

Zero to GIS

Presented by: Bret Rowlinson

GIS Supervisor – City of Moose Jaw

November 3, 2015



City of Moose Jaw Overview

- The City has a population of 35,000 people with a work force of 350 FTE employees.
- GIS is a part of Information Technology Department. At project outset, IT was a branch under the Finance Department
- Currently one permanent GIS staff (GIS Supervisor). Hoping to add a GIS Technician position sometime in the future.
- Esri user since 2012

Enterprise GIS Capital Project

- Department of Finance established 5 year Capital project to implement an 'Enterprise GIS'
- Primary Driver – PSAB 3150 Accounting Reporting
 - Current record keeping didn't allow for appropriate reporting levels
- Project initiated early 2010
- After project approval I became the GIS Supervisor to lead the project.

Starting Line

- Drafting department of 3 staff creating design plans (no as-built drawings since 1991)
- Older as-built's on mylar
- Infrastructure replacement and repair records on recipe cards by city block.
- No standards for survey point collection
- CAD files formatted primarily for print output and no attribute data.
- Essentially no authoritative infrastructure records

Speed bumps and Yellow Flags

- Spent considerable time trying to figure out how to use existing tools (AutoCAD) for GIS.
- Conversion of existing drafting plans (NAD27 and inconsistent standards)
- Needed to start the work and plan for an IT Geek to become a Geography Geek.
- Lack of records and data. Needed to start collecting all fixed assets.

Need Data

- How to collect?
- What h/w and s/w do we use?
- Handhelds purchased for data collection
 - Trimble GeoXH 6000 (off-street)
 - ikeGPS (on-street)
- Hired term positions to start collecting data in the field and digitizing paper-based plans and records

Making Progress

During two Summers of data collection:

- 951 Fire Hydrants
- 156 Benches
- 225 Bike Racks
- 317 Street Lights
- 403 Waste Containers
- 1,528 Catch Basins (Storm inlets)
- 2,662 Manhole Covers
- 249 Trails
- 6,099 Water Curb Shutoffs (approx. 50%)

Getting up to Speed

- During this time started to attend local Esri User Conference and started reading and learning about Esri products
- Purchased EDN license to start working with ArcMap and ArcGIS Server
- Also worked with some Open Source GIS tools
- Purchased an FME license
- Started working with first releases of arcgis.com

Establishing Consistency

- Started accumulating some good data from field collection and 3rd parties
- Decided to adopt the Canadian Municipal Data Model (CMDM) as our data schema
- Were able to purchase Esri's small government ELA for licensing in February of this year (2015)
- With help from Esri Consulting, started to develop a governance strategy for GIS data.
- Started planning on how to keep the data current

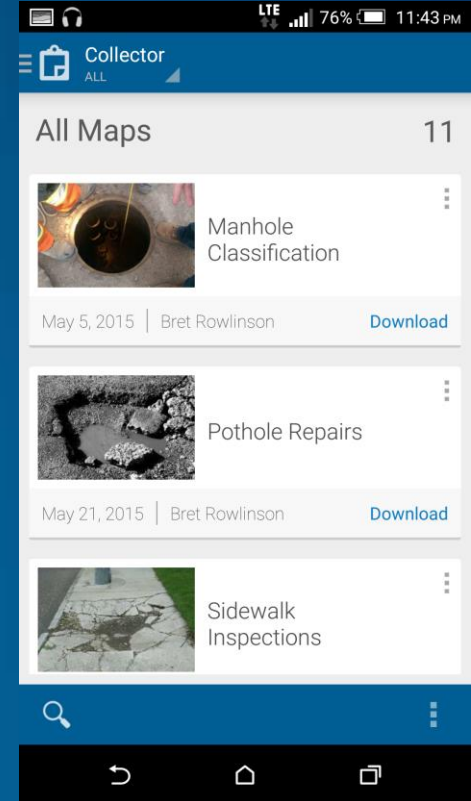
Gathering Speed

- Deliverables to department (mapbooks, webmaps, wall maps)
- Leverage arcgis.com more for internal and external web maps
- Cast Iron Project
 - City needed to plan for the replacement of Cast Iron
 - Incomplete records on where and how much there was
 - Conflicting records – needed to try to validate
- Collector for field workers

Mobile GIS

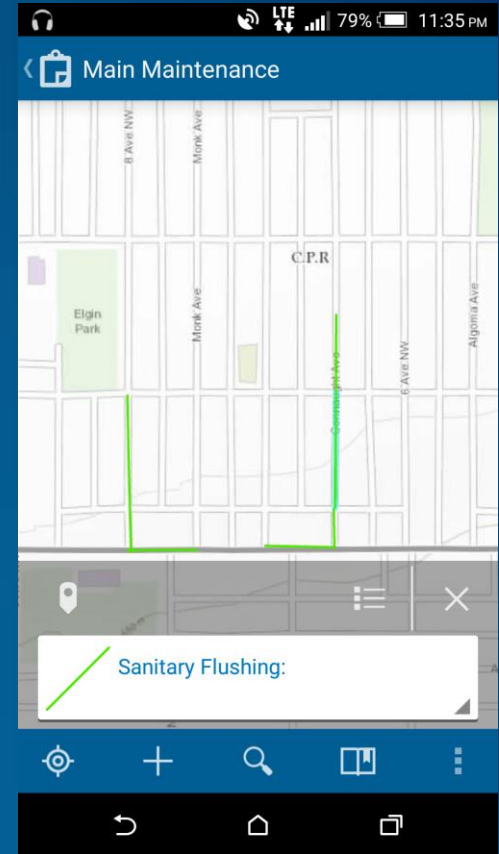
Started using Collector for ArcGIS

- Storm and Sanitary Main Maintenance
- Manhole Classification
- Pothole repairs
- Sidewalk Inspections and Post-Repair Inspection
- Infrastructure Validation



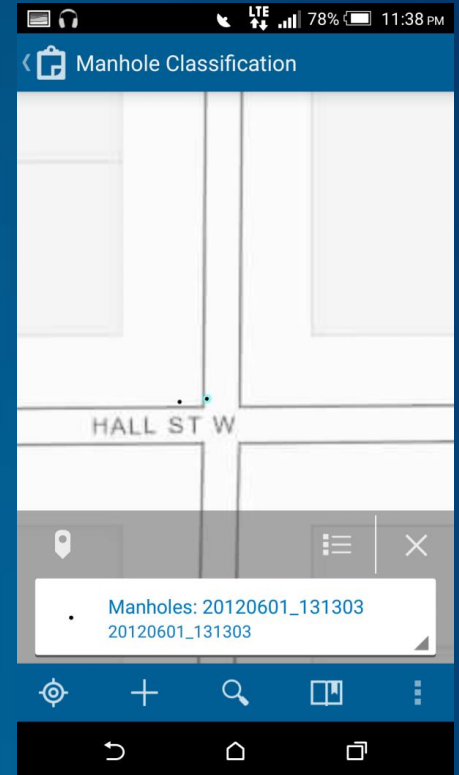
Storm and Sewer Maintenance

- Needed a method to better track the frequency that certain segments of sanitary sewer had been flushed.
- Worked well in offline mode on a tablet.
- Later added ability to track for storm sewer as well.

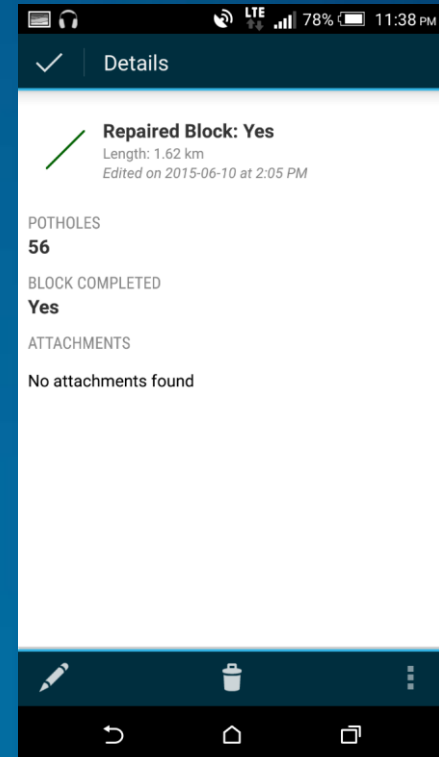
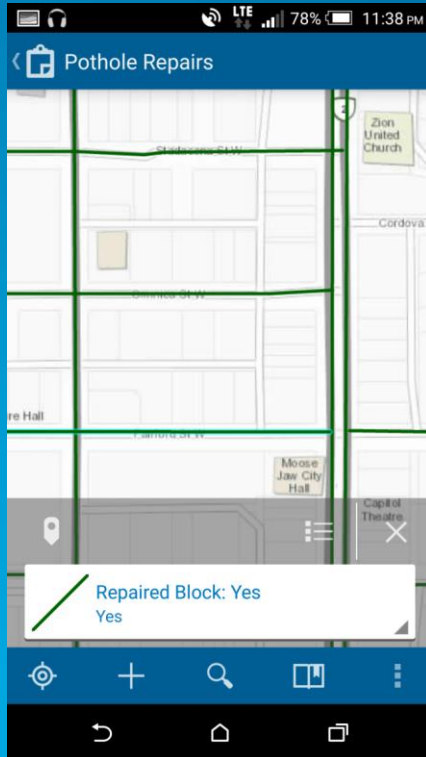


Manhole Classification

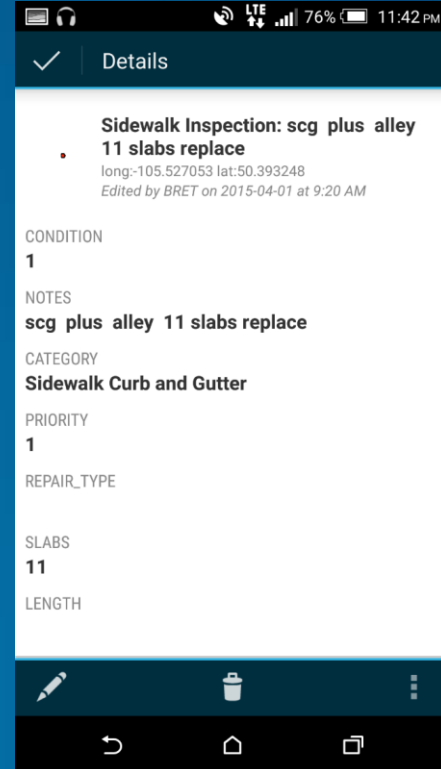
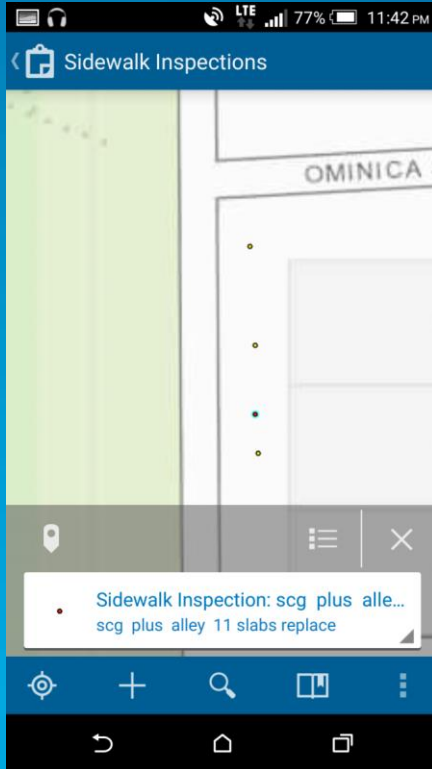
- When doing initial data collection, type of manhole wasn't determined.
- App created to classify manholes
 - Sanitary
 - Storm
 - Cathode
 - Other Agency
- Validated data moved into appropriate CMDM Feature Class



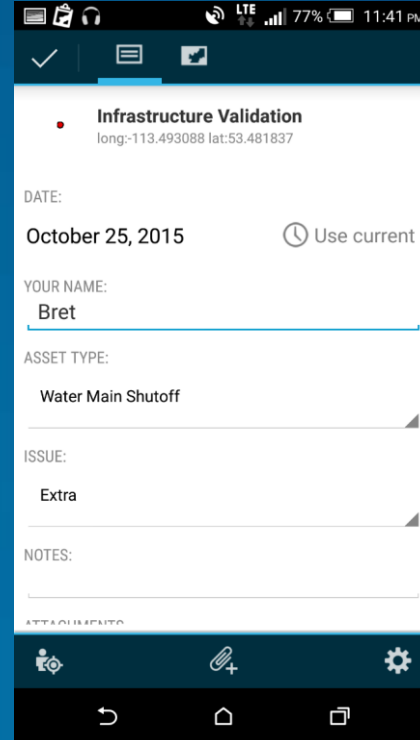
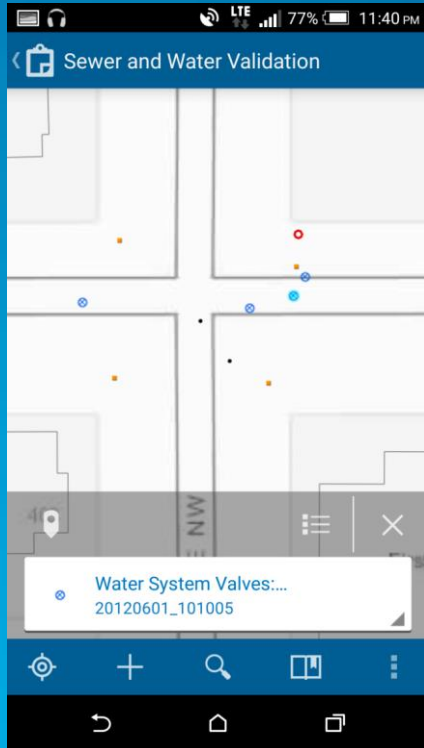
Pothole Statistics



Sidewalk Inspections



Infrastructure Validation



Creating Collector Maps

- Can be created and deployed rather quickly.
- Decide early if offline mode is necessary
 - Services have to be setup differently of offline
 - Maps need to be setup for offline use on device
 - Online mode is a little easier to maintain and support
- Use Domains! Nicer user experience
- Related tables is a nice enhancement
- Collector will be key for us to keep data current!

Web Application Builder

- Had created several web maps for internal and external use
- Inconsistencies among them, used several different technologies, Flex, Silverlight, Java.
- Are currently in the early stages of migrating all of our web maps into the web app builder.
 - Cross platform support
 - Consistent look and feel for all maps

Future Plans

- More wide spread use of mobile to field workers
- Migrate web maps to web app builder for look and feel consistency
- Establish strong governance for our GIS data
- Make more of the GIS data available internally and externally (Open Data)
- Establish some more FME workflows to automate keeping data in CMDM current
- Try to break the sound barrier next.

Q&A

© 2015 Esri Canada Limited. All rights reserved. Trademarks provided under license from Environmental Systems Research Institute, Inc. Other product and company names mentioned herein may be trademarks or registered trademarks of their respective owners. Errors and omissions excepted.

bret@moosejaw.ca

