

WATERFRONTToronto



Gardiner East

**Gardiner Expressway
& Lake Shore Boulevard Reconfiguration
Environmental Assessment
& Urban Design Study**

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Presentation Outline

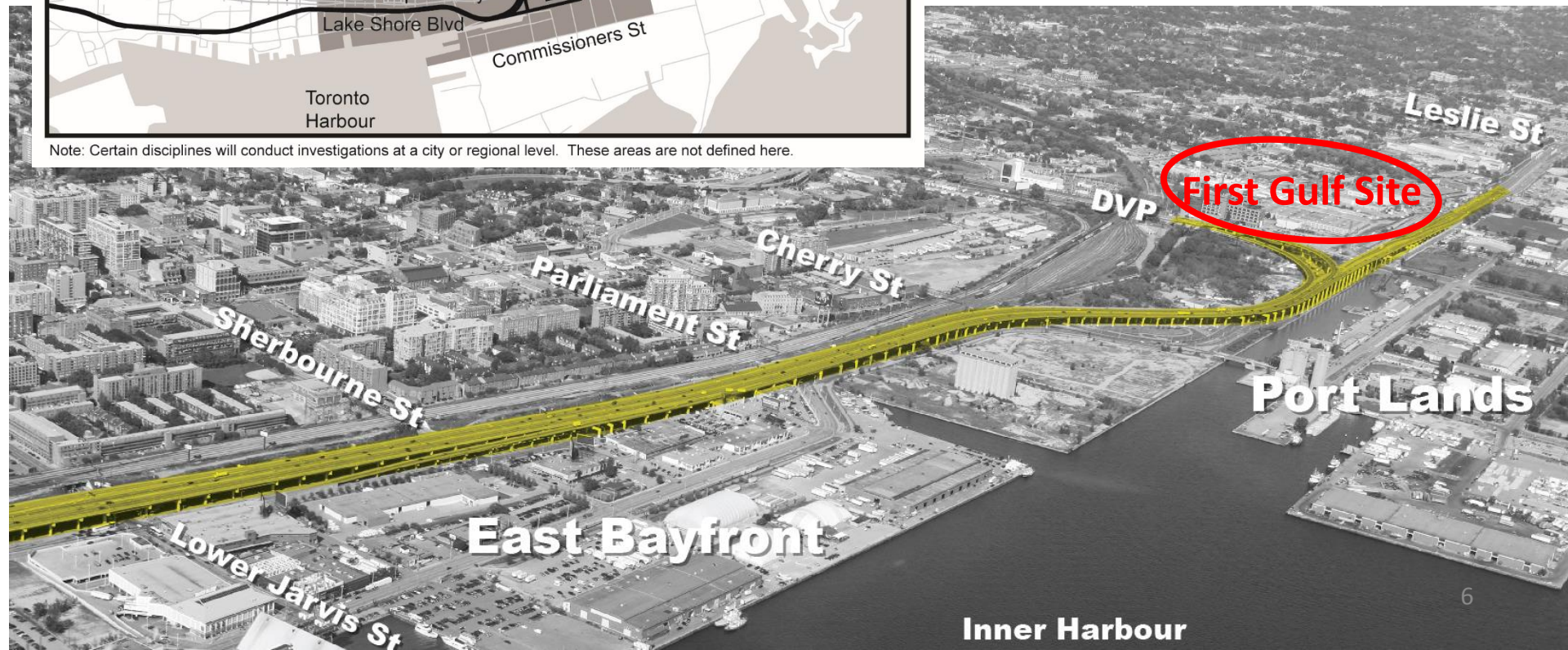
- Gardiner East in Context
- Public Works and Infrastructure Committee (PWIC) Direction
- New Work Completed
- Alternatives Evaluation
- Next Steps

What area are we studying?



Note: Certain disciplines will conduct investigations at a city or regional level. These areas are not defined here.

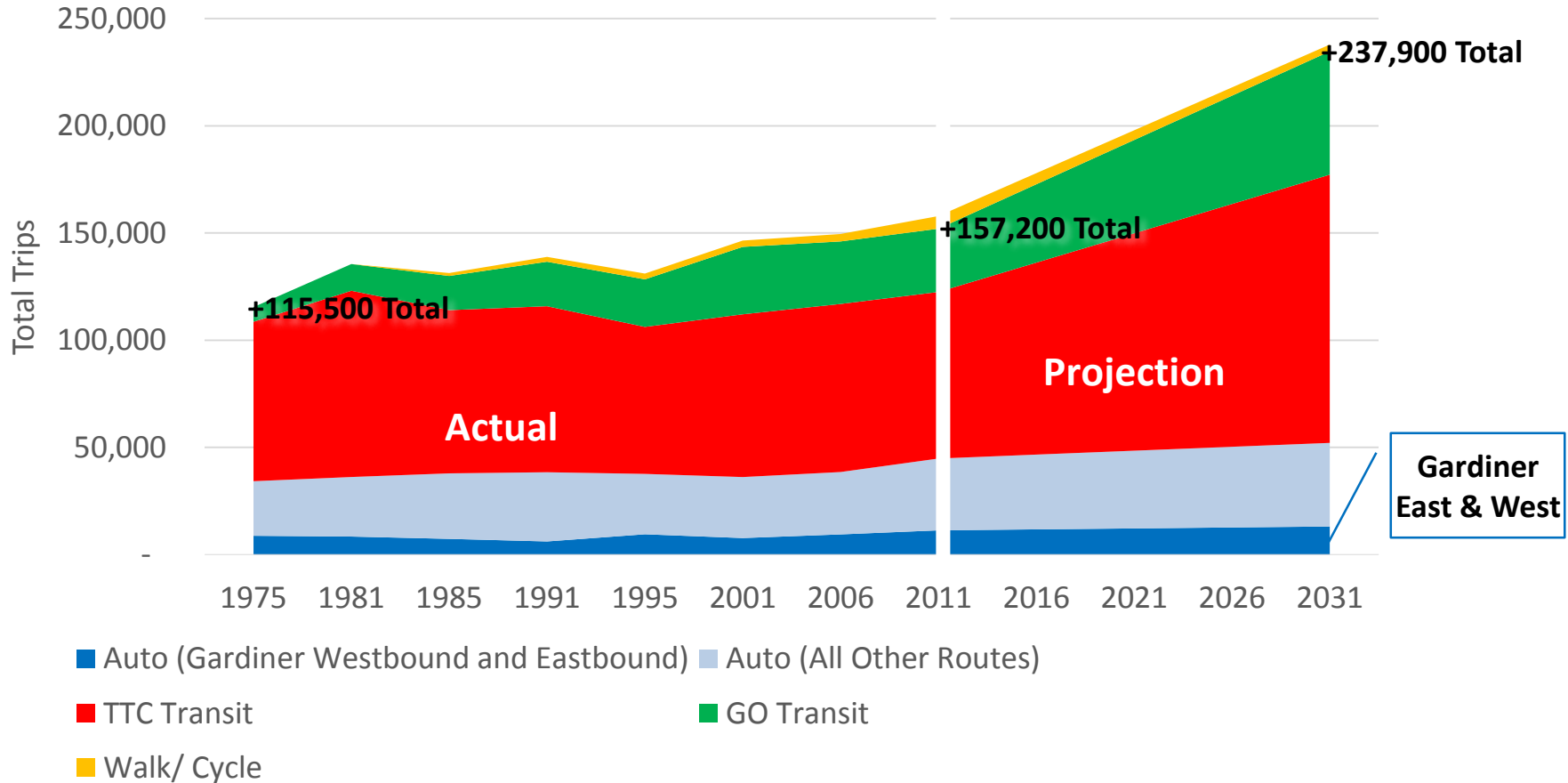
- 2.4km Elevated Structure = Yonge St. from King St. to Bloor St.



Transportation Demand Growth

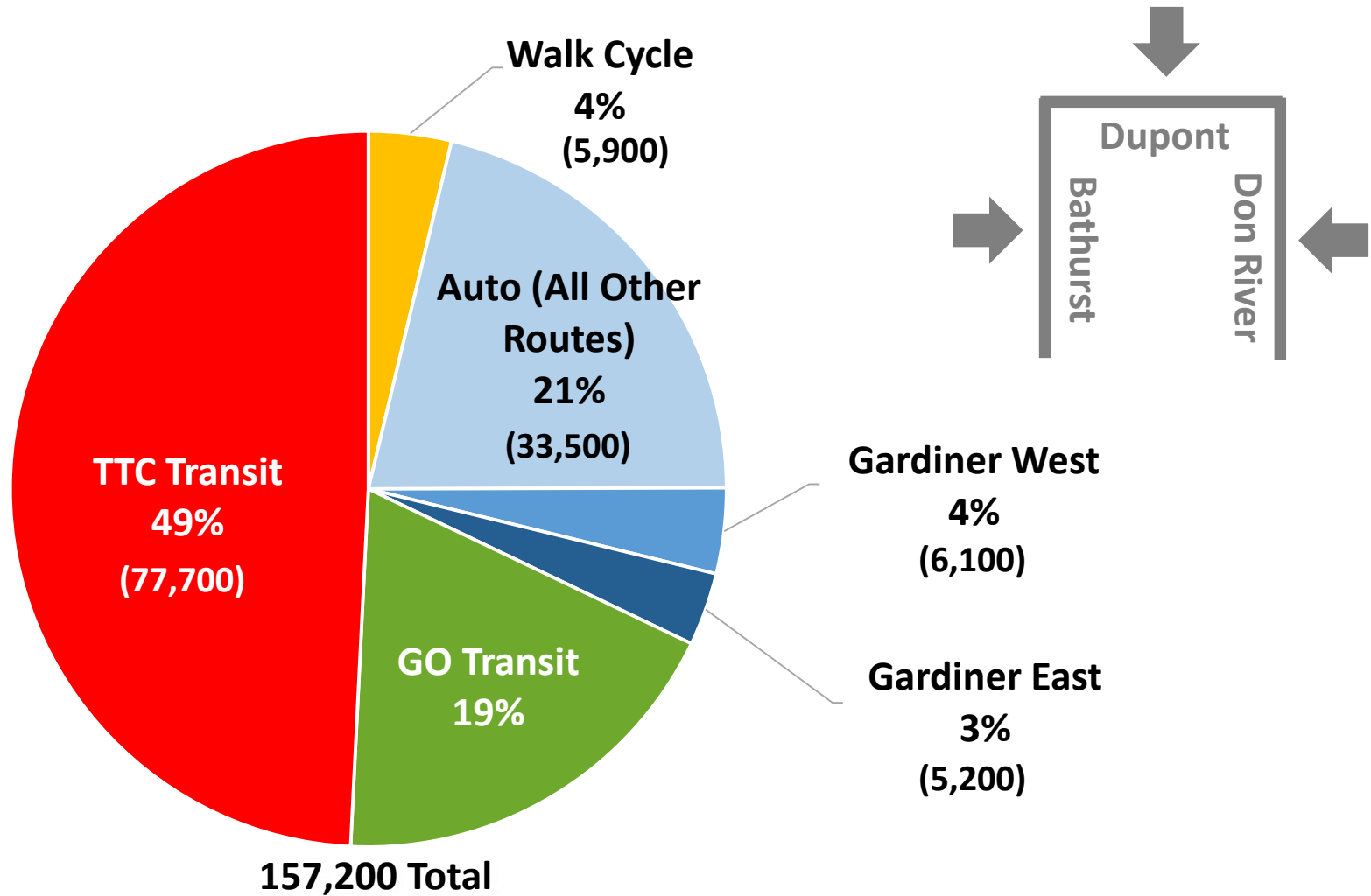
2031 Study year

Morning Peak Hour Inbound to Downtown



Source: AM Peak Hour Inbound to Downtown: 1) Transportation City Cordon Count (1975-2011); 2) Transportation Model EMME2 Forecast (2011-2031); 3) 2006 Transportation Tomorrow Survey (TTS) for Walk/Cycle Mode and Other Data;
 Downtown: Defined as Bathurst to Don River and Waterfront to the rail corridor north of Bloor

How Commuters get Downtown (AM Peak Hour 2011)



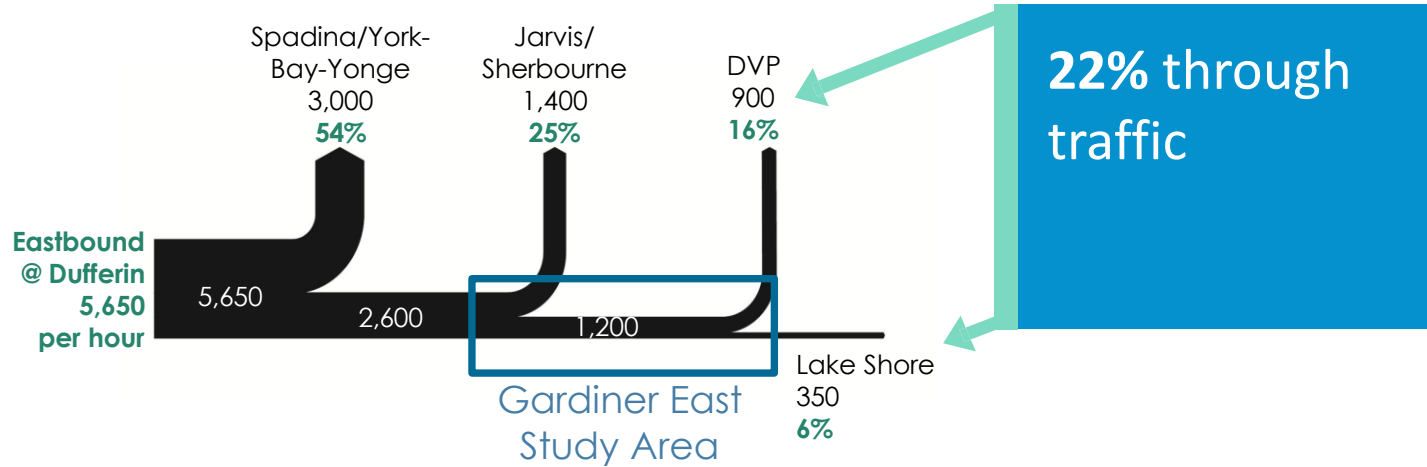
Source: AM Peak Hour Inbound to Downtown: Transportation City Cordon Count (2011)

Downtown: Defined as Bathurst to Don River and Waterfront to the rail corridor north of Bloor

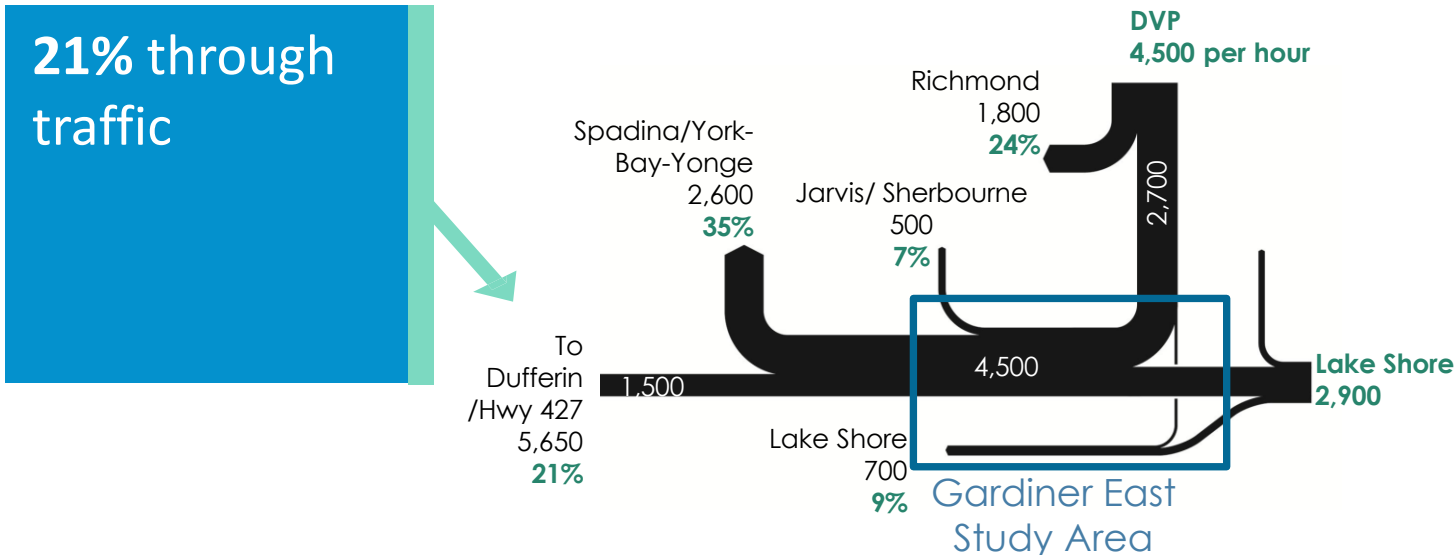
Gardiner East Role & Function Today

ORIGIN / DESTINATION STUDY – DOWNTOWN VS. THROUGH TRIPS (AM Peak Hour)

EASTBOUND



WESTBOUND

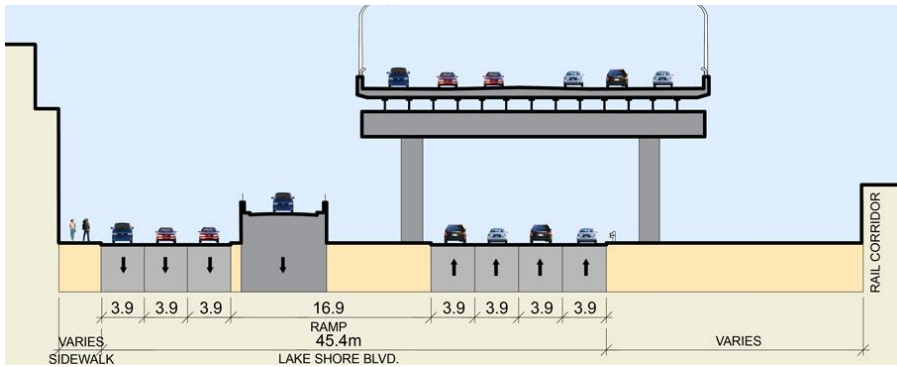


Don McKinnon

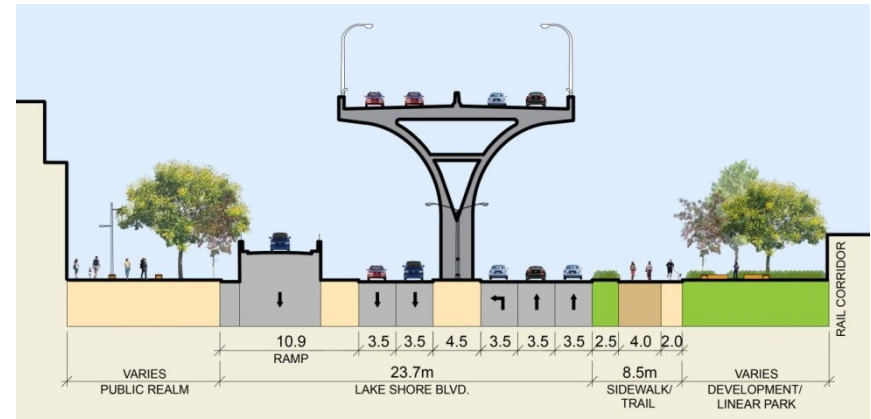
Consulting Team Project Manager
Dillon Consulting Ltd.

Previous Alternatives Assessed

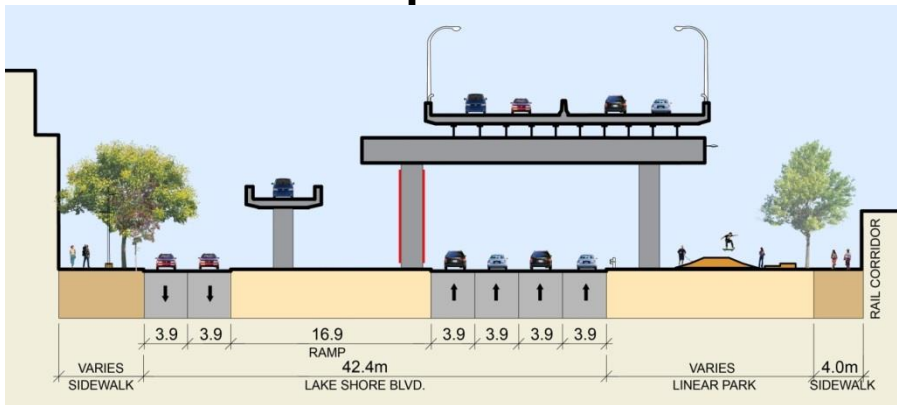
Maintain



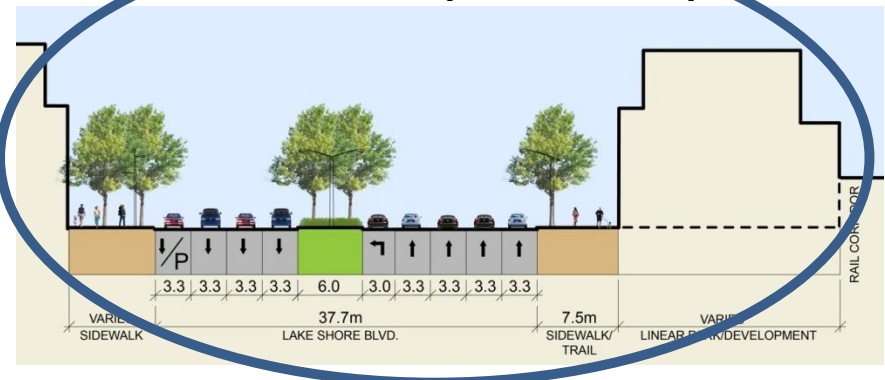
Replace



Improve



Remove (Boulevard)



Previously Recommended Alternative

What We've Heard So Far

Three rounds of public feedback, with over 3,500 participants, stressed the importance of:

- Balancing modes of transportation
- Enhancing waterfront connectivity
- Providing new transportation infrastructure
- Ensuring transit projects are prioritized and funded (concerns with assumptions that transit will be in place in future)
- Enhancing the public realm

On the Alternatives:

- **Maintain:** least disruptive to traffic, keeps existing road capacity, but not a long term solution and misses opportunity to revitalize area
- **Improve:** adding bike/pedestrian features is good but cost is high considering the limited benefits
- **Replace:** concerns about cost and practicality of replacing just the eastern part of the expressway
- **Remove:** cost effective, good for revitalization and redevelopment but will impact traffic and could create a barrier at grade for pedestrian crossings

Previously Recommended: Remove (Boulevard)



- Remove 6-lane Gardiner Expressway East
- New 8-lane Lake Shore Boulevard at grade
- New DVP on/off ramp connection at east end and new Gardiner ramp at west end
- Boulevard lined with new trees, sidewalks, retail frontage

PWIC Referral Decision

PWIC Referral Decision:

1. *Work with WT and community stakeholders to review the recommended option [Remove] under the EA process to mitigate congestion concerns;*
2. *Prepare an additional option that combines the maintain and replace components to preserve expressway linkage and functionality between the GE and the DVP, and evaluate it against the EA criteria and the following:*
 - *Transportation functionality;*
 - *Impacts on key economic sectors;*
 - *Cost benefit;*
 - *Future land use considerations;*
 - *Public transit components;*
 - *Environmental Impacts; and*
 - *Neighbourhood growth and compatibility*
3. *Report back in 2015*

New Work Undertaken

- The evaluation is now focused on Hybrid & Remove (Boulevard):
 - The other alternatives were not recommended previously
 - PWIC directed the team to investigate Hybrid and Remove (Boulevard)
 - Maintain remains the base case
- The evaluation is considering:
 - Input received from public, stakeholders, & PWIC deputations
 - New employment lands development opportunity (e.g. First Gulf)
 - Goods Movement and Economic Competitiveness Studies
 - EA Terms of Reference

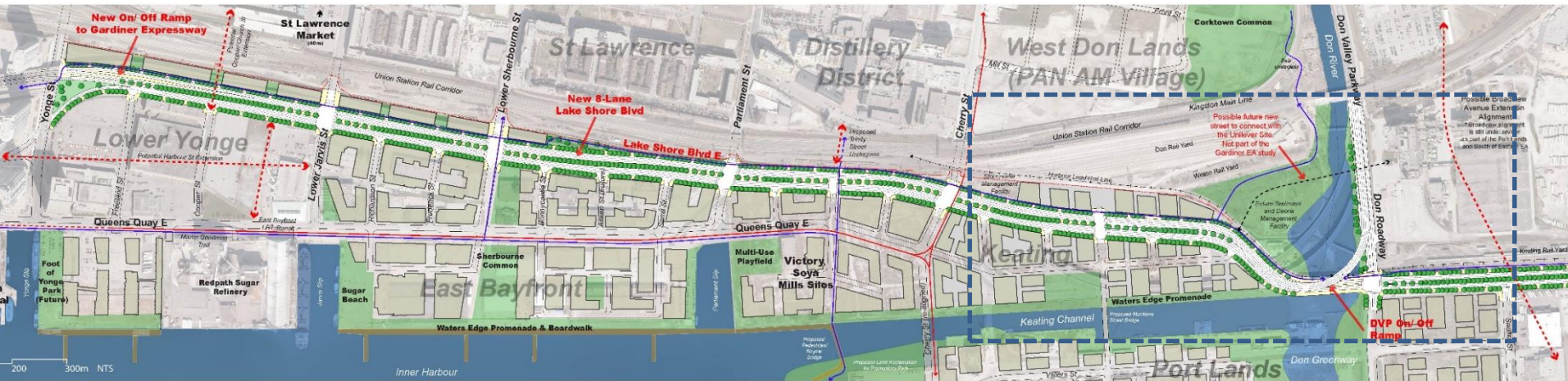
Optimized Remove (Boulevard)

Remove Description

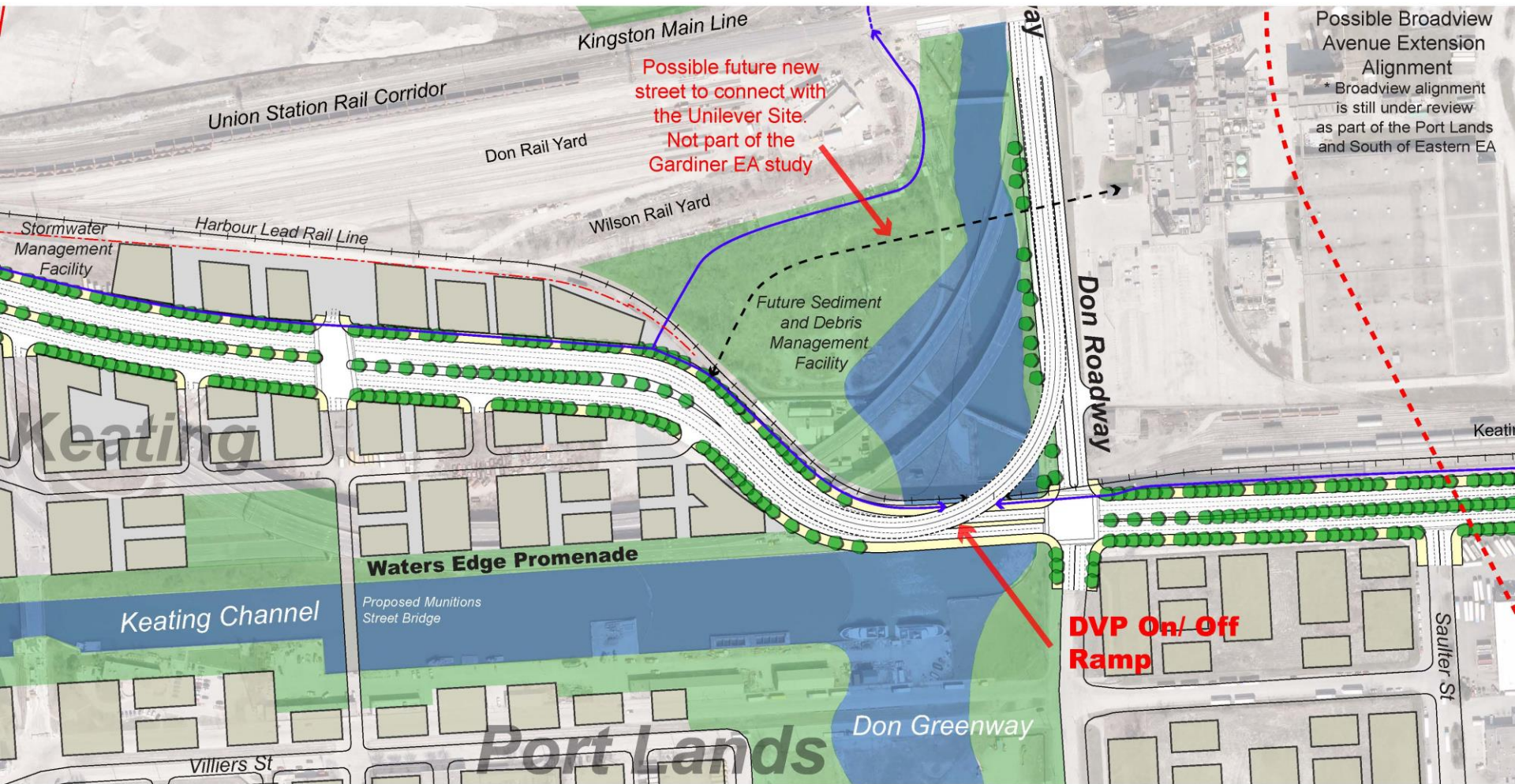
- Removes 1.7 km of elevated expressway and replace with at-grade 8-lane tree lined Lake Shore Blvd
- Removal of about 750 m (EB lanes) and 850 m (WB lanes) of the existing Logan on/off ramps
- Removal of all road infrastructure along Keating Channel
- New DVP ramp connection
- New ramps at Jarvis Street



Remove (Boulevard)



Remove (Boulevard)



Remove (Boulevard)



Remove (Boulevard)



Reducing Travel Time for Remove Alternative

- Optimization involved:
 - Adjustments to traffic signal operations/phasing
 - Modifications to Lake Shore Boulevard intersection configurations (e.g. Jarvis SB lane under rail pass becomes a right turn lane and LSB WB right turn lane added)
- The optimized Remove alternative reduces the additional travel time to 3-5 minutes from the previously presented 5-10 minutes (AM peak hour)
- All alternatives could experience an average travel time increase of approximately five minutes due to growth in traffic volumes.

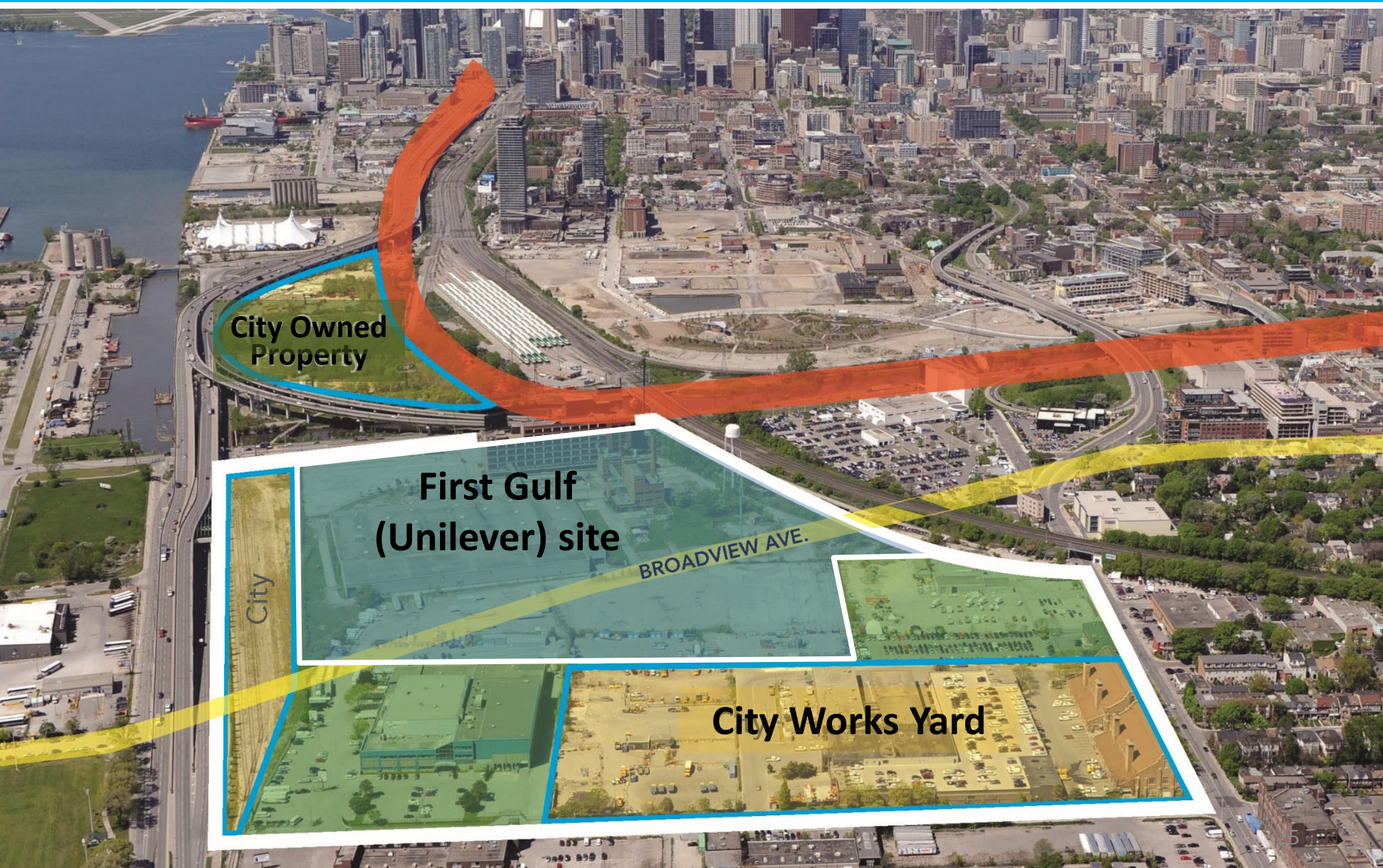


Hybrid Development

Proposed First Gulf Development

- Proposed large-scale office and retail development
- Development area includes land under control of First Gulf (29 acres), as well as City works yards (20 acres) and private land parcels
- Potential employment centre and economic catalyst
- Strategic location close to rail, roads, future LRT and trails
- Opportunity to connect site to Port Lands and South of Eastern

First Gulf Hybrid Proposal (2014)



Hybrid Evolution

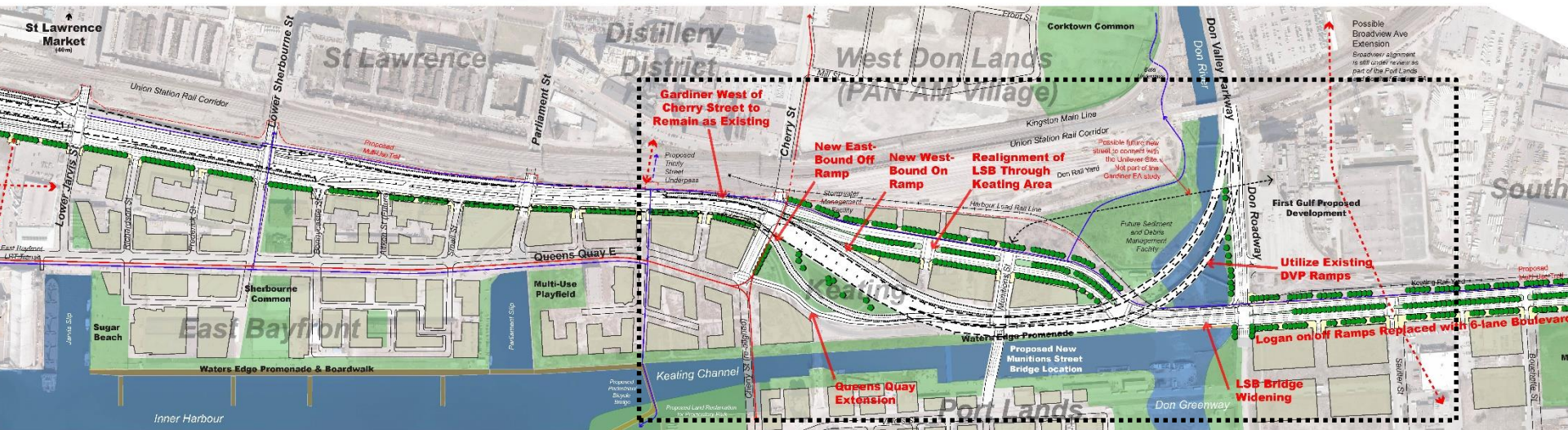
- A new DVP to Gardiner ramp alignment close to rail tracks is not feasible due to:
 - Safe ramp design speed
 - City Stormwater facility
- It was determined that the current alignment of the Gardiner/DVP ramps best satisfies the above
- No real benefit to removing and rebuilding a new ramp in the same location, so use existing ramps

Hybrid Description

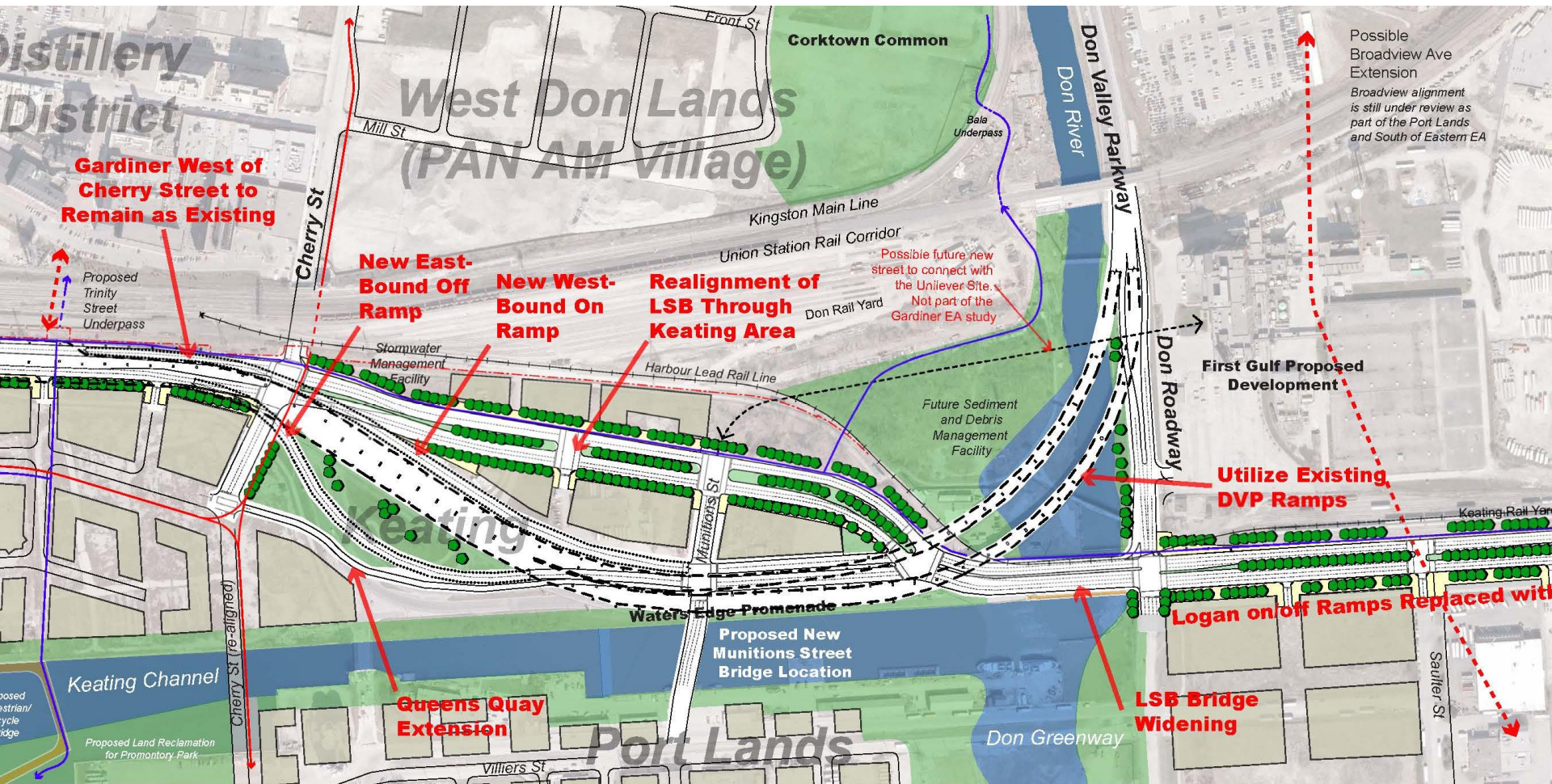
- Re-decking of existing Gardiner structure and retention of existing DVP ramps.
- Removes about 750 m (EB lanes) and 850 m (WB lanes) of the existing Logan on/off ramps.
- Adds 2 new ramps (2 lanes each) in the Keating precinct:
 - about 470 m new WB on-ramp and
 - about 425 m new EB off-ramp
- Includes new multi-use pathway & some intersection improvements.



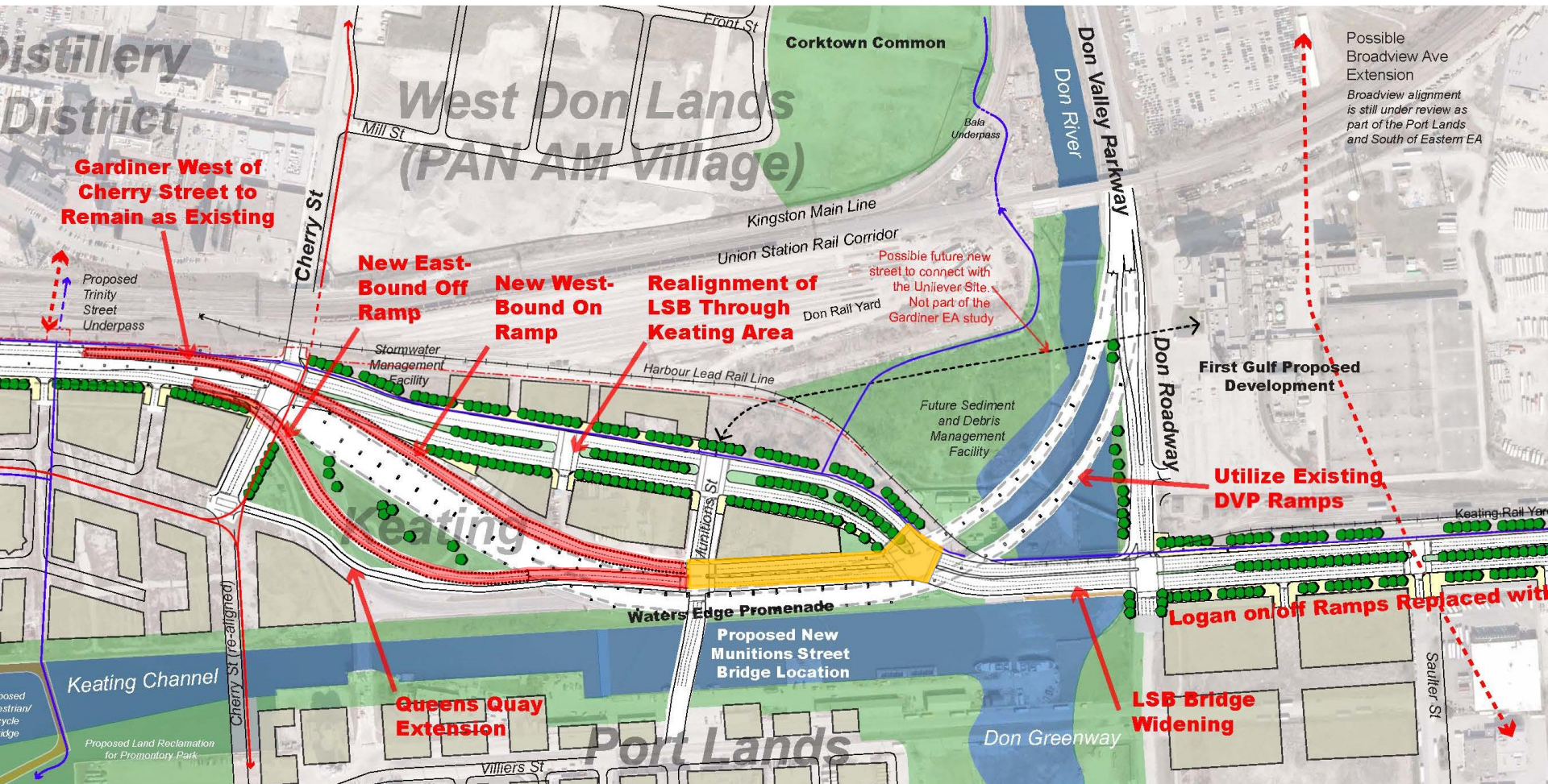
Hybrid



Hybrid



Hybrid



Hybrid

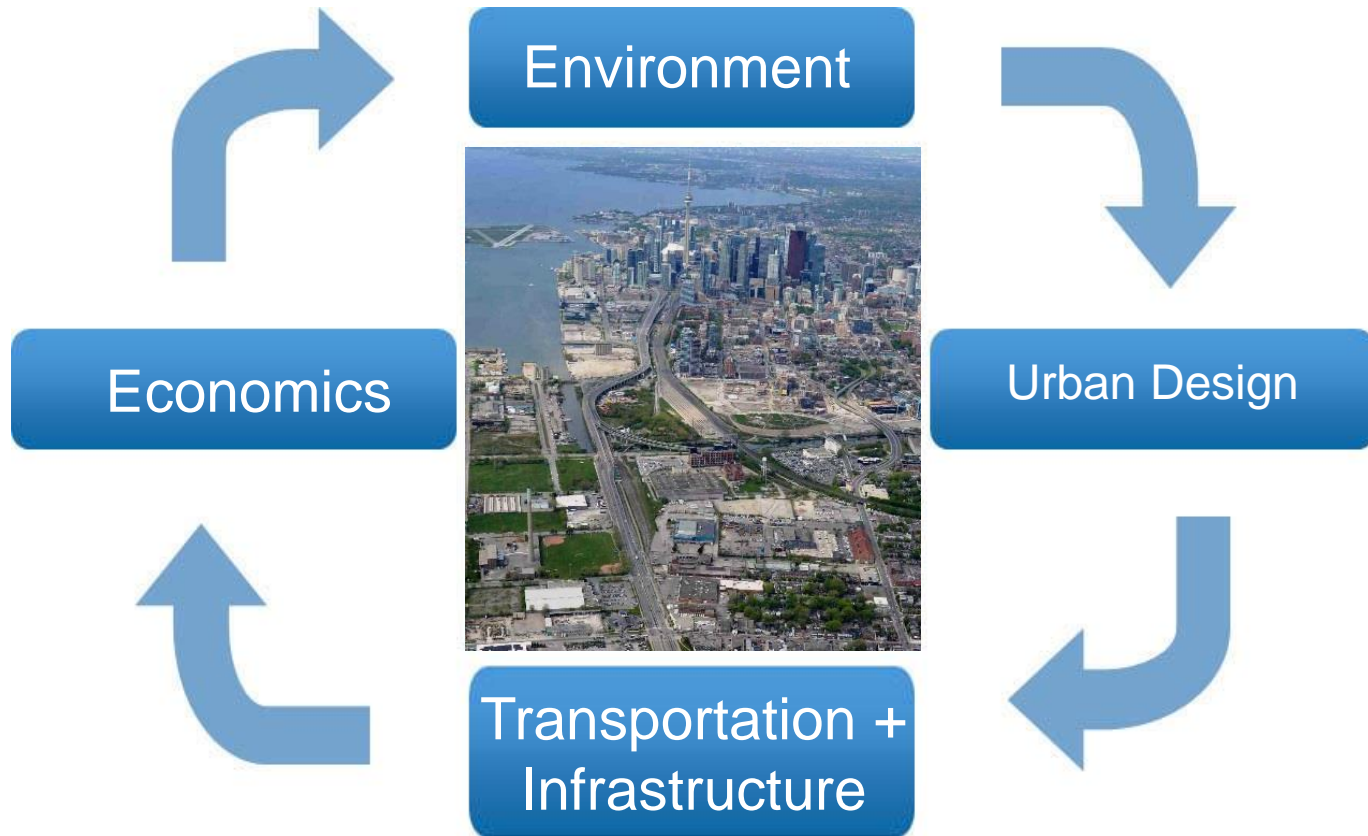


Hybrid



Alternatives Evaluation

Evaluation Approach



- 4 Study Lenses
- 16 Criteria Groups
- 60 Measures

Hybrid and Remove



- All alternatives require new transit to support planned development in study area
- Transportation modeling assumes same new transit for all alternatives
- SmartTrack, currently under study, would provide transit benefit



**Waterfront LRT
Extension**



Relief Line



**Broadview
LRT Extension**



**GO Service
Improvements**

Auto Travel Times

Projected Inbound Travel Times AM Peak Hour Average

| | 2031 Base Case | 2031 Hybrid | 2031 Remove |
|---------------|-------------------|----------------|----------------|
| A to D | 52 min | +0 min | +3 min |
| B to D | 30 min | +0 min | +3 min |
| C to D | 23 min | +3 min | +5 min |
| E to D | 27 min | +0 min | +3 min |



Kipling/Lake Shore **E**

- 2031 Base Case travel times are approximately five minutes higher than current travel times due to growth in background traffic volumes.

Concerns of Industrial and Manufacturing, Retail, Courier and Logistics Companies:

- **Road Capacity & Travel Time** – Increased travel times will result in greater impacts and operating and maintenance costs for trucks
- **Reliability** – Concern that greater travel time “buffer” will be required
- **Alternate Routes** – More vehicles on other City roads will impact deliveries
- **Impact of Construction** – Concerns of significant congestion during construction
- **Safety** – More trucks on our City streets could lead to more accidents

Study Summary:

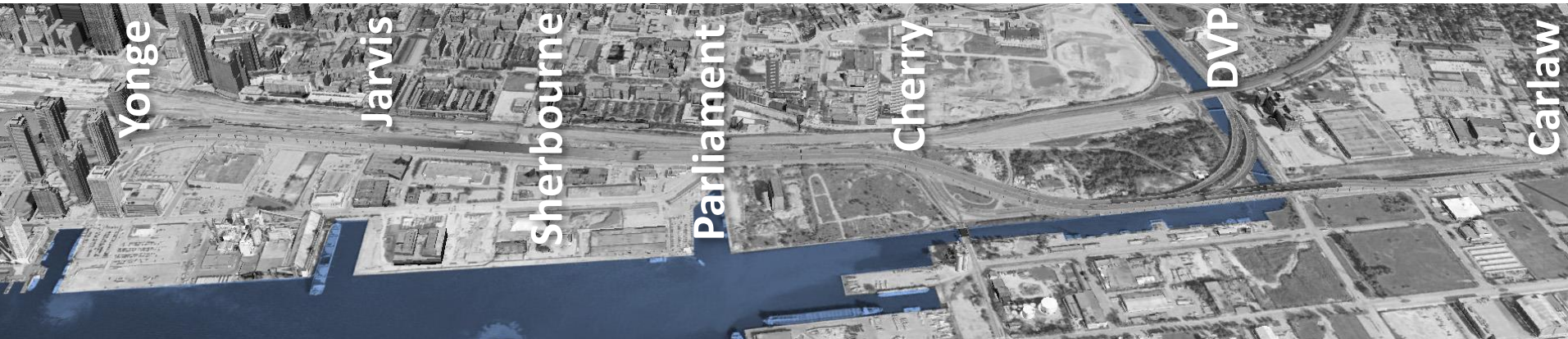
- The Port Lands generate high number of trucks in the City
- Peak AM period is a heavy truck travel time – approx. 500 trucks/hr. on the Gardiner (approximately half of what Hwy 401 carries)
- 80% of truck trips on East Gardiner either begin or end in the local area
- The nature and extent of impact ultimately depends on the type of goods shipped

Hybrid

- Close two Gardiner travel lanes at a time for re-decking activities
- Closures of Lake Shore at times during re-decking activities.
- Build new Keating on/off ramps and re-align Lake Shore
- Demolish Logan ramps and detour traffic
- Six years of construction, including approximately one and a half years of road detours (Logan Ramps)

Remove (Boulevard)

- Pre-build on/off ramps and re-align Lake Shore (Cherry and DVP)
- Close and demolish eastbound then westbound Gardiner travel lanes in two stages, detour traffic, demolish DVP ramps and Logan ramps
- Six years of construction, including approximately three to four years of road detours.



Hybrid

- East of Don River, a new open Boulevard is created with new public realm
- West of Cherry St. minimal improvements to the attractiveness of the corridor
- For additional cost enhancements could be done under the structures of the elevated expressway

Remove (Boulevard)

- The entire corridor is opened up creating a new attractive streetscape with new public realm
- Additional public realm space created
- Visual barriers largely removed



Pedestrian Experience

**Lake Shore Blvd
E/Gardiner
Expressway @
Jarvis Street**



Existing



Hybrid



Remove
(Boulevard)

- Both alternatives reduce highway ramps over the mouth of the Don River
- The Hybrid alternative requires two two-lane highway ramps east of Cherry Street and a new access road along the Keating Channel, which will reduce development area and may limit public use of the water's edge in the Keating Precinct
- The Hybrid alternative will require a review of the Keating Precinct Plan
- Both alternatives equally provide the necessary flexibility for achieving a Broadview road and transit connection

Planning – Don River

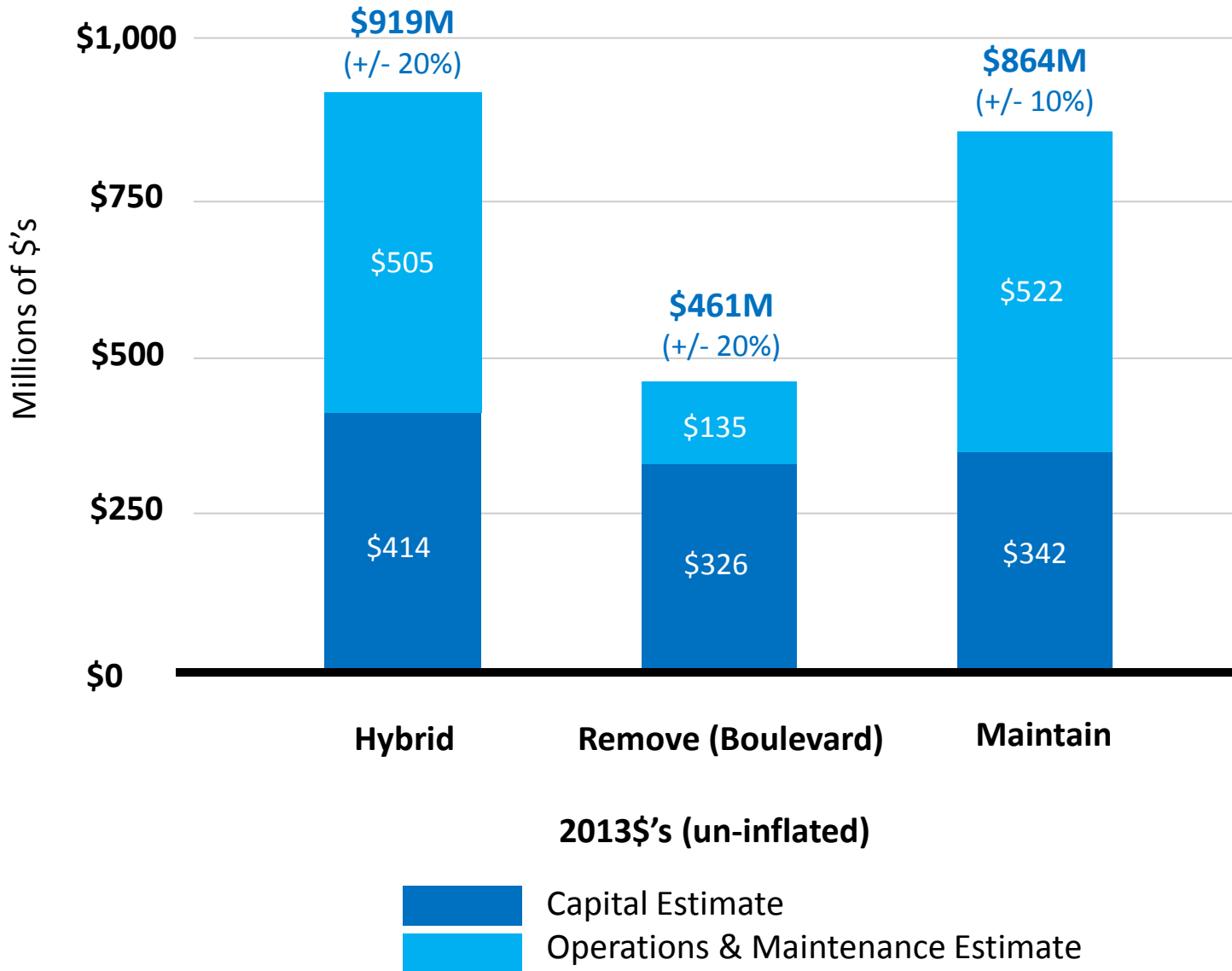
View Looking North Don River & Keating Channel (Don Mouth Naturalization)



Planning – Keating Channel

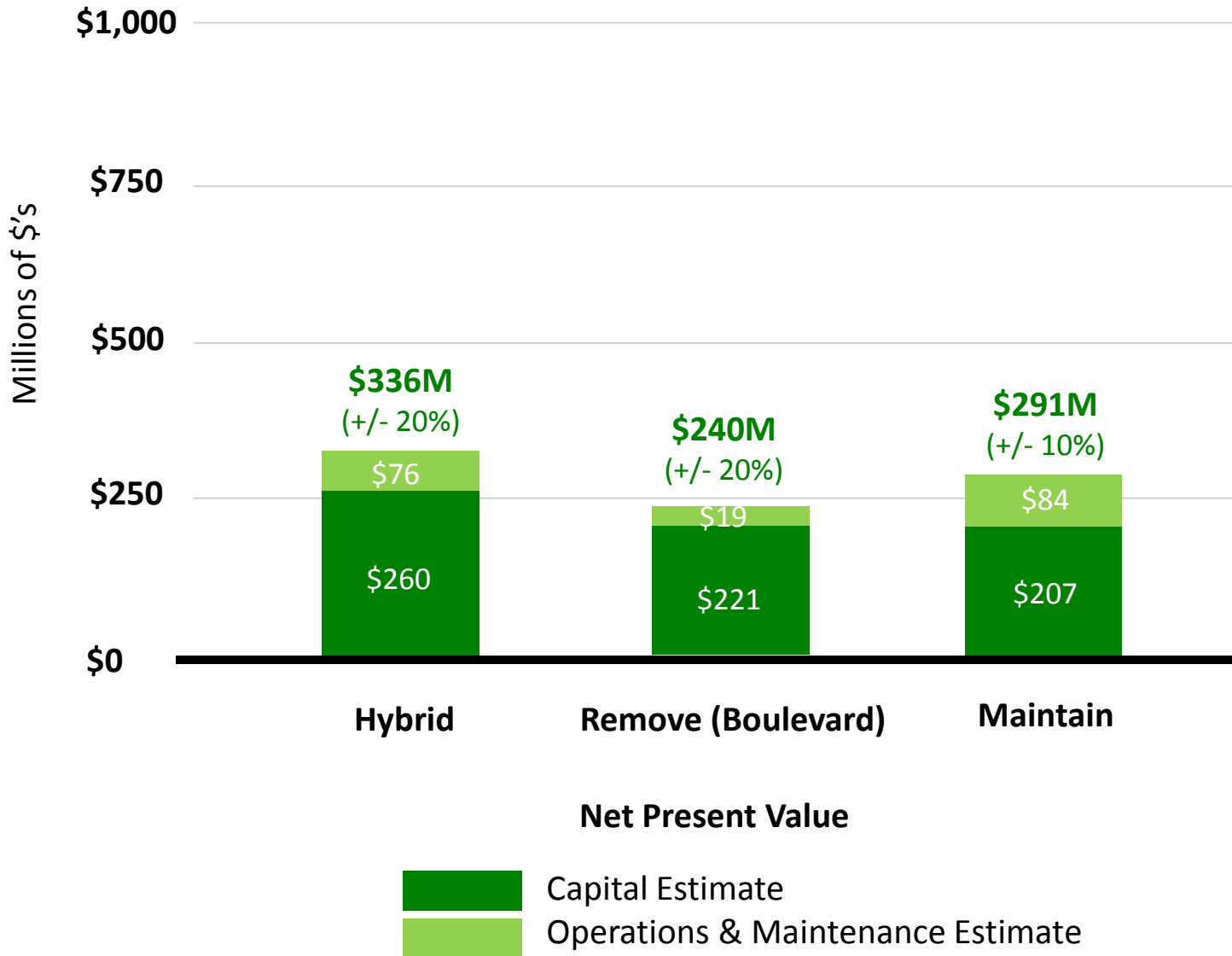


Costs¹ (100 Year Lifecycle)



¹ All costs are high level order of magnitude prepared for comparative purposes only.

Costs¹ (100 Year Lifecycle)



¹ All costs are high level order of magnitude prepared for comparative purposes only.



- Remove alternative would provide 12 additional acres of new development land west of the Don River than the Hybrid alternative provides – which could generate a potential for \$100M to \$150M of additional public land sales revenue (\$2013)
- East of the Don River, both alternatives unlock First Gulf Site development including City-owned parcels (20 acres)

Study Findings:

1. **Global Competitiveness:**

- Toronto is ranked as one of the world's most competitive cities; a standing that is unlikely to be affected by either alternative.
- There are several criteria considered by third party competitiveness studies – accessibility is an important criterion, particularly access by public transit

2. **Regional Economics:**

- To remain competitive, Toronto needs to have a strong transportation network that links the city, including the downtown core, with neighbouring regions.
- The increase in vehicle travel time with the Remove alternative may impact regional competitiveness.
- Removal of expressways in some other downtowns appears not to have harmed their economic performance.

Study Findings .../2:

3. Local Economics:

- Both alternatives complement development plans for Port Lands and South of Eastern developments
- Increased development opportunities in the Remove alternative along the Lake Shore Blvd corridor represent a positive economic impact
- Removing the expressway connection could affect attractiveness of the Port Lands for certain industries

Regarding construction:

- Construction period for both options is up to six years – this will likely impact commerce
- The Remove alternative will have three to four years of road detours and the Hybrid alternative will have one and a half years of road detours.

- Other criteria groups under consideration but not presented include:
 - **Transit** – both alternatives facilitate new transit
 - **Pedestrians** – most improvements to pedestrian environment with the Remove
 - **Cycling** – both include new east-west cycling facility
 - **Built Form** – preference for Remove
 - **Natural Environment** – both facilitate/improve Don Mouth revitalization
 - **Cultural Resources** – minor preference for Hybrid with expected less impact on archaeological resources
 - **Safety** – preference for Remove due to elimination of all sight-line obstructions and improvements at all intersections.
 - **Social and Health** – initial results suggest that noise and air effects would be similar

Summary of Key Differences

| Study Lens | Hybrid | Remove (Boulevard) |
|---------------------------------|---|--|
| Transportation & Infrastructure | <ul style="list-style-type: none"> • Shorter auto/Goods Movement travel time in peak hour • Maintains DVP/Gardiner direct expressway connection • Less construction impact on traffic (approximately 1.5 years of detours) | <ul style="list-style-type: none"> • Longer auto/Goods Movement travel time in peak hour • No DVP/Gardiner direct expressway connection • Greater construction impact on traffic (approximately 3-4 years of detours) |
| Urban Design | <ul style="list-style-type: none"> • Complements development plans for Port Lands & South of Eastern developments (First Gulf) – requires review of Keating Precinct Plan • Less public realm space created and less quality of place along Lake Shore Blvd. corridor • West of Cherry Street, active street frontage along the corridor is unlikely | <ul style="list-style-type: none"> • Complements Port Lands & South of Eastern developments (First Gulf) • More public realm space created and more quality of place along Lake Shore Blvd. corridor • More opportunity for new development in corridor – more development in Keating • Allows for the creation of more active street frontage along the corridor. |
| Environment | <ul style="list-style-type: none"> • Complements Don Mouth naturalization | <ul style="list-style-type: none"> • Complements Don Mouth naturalization |
| Economics | <ul style="list-style-type: none"> • No impacts on City global or regional economic competitiveness • Less opportunity for economic development in corridor • \$336 M (NPV) \$919 M (\$2013) | <ul style="list-style-type: none"> • No impact on City global economic competitiveness but could result in regional impacts • More opportunity for economic development in corridor. • \$240 M (NPV) \$461M (\$2013) |

Evaluating the Alternatives

Both alternatives facilitate:

- Revitalization of the Don River Mouth and Flood Protection project
- Development of the First Gulf site
- Development of new public transit proposals

However, there are differences in the benefits between the two alternatives, including:

- **Hybrid** maintains an expressway connection between the Gardiner and Don Valley Parkway, has lower auto travel and goods movement times, and less construction disruption
- **Remove** has a lower cost, higher revenue from public land redevelopment, creates an animated Lake Shore Boulevard and facilitates better connections to the waterfront

Making a Decision

- Consultant's EA Evaluation Report
- City Staff Report
- May 13 PWIC and June 10 City Council
- Design options for preferred alternative:
 - Public Realm and functional aspects
 - Detailed construction implementation
- Mitigation opportunities for preferred alternative:
 - Intelligent Transportation Systems (ITS)
 - Corridor design improvements
 - Off-site improvements
 - Opportunities to accelerate construction and reduce user impacts
- Submit EA report to Ministry of Environment

Project Schedule

Approved EA Terms of Reference

2009

Public Ideas

Design Ideas

Your Ideas

Public Meeting Jun 2013

Consult on Alternative Solutions

Public Meeting Oct 2013

Evaluate & Consult on Four Alternative Solutions

Public Meeting Feb 2014

Evaluate & Consult on Refined Solutions

You are here

Committee and City Council Approval

Spring 2015

Develop & Consult on Alternative Designs

Fall 2015

Submission to MOE

Winter 2016

MOE Review & Decision

2016 Onwards