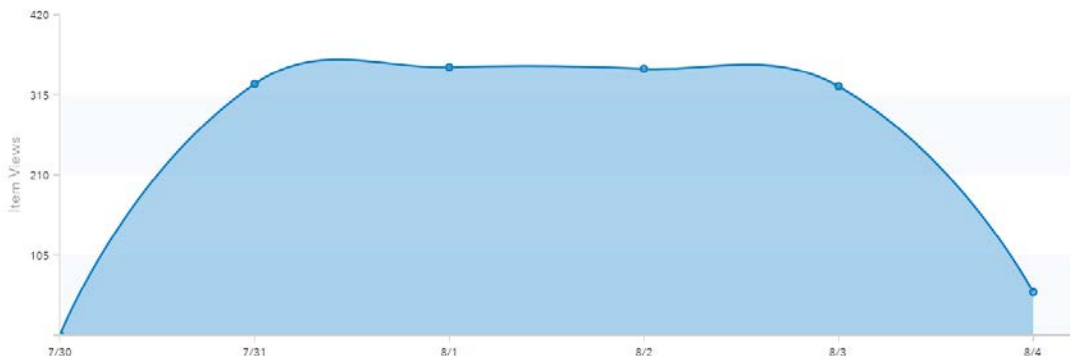
Item Views this Period

1,411

Avg Item Views Per Day

282.20

Usage Time Series



Citywide Garage Sale

City of Norman, OK - City Government
Aug 1 at 2:42pm

The 14th Annual Citywide Garage Sale is scheduled for August 3, 4 and 5. During the time of the citywide sale, you do not need a city garage sale permit.

The list of participating addresses is available beginning today on the City of Norman website, at the Norman Public Library Central at 225 N. Webster and at the Norman Police Department at 201 W. Gray, Building B.

You may also view an interactive map of participating addresses in the link below.

<https://arcgis/1HD80H>

NORMANOK.MAPS.ARCGIS.COM
Citywide Garage Sale
Garage

Write a comment...

Mail LTE 3:24 PM 100%

normanok.maps.arcgis.com

Citywide Garage Sale
Tap for details ↔ Swipe to explore

City of Norman, Texas P...

GIS @ City of Norman - After

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 - Desktop users
 - Third party applications
- ❖ On-premise, Outside Firewall (DMZ) – ArcGIS Server
 - External and Internal Use
 - Supports
 - External access to City GIS data through map services
- ❖ Cloud - ArcGIS Online (AGO)
 - External and Internal Use
 - Supports
 - All Web Applications
 - Hosted Feature Layers



What We Learned...

- Configuring all of these applications actually used very few credits in ArcGIS Online.
- When you upload your data to ArcGIS Online, make sure to set symbology and pop-ups in the “Visualization” tab of the hosted feature layer so you won’t need to do this in every individual web map.
- Use field aliasing to make field names user friendly and add metadata descriptions so that users understand limitations of the data and intended use.
- Just because a web map service has been published to look a certain way, it doesn’t mean that it’ll appear that way in ArcGIS Online.
- HTTPS:\\ is critical! This was a hindrance until implemented. Make sure to revisit previously published maps and apps to update layers to HTTPS.
- ArcGIS Online could use some more symbology options! It’s difficult to reproduce complex symbologies.



Future Plans

- Start integrating more geoprocessing tasks
- Take advantage of the dashboard
- Add more downloadable data to the Hub
- Implement Enterprise Logins
- Portal
- Rebranding



QUESTIONS?

data-normanok.opendata.arcgis.com

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