

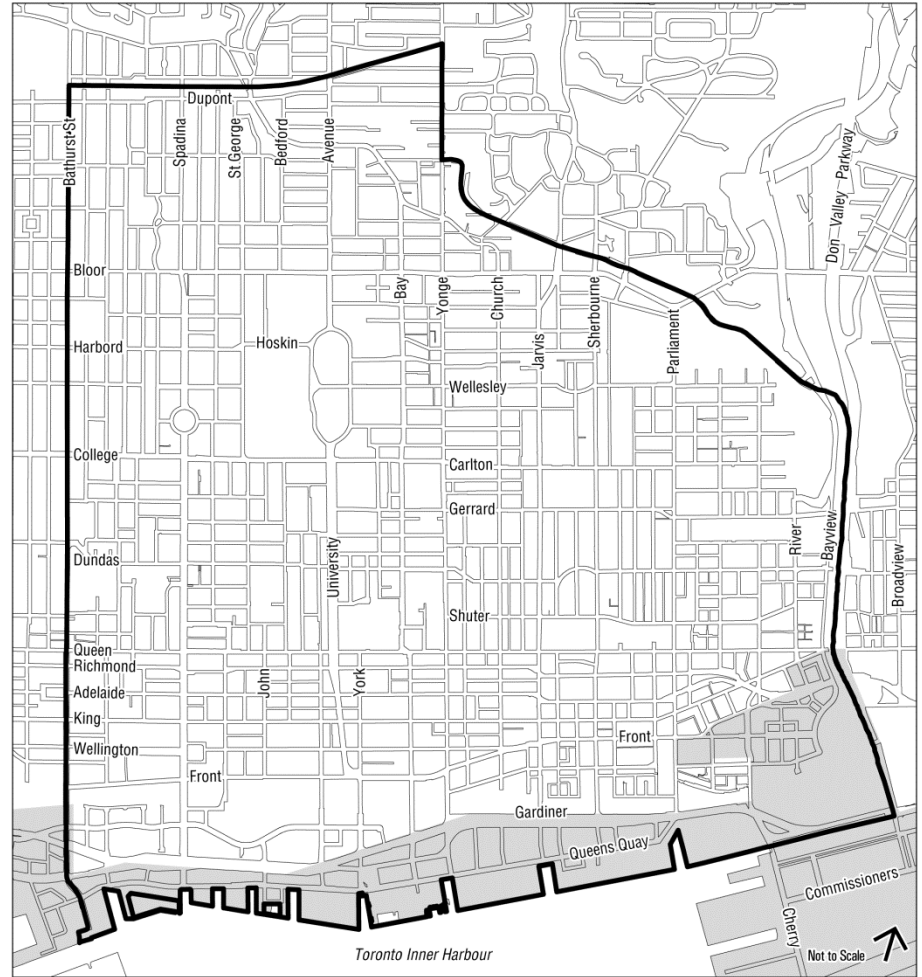


DOWNTOWN WATER STRATEGY SUMMARY



Proposed Downtown Plan

- The Proposed Downtown Plan is a **25-year vision** that sets the direction for the city centre as the cultural, civic, retail and economic heart of Toronto, and as a great place to live.
- The Plan is a **response to rapid growth** in the core that is placing **pressure on physical and social infrastructure**.
- The Plan will provide a renewed, comprehensive planning framework for 17 square kilometers – the **whole of the Downtown**.
- The Proposed Downtown Plan will be adopted as a **Secondary Plan** within the Toronto’s Official Plan, with **five supporting Infrastructure Strategies**.



Proposed Downtown Plan

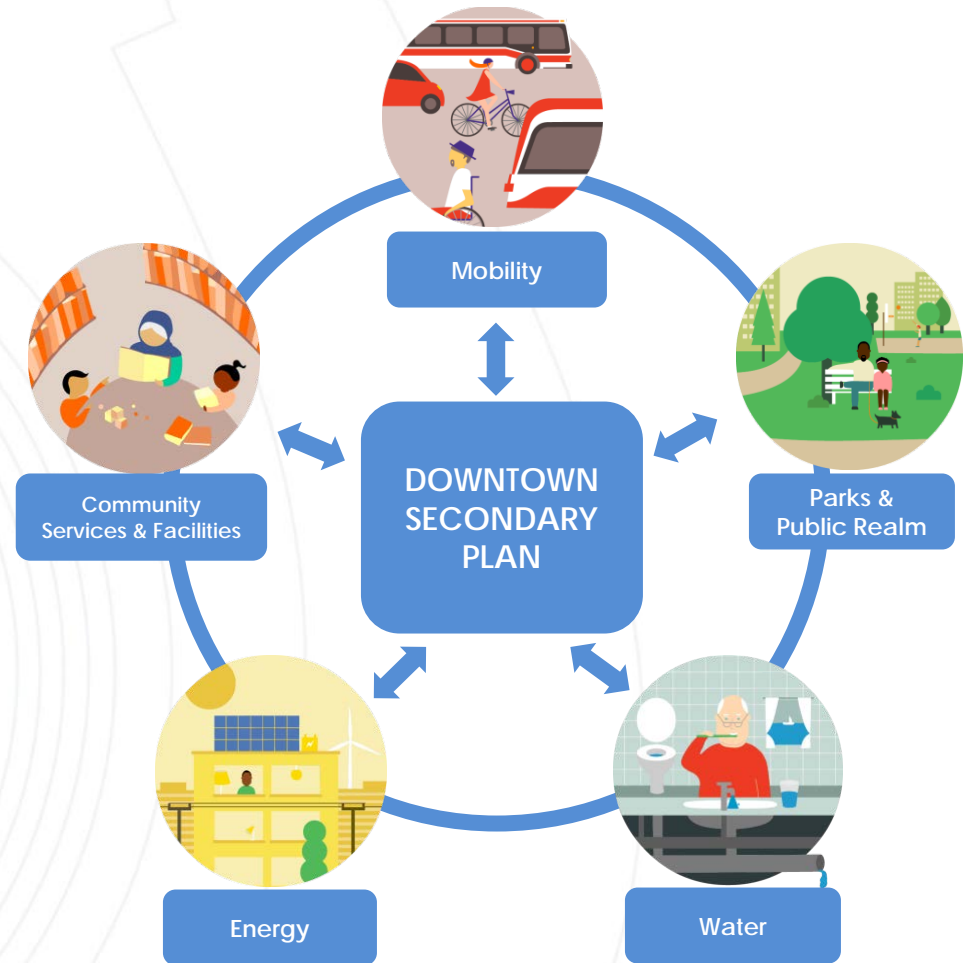
MAP 1 Downtown Plan Boundary

- Downtown Plan Boundary
- Central Waterfront Secondary Plan



Infrastructure Strategies

- **Five Infrastructure Strategies** will work together to implement the vision, goals, and policies of the Downtown Plan and ensure infrastructure planning is aligned with long-term growth.
- The **purpose** of the Infrastructure Strategies is to:
 - Set **priorities** for the infrastructure investment needed to support growth
 - Provide a **vision, ideas and guidance** for implementation
 - Promote **coordination** among corporate and community partners throughout implementation.
- Each Infrastructure Strategy:
 - Identifies infrastructure **challenges** facing a growing Downtown.
 - Recommends **implementation strategies and actions**
 - Advances **related initiatives**
 - Sets **priorities and timeframes**
 - Determines required **investments**.



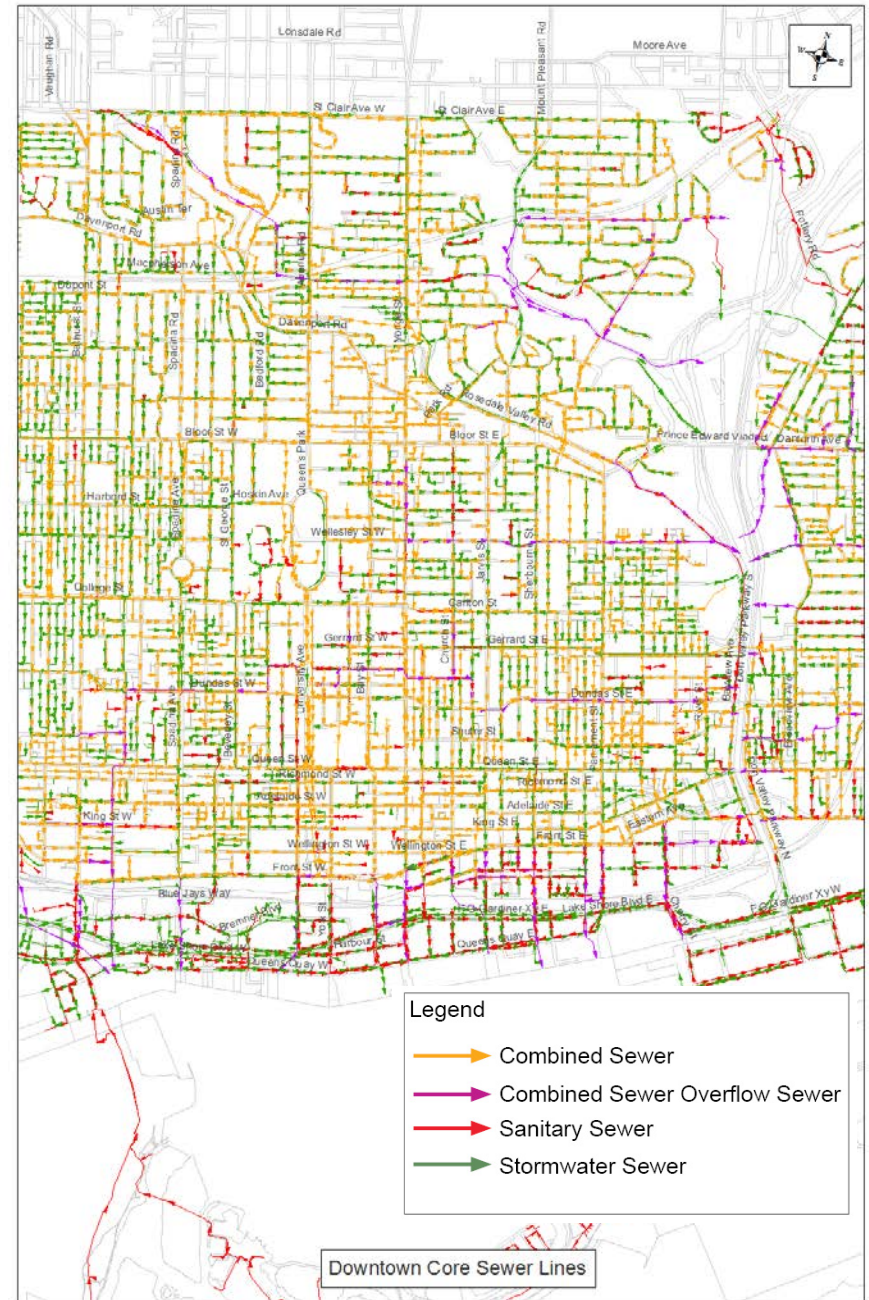
What is the Downtown Water Infrastructure Strategy?

- Toronto Water distributes quality water for use by its customers and then collects wastewater for processing at treatment plants.
- Toronto Water operates and maintains complex systems of watermain, sewer and stormwater infrastructure to provide this function.
- The Toronto Water Infrastructure Strategy will be used to ensure that there is capacity in the infrastructure to accommodate future growth in Downtown. The Strategy describes a process to plan and to implement projects.
- The strategy also recognizes other factors that may affect the capacity of infrastructure – such as groundwater and wet weather flow impacts – and integrates these factors with future growth as necessary.



Water

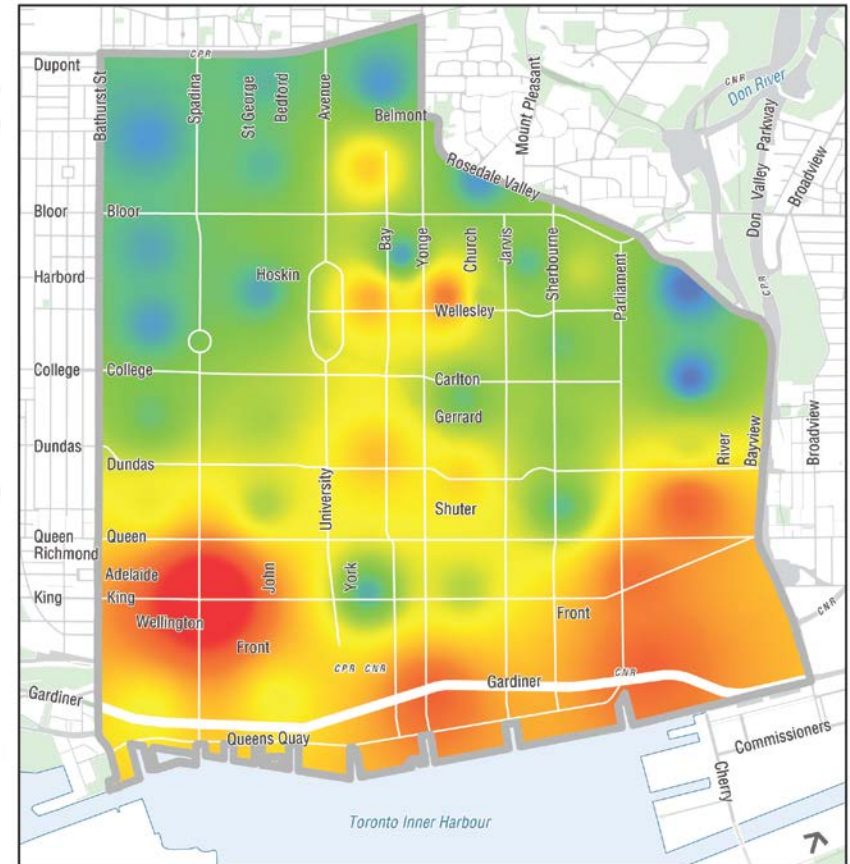
- This map shows the complex nature of wastewater infrastructure within the TOcore area.
- The wastewater infrastructure includes sanitary sewers and combined sewers that generally follow the roadway network.
- Flows of wastewater are conveyed to and treated at the Ashbridges Bay Treatment Plant, just east of Downtown.





Growth Places Stress on Existing Infrastructure

- Population and employment growth in the Downtown is putting tremendous pressure on existing infrastructure.
- 2041 population and employment projections (not including visitors or students) estimate that Downtown will grow:
 - From 238,000 to 475,000+ Residents
 - From 500,000 to 850,000+ Jobs
- The pace and magnitude of growth occurring Downtown is consuming the capacity of Toronto Water’s infrastructure faster than projected.
- The increasing height and density of many proposed developments is placing unanticipated stress on the water system.
- It is essential to link projected growth with the ability to upgrade water infrastructure to accommodate Downtown’s future residents, workers and visitors



Projected Population Change 2011 - 2041



TOcore Study Area

Source: Toronto City Planning Division, Research and Information - October 2016



Inflow and Infiltration of Groundwater and Stormwater

- Sanitary sewers are designed primarily to collect wastewater generated by the population, with a small amount of additional capacity for the inflow of stormwater or infiltration of groundwater into the sewer.
- As a sewer ages, it becomes more leaky, allowing inflow and infiltration into the pipe, consuming capacity that could otherwise be used to support growth
- As buildings get taller their foundations get deeper. Construction of multiple below-grade levels mean that buildings are reaching into the groundwater table, necessitating the pumping of water into the sewer that is eating up capacity in the pipe.





The Water Strategy will implement the **goals** outlined in the Proposed Downtown Plan:

Policy 3.12

Downtown will be stronger and healthier, leveraging green infrastructure opportunities to improve air quality, absorb stormwater, minimize the urban heat island and expand biodiversity.

Policy 3.15

The quality of water along the shoreline will be improved through reductions of direct and indirect wastewater and stormwater discharges to the lake.





The Water Strategy will implement these three **water-related policies** outlined in the Proposed Downtown Plan:

Policy 13.5

Downtown's water, wastewater and stormwater management infrastructure will be maintained and developed by keeping infrastructure in a state of good repair and providing required new infrastructure concurrent with growth.

Policy 13.6

Development will reduce the negative impacts of inflow and infiltration on the capacity of the sanitary and combined sewer systems.

Policy 13.7

Development will identify improvements to water and sewer infrastructure, and where the infrastructure is insufficient to serve the proposed population, a Holding By-law will be utilized to ensure that the infrastructure is provided before or concurrently with growth.





Addressing Challenges

The Toronto Water Infrastructure Strategy will **address challenges** associated with the ability of watermain and sewer infrastructure to accommodate a growing Downtown by:

- Identifying capacity constraints within existing infrastructure.
- Determining solutions to resolve capacity constraints, not just for future growth but for other factors that may affect the capacity of infrastructure.
- Implementing solutions in the form of infrastructure projects that need to consider prioritization, coordination, and funding.





Identifying Capacity Constraints

- The ***Water Distribution Study for Pressure Districts 1, 1W, and 2***
– This study validated existing infrastructure and used a hydraulic model to determine if there is capacity in the existing **local water distribution system** to accommodate future growth in Downtown.
- The ***Waterfront Sanitary Servicing Master Plan EA Update*** – This update to the environmental assessment was able to validate existing infrastructure and use a hydraulic model to determine if there is capacity in the existing **wastewater conveyance system** along the City's waterfront to accommodate future growth in Downtown.
- There is also a project underway to find and fix undesirable **infiltration and inflow of groundwater and stormwater** into the wastewater system.





Determining Infrastructure Solutions

- The *Water Distribution Study for Pressure Districts 1, 1W, and 2* determined that the **existing local water distribution system is able to accommodate future growth** in the TOcore area based on domestic demand (e.g. drinking water and wash water uses). Further preliminary evaluation determined that **parts of the system may have to be upsized to handle fire suppression demand**.
- The *Waterfront Sanitary Servicing Master Plan EA Update* recommended that the **capacity of the Scott Street Sewage Pumping Station and specific tributary sewers be upsized** in order to accommodate future growth in the TOcore area.





Implementing Infrastructure Solutions

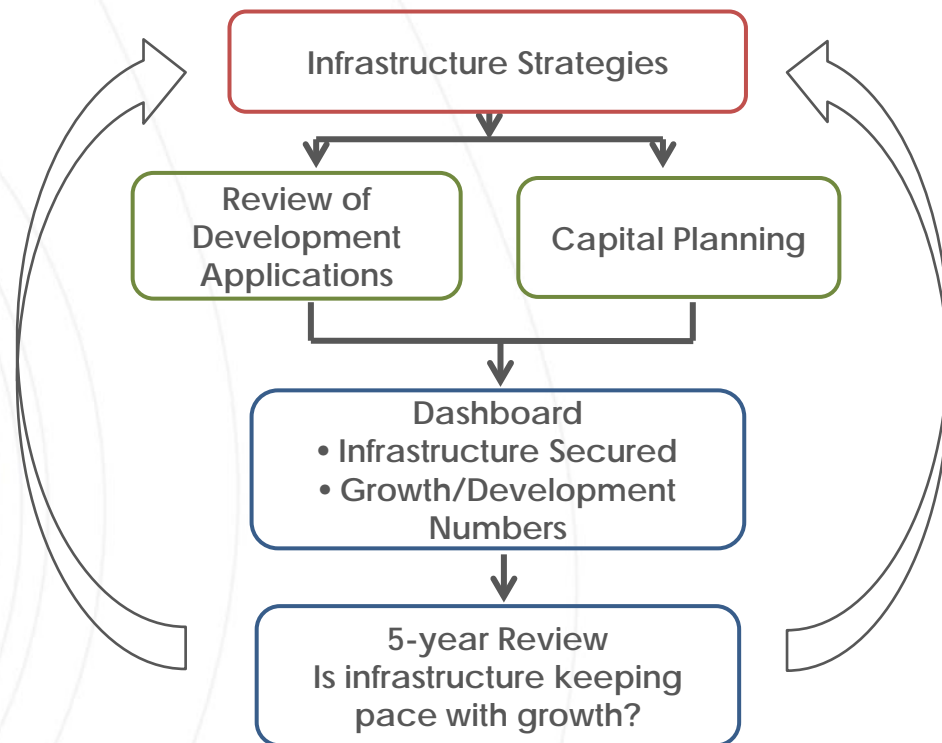
- Toronto Water is involved in a comprehensive implementation process that ensures a **State-Of-Good Repair** for all existing watermains and sewers in the City and that also delivers projects related to Service Level Enhancement (e.g. projects to reduce basement flooding).
- Toronto Water and City Planning will work together to **prioritize infrastructure projects related to future growth** for inclusion in the capital planning and implementation process.
- Toronto Water will work with the City's Major Capital Infrastructure Coordination Office to review opportunities for **coordination with other planned utility work**.
- **Investment in water-related infrastructure related to future growth** will be funded through the use of Development Charges, or funded as local improvements by individual or groups of developers, depending on the scope of the work. The City's Development Charges bylaw is currently under review and will be updated accordingly.



How the Water Strategy will be used

The infrastructure strategies are key to linking the timely provision of infrastructure to growth.

- Infrastructure Strategies will inform the review of development applications.
- The strategies will inform the annual capital planning process.
- A dashboard with metrics related to infrastructure secured as compared to our growth and development numbers will track how we are doing.
- A review of the strategies every five years will tell us whether infrastructure is keeping pace with growth





Related Projects

- Water Distribution Study for Pressure Districts 1, 1W, and 2
- Toronto Optimization Study
- Waterfront Sanitary Servicing Master Plan EA Update
- Basement Flooding Protection Program Study for Areas 42, 44, and 62
- Wet Weather Flow Management Guidelines Update
- Green Streets Technical Guidelines



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