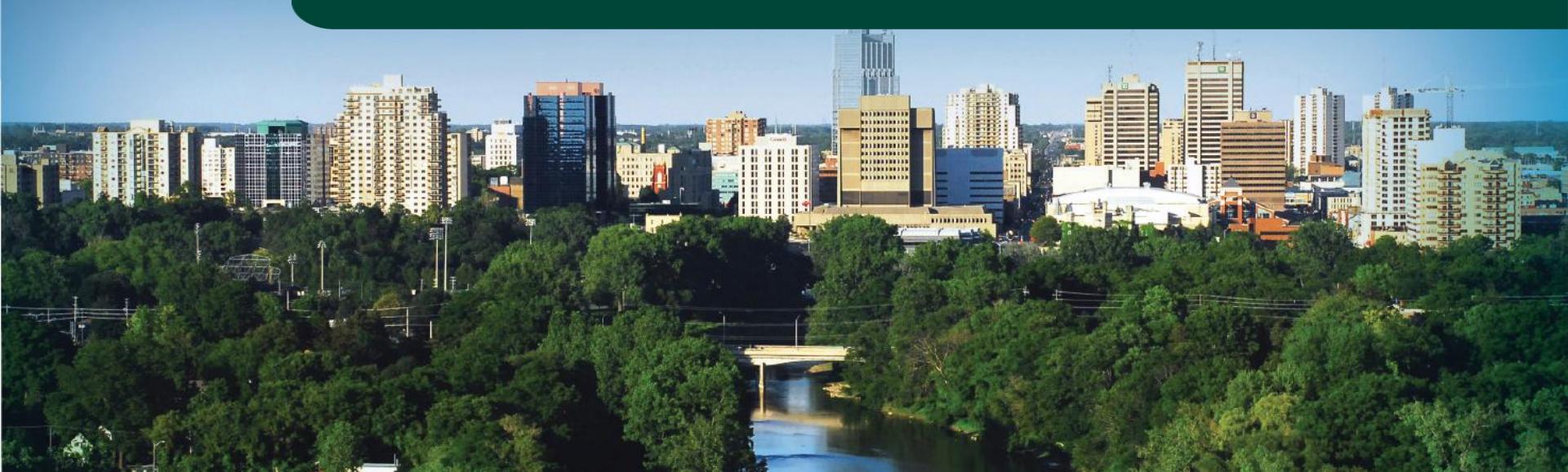




# AM Planning Using BI Dashboards



[london.ca](http://london.ca)

November 12, 2025



# AM Planning Using BI Dashboard

**Kevin Nelson,**

Corporate Asset Management Advisor at the City of  
Guelph

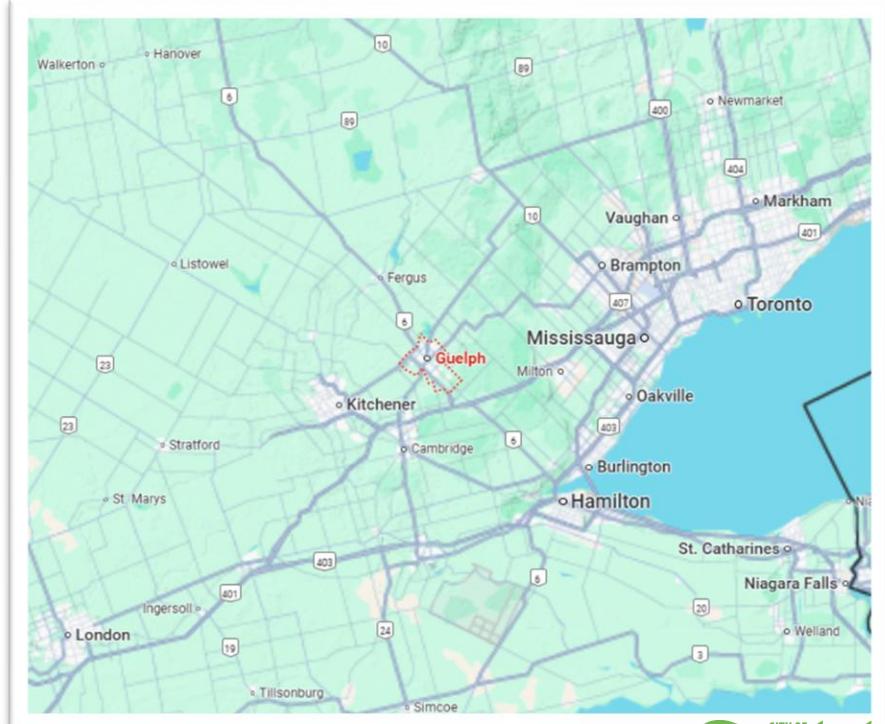
**Djordje Dobric,**

Asset and Maintenance Management Analyst at the City of  
Guelph



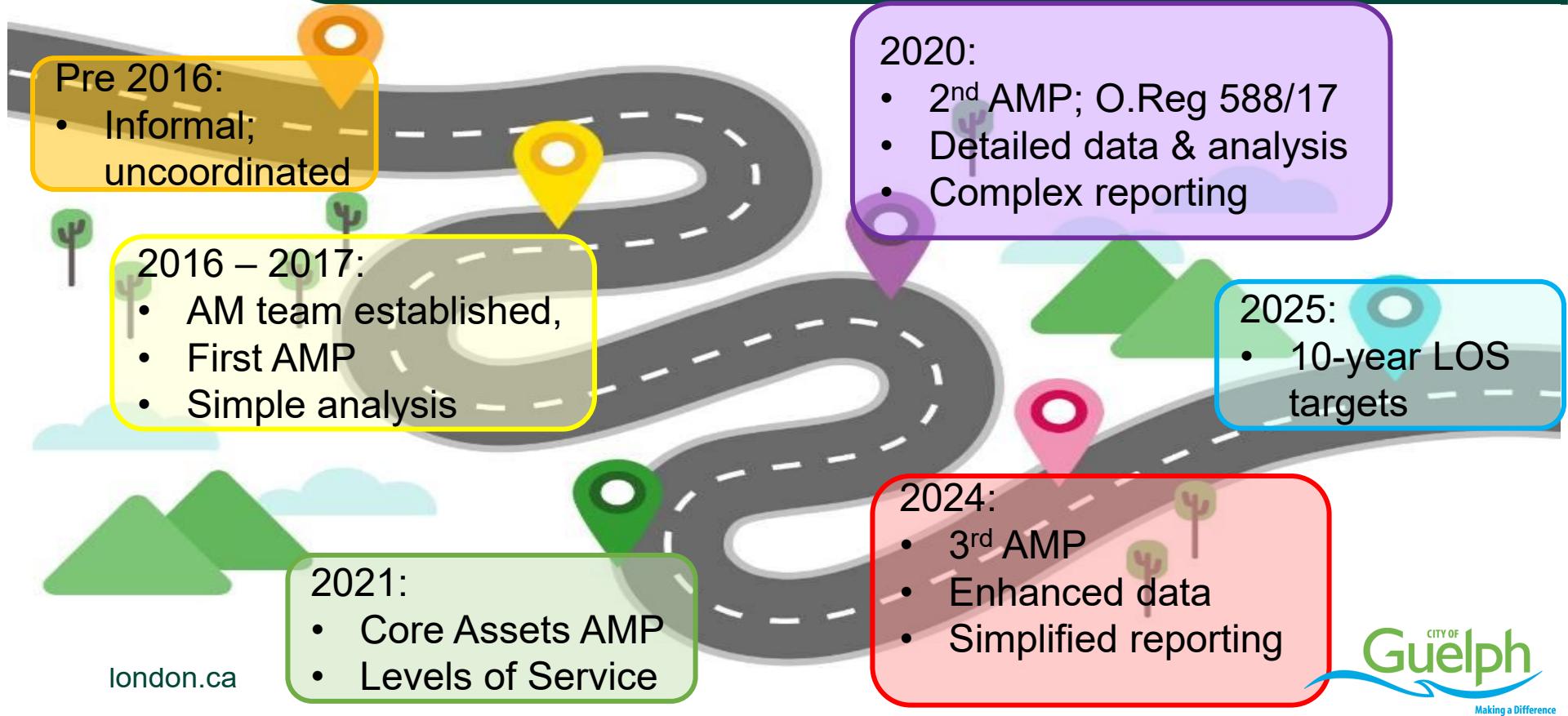
# City of Guelph

- 150,000 people; forecast to grow to about ~200,000 by 2050
- 64,000 households today, growing to 85,000
- Single tier; 17 different municipal services
- \$7.2B in assets (2025)
- Core assets (roads, water, wastewater, stormwater) comprise about 80% of the asset base
- Corporate Asset Management (CAM) embedded with the Engineering & Transportation services department; oversees and helps coordinates AM across all other departments





# AM Planning is a Journey





# Better Data = Better Decisions

**2017:** single Excel sheet, simple graphs and charts

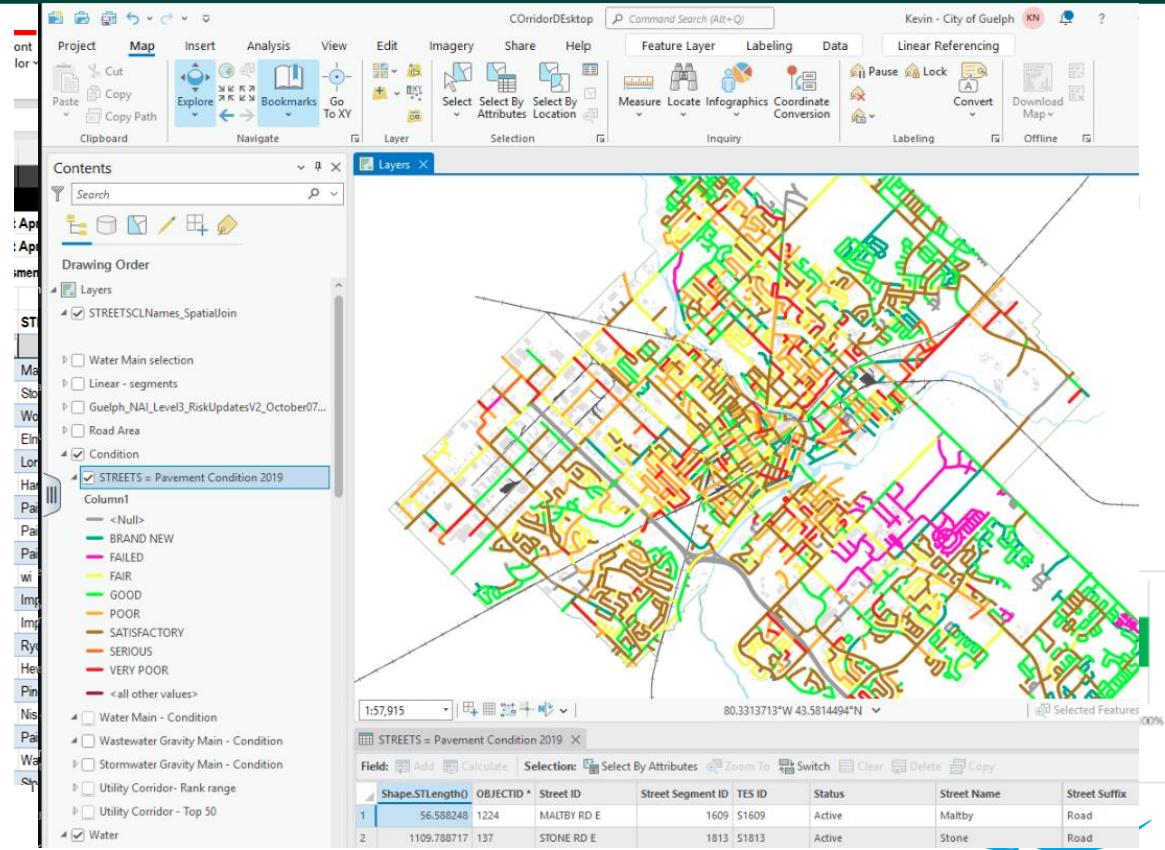
- Age based analysis

**2020:** 17 Excel files, more detailed analysis

- 3<sup>rd</sup> party condition info

**2024:** GIS now the primary inventory but Excel used for analysis and chart generation

- Advanced deterioration models and AI condition info





# Presenting the Data

All that data from GIS and Excel has to be presented in a manner that is easy to understand

Goals:

- Lots of graphs and charts;
- Minimal but clear text

Challenges:

- Many iterations required
- Excel and Word not always friendly

A screenshot of a Microsoft Word document titled '2024 Corporate Asset Management Plan.docx'. The document contains a table with data in 'Millions' and a large image of a modern building at night. The Word ribbon is visible at the top, showing tabs like 'Draw', 'Design', 'Layout', etc. The table on the left has a dark background and light text. The image on the right shows a building with illuminated windows and a reflecting pool. The text 'City of Guelph Corporate Asset Management Plan 2024' is centered below the image.



# Success, but room to improve

Data:

- Steady improvement; from a single Excel file with only basic details and age-based condition / needs analysis.
- Manually intensive work

To:

- Specific data and analysis files per each service; Inventory based on GIS data or 3<sup>rd</sup> party provided condition info; asset valuations based on actual costs; needs analysis done using Weibull deterioration modelling and prioritization modelling
- Still manually intensive

**ALL DONE IN EXCEL!!**





# AMP Delivery

To date:

- “Traditional” publishing: prepare a document in Word, convert to PDF for sharing with internal City Staff & Council and public website

Pros:

- Proven method, easily understood

Cons:

- Time consuming
- Static
- Who reads 350+ pages of AM stuff?



# Enhancing AMP Delivery with BI

- Future:
  - Replace the PDF document with a BI Dashboard (but all the analysis still in Excel)
- Pros:
  - Live data with no delay in reporting: as the data worksheets change the BI display will change
  - Easy to understand: graphics emphasis; minimal text
  - Refined infographics proven by past experience
  - Easy to filter to area of interest

The intent is to use the BI dashboard to mostly replace the traditional AMP document for both City staff and on our public facing portals



# BI Dashboard Workflow





# Live Demonstration

Last Update On 9/28/2025

Total City Portfolio Value **\$7.71bn**

Core City Services Portfolio Value **\$6.26bn**

Non-Core City Services Portfolio Value **\$1.45bn**

CATEGORY	Total Portfolio Value	VERY GOOD	GOOD	FAIR	POOR	VERY POOR	PAST DUE	N/A
TRANSPORTATION	\$2,137,975,538	\$540,285,020	\$578,595,736	\$407,205,153	\$382,405,013	\$149,192,466	\$81,729,859	\$11,435,274
WATER	\$1,656,687,280	\$395,329,174	\$195,395,344	\$500,810,114	\$191,546,825	\$275,510,456	\$76,051,958	\$12,016,060
STORMWATER	\$1,439,156,699	\$234,800,801	\$360,655,047	\$339,824,138	\$257,367,380	\$185,606,258	\$24,494,999	\$36,408,075
WASTEWATER	\$1,019,754,769	\$81,893,859	\$222,919,753	\$297,012,726	\$144,005,343	\$211,352,306	\$74,913,174	\$0
PARKS - FACILITIES	\$282,196,687	\$521,694	\$12,031,104	\$4,500,261	\$612,168	\$239,616	\$2,526,812	
<b>Total</b>	<b>\$7,709,969,068</b>	<b>\$1,386,349,278</b>	<b>\$1,641,957,591</b>	<b>\$1,852,819,840</b>	<b>\$1,108,546,084</b>	<b>\$894,257,029</b>	<b>\$355,079,454</b>	<b>\$198,116,470</b>

All City Services CRV by Condition

Condition	Value
Very Good	\$1.39bn
Good	\$1.64bn
Fair	\$1.85bn
Poor	\$1.11bn
Very Poor	\$0.89bn
Past Due	\$0.36bn
N/A	\$0.20bn

Non-Core City Services CRV

Category	Value	Percentage
Transportation	\$108M	7.4%
Water	\$141M	9.68%
Stormwater	\$151M	10.38%
Wastewater	\$164M	11.27%
Parks	\$165M	11.34%
Police	\$166M	11.41%
Recreation	\$283M	19.47%
Facilities	\$39M	2.71%
Culture	\$47M	3.23%
Transit	\$99M	6.83%

Core City Services CRV

Category	Value	Percentage
Transportation	\$2.14bn	34.18%
Water	\$1.44bn	23.01%
Stormwater	\$1.66bn	26.52%
Wastewater	\$1.02bn	16.3%

<https://app.powerbi.com/view?r=eyJrIjoiMGRjM2I3MTItN2lyYS00OGNhLTg5ZTUtmJzIYT0NGEwMmlzliwidCl6ImY3MzEzMmNiLTk2OTQtNDc1Ni1iNzAxLTlyYWRjM2IzODhiNy9>

<https://app.powerbi.com/view?r=eyJrIjoiMzQ0MGU0MGU0NTIiZi00NDZlTlmMTQtMDhiMjdiZTkwMzl5liwidCl6ImY3MzEzMmNiLTk2OTQtNDc1Ni1iNzAxLTlyYWRjM2IzODhiNy9>

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**CITY OF**  
**Guelph**  
Making a Difference



# Benefits to Internal Staff

Embedded Asset Management

Easier Communication on Asset Decision

Support Capital and Operating Planning

Strengthens Data Driven Decisions

Supports the EAM Program

Data Accessibility



# A-HA!



Since 2016 it has been a challenge to improve the data being used in AM planning: staff didn't always see the connection between daily work and the data about assets that is needed

When they see the BI Dashboard a lot of service area staff now get it; the link between assets, actions and information is more clear

Their role as the owners of the data about the assets, is becoming clearer, improving the quality of the data, and the way it can be used.



# Lessons Learned



Resource Capacity



Defined Program & Vision



Change Management Principles (ADKAR)



Data Empowerment



Collaboration



Less is more



# Future Vision and Final Thoughts

- Successful Internal roll-out
- Increased awareness among staff about the role of data in long term AM planning
- Future External site will simplify delivery of information to the public
- EAM tool should further simplify and streamline process; but using Excel will never stop



# In the meantime



**KEEP CALM  
I HAVE A  
SPREADSHEET  
FOR THAT**

