



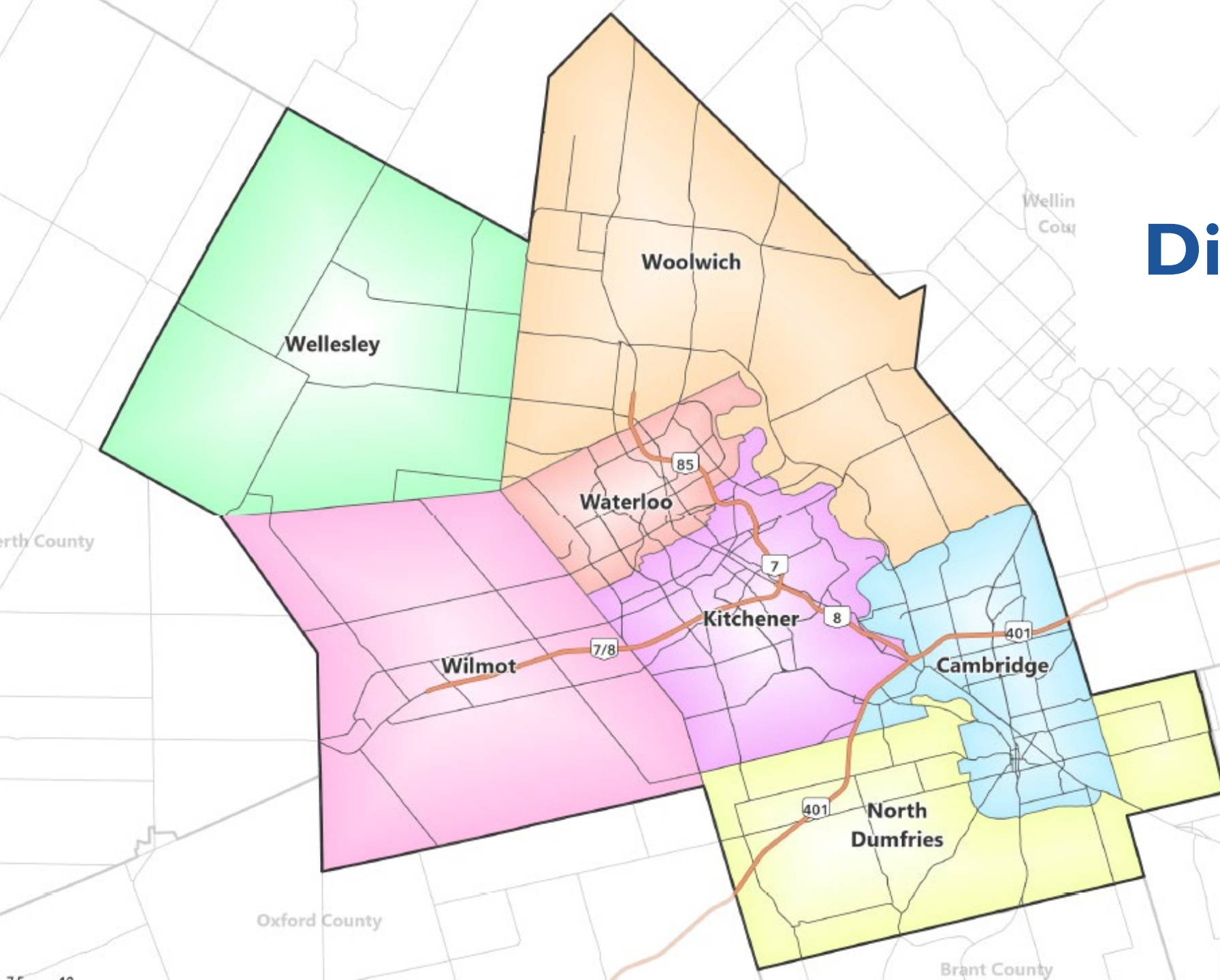
Hidden Complexities of Water Infrastructure

UW Research Talks| September 22, 2026



Did you know?

**Region of
Waterloo and
7 Area
Municipalities
are jointly
responsible for
water delivery**



Forecasted population growth

Cambridge
OFFICIAL PLAN

Official Plan of the
City of Kitchener

**TOWNSHIP OF NORTH DUMFRIES
OFFICIAL PLAN**

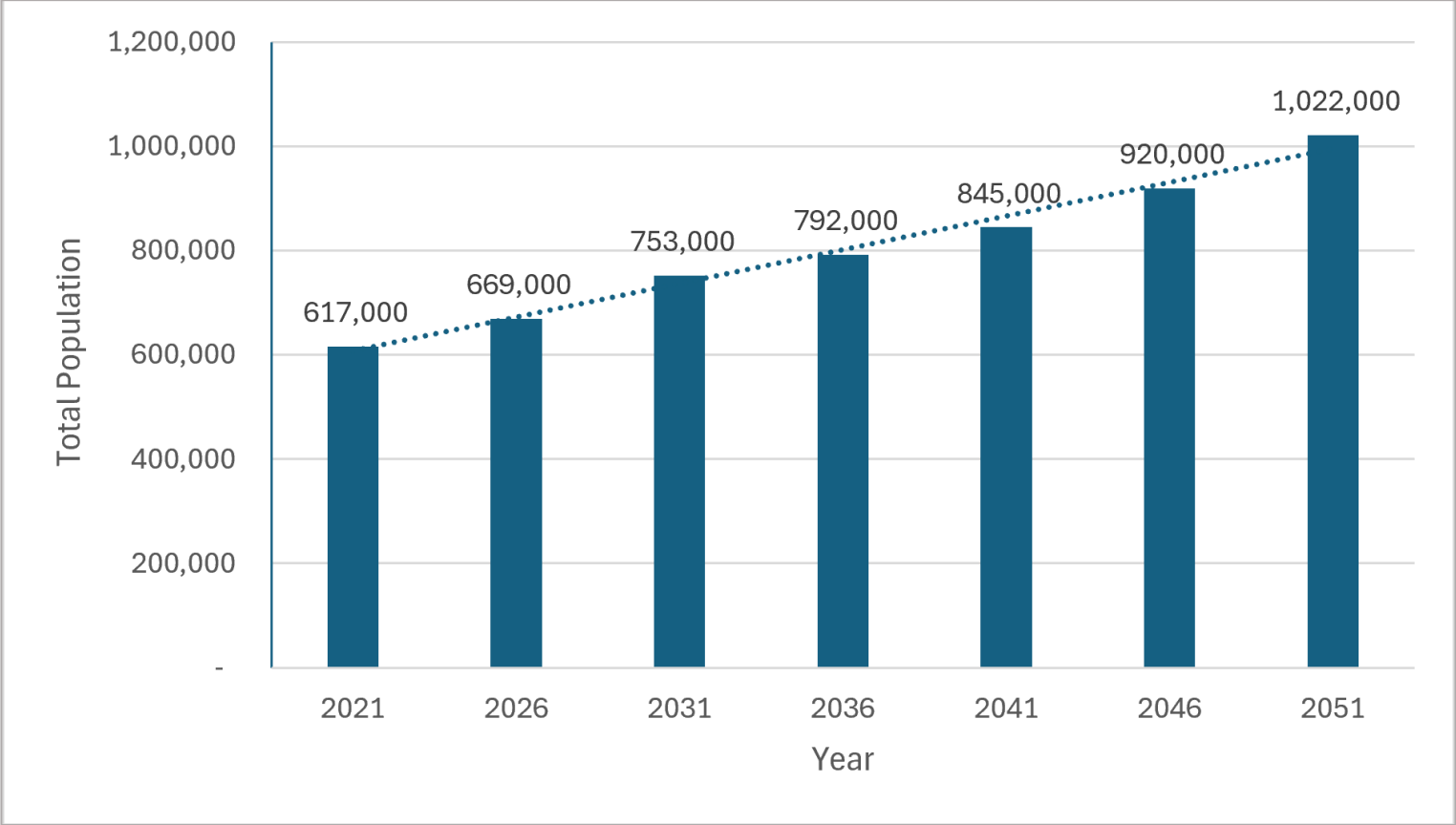
Official Plan, City of Waterloo
Office Consolidation

**Township of Wellesley
Official Plan**

**Township of Wilmot
New Official Plan**

THE CORPORATION
OF THE
TOWNSHIP OF WOOLWICH

OFFICIAL PLAN



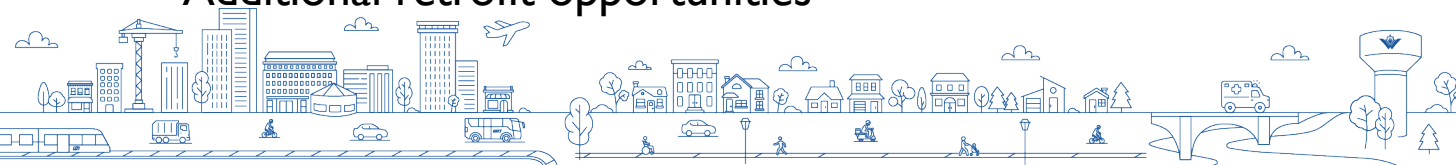
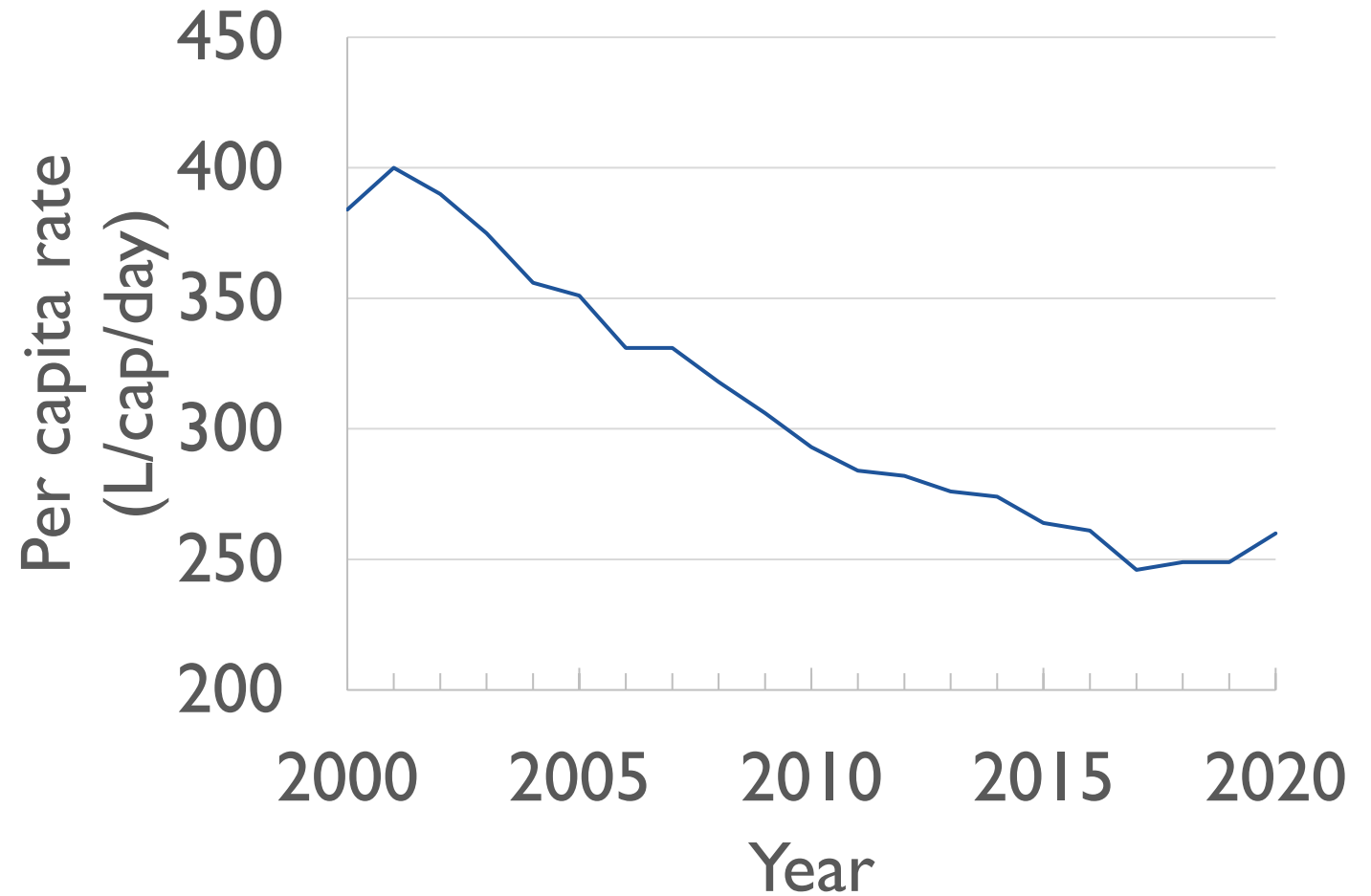
How much water will be needed?

Ongoing water conservation and efficiency:

- Water Conservation By-law
- W.E.T. Home and industry reviews
- Funding for multi-residential buildings to replace fixtures
- Funding for business Water Efficient Certification Program
- Community, school, and youth education
- Water softener education and incentives

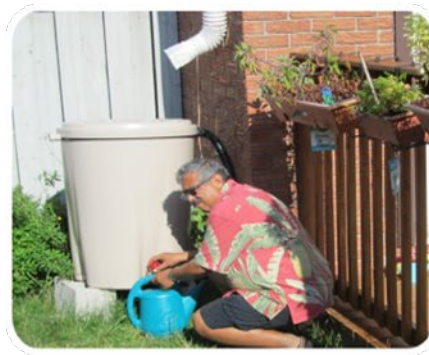
Future water use considerations:

- Grey water reuse
- Enhanced pressure and leak management
- Additional retrofit opportunities



You know what's needed – now what?

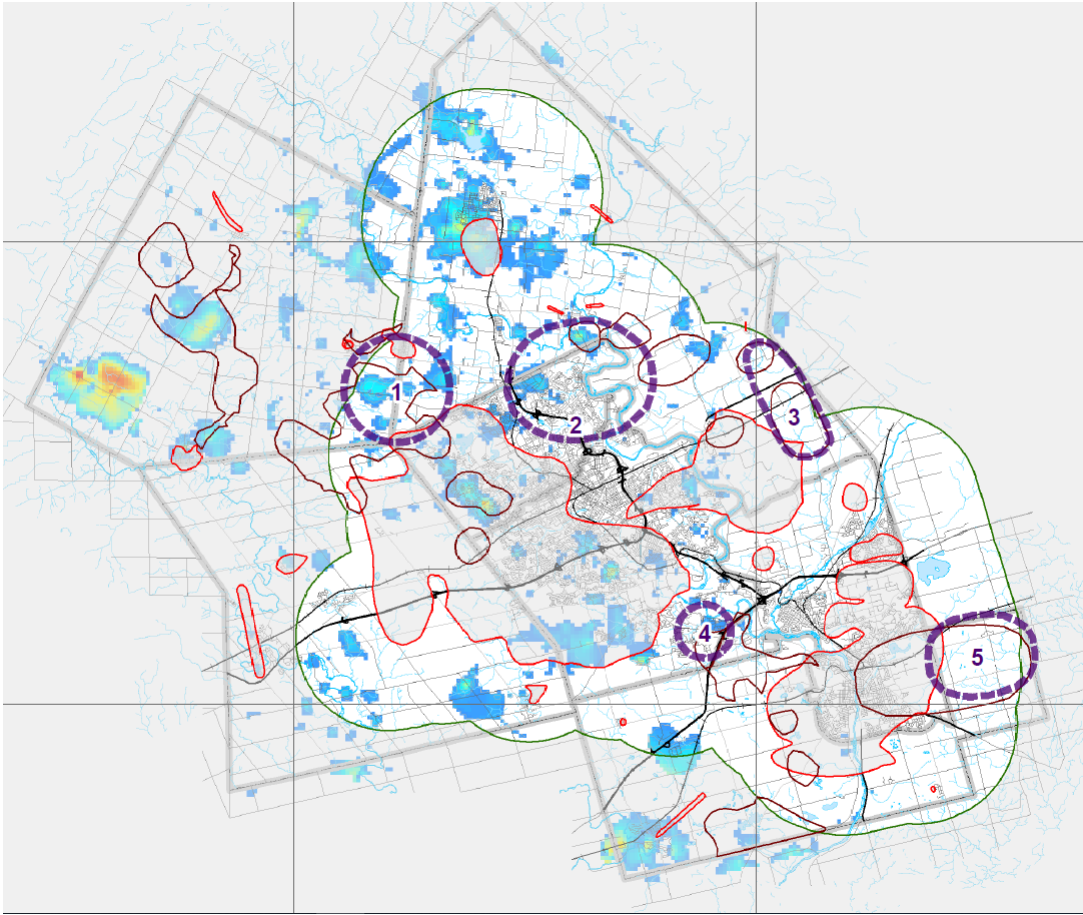
Groundwater Projects – 10 – 12 years



Surface Water Projects – 15 – 20 years



Technical Investigations and Public Consultation



Groundwater modelling



Well exploration

Water quality/quantity testing
Monitoring



Hydraulic investigations



Review of treatment requirements



Environmental studies and monitoring



Conceptual sizing and land availability



Public and indigenous consultation and engagement



Detailed Design & Construction

- Site Investigations
 - Geotechnical/hydrogeological studies
 - Land surveys
 - Utility requirements and relocations
- Design Requirements
 - Civil
 - Process
 - Mechanical
 - Instrumentation & Control
- Not your "normal" construction project



Maintaining our existing system

- 1 surface water treatment plant
- 25 groundwater treatment plants
- 105 groundwater production wells
- 1 aquifer store and recovery system
- >200 buildings
- 15 pumping stations
- 17 tanks and reservoirs
- 360 km of transmission mains
- more than 800 pumps
- more than 3,000 valves
- more than 1,500 instruments
- more than 200 PLC panels



Key takeaways

1. Priority – safe, sustainable water
2. Complex system
3. Finite resource
4. Planning for the future takes time
5. Get involved





Contact Info

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