Introductions

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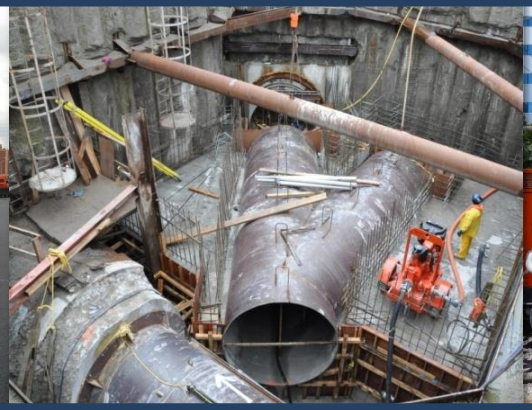
GTSWCA Breakfast Seminar

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Building a Better Toronto Together

Presentation Overview

- Capital Program Forecast
- Customer Service Expectations
- Optimizing Capital Delivery Through-Put

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Capital Program Forecast

- The 2017 – 2026 Toronto Water capital plan includes more than $7 billion for infrastructure to manage the flow of water, wastewater and stormwater over the next 10 years

Basement Flooding Protection Program	$1,527 million
Water Service Replacement + New Connections	811 million
Sewer Rehabilitation + Replacement	841 million
Watermain Replacement	1,141 million
Watermain Structural Lining	727 million
Trunk Sewer Rehabilitation	567 million
Transmission Watermain Replacement	427 million
Stormwater Management	1,142 million
TOTAL	$7,183 million

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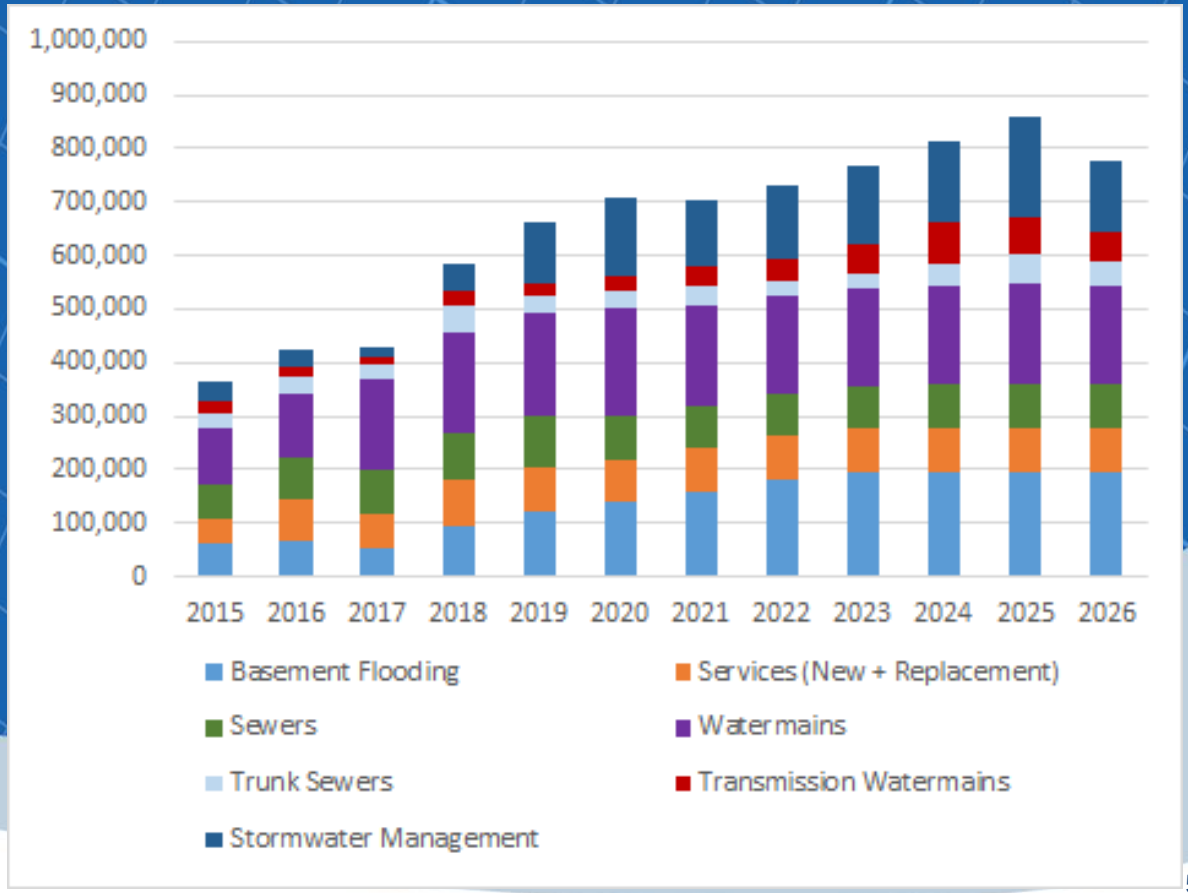
Capital Program Forecast

- Planned spending is forecast to continue to rise
- The largest year-over-year increases will be for:
  - Basement Flooding Protection Program
  - Trunk Watermains
  - Stormwater Management Infrastructure



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Capital Program Forecast

- Engineering & Construction Services is assigned a significant portion of the capital budget each year
- In 2016, ECS:
  - Issued 137 tenders, RFPs and RFQs
  - Completed 157 contracts
  - Deferred 28 contracts
  - Cancelled 19 contracts
  - Delivered $491 million in capital projects, $23 million more than in 2015 – of this, $351 million (70%) were Toronto Water projects

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Capital Program Forecast

- For 2017, ECS expects to deliver $568 million in capital, including $388 million for Toronto Water
- ECS capital projects in 2017:
  - Basement flooding, local sewers and watermains, trunk sewers and transmission mains, and stormwater management infrastructure
  - Forecast is for more than 40 tenders
  - Assigned program valued at over $250 million
    - Approximately 2,000 metres of sewer
    - Up to 20,000 metres of watermain

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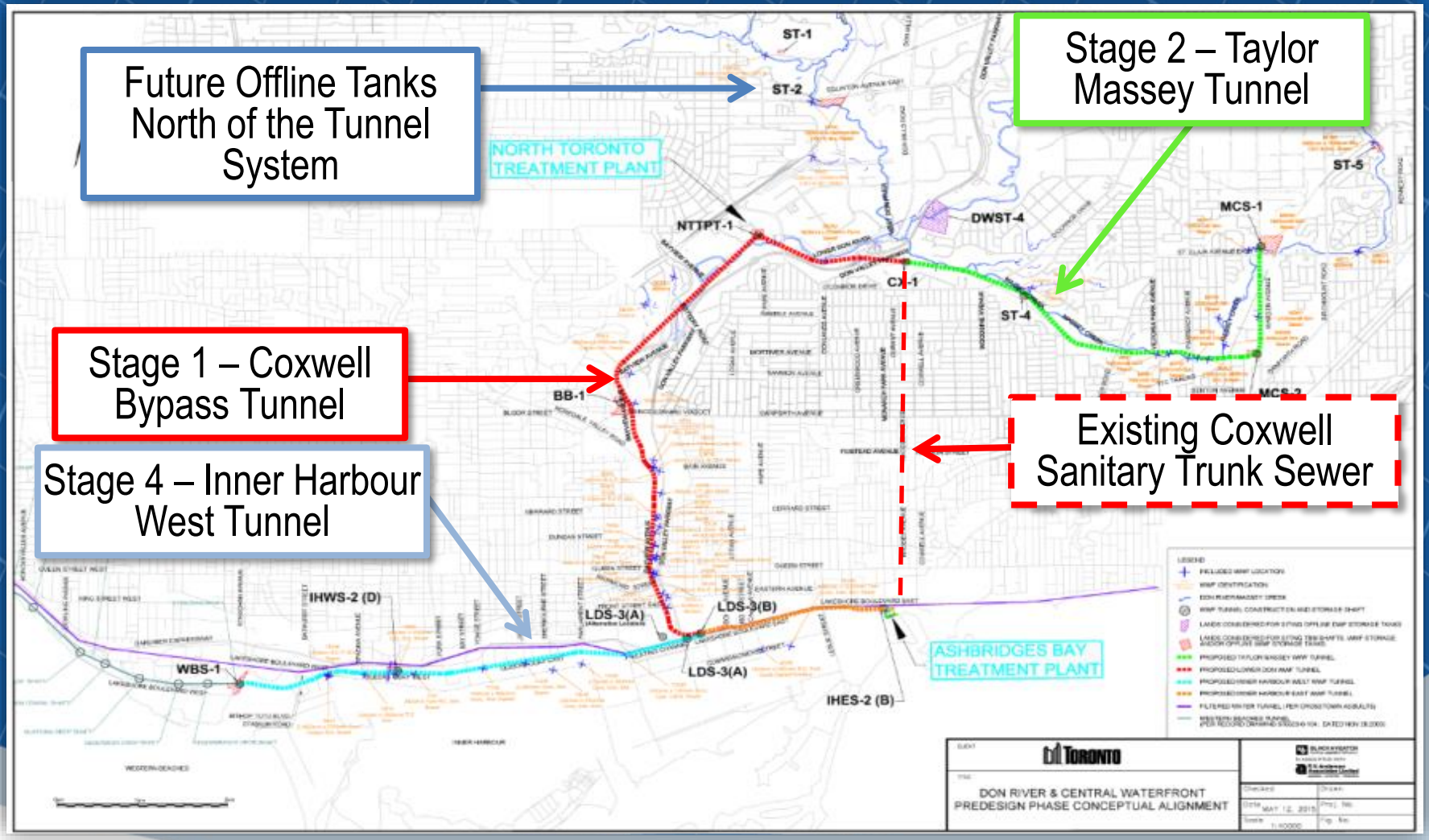
Major Project: Coxwell Bypass Tunnel



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Major Project: Coxwell Bypass Tunnel

- Project Scope
  - 10.6 km of 6.3 metre diameter tunnel entirely in bedrock of the Georgian Bay Formation
  - 1 Tunnel Drive utilizing shielded TBM and PCTL
  - 5 Tunnel Shafts – Sized for Hydraulic Performance of WWF Tunnel
  - Social Procurement

#	SHAFT DESIGNATION	FINISHED DIAMETER. (m)	DEPTH (m)	DEPTH IN SOIL (m)	DEPTH IN ROCK (m)	PURPOSE
1	IHES-2(B)	20	53.9	13.9	40.0	TBM Launch
2	LDS-3(B)	20	50.3	14.1	36.3	Access/Storage/Future Connection to Inner Harbour West Tunnel
3	BB-1	20	50.5	17.3	33.2	Access/Storage
4	NTTPT-1	20	51.5	19.4	32.1	Access/Storage
5	CX-1(A)	22	53.7	36.5	16.8	TBM Retrieval

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Customer Service Expectations

- Scrutiny of municipal infrastructure construction is at an all time high
- Residents and businesses are quick to lodge comments, concerns, and complaints:
  - Mayor's Office
  - Local Councillor
  - "The Fixer"
  - 311
- Everyone has a cellphone!

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Customer Service Expectations

- Public and political expectations are high – our standards are higher:
  - *Have you thought about the impact on local residents or businesses?*
  - *How would you feel if this work was being done in your front yard?*

- The City is accountable when managing and delivering projects: as our contractors, so are you!

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Customer Service Expectations

- Minimizing Disruption through:
  1. Proactive site maintenance
     - *Is the site well managed and easy to navigate?* (cars and pedestrians)
     - *Is it clear who is leading the work and why?* (good signage)

  2. Responsiveness to residents' concerns
     - *Have you provided information to residents / businesses quickly?*
     - *Have you responded to direct requests courteously?*
  3. Extended work hours
     - *The City is implementing accelerated construction where possible*
     - *Tenders clearly stipulate work hours (e.g., extended hours, overnight hours, weekend work)*

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Customer Service Expectations

We'd all like to see more of this!

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Optimizing Capital Delivery Through-Put

- Enhance the planning and coordination of the Multi-year Capital Program with internal and external stakeholders
  - Bundling together different projects such as road and sewer constructions, TTC track and Toronto Hydro plant where feasible
  - Using multi-year program management assignments
- Continue to work with the construction industry, and internal City staff (PMMD and Legal Services) on procurement and contract innovations to accelerate construction

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Optimizing Capital Delivery Through-Put

- Contracting strategies we are using or testing:
  1. Acceleration and Delay Payments
     - *To encourage early contract completion, provide acceleration payments for early completion and impose delay costs for late completion*
     - *Successfully used on the Gardiner Expressway: 800 metre section of the West Deck was completed 27% ahead of schedule at a construction cost premium of only 8%*
  2. Cost Plus Time Bidding
     - *Contract is awarded based on a combination of the price and the number of days the contractor estimates are needed to complete the work*

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Optimizing Capital Delivery Through-Put

- Contracting strategies we are using or testing:

3. Program Management Assignments
   - *Consultant assignment to design the works and provide construction administration for a defined suite of projects*

4. Multi-year / Multi-location Bundled "Mega" Contracts
   - *Standalone undergrounds*
   - *Combine undergrounds and roads*

2016 Contracts	Value	Locations	Start Date	Completion
16ECS-LU-05SU	$21.7 million	26	May 2016	December 2016
16ECS-LU-06SU	$22.6 million	26	May 2016	August 2017
16ECS-TI-04LR	$19.7 million	16	June 2016	June 2017

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Optimizing Capital Delivery Through-Put

- Other possible strategies we are considering:
  1. Design Build
     - *For a single pre-defined project:*
       - *Undertake a competitive procurement to hire a private sector firm to (1) design the project according to City specifications, and (2) construct the project*
     - *For multiple locations that are not defined:*
       - *Bid based on unit rates for a given type of construction*
       - *E.g., type of pipe, size, depth, location*

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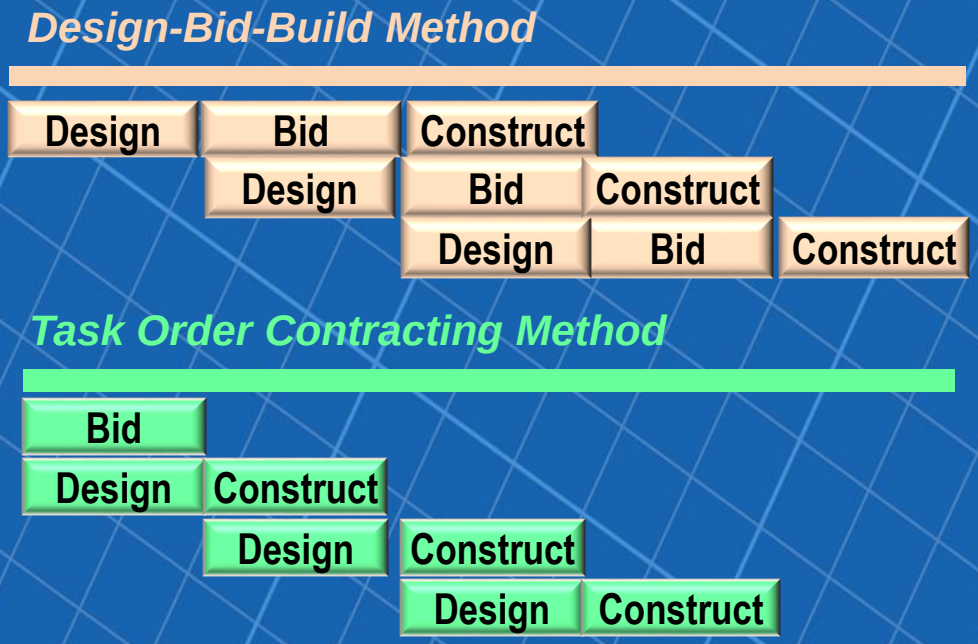
Optimizing Capital Delivery Through-Put

2. Task Order Contracting



One Tender Call to select multiple Contractors

– Saves time by eliminating multiple bid cycles

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Optimizing Capital Delivery Through-Put

- Task Order Contracting Detailed Example:
  $30M General Services Contract for municipal construction works as part of the Basement Flooding Protection Program
  - Federal Economic Stimulus Funding = **$30M**
  - 3 contractors selected to perform the work
  - 8 Task Orders with total value of $30M
  - Value of each Task Order ≈ $2M to $9M
  - Construction commenced: November 2009
  - Construction substantially performed: November 2010
  - Average Construction Billings per Month = $2.5M
  - Final Construction Cost = **$29M**
  - **Schedule Savings Realized = 1 year**

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Optimizing Capital Delivery Through-Put

- Lessons learned about Task Order Contracting:
  - Need for Pre-qualification of Contractors
- Positive experiences with Task Order Contracting:
  - Early engagement of Contractors (during design, and awarding work when design is 95% complete) leads to greater efficiency
  - Best suited for standard items where risks are well understood and bid unit prices easily established
  - Performance and payment bonds by Task Order, instead of entire General Services Contract = reduced financial burden on Contractor
  - Can reward good contractor performance by assigning more work
  - Creates a partnership between the City and the Contractor

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Optimizing Capital Delivery Through-Put

- Challenges for the Contractor:
  - Understanding City policies, processes, procedures
  - Competitive bidding
- Challenges for the City:
  - Avoiding unreasonably high unit rates
  - Ensuring high quality work

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Optimizing Capital Delivery Through-Put

- The City welcomes continuing dialogue to:
  - Address issues
  - Identify innovative ideas to “keep up the good work”

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Thank You

Questions?