

Visualize the history of the Collection System

Mel Y. Meng , PE GISP

Acknowledgement

- Southeast Section
- City of Columbus – Sample Complaint Database

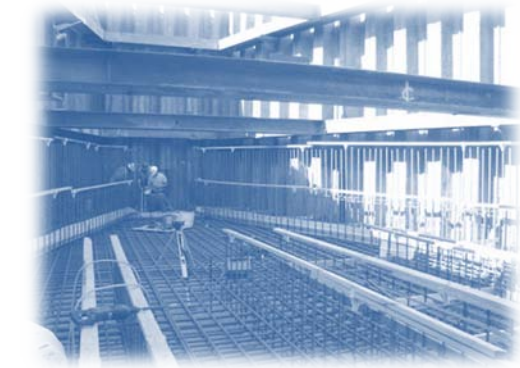
Outline

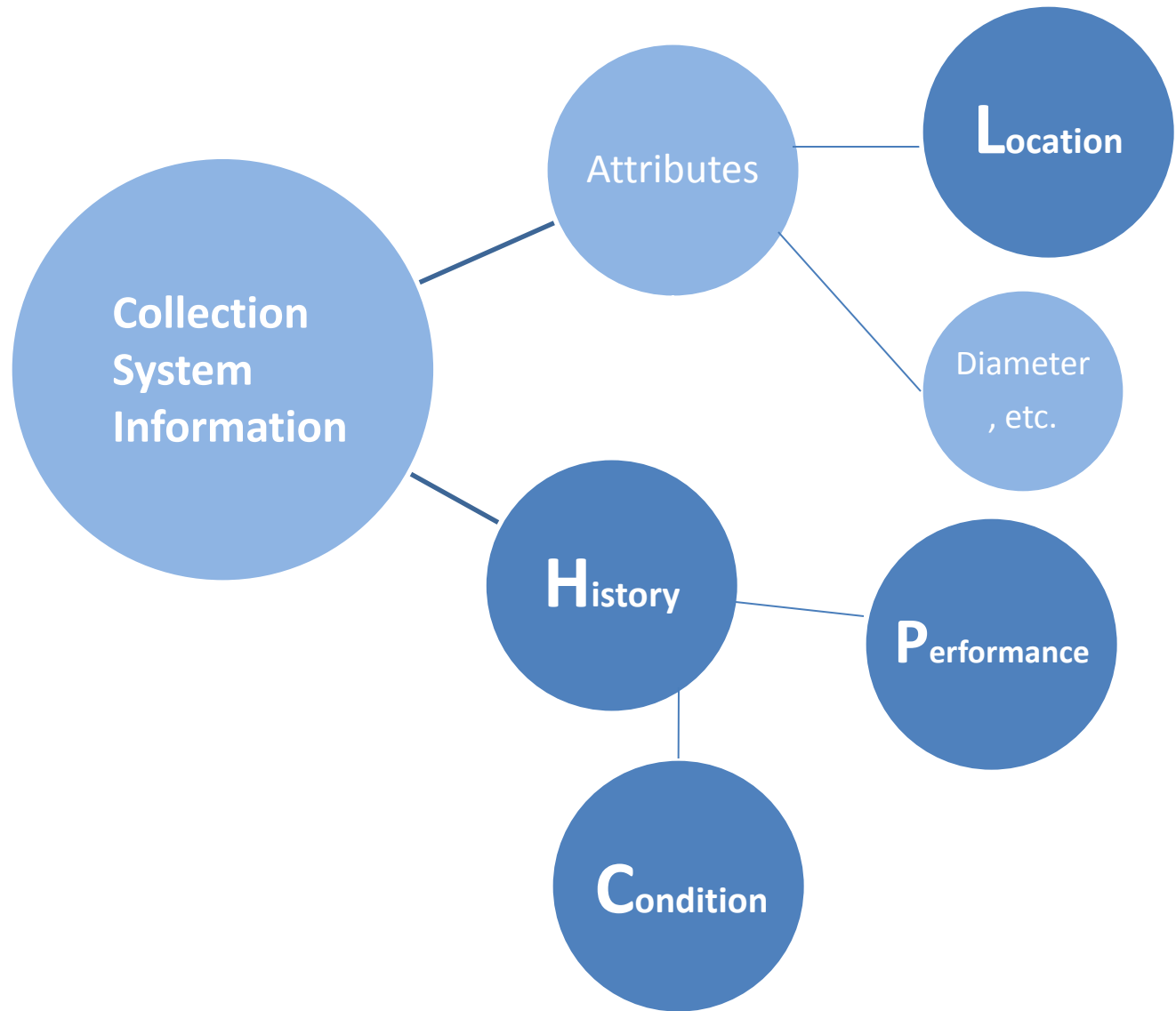
- Collection System Information
- Analysis
- Visualization
- Google Fusion Table Demo



Why collect data?

- The system history
 - Best predictor of future performance
- Asset Management
 - Preventative maintenance
 - Predictive maintenance

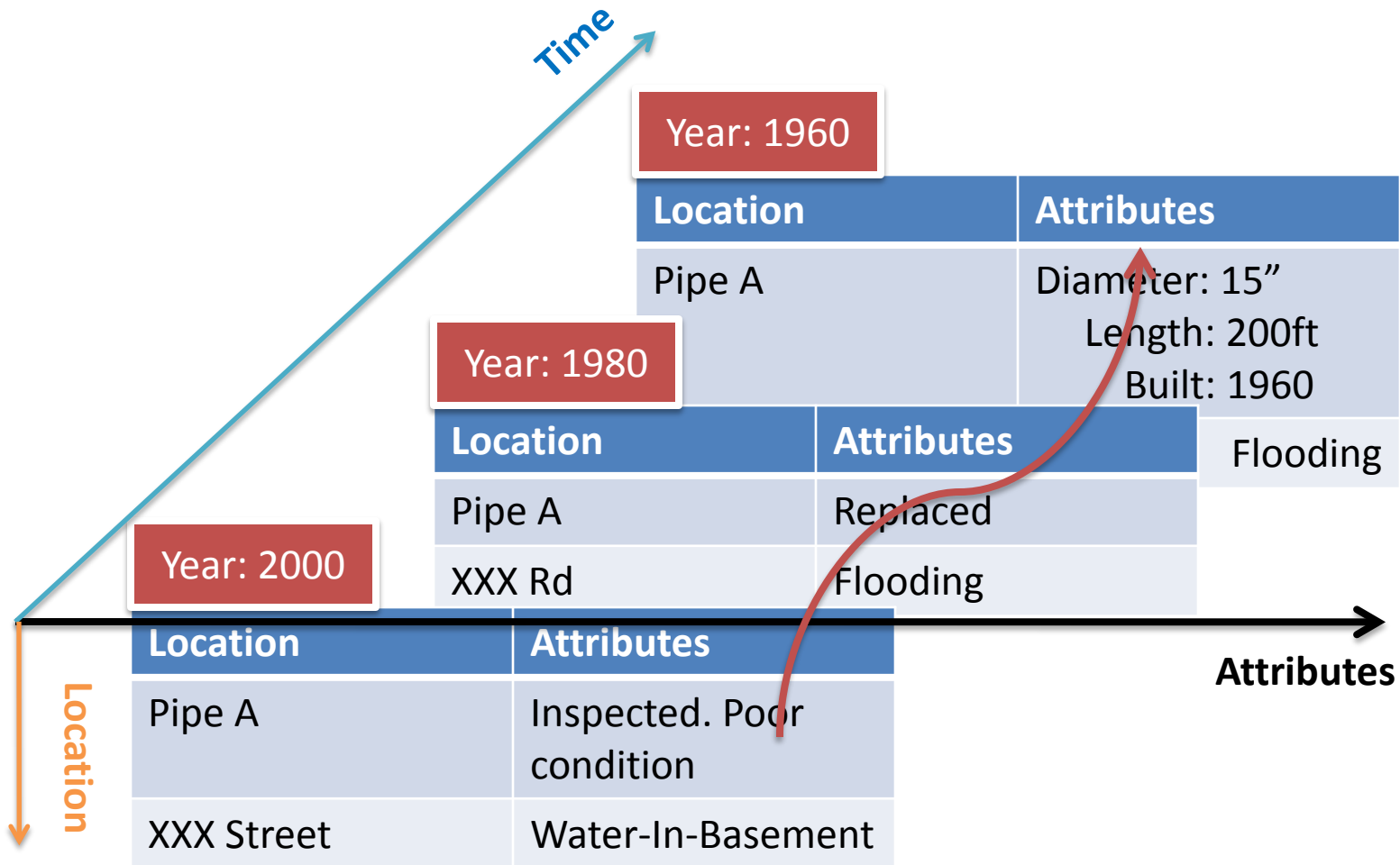




History

- Things that change over time
 - System Condition
 - Maintenance
 - Repair
 - Inspection
 - Performance
 - Flooding
 - Water-in-basement
 - etc.

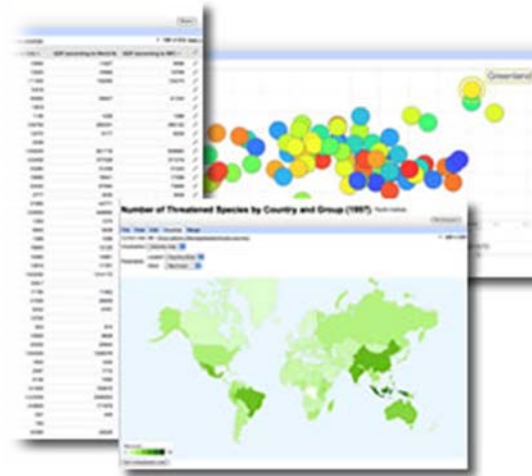
Understanding the data



Visualization

- Efficient
- Gain insight
- A shared view

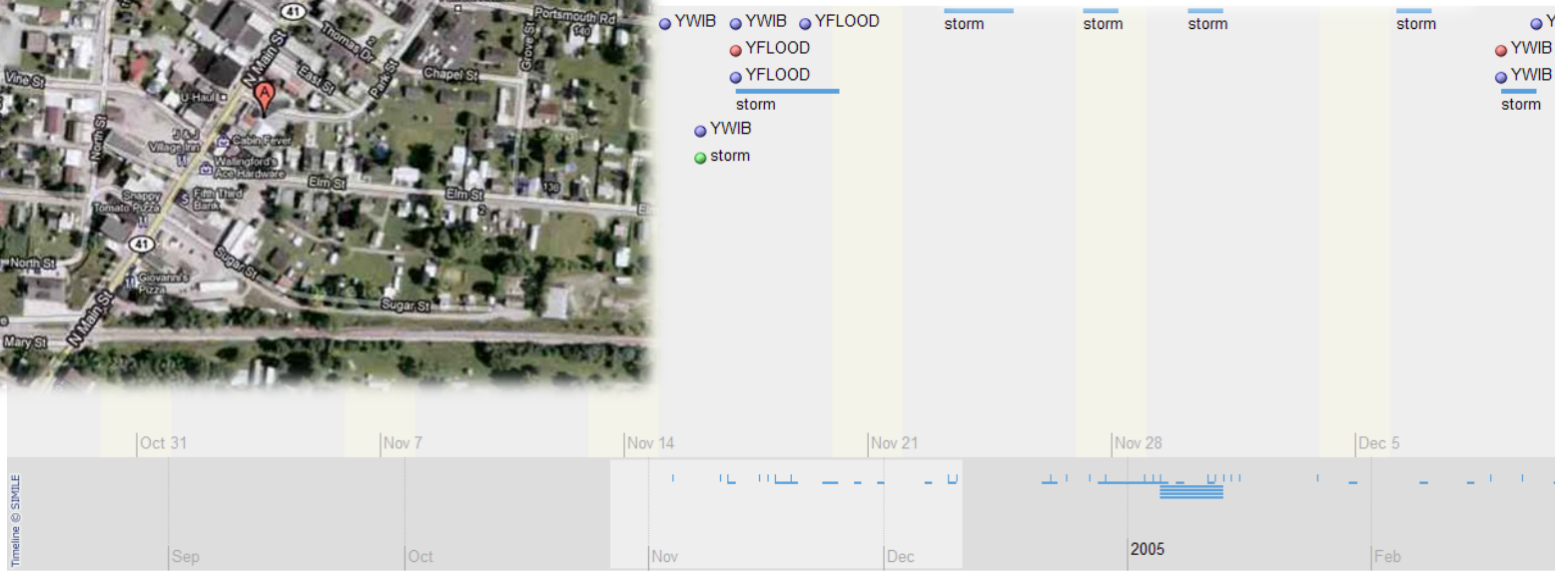
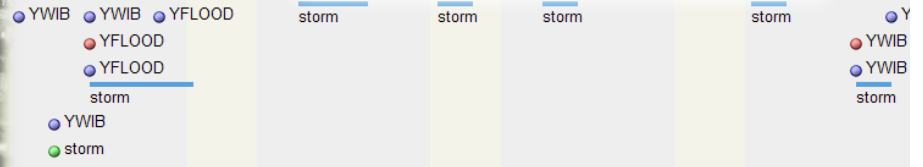
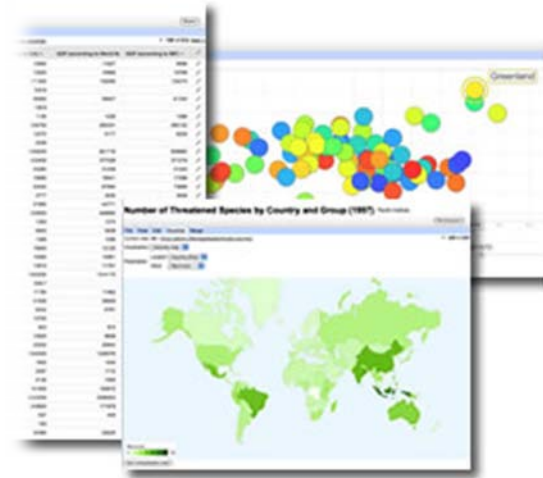
**FUN
INTERESTING**



That sounds great. Let's do it.

But, how much does it Cost?

Demo



What else do you need?

- Geocoding

Collect & Store

Collection System Database

*** Required**

Date *
mm/dd/yyyy

Customer Name

Location *
A street address or the street intersection

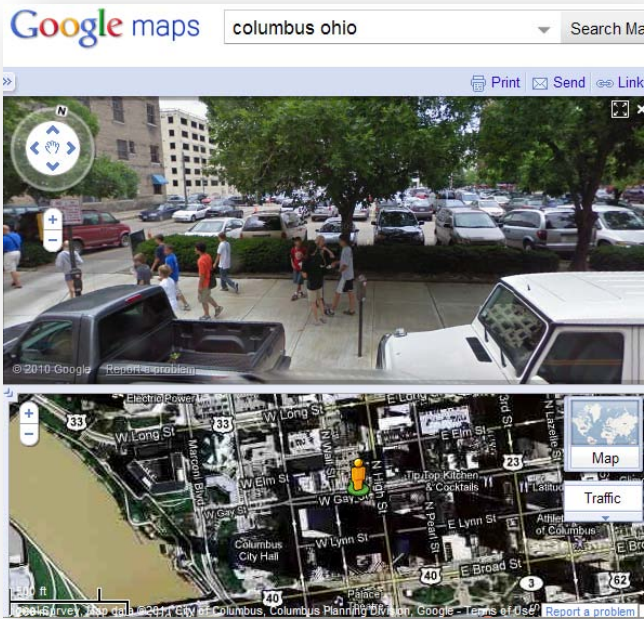
Type *
The type of the problem
 Flooding
 Water-in-basement
 Other:

Comments
Additional information

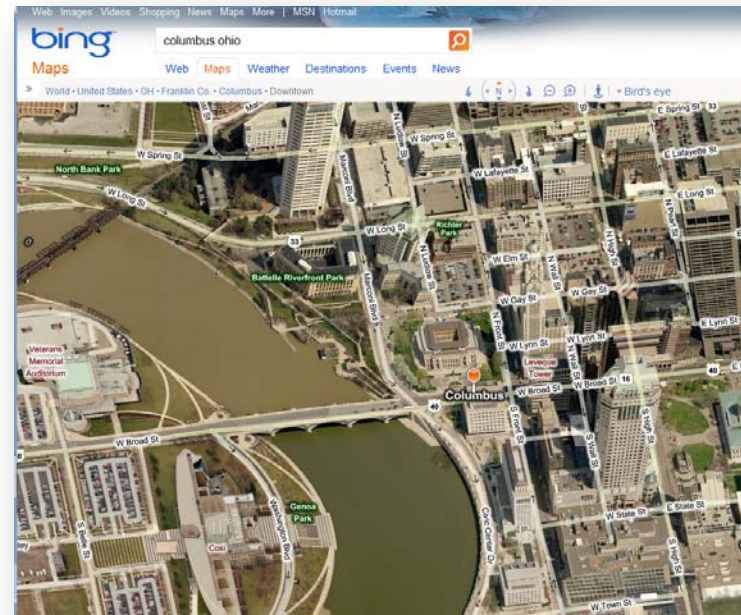
The screenshot shows a Google Docs spreadsheet interface. The title bar reads "Collection System Database" and "Private to only me". The menu bar includes "File", "Edit", "View", "Insert", "Format", "Form (1)", "Tools", and "Help". The toolbar shows various editing tools. The formula bar contains "Timestamp". The spreadsheet has the following data:

	A	B	C	D	E	F	G
1	Timestamp	Customer Name	Location	Type	Type	Comments	Re
2	3/8/2011 13:12:31	cusotmer 1	50 Mary St Peebles, OH 45660		Flooding		
3							
4							
5							
6							
7							
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Google Maps Street View



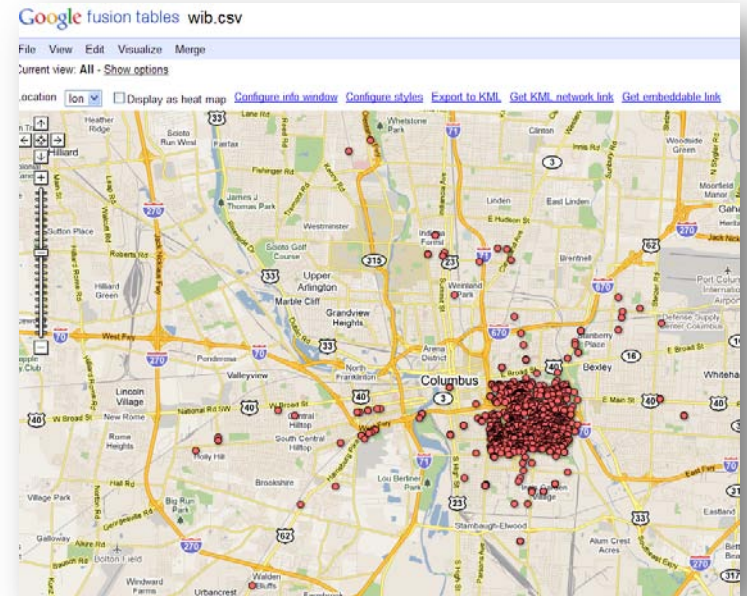
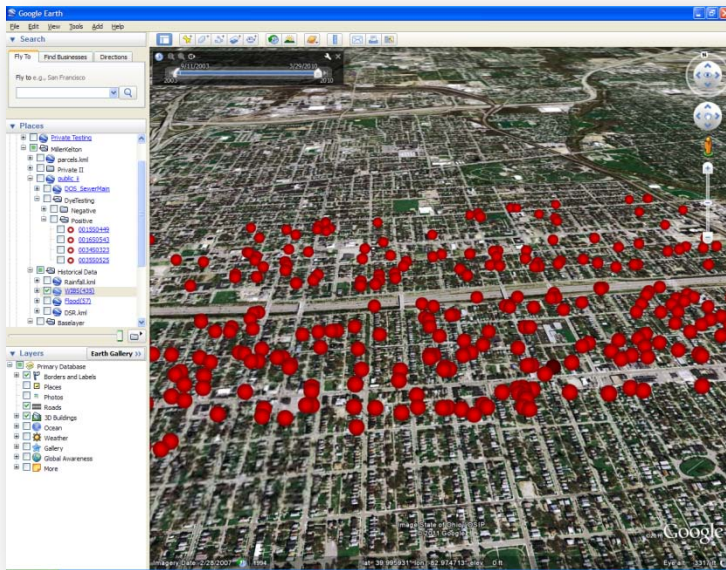
Bing Maps Bird's eye



Overlay your own data

Google Earth

Google Fusion Table



Free Tools

- QGIS
- Open Street Map

Questions

Table

request_no ▾	request_date ▾	nature_of_request ▾	service_request_type ▾	district_number ▾	street_num ▾
1000078	1/4/2010	YWIB	INVESTIGATE	35	1707
1000085	1/4/2010	YWIB	INVESTIGATE	34	1459
1000179	1/5/2010	YWIB	INVESTIGATE	35	1327
1000258	1/6/2010	YASSCLN	INVESTIGATE	16	933
1000365	1/10/2010	YOTHP	INVESTIGATE	15	159
1000580	1/14/2010	YLIDO	INVESTIGATE	16	1035
1000730	1/19/2010	YWIB	INVESTIGATE	15	615
1000735	1/19/2010	YWIB	INVESTIGATE	16	709
1000740	1/19/2010	YWIB	INVESTIGATE	34	1801
1000767	1/19/2010	YWIB	INVESTIGATE	15	622
1000773	1/19/2010	YWIB	INVESTIGATE	35	756
1000776	1/19/2010	YWIB	INVESTIGATE	15	332
1001017	1/22/2010	YWIB	INVESTIGATE	35	987
1001068	1/24/2010	YLIDO	INVESTIGATE	16	
1001090	1/24/2010	YWIB	INVESTIGATE	16	3718
1001091	1/24/2010	YWIB	INVESTIGATE	16	980
1001107	1/25/2010	YWIB	INVESTIGATE	35	1039
1001141	1/25/2010	YCAVEIN	INVESTIGATE	15	
1001150	1/25/2010	YWIB	INVESTIGATE	16	969
1001160	1/25/2010	YWIB	INVESTIGATE	16	975

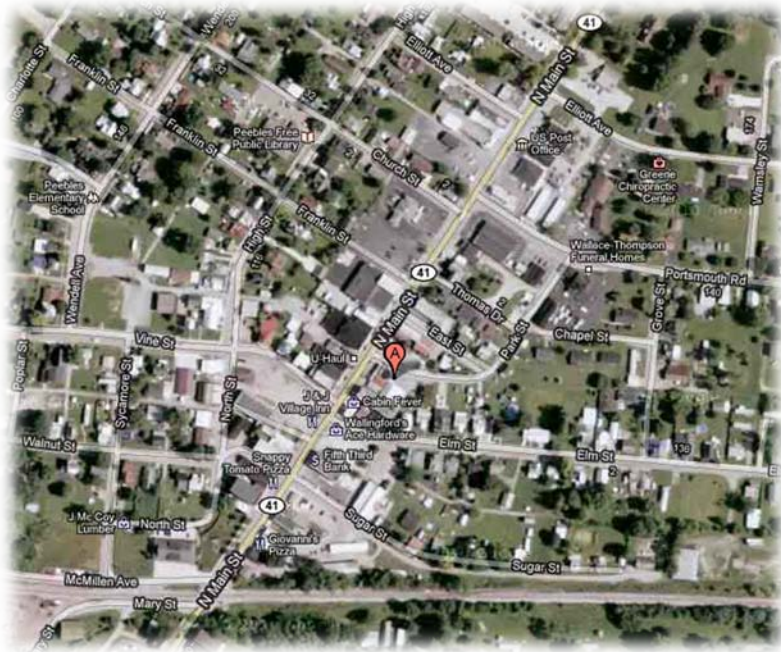
Tools

- Sort
- Filter

Look for

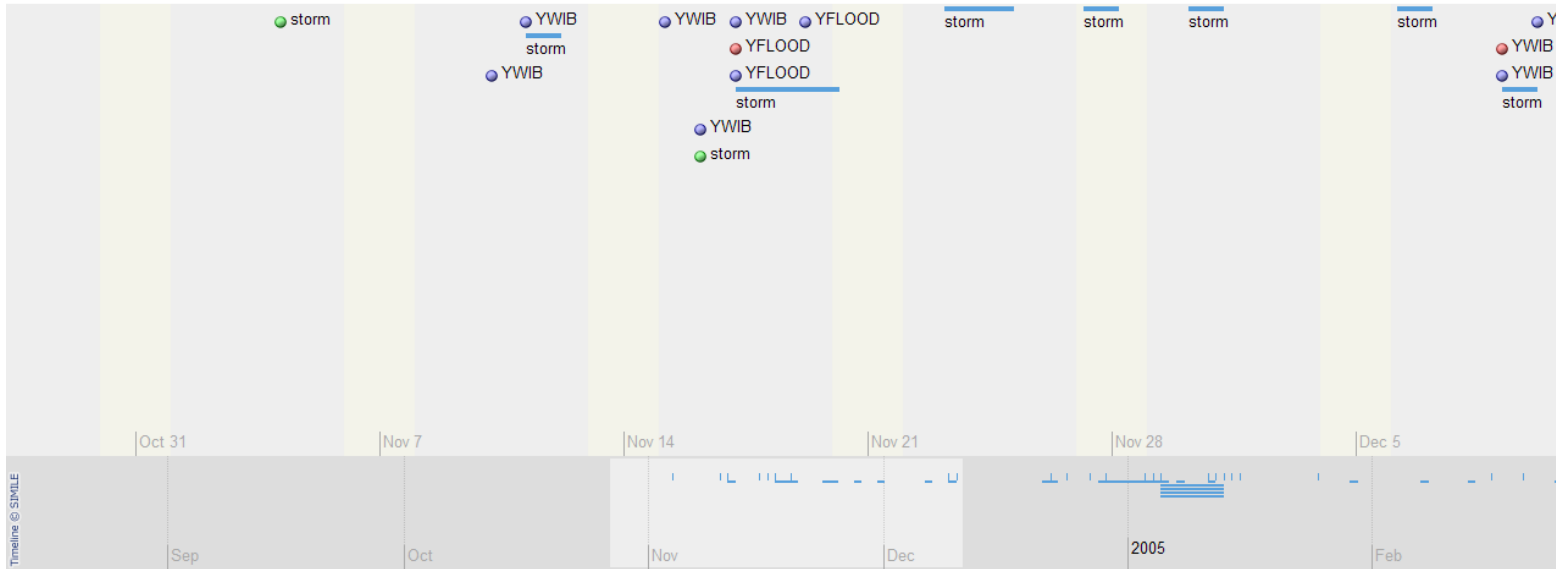
- Patterns
- Anomaly

Map



What is out there?
Overlay my data.

Timeline



Pipe/Manhole Condition

- Condition
 - CCTV: PACP Coding
 - Good, Fair, Poor
- Consequences of Failure
 - Trunk line, large diameter (Service)
 - Under a highway or a building (Repair)

Performance

- During a rain event
 - Storms
 - Flooding
 - Water in basement
- Maintenances
 - Grease
 - Debris
 - Roots