GIS &
The City of Midwest City

Current Technology & Solutions

Find Your Place

Overview

- Midwest City as an example of a municipal GIS
- GIS Resources and Directives
- Intergovernmental Interaction
- GIS Application Scope and Strategies
- GIS Application Examples
- Future

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Midwest City Statistics

- 24 square miles in Oklahoma County
- 57,305 residents in 26,000 households
- City staffing of around 470 FTE plus 130 part time and seasonal

Midwest City GIS Resources

- **GIS Staffing**
  - GIS Manager
  - GIS Analyst - 2
  - GIS Technician - 1

- **GIS Software**
  - ESRI Small Government ELA
    - 250 Licenses of ArcGIS Pro Basic, Standard, & Advanced
    - 250 Licenses of Spatial Analyst, Network Analyst, etc.
    - ArcSDE on SQL Server
    - ArcGIS Server
  - Azteca Cityworks AMS

- **GIS Operating Budget** - $217,000 to cover annual software maintenance, data, & hardware

Midwest City GIS Directives

- Serve the needs of varied internal and external user groups
- Extend access and utility of GIS to more users
- Make GIS data available to the public
- Work within limits of funding, resources, and system growth

Intergovernmental Interactions

- **Midwest City -** mostly self sufficient for data
- **Municipal**
  - Data exchange as needed
- **County**
  - Address data sharing
  - Orthophotos
  - Data exchange as needed
- **State/Regional**
  - ACOG membership – Street segment and address data sharing for e911

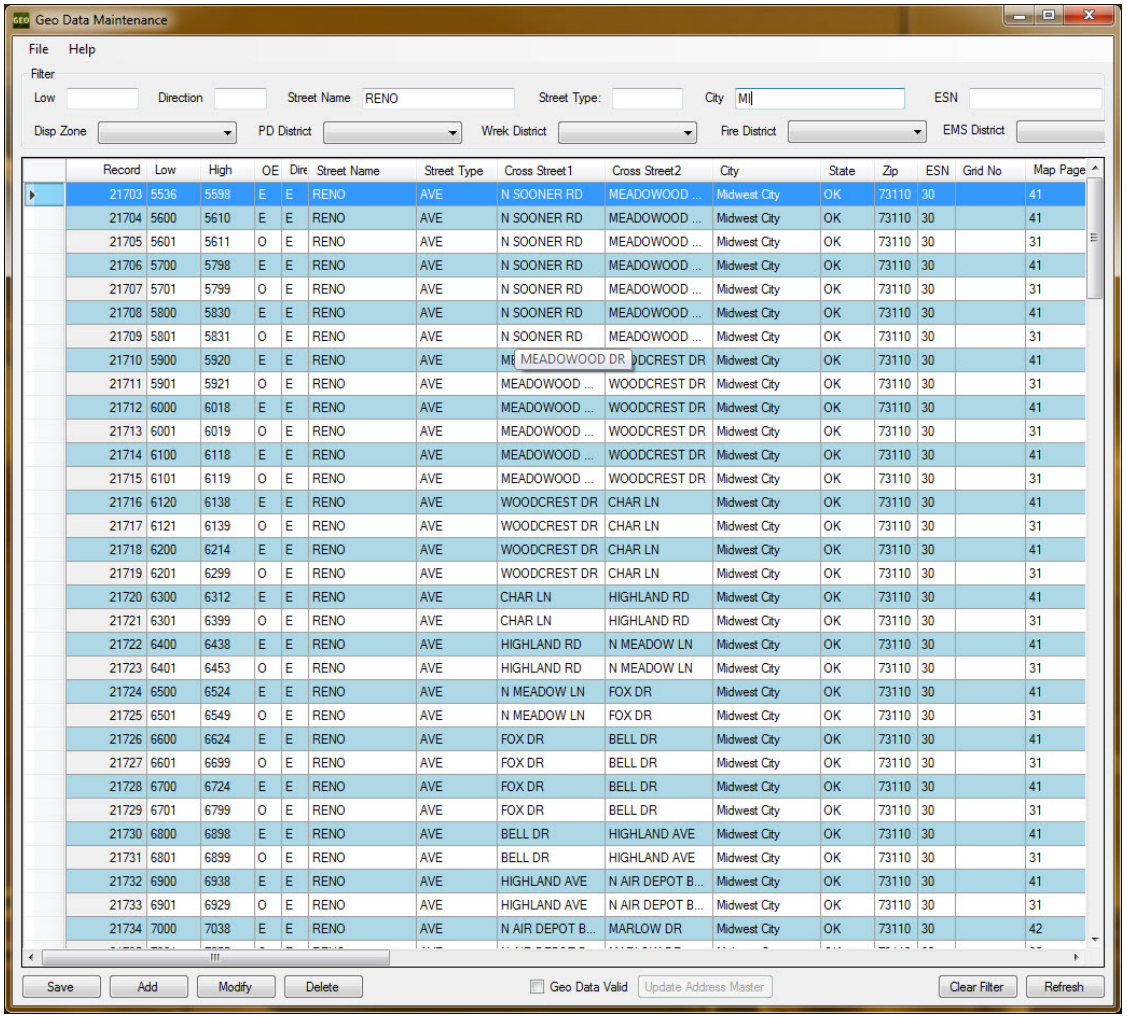
Midwest City GIS Application Scope

- ArcGIS Desktop (all license levels) centralized administration with multiuser editing on SDE
- ArcGIS Pro (all license levels)
- Third-party GIS applications
  - X Tools Pro
  - CarryMap
- Web-based maps and tools
  - ArcGIS Online
  - IT Nexus MapViewer
- Public GIS data downloads available on City's official webpage

Midwest City GIS Application Examples

- EOC/Dispatch
- Community Development
- Planning
- Engineering
- Public Works
- Public Safety (Fire & Police)
- MapViewer & ArcGIS Online

Dispatch/Emergency Operations



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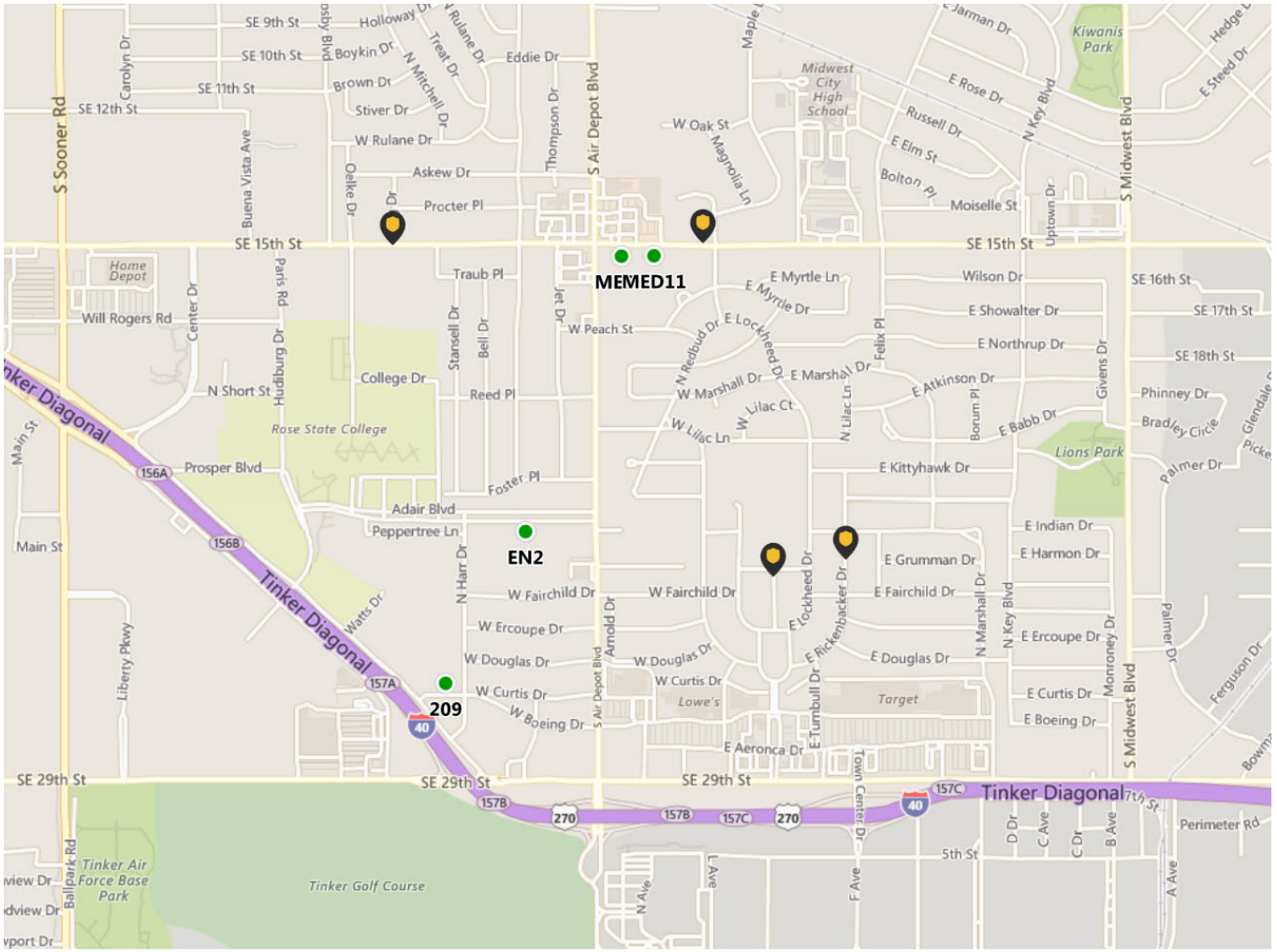
Dispatch/Emergency Operations



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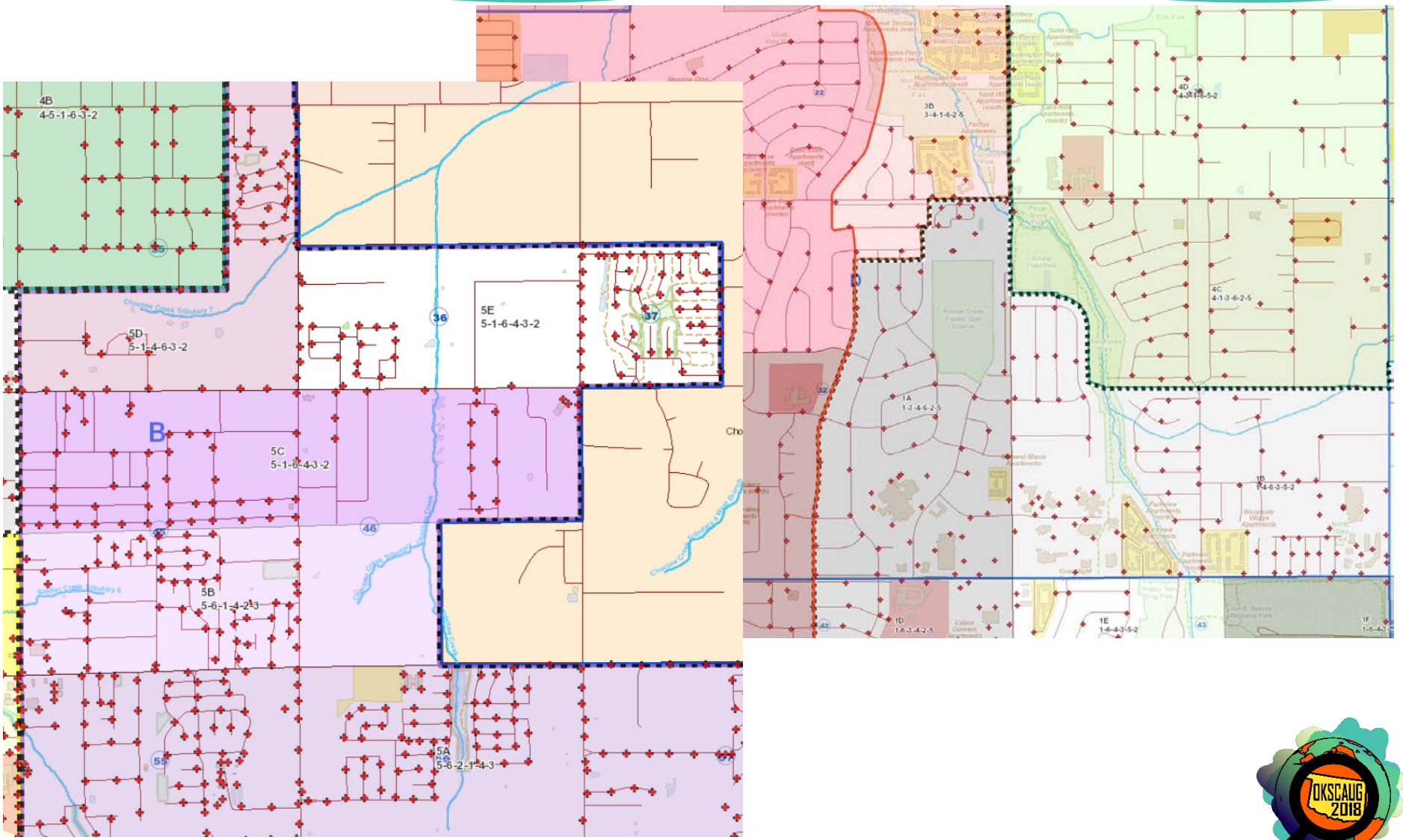
Dispatch/Emergency Operations



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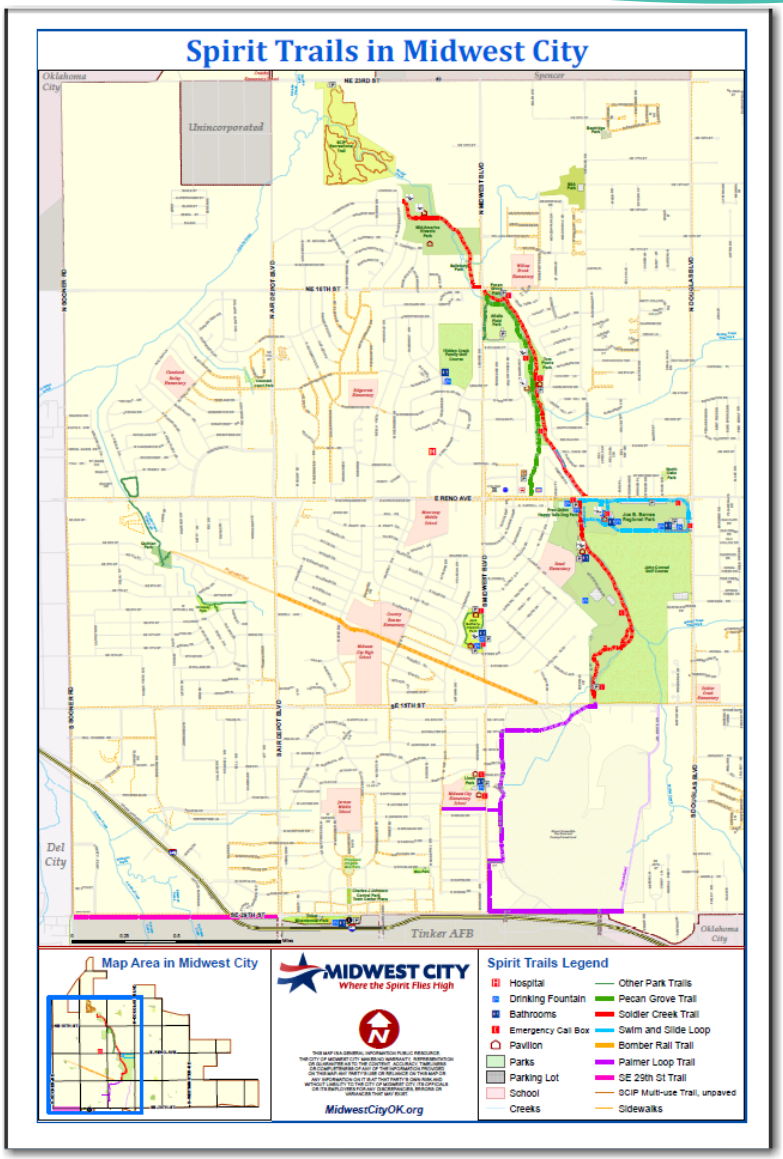
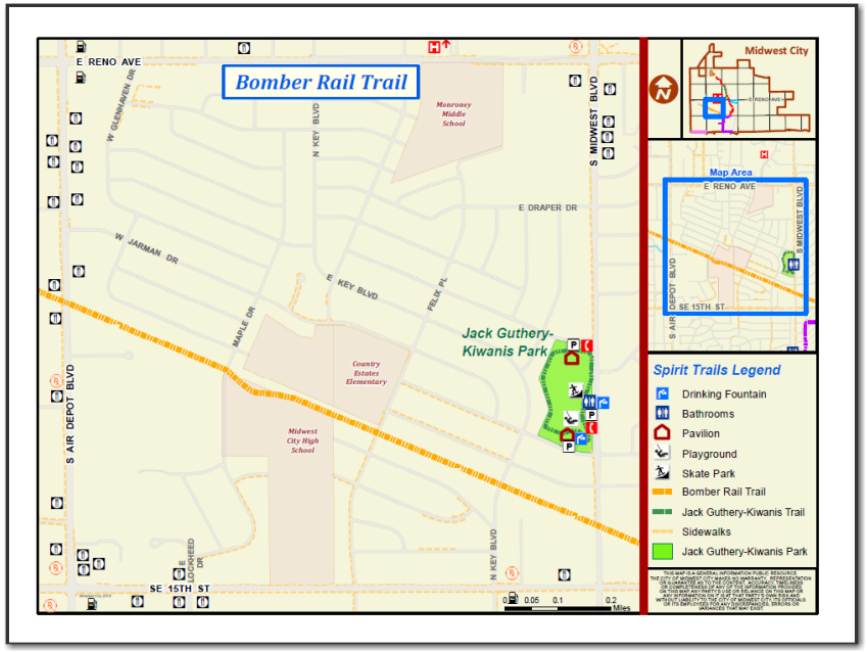
Community Development



- Trail Maps created for use as signs at trailheads
- Funded by grant from Oklahoma City Community Foundation



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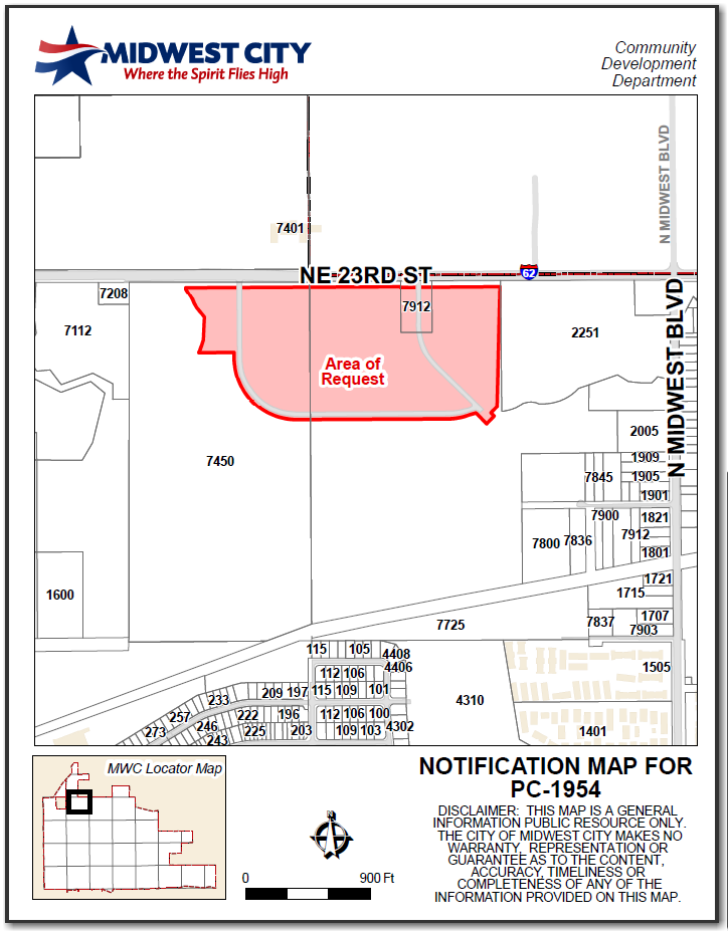
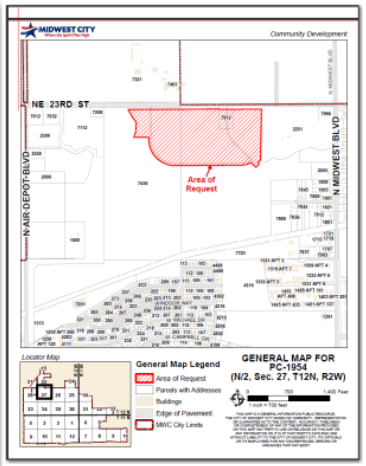
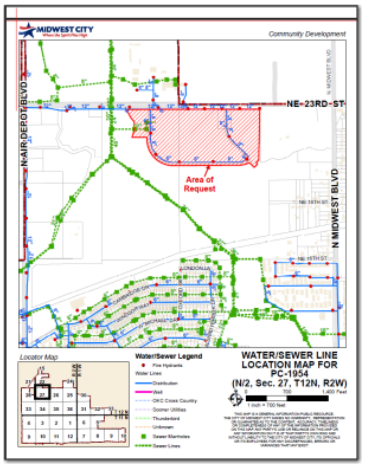
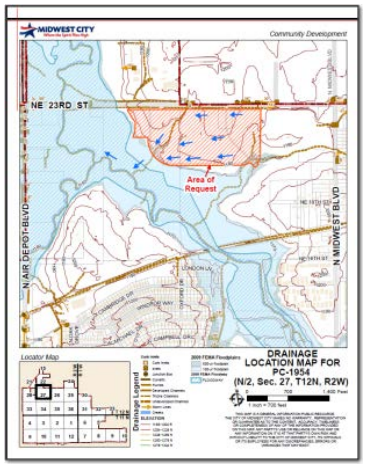
Planning

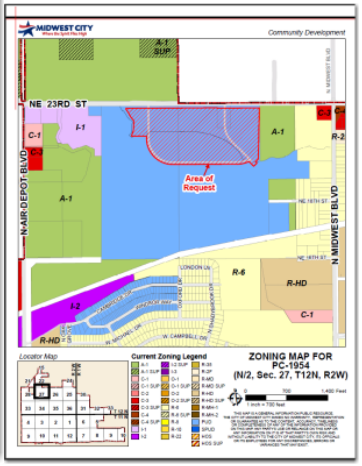
Planning Commission, Board of Adjustment & City Council Meeting Maps

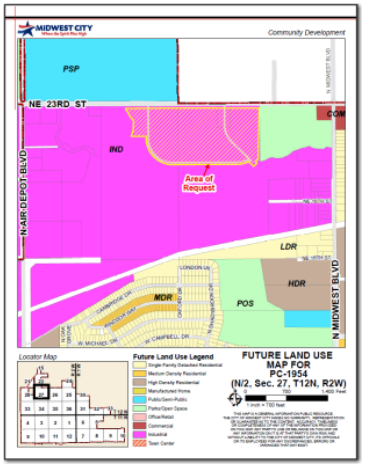


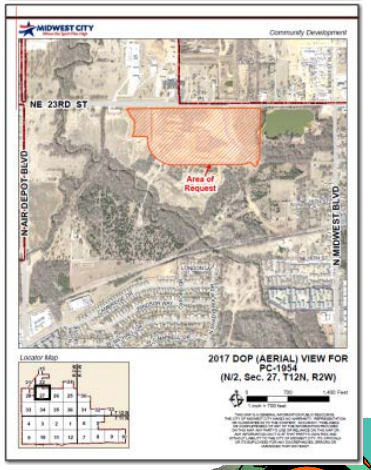












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Engineering

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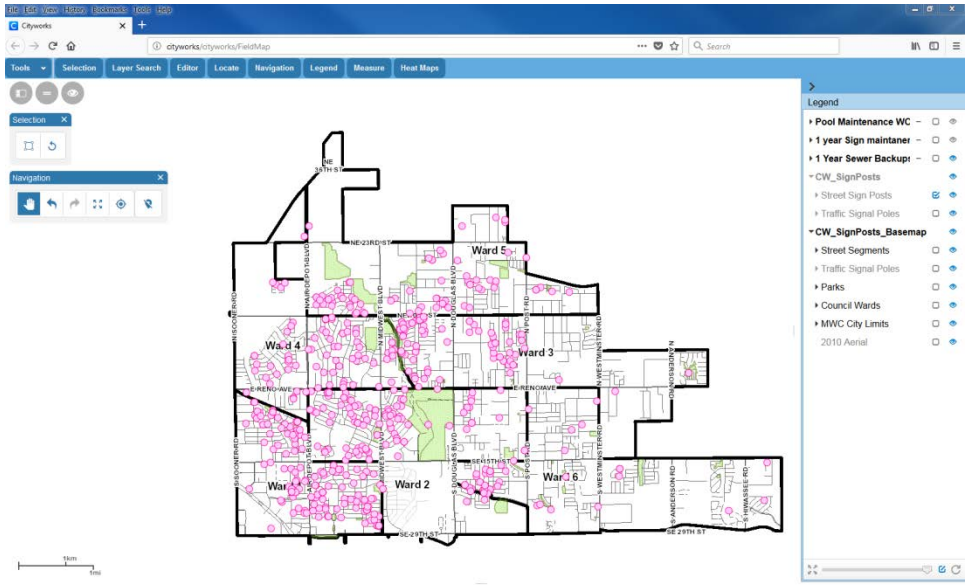
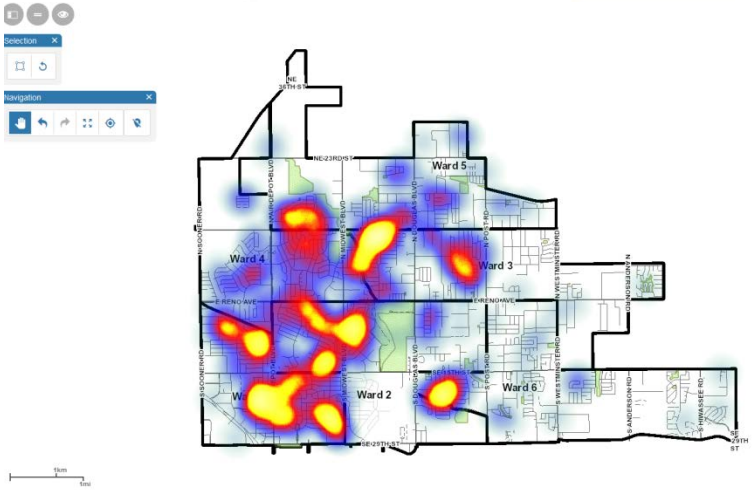
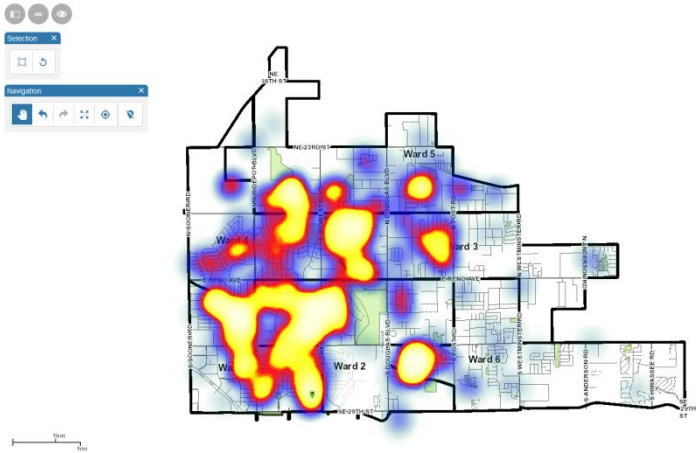
Public Works

Cityworks AMS, and GIS data (addresses)



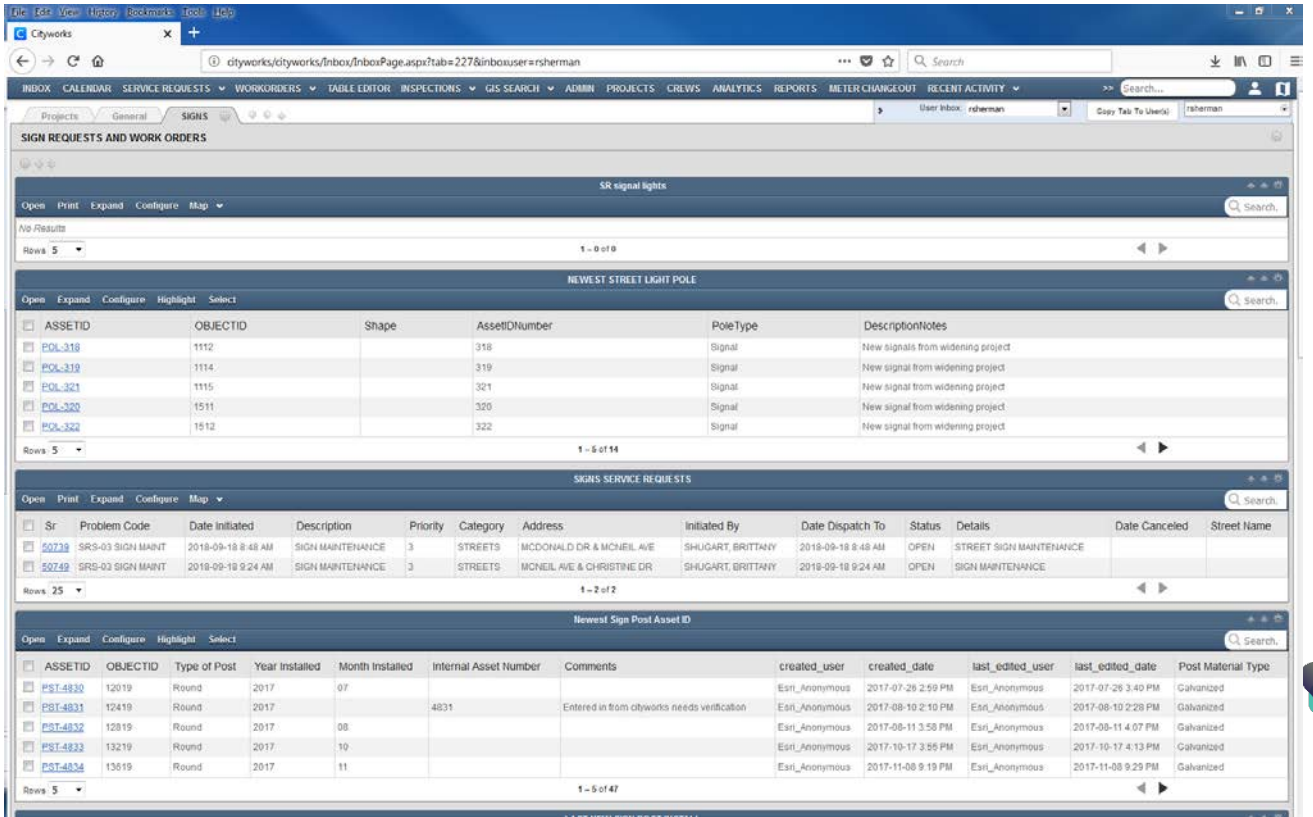


- Utilizing Saved searches for service requests and work orders to find problem areas for utilities
- Yearly there are around 528 calls for sewer backups, as well as around 130 sign maintenance calls yearly
- Using heat maps to discover problem areas and figuring out solutions for said areas
- Finding solutions to reduce mistakes and redundancy



Mobile Utilization In the field

- Progression into mobile use of Cityworks to process work orders & to streamline the work
- This would allow for better data recording and updating for city assets such as signs
- This will ease the strain of mistakes of repeated data entry



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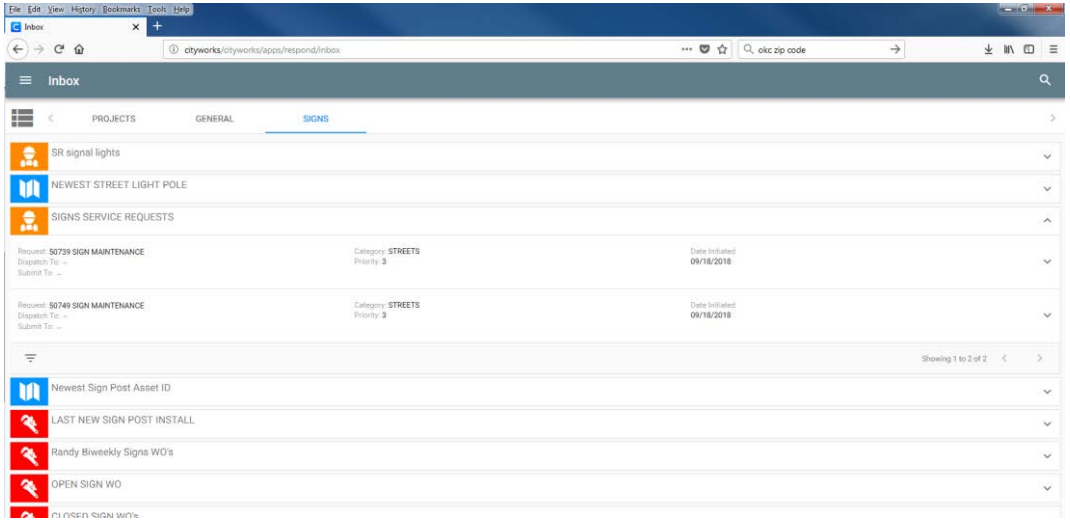
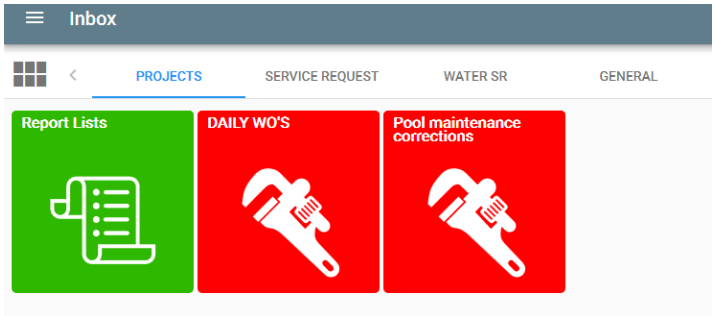
Mobile Utilization In the field

- Respond is an addition tool to help with creating work orders in the field
- The Respond App has a cleaner user interface and responds better in a mobile environment
- Respond is best used for reporting not instances of editing data in field



- Respond gives you the option of a drop down list or thumb nail view →---→---→---→---→---→



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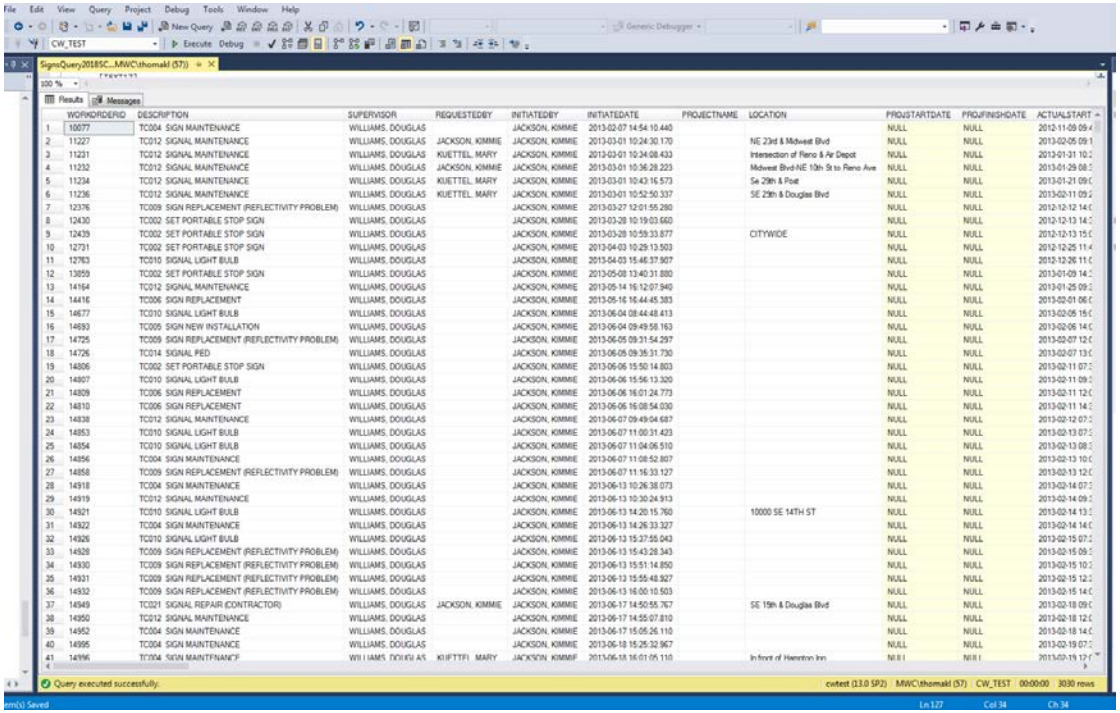
Field work and the results



- The field process is the same
  - except manual entry is done using iPad in the field
- Cellular signal or service issues are managed with careful usage of devices. (planned usage before or after work)
- The end result is a database managed by Cityworks in a SQL database behind the scenes

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End results and benefits

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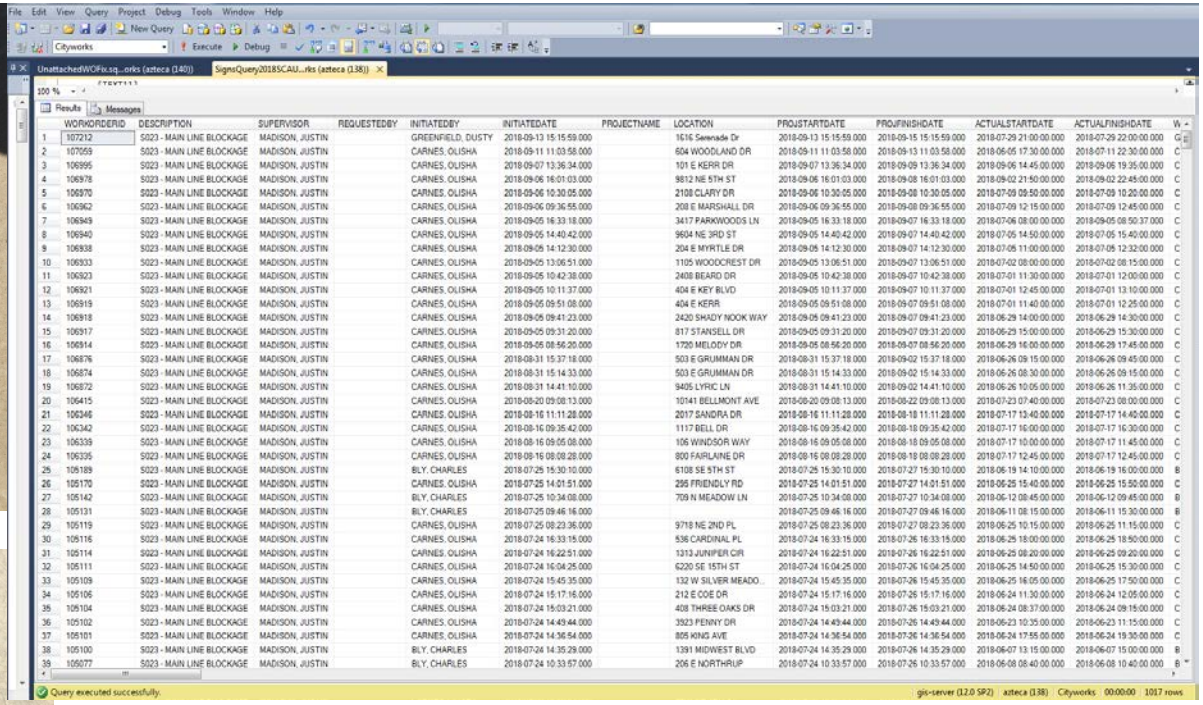

WORKORDERID	DESCRIPTION	SUPERVISOR	REQUESTEDBY	INITIATEDBY	INITIATEDATE	PROJECTNAME	LOCATION	PROJSTARTDATE	PROJFINISHDATE	ACTUALSTARTDATE	ACTUALFINISHDATE
107212	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		GREENFIELD, DUSTY	2018-09-13 15:15:59.000		1616 Serenade Dr	2018-09-13 15:15:59.000	2018-09-15 15:15:59.000	2018-07-29 21:00:00.000	2018-07-29 22:00:00.000
107059	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-09-11 11:03:58.000		604 WOODLAND DR	2018-09-13 11:03:58.000	2018-09-13 11:03:58.000	2018-06-05 17:30:00.000	2018-07-11 22:30:00.000
106995	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-09-07 13:36:34.000		101 E KERR DR	2018-09-07 13:36:34.000	2018-09-09 13:36:34.000	2018-09-06 14:45:00.000	2018-09-06 19:35:00.000
106978	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-09-06 16:01:03.000		9812 NE 5TH ST	2018-09-08 16:01:03.000	2018-09-08 16:01:03.000	2018-09-02 21:50:00.000	2018-09-02 22:45:00.000
106970	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-09-06 10:30:05.000		2108 CLARY DR	2018-09-06 10:30:05.000	2018-09-08 10:30:05.000	2018-07-09 09:50:00.000	2018-07-09 10:20:00.000
106962	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-09-06 09:36:55.000		208 E MARSHALL DR	2018-09-06 09:36:55.000	2018-09-08 09:36:55.000	2018-07-09 12:15:00.000	2018-07-09 12:45:00.000
106949	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-09-05 16:33:18.000		3417 PARKWOODS LN	2018-09-05 16:33:18.000	2018-09-07 16:33:18.000	2018-07-06 08:00:00.000	2018-09-05 08:50:37.000
106940	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-09-05 14:40:42.000		9604 NE 3RD ST	2018-09-05 14:40:42.000	2018-09-07 14:40:42.000	2018-07-05 14:50:00.000	2018-07-05 15:40:00.000
106938	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-09-05 14:12:30.000		204 E MYRTLE DR	2018-09-05 14:12:30.000	2018-09-07 14:12:30.000	2018-07-05 11:00:00.000	2018-07-05 12:32:00.000
106933	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-09-05 13:06:51.000		1105 WOODCREST DR	2018-09-05 13:06:51.000	2018-09-07 13:06:51.000	2018-07-02 08:00:00.000	2018-07-02 09:15:00.000
106923	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-09-05 10:42:38.000		2408 BEARD DR	2018-09-05 10:42:38.000	2018-09-07 10:42:38.000	2018-07-01 11:30:00.000	2018-07-01 12:00:00.000
106921	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-09-05 10:11:37.000		404 E KEY BLVD	2018-09-05 10:11:37.000	2018-09-07 10:11:37.000	2018-07-01 12:45:00.000	2018-07-01 13:10:00.000
106919	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-09-05 09:51:08.000		404 E KERR	2018-09-05 09:51:08.000	2018-09-07 09:51:08.000	2018-07-01 11:40:00.000	2018-07-01 12:25:00.000
106918	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-09-05 09:41:23.000		2420 SHADY NOOK WAY	2018-09-05 09:41:23.000	2018-09-07 09:41:23.000	2018-06-29 14:00:00.000	2018-06-29 14:30:00.000
106917	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-09-05 09:31:20.000		817 STANSELL DR	2018-09-05 09:31:20.000	2018-09-07 09:31:20.000	2018-06-29 15:00:00.000	2018-06-29 15:30:00.000
106914	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-09-05 08:56:20.000		1705 MELODY DR	2018-09-05 08:56:20.000	2018-09-07 08:56:20.000	2018-06-29 16:00:00.000	2018-06-29 17:45:00.000
106876	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-08-31 15:37:18.000		503 E GRUMMAN DR	2018-08-31 15:37:18.000	2018-09-02 15:37:18.000	2018-06-26 09:15:00.000	2018-06-26 09:45:00.000
106874	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-08-31 15:14:33.000		503 E GRUMMAN DR	2018-08-31 15:14:33.000	2018-09-02 15:14:33.000	2018-06-26 08:30:00.000	2018-06-26 09:15:00.000
106872	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-08-31 14:41:10.000		9405 LYRIC LN	2018-08-31 14:41:10.000	2018-09-02 14:41:10.000	2018-06-26 10:05:00.000	2018-06-26 11:35:00.000
106415	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-08-20 09:08:13.000		10141 BELLMONT AVE	2018-08-20 09:08:13.000	2018-08-22 09:08:13.000	2018-07-23 07:40:00.000	2018-07-23 08:00:00.000
106346	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-08-16 11:11:28.000		2017 SANDRA DR	2018-08-16 11:11:28.000	2018-08-18 11:11:28.000	2018-07-17 13:40:00.000	2018-07-17 14:40:00.000
106342	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-08-16 09:35:42.000		1117 BELL DR	2018-08-16 09:35:42.000	2018-08-18 09:35:42.000	2018-07-17 16:00:00.000	2018-07-17 16:30:00.000
106339	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-08-16 09:05:08.000		106 WINDSOR WAY	2018-08-16 09:05:08.000	2018-08-18 09:05:08.000	2018-07-17 10:00:00.000	2018-07-17 11:45:00.000
106335	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-08-16 08:08:28.000		800 FAIRLANE DR	2018-08-16 08:08:28.000	2018-08-18 08:08:28.000	2018-07-17 12:45:00.000	2018-07-17 12:45:00.000
106189	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		BLY, CHARLES	2018-07-25 15:30:10.000		6108 SE 5TH ST	2018-07-25 15:30:10.000	2018-07-27 15:30:10.000	2018-06-19 14:10:00.000	2018-06-19 16:00:00.000
106170	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-07-25 14:01:51.000		256 FRIENDLY RD	2018-07-25 14:01:51.000	2018-07-27 14:01:51.000	2018-06-25 15:40:00.000	2018-06-25 15:50:00.000
105142	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		BLY, CHARLES	2018-07-25 10:34:08.000		709 N MEADOW LN	2018-07-25 10:34:08.000	2018-07-27 10:34:08.000	2018-06-12 09:45:00.000	2018-06-12 09:45:00.000
105131	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		BLY, CHARLES	2018-07-25 09:46:16.000			2018-07-25 09:46:16.000	2018-07-27 09:46:16.000	2018-06-11 08:15:00.000	2018-06-11 15:30:00.000
105119	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-07-25 08:23:36.000		9718 NE 2ND PL	2018-07-25 08:23:36.000	2018-07-27 08:23:36.000	2018-06-25 10:15:00.000	2018-06-25 11:15:00.000
105116	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-07-24 16:33:15.000		536 CARDINAL PL	2018-07-24 16:33:15.000	2018-07-26 16:33:15.000	2018-06-25 18:00:00.000	2018-06-25 18:50:00.000
105114	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-07-24 16:22:51.000		1313 JUNIPER CIR	2018-07-24 16:22:51.000	2018-07-26 16:22:51.000	2018-06-25 08:20:00.000	2018-06-25 09:20:00.000
105111	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-07-24 16:04:25.000		6220 SE 15TH ST	2018-07-24 16:04:25.000	2018-07-26 16:04:25.000	2018-06-25 14:50:00.000	2018-06-25 15:30:00.000
105109	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-07-24 15:45:35.000		132 W SILVER MEADO...	2018-07-24 15:45:35.000	2018-07-26 15:45:35.000	2018-06-25 16:05:00.000	2018-06-25 17:50:00.000
105106	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-07-24 15:17:16.000		212 E COE DR	2018-07-24 15:17:16.000	2018-07-26 15:17:16.000	2018-06-24 11:30:00.000	2018-06-24 12:05:00.000
105104	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-07-24 15:03:21.000		408 THREE OAKS DR	2018-07-24 15:03:21.000	2018-07-26 15:03:21.000	2018-06-24 08:37:00.000	2018-06-24 09:15:00.000
105102	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-07-24 14:49:44.000		3923 PENNY DR	2018-07-24 14:49:44.000	2018-07-26 14:49:44.000	2018-06-23 10:35:00.000	2018-06-23 11:15:00.000
105101	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		CARNES, OLISHA	2018-07-24 14:36:54.000		805 KING AVE	2018-07-24 14:36:54.000	2018-07-26 14:36:54.000	2018-06-24 17:55:00.000	2018-06-24 19:30:00.000
105100	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		BLY, CHARLES	2018-07-24 14:35:29.000		1391 MIDWEST BLVD	2018-07-24 14:35:29.000	2018-07-26 14:35:29.000	2018-06-07 13:15:00.000	2018-06-07 15:00:00.000
105077	5023 - MAIN LINE BLOCKAGE	MADISON, JUSTIN		BLY, CHARLES	2018-07-24 10:33:57.000		206 E NORTHRUP	2018-07-24 10:33:57.000	2018-07-26 10:33:57.000	2018-06-08 08:40:00.000	2018-06-08 10:40:00.000

- Using the same process in different departments to be able to maintain all of the city assets
- Keeps a running history of city assets for future projects and assessments of assets
- Provide better prevention and brings monetary savings value to the City

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Public Safety

Storm Shelter Registry - Background

May 1999 Tornado ended in Midwest City

- 5 deaths; 142 injuries
- 27 businesses, 188 homes destroyed
- 468 homes damaged

749 registered in May 2009

Ownership & **Registration** Actively Encouraged after 1999 Tornado

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Public Safety

Encouraged Private Shelter Ownership

- **FEMA** grants for **205** shelters in 1999;

  723 more by 2012 (of $2000 each)

- **American Red Cross** grants for **208** shelters in 2015 ($2500 each)
- **Sooner Safe** grant program with unknown additional grants

1136 grants awarded 1999-2015

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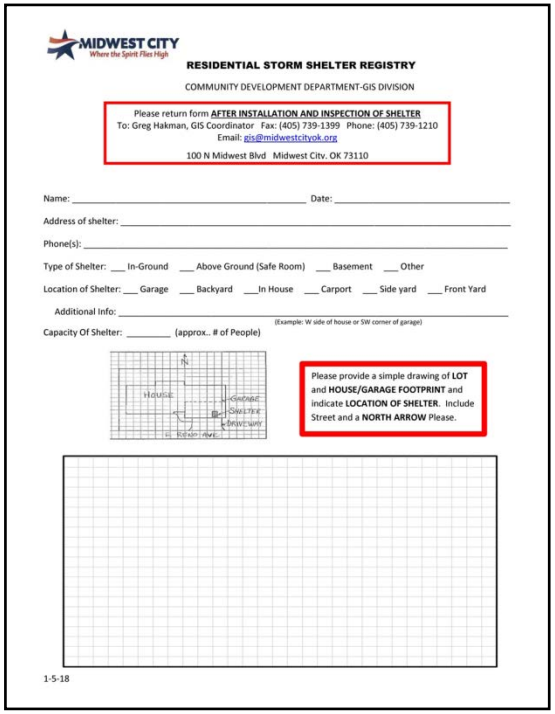
Public Safety

Encouraged Storm Shelter Registration



MIDWEST CITY
Where the Spirit Flies High

RESIDENTIAL STORM SHELTER REGISTRY

COMMUNITY DEVELOPMENT DEPARTMENT-GIS DIVISION

Please return form **AFTER INSTALLATION AND INSPECTION OF SHELTER**
To: Greg Hakman, GIS Coordinator Fax: (405) 739-1399 Phone: (405) 739-1210
Email: gis@midwestcityok.org
100 N Midwest Blvd Midwest City, OK 73110

Name: _____ Date: _____

Address of shelter: _____

Phone(s): _____

Type of Shelter: ___ In-Ground ___ Above Ground (Safe Room) ___ Basement ___ Other

Location of Shelter: ___ Garage ___ Backyard ___ In House ___ Carport ___ Side yard ___ Front Yard

Additional Info: _____
(Example: W side of house or SW corner of garage)

Capacity Of Shelter: _____ (approx.. # of People)

N

HOUSE

GARAGE

SHELTER

DRIVEWAY

STREET

Please provide a simple drawing of **LOT** and **HOUSE/GARAGE FOOTPRINT** and indicate **LOCATION OF SHELTER**. Include Street and a **NORTH ARROW** Please.

1-5-18

- Separate from permit application
- Form brought by inspector
- Available online
- Available at City Hall

- **Enter into ArcGIS** – symbolized by type
- GPS **coordinates** are calculated
- Privacy concerns - **Limited access** to data:
  - GIS, EOC, & First Responders

Grew from 749 to **3203** today

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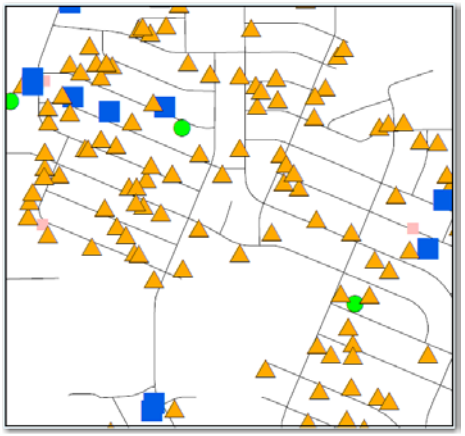
Public Safety

Prepare ahead when Storms Forecasted

May Lose Power/Internet



- Pre-print large maps and atlases of storm shelter locations
- Export data for conversion to CarryMaps file
- Download to MDM software to serve to iPads
- Notify Fire Department of update

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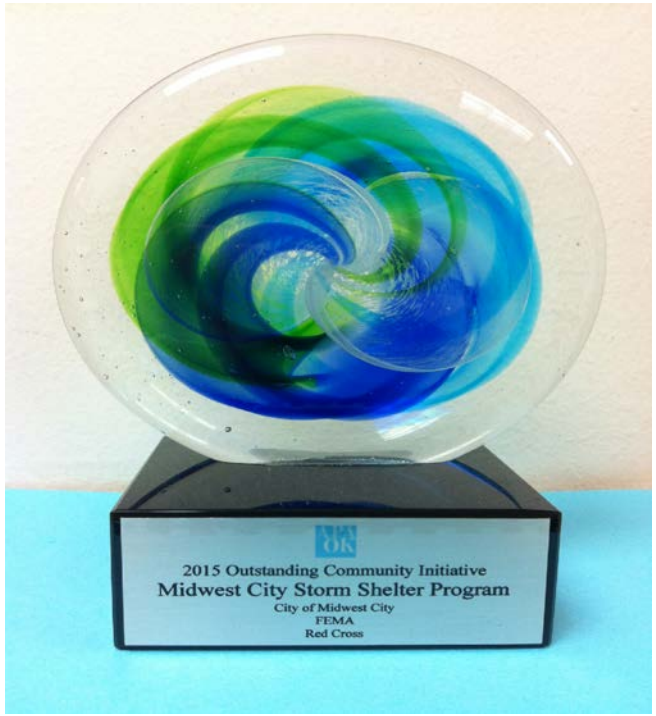
Community Initiative Award

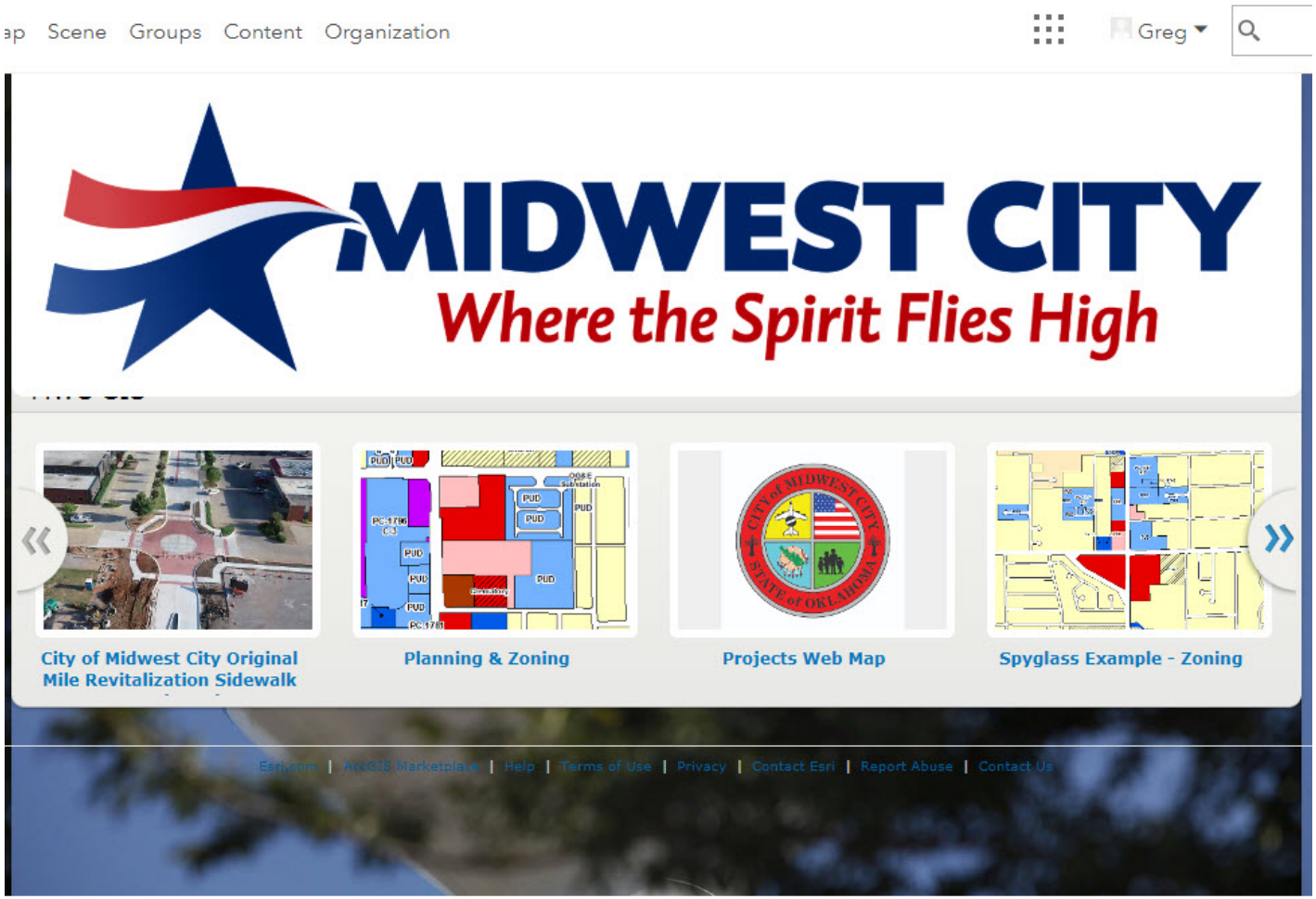
Given in 2015 by the Oklahoma Chapter of the American Planning Association (APA)

- For our multi-faceted approach to bolster our Storm Shelter Program



MapViewer

ArcGIS Online



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Midwest City GIS Drone

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City Park at Town Center

Future GIS Initiatives

- Transition from MapViewer to ArcGIS Online
- Expanded web-based mapping solutions
- Cityworks PLL Implementation
- Mobile Solutions
- Expansion of GIS software use throughout City Departments

Midwest City GIS Links

- Official City Page - www.midwestcityok.org
- Public MapViewer - maps.midwestcityok.org
- Midwest City ArcGIS Online - https://mwcok.maps.arcgis.com

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