

# Municipal Engineers Association Ontario

November 16, 2022

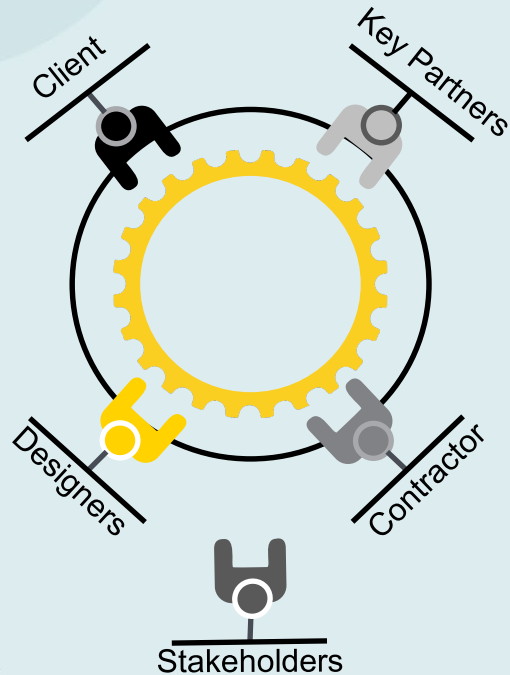
# THIRD CROSSING



# Integrated Project Delivery (IPD) Model



# Kington Third Crossing – Why IPD?



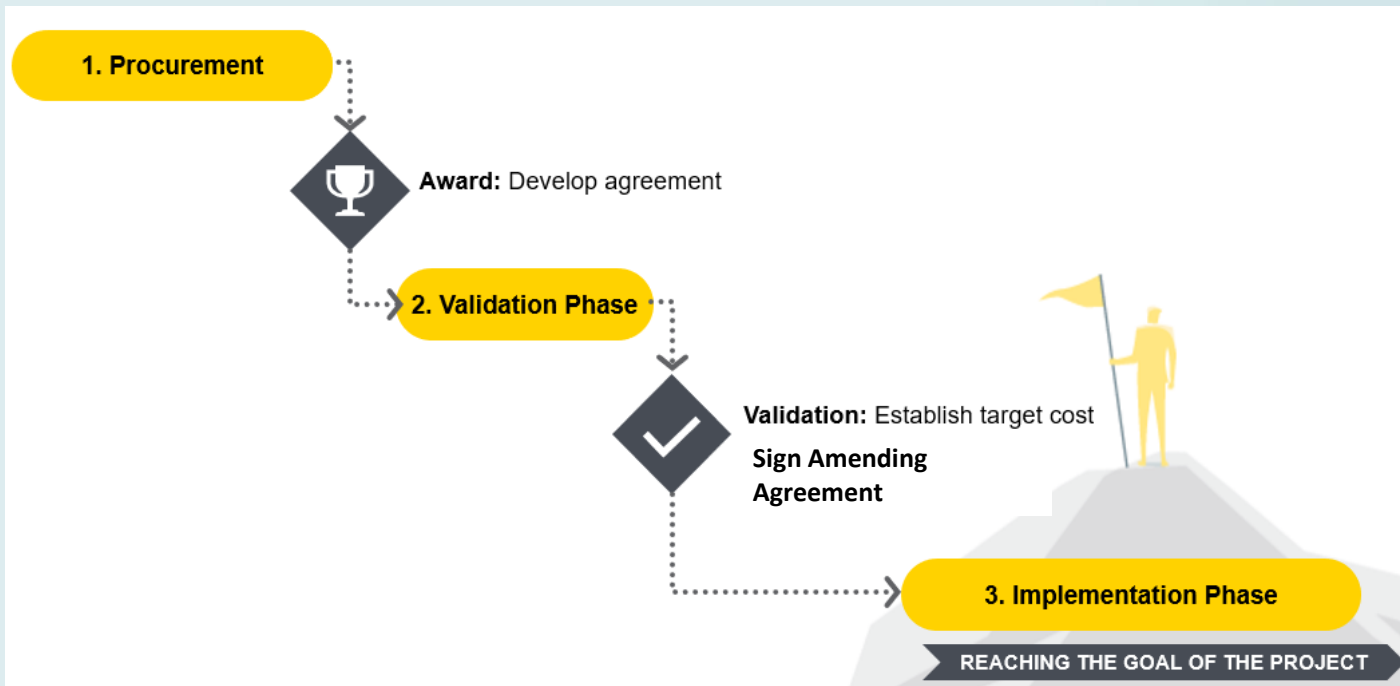
## What procurement options were considered?

- Design-Bid-Build
- Design-Build
- Public-Private-Partnership (P3)
- Integrated Project Delivery (IPD)

## Why Kingston chose IPD?

- Financial benefits of P3 could not be validated against schedule acceleration, transfer of risk, or deferral of cash flows.
- Design innovations can be maintained through an IPD model.
- Transparency with open-book cost approach – refreshing.
- The City had experienced project managers with access to appropriate resources and expertise.

# Integrated Project Delivery - Roadmap





# Target Cost Scenario



## SCENARIO 1

- » Actual cost less than Target Cost
- » All members have the incentive to reduce costs
- » Sharing of savings by the whole team as additional profit (Incentive payout)
- » Client can elect to re-invest their savings and improve the project or invest elsewhere

# Target Cost Scenario



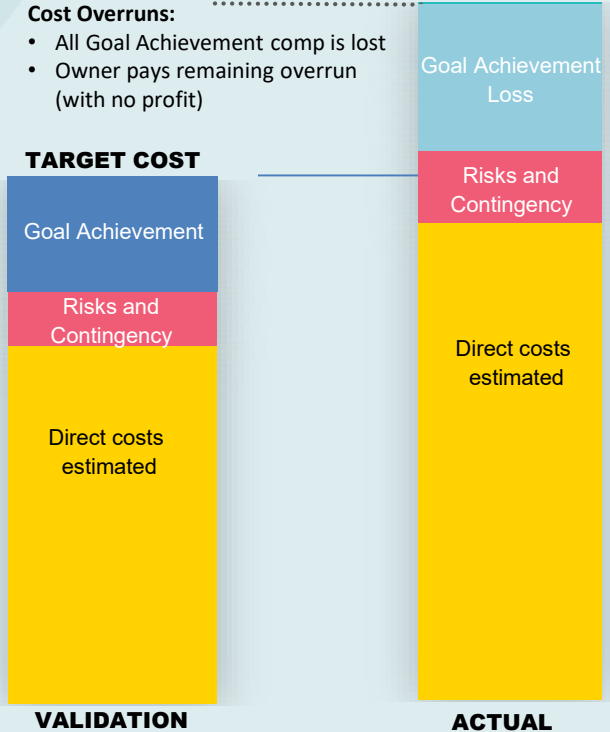
## SCENARIO 2

- » Actual cost exceeds Target Cost
- » Goal Achievement contingent on reaching milestones. Not all Goal Achievements may be realized
- » Basic profit component is eroded

# Target Cost Scenario

## Cost Overruns:

- All Goal Achievement comp is lost
- Owner pays remaining overrun (with no profit)



## SCENARIO 3

- » Actual costs further exceed Target Cost
- » Direct cost overruns and additional risks reduce the profit component
- » Owner is responsible for remaining overruns after profit is exhausted
- » Sound Target Cost management & Recovery Plan should avoid this scenario

# How Did We Get Started?

- IPD training
- Preparing RFP documents and evaluation process
- Investment of time and effort to select the best team
- Co-locate. Learn as a team. Build team chemistry. Build common goals
- **Build trust**





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# Target Value Design

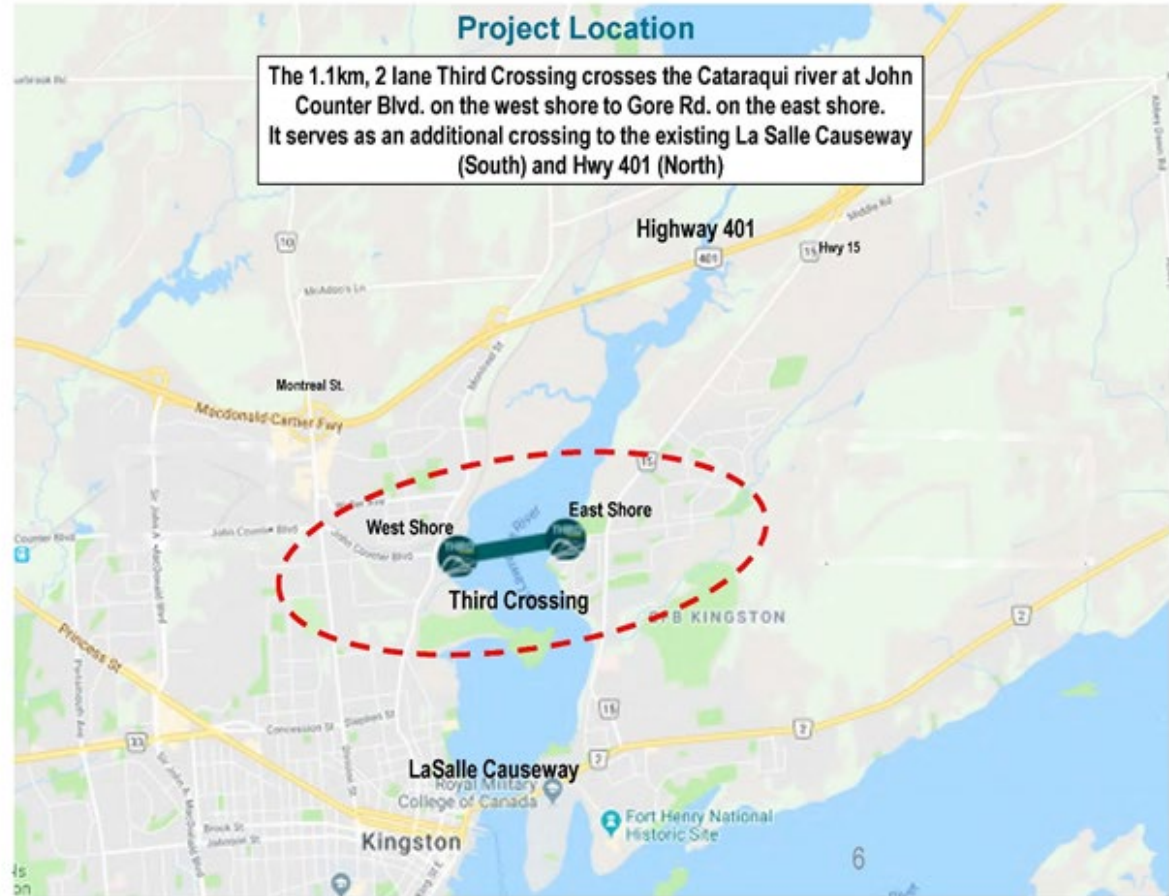




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## Project Location

The 1.1km, 2 lane Third Crossing crosses the Cataraqui river at John Counter Blvd. on the west shore to Gore Rd. on the east shore. It serves as an additional crossing to the existing La Salle Causeway (South) and Hwy 401 (North)





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## Ground Breaking – January 2020



# Causeway and Pier Caps



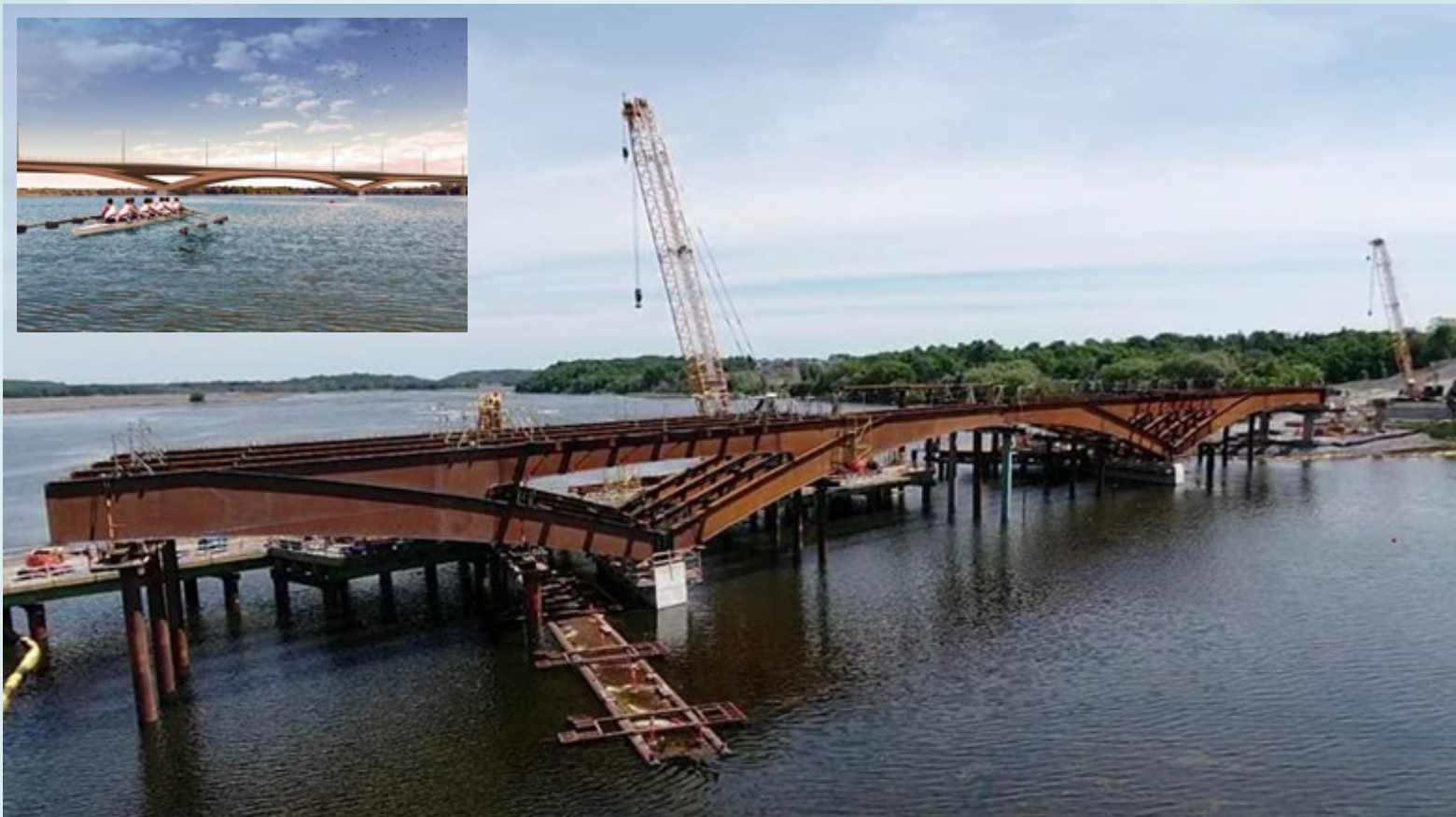


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# Concrete Girder Placement

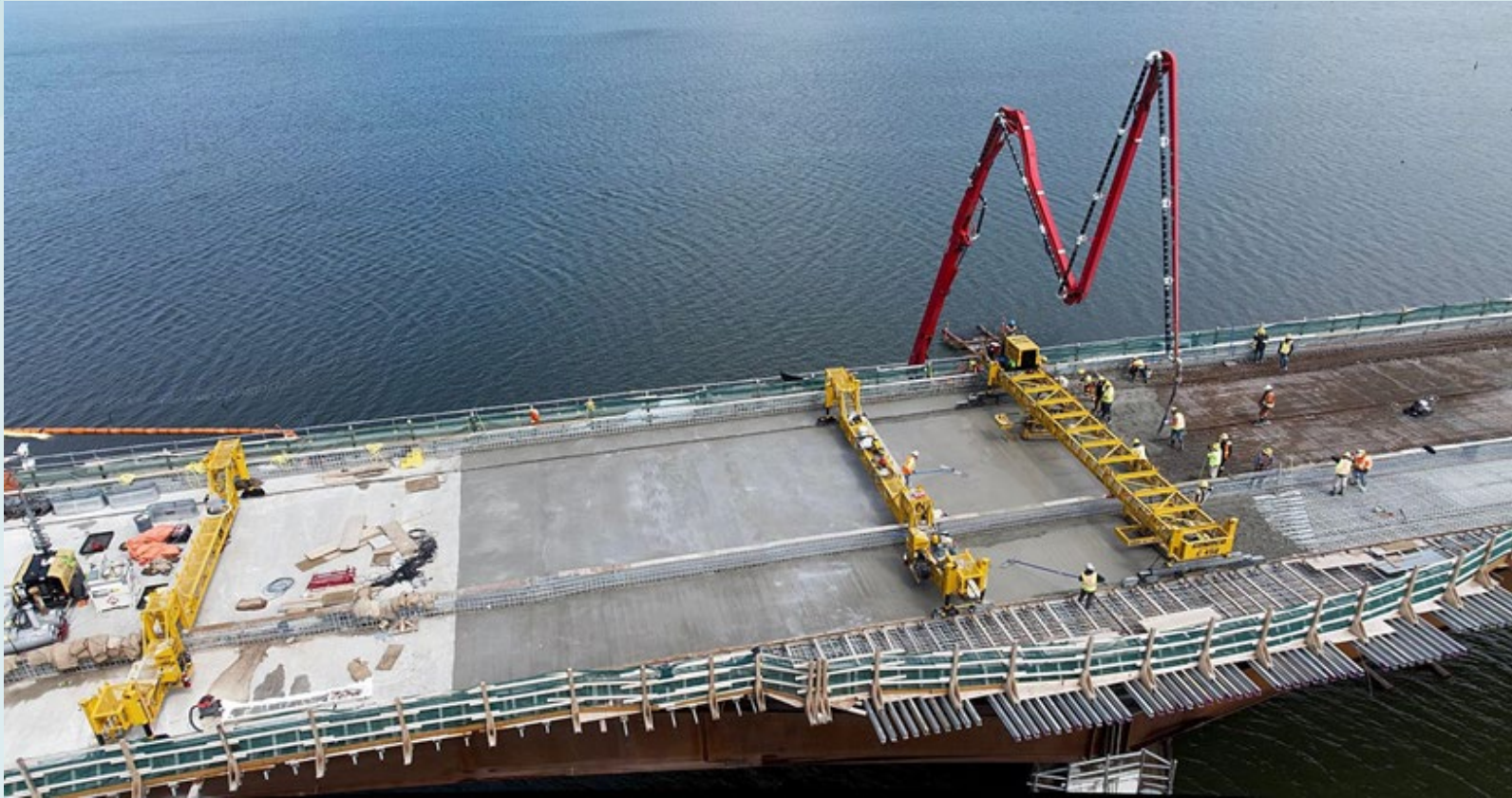


# Steel Girders – Main Span





# Bridge Deck – Main Span



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# Third Crossing – Summer 2022





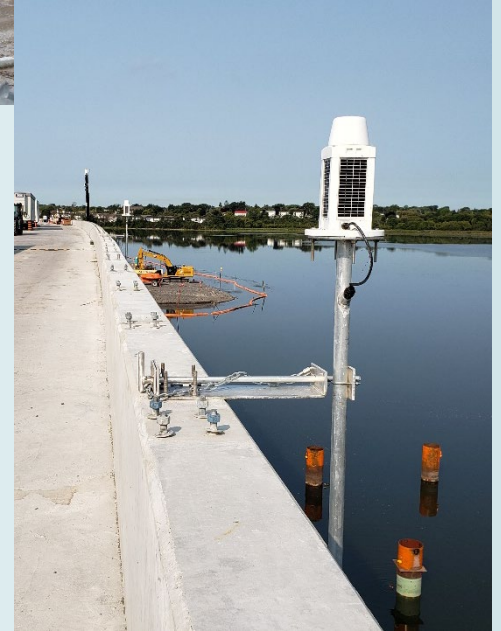
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# Third Crossing – Fall 2022

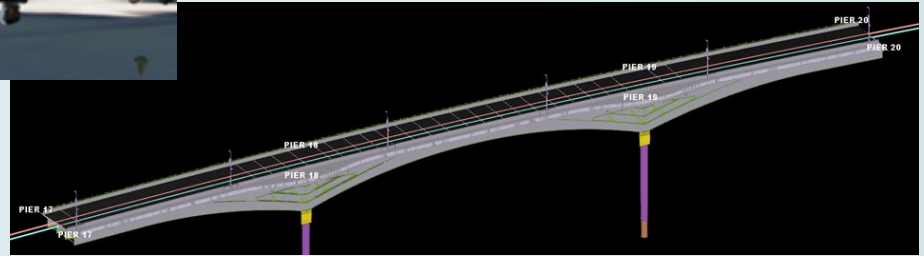




# Smart Bridge - Bearing Sensors



# Smart Bridge - Building Information Model





# What Lessons Have We Learned?

- The '**valley of despair**' is real!
- Engaging **regulatory agencies** in a collaborative manner is difficult but needs to be done
- **Validation** phase is critical to determine Target Cost
- **Co-location** is important but can be flexible
- **Old habits** can be hard to break
- Owner needs to be open to **scope adjustments**
- Good people with **shared goals** can achieve great things



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**Thank you!**



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