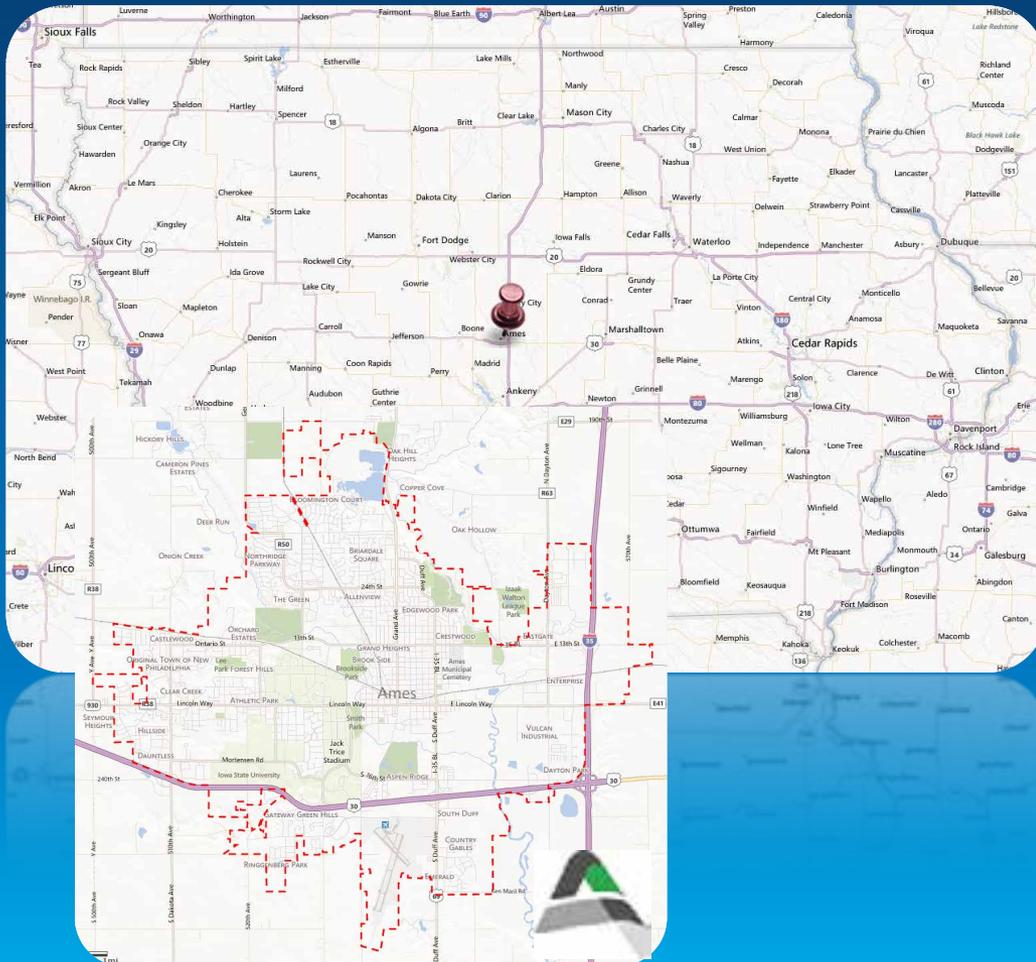# Sign Management Using ArcGIS for IPAD

Ben McConville, GISP

GIS Coordinator, City of Ames Iowa
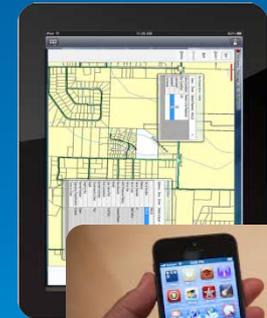
# City of Ames
## Overview



- 59000 population
- +/- 24.5 miles sq
- Traffic Division
  - 7-9 crew
- Iowa State University
  - 27000 students

# Background



Evolution of capability and accessibility

# Ames: Typical GIS Application Setup

## Ex: Hydrant Flushing Program

**Operations Supervisors**

Dynamic Maps and Reports

**Fire Department**

Real-time "hydrant out of service" reporting

**Public**

Real-time public progress map

**Water Operations**

Real-time inspection and flushing information IPADs and IPHONE.

**Streets Operations**

Plugged Intake Reporting

# Problem

- Signs moved from Access to Enterprise GDB

- OTB ArcGIS Mobile iOS application

  - Currently being used to maintain Sanitary, Storm Sewer and Water assets.

  - BUT… Lacked functionality for related tables for sign management.

    - Signs…Supports…

    - Multiple signs…Hardware

  - Bar-coding needed to speed retro-reflectivity surveys.
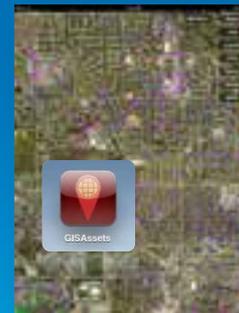
Paper

Access Database
•No spatial component
•Hard to manage
•Only one person at a time

GIS
•Maintained anywhere.
•By anyone.
•Dynamic Reporting
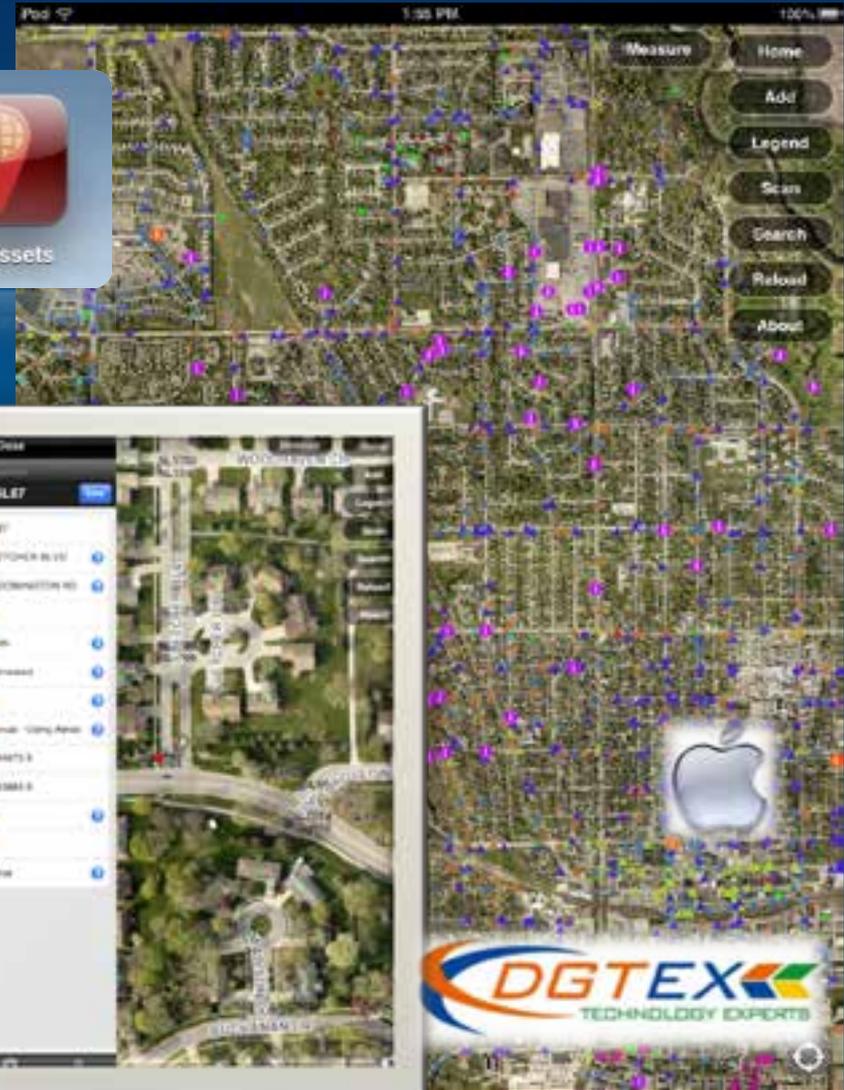•Enabled change in RR strategy

# Solution

- Partnered with DGTEX
  - www.dgtex.com
- Goal:  Develop and test customized mobile application to meet City needs.
  - Integrates fully with the City's Enterprise GDB.
  - Scalable to other assets.
- Functionality for signs….scalable to all assets.
- Web based administration site.
  - Change services being accessed.
- Built entirely from the ARCGIS iOS SDK

# Custom "GIS Assets App"



**922 Handheld Retro-reflectometer**
- Links via barcode.
- Automatically averages readings.
- GPS Enabled.
- Enabled us to change compliance strategy from bulk timed replacement to replacement based on need.
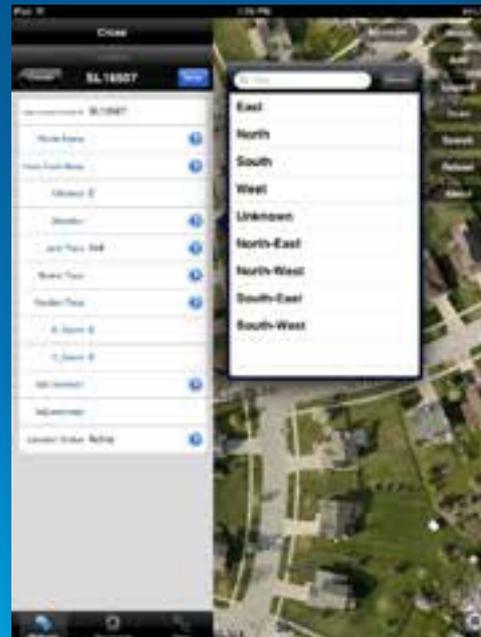- Meets FHWA testing requirements.

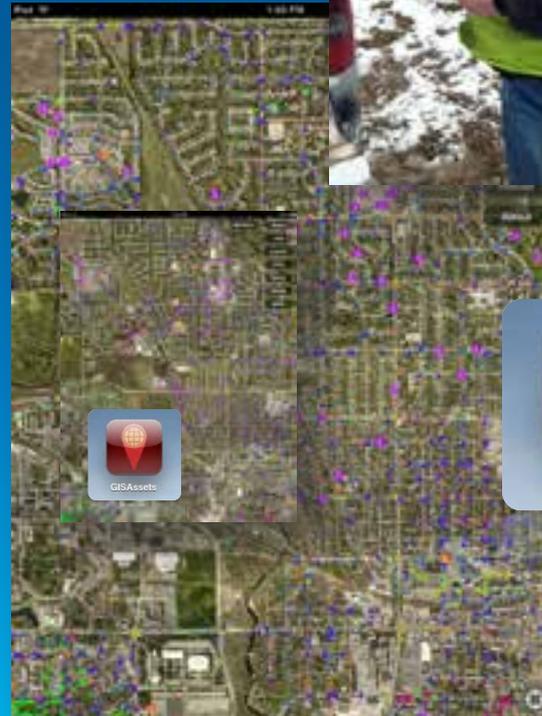# Functionality



Sign Location Record

iPad Barcode Scanner

Barcode and GPS Enabled Retroreflectometer

Location accuracy will improve as we fine tune with built-in GPS.

# Functionality

- Related tables (history, related attributes, etc.) built in.

- Barcode scanner added.

- Integrates with retro-reflectometer via barecode linking.

- Allows in field improvements to sign inventory.

# Dynamic Reporting



*Dynamic Reporting*
*SQL Reporting Services*

# Personel

- Readily accepted. Makes their job easier, familiar interface.

- Support from management.

- Created "How To" videos for use in the field.

   - Specific Tasks

- <u>Empowering:</u> Enables every staff member to participate and readily access and share necessary information.

- Added Mobile GIS Courses into the City's GIS Training Program.

- Specific training for each app.

# Benefits

•Centralize sign management within the Enterprise GDB

•Real-time reporting for managers

• Change in sign replacement stategy.

   •Rather than bulk replacement by age and area…

   •Replace as needed.

•Ensures compliance with Federal and State mandates.

•Found over 1000 signs the City doesn't actually have!

•Scalable.

•Standardizes Data input.

# Sign Management Using ArcGIS for IPAD

Ben McConville, GISP
GIS Coordinator
City of Ames Iowa
bmcconville@city.ames.ia.us
515-239-5162

DGTEX, Inc
1835 E. Hallandale Bch Blvd #776
Hallandale, FL, 33009
954-667-7638
www.dgtex.com