

# Confederation Line West Alignment Improvement

September 21, 2016

← STAGE  
ETAPE ↓ 2 →



# Agenda

- Background
- Lincoln Fields Station and alignment improvement
- LRT alignment, west of Lincoln Fields to Queensview, including:
  - Pedestrian bridge replacement at Woodroffe
  - Elevated LRT structure to grade separate tracks to Bayshore and Baseline
  - LRT tunnel alignment at Connaught Avenue
  - Queensview Station and pedestrian bridge
- Closure of Queensway Station
- Connectivity
- Next Steps

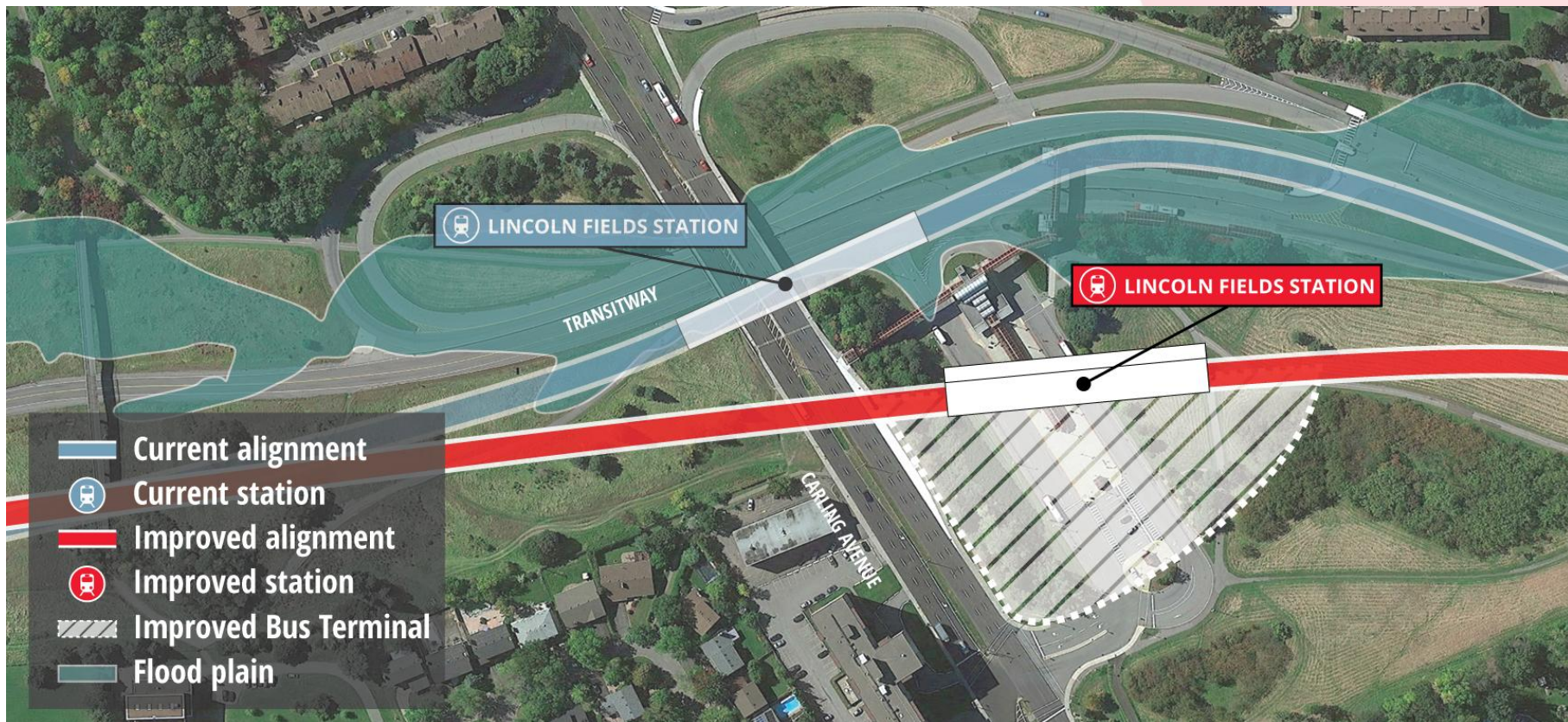
- Spring 2016, design modifications were recommended along Confederation Line West (at Cleary Station) and Confederation Line East (Blair to Montreal stations)
  - ✓ The modifications were included in the respective Confederation Line Environmental Assessments (EAs)
- Preliminary engineering design work has been ongoing and staff identified additional improvements along Confederation Line West:
  - Alignment and station shift at Lincoln Fields

# Confederation Line West West of Lincoln Fields

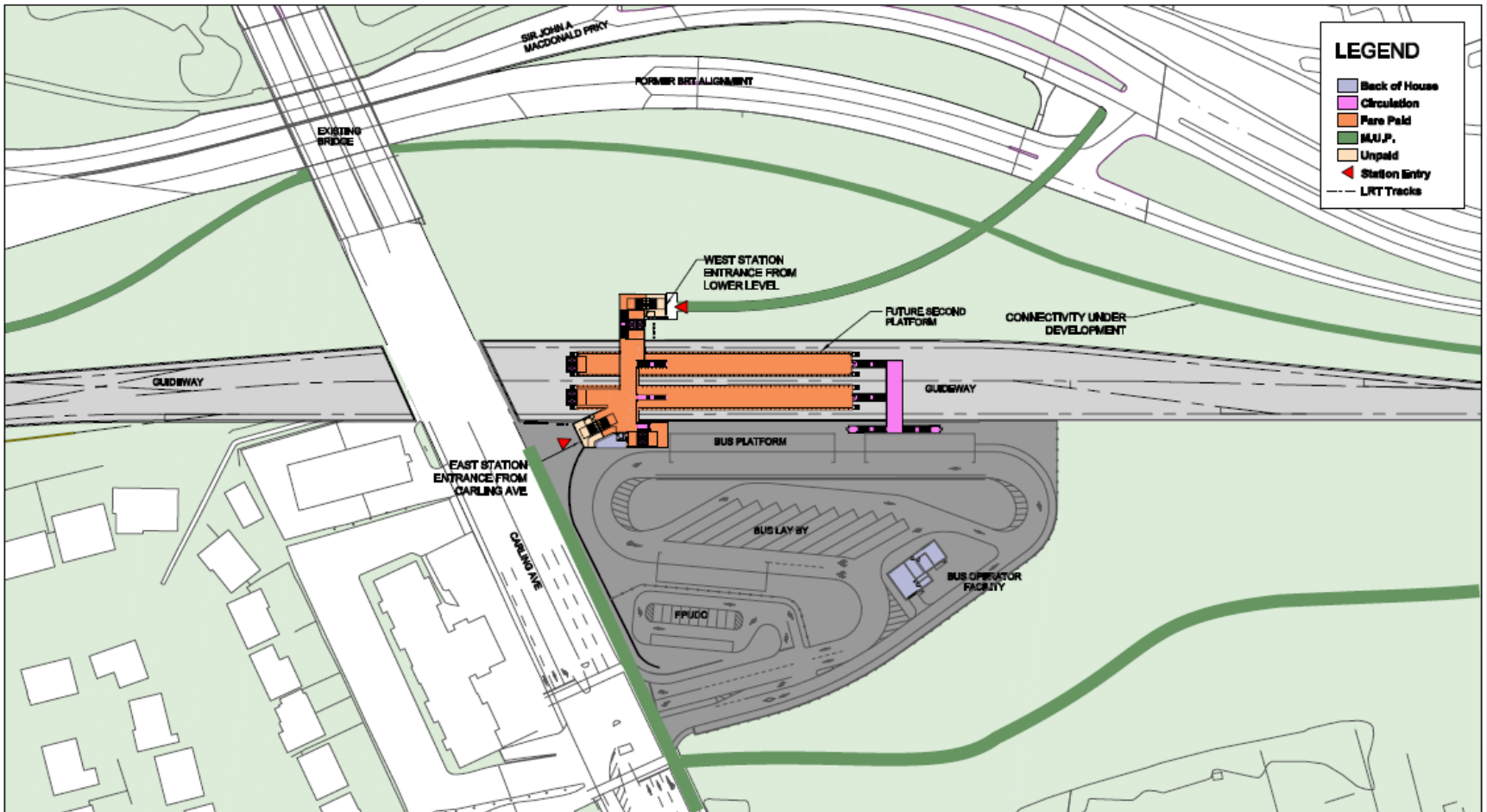




# Lincoln Fields Improved Alignment

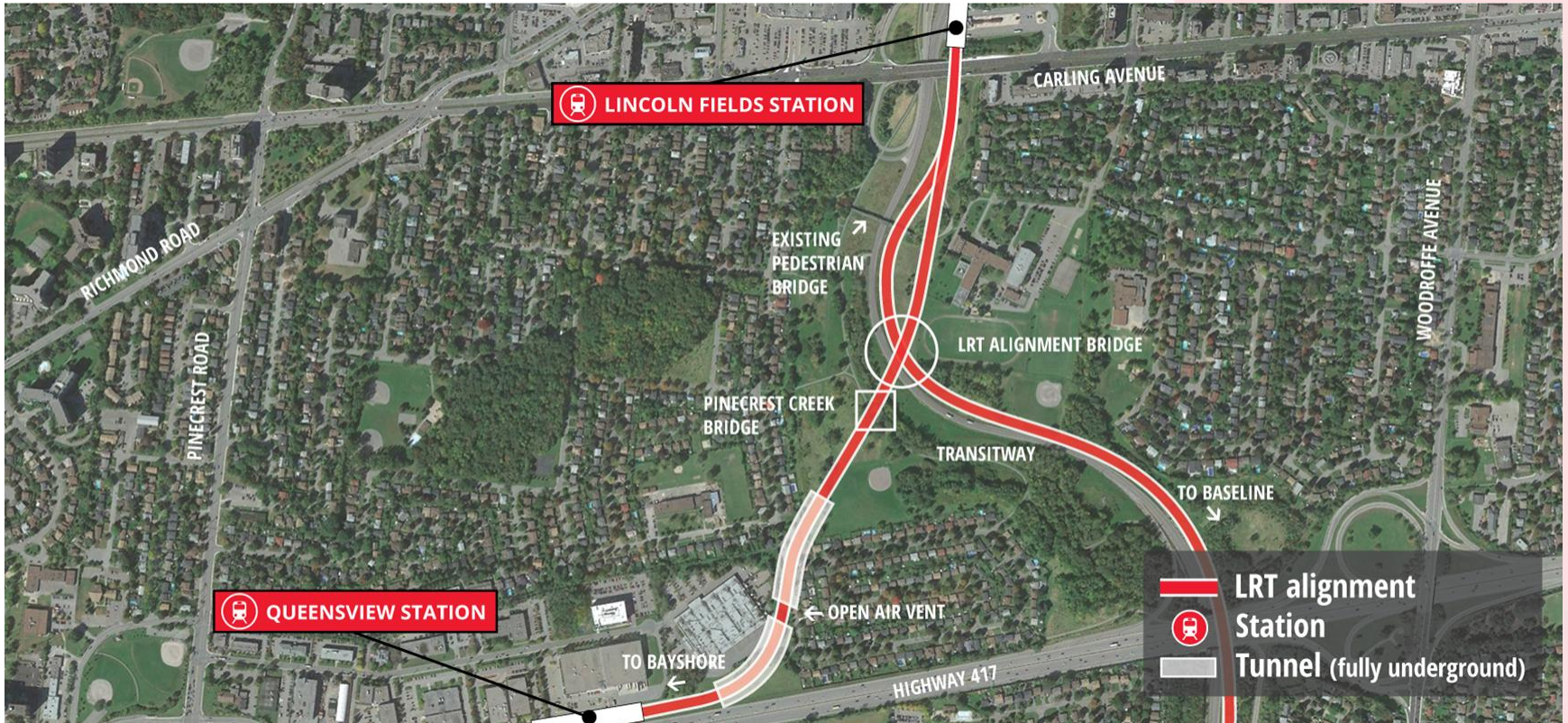


# Lincoln Fields Station Improved Concept





# LRT Alignment West of Lincoln Fields



# Pedestrian Bridge Replacement

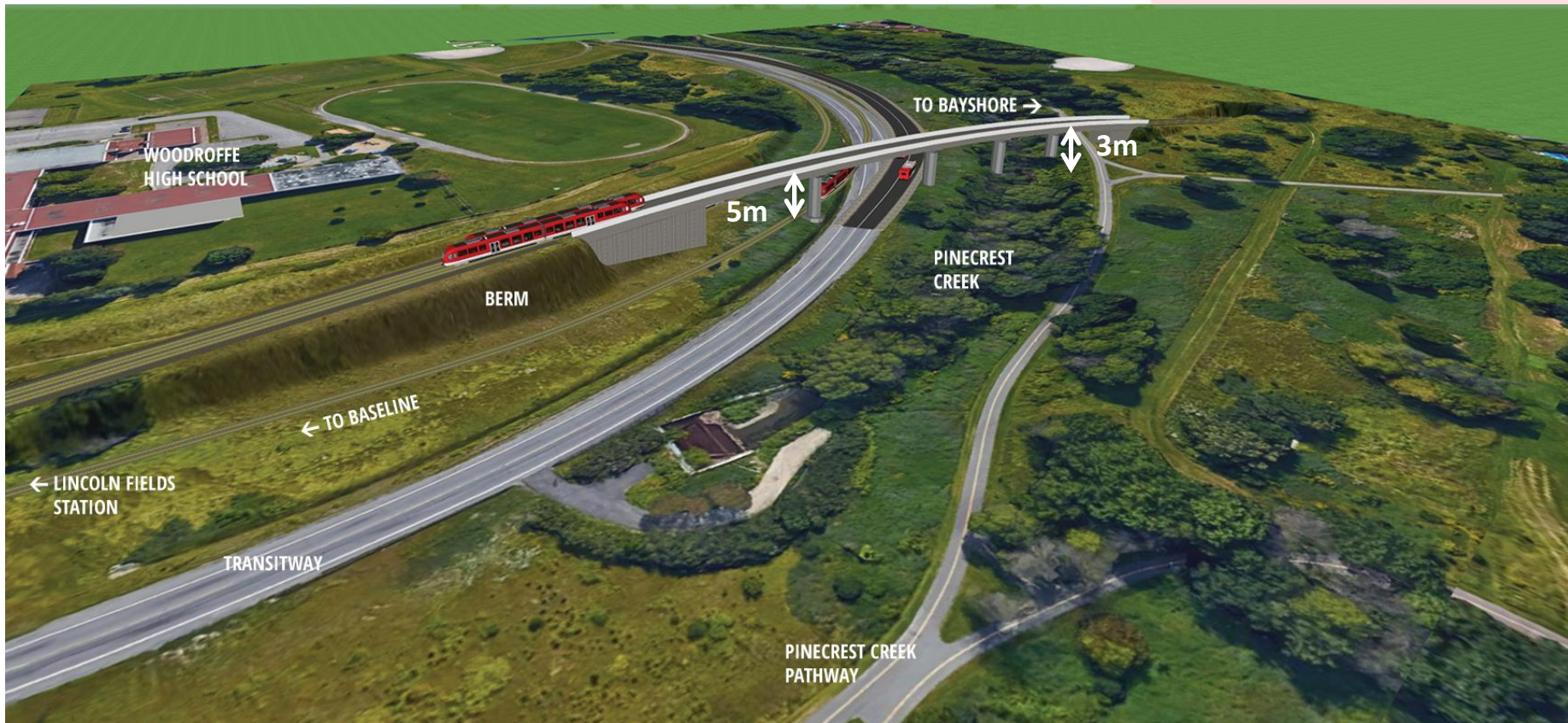
- Alignment cannot avoid the existing east piers of the pedestrian bridge at Woodroffe High School
- The bridge will be demolished and replaced with a new bridge over the LRT alignment
- Construction staging of new bridge and demolition of existing bridge is being analyzed
- Impacts on connectivity during bridge construction will be minimized to the extent possible, including coordination with Woodroffe High School
- New bridge span to be coordinated with new permanent pathway connections
  - Connectivity to Lincoln Fields Station and throughout the Pinecrest Creek corridor



# LRT Elevated Alignment at Bayshore/Baseline Split

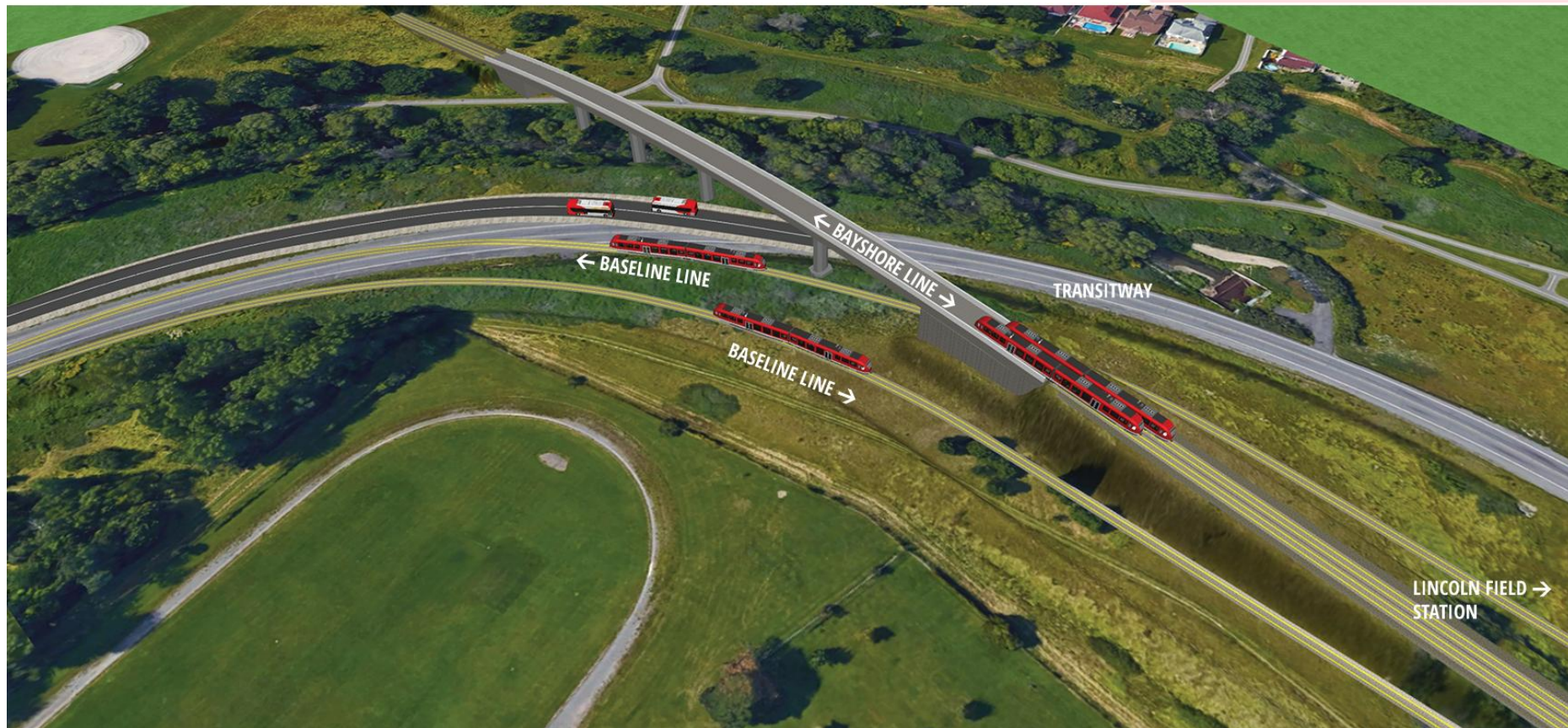
- West of Lincoln Fields, the alignment splits to Bayshore Station and Baseline Station
  - At the split, the tracks must be grade separated to avoid trains from one terminal delaying trains from the other end of the line
- By aligning the tracks to Bayshore over the southbound tracks to Baseline (with Baseline tracks remaining at grade):
  - The existing Transitway to Iris may remain open during construction
  - Multi-use pathways can be maintained under the elevated 'split' structure
  - Visual impact of bridge/berm can be minimized

# LRT Elevated Alignment at Bayshore/Baseline Split



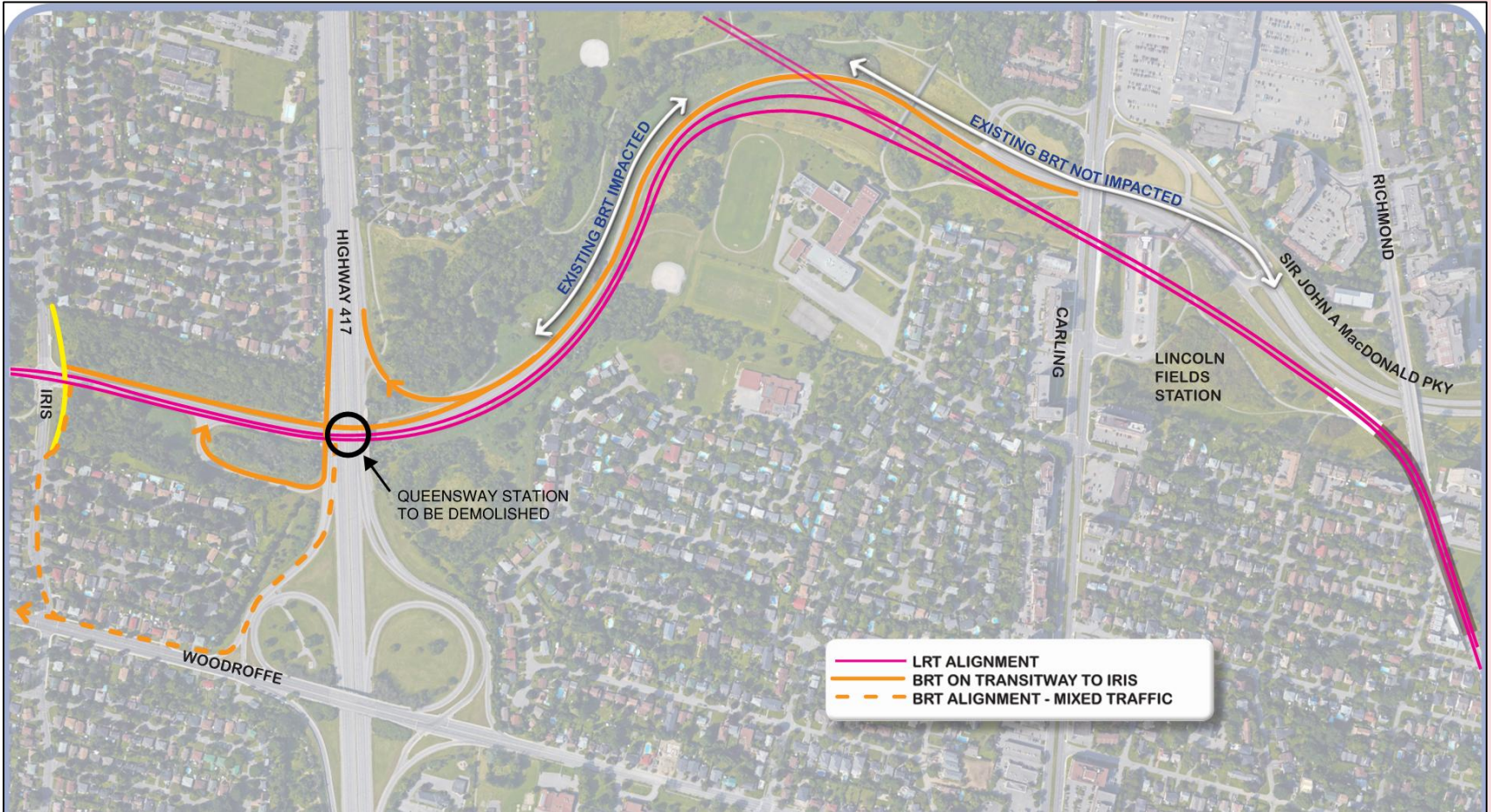


# LRT Elevated Alignment at Bayshore/Baseline Split





# LRT Elevated Alignment Traffic Operations during Construction



# LRT Tunnel Alignment At Connaught Avenue

- Rapid transit alignment has been protected by City for decades
- Length of tunnel roof sections is approximately 170 metres each, separated by a 40 metre open air vent
- With an open air vent, mechanical ventilation is unlikely to be required
- Tracks rise to grade in an open cut with retaining walls at both ends of the tunnel

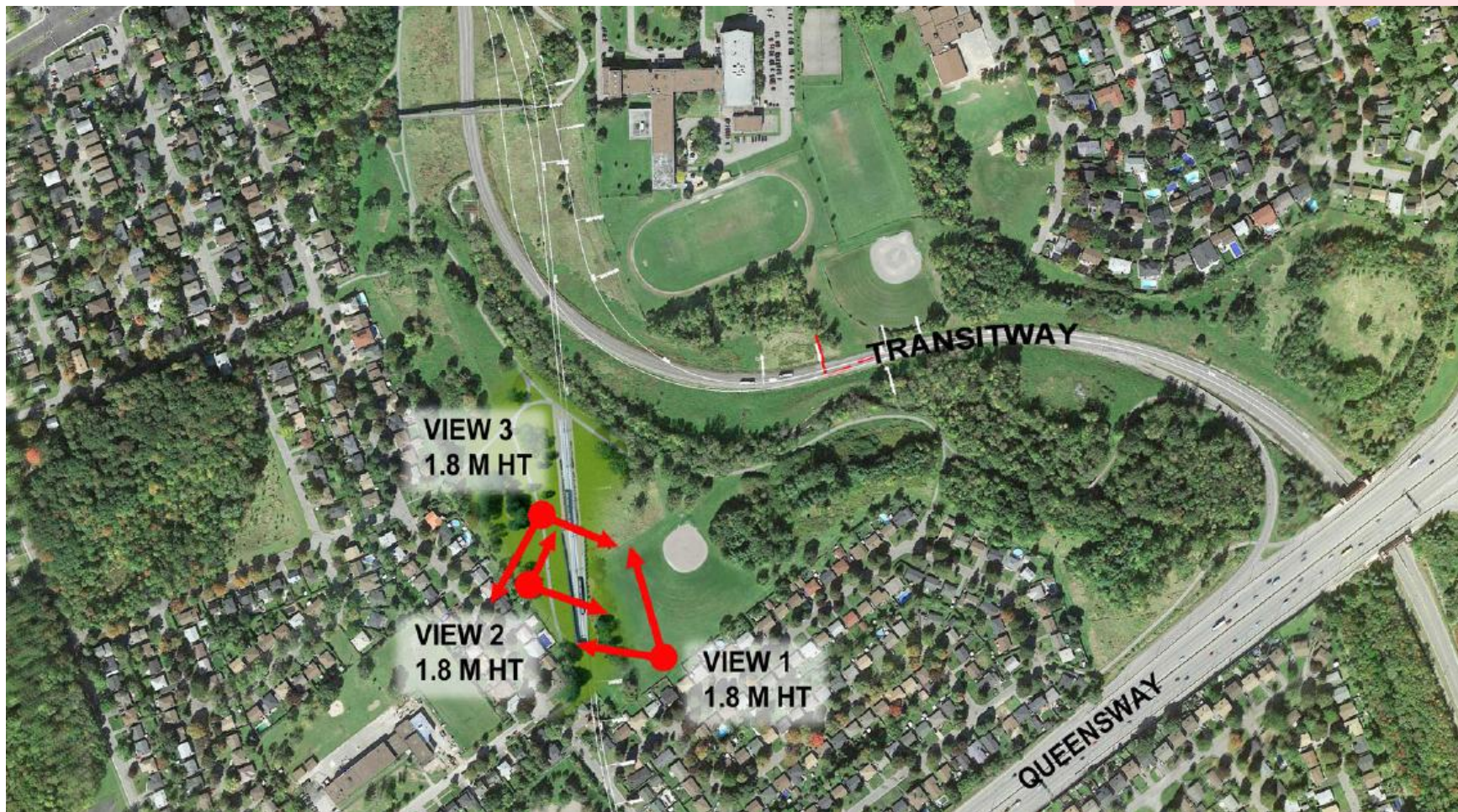


# LRT Tunnel Alignment Under Connaught Avenue



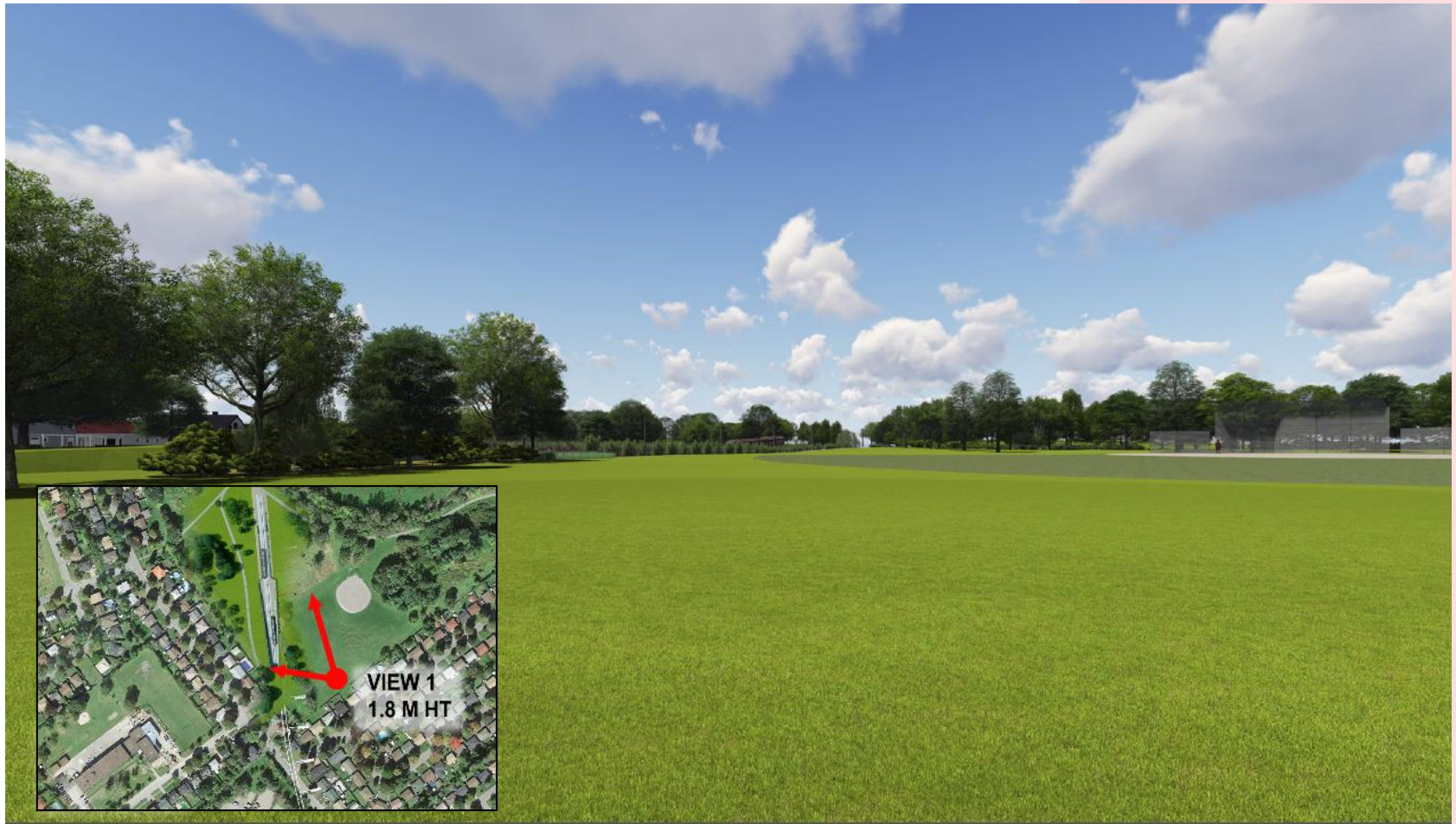


# LRT Tunnel Alignment Under Connaught Avenue





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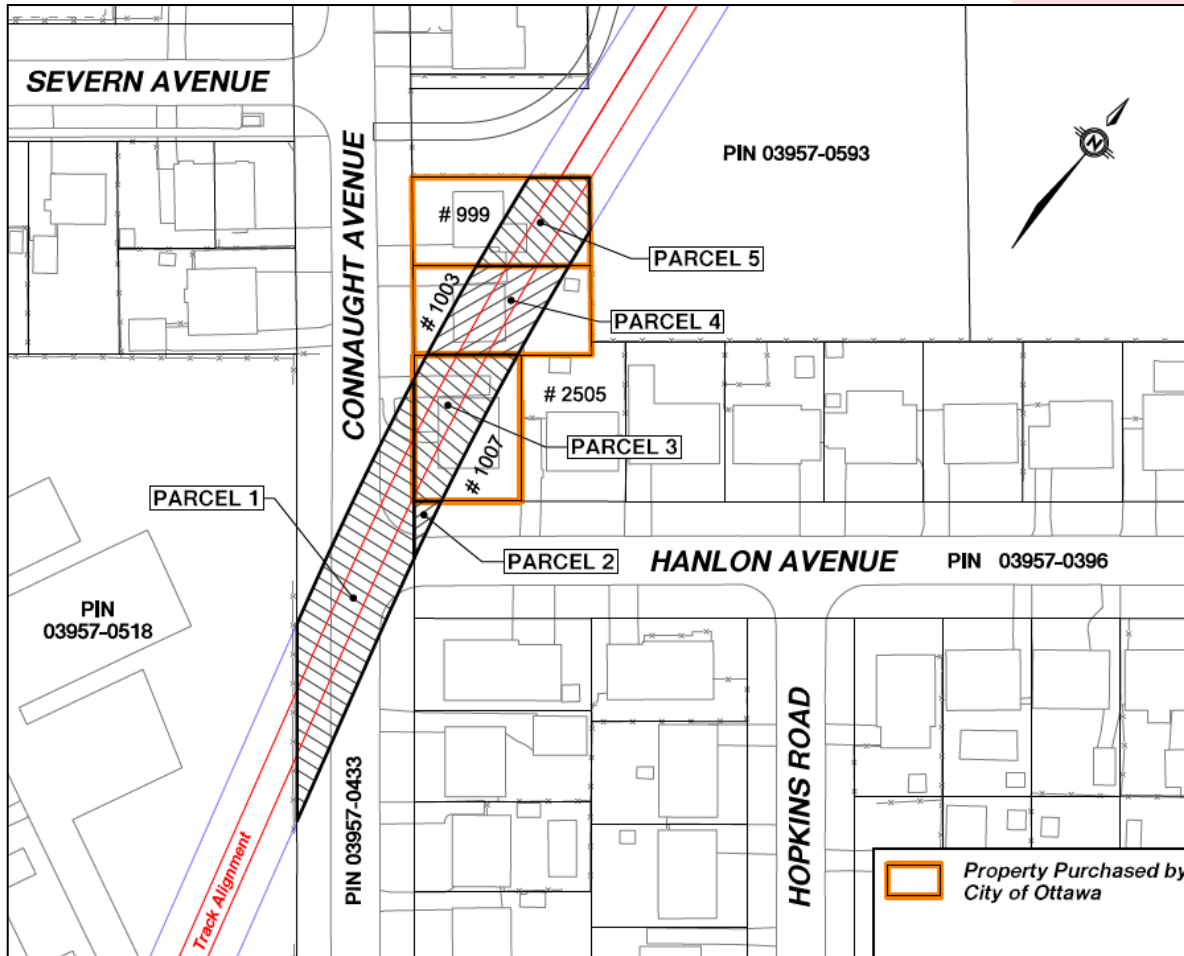


# LRT Tunnel Alignment Property Impacts

- Three City properties, currently under lease, will be required for construction:
  - 999, 1003 and 1007 Connaught Avenue
- A small portion of two properties will be required for a subsurface utility easement:
  - 2504/2505 Hanlon Avenue
- Mobilization sites for construction staging will also be required adjacent to the Connaught tunnel and the Pinecrest Creek bridge
- Construction areas are largely outside of the paved area of OC Transpo Queensview garage



# LRT Tunnel Alignment Property Impacts



# Preliminary Noise and Vibration Analysis

- Ambient noise levels will be impacted by LRT operations at the following locations:
  - Pinecrest Creek Bridge
  - Elevated LRT structure (bridge) at the Bayshore/Baseline split
  - Connaught Tunnel (at grade through a short section of the park)
- Noise impacts from LRT operations are being analyzed
- Ambient noise levels are currently impacted by:
  - Highway 417 and Transitway operations
  - OC Transpo garage on Queensview
- Preliminary vibration analysis has been completed
  - Resilient track fasteners will mitigate to acceptable standards
  - Track bed system will be confirmed by successful bidder
  - Floating slabs are also a possibility



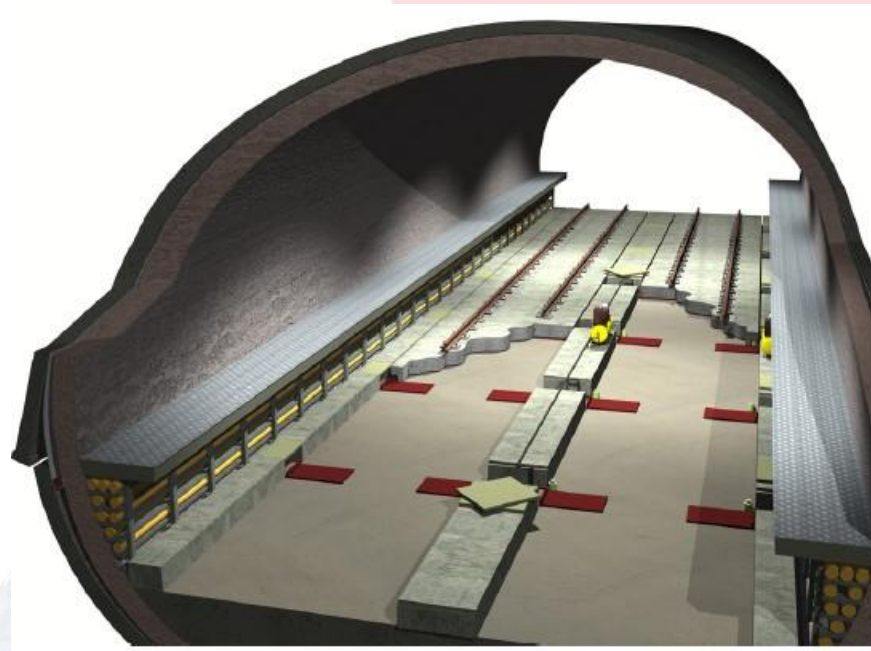
# Vibration Mitigation Measures



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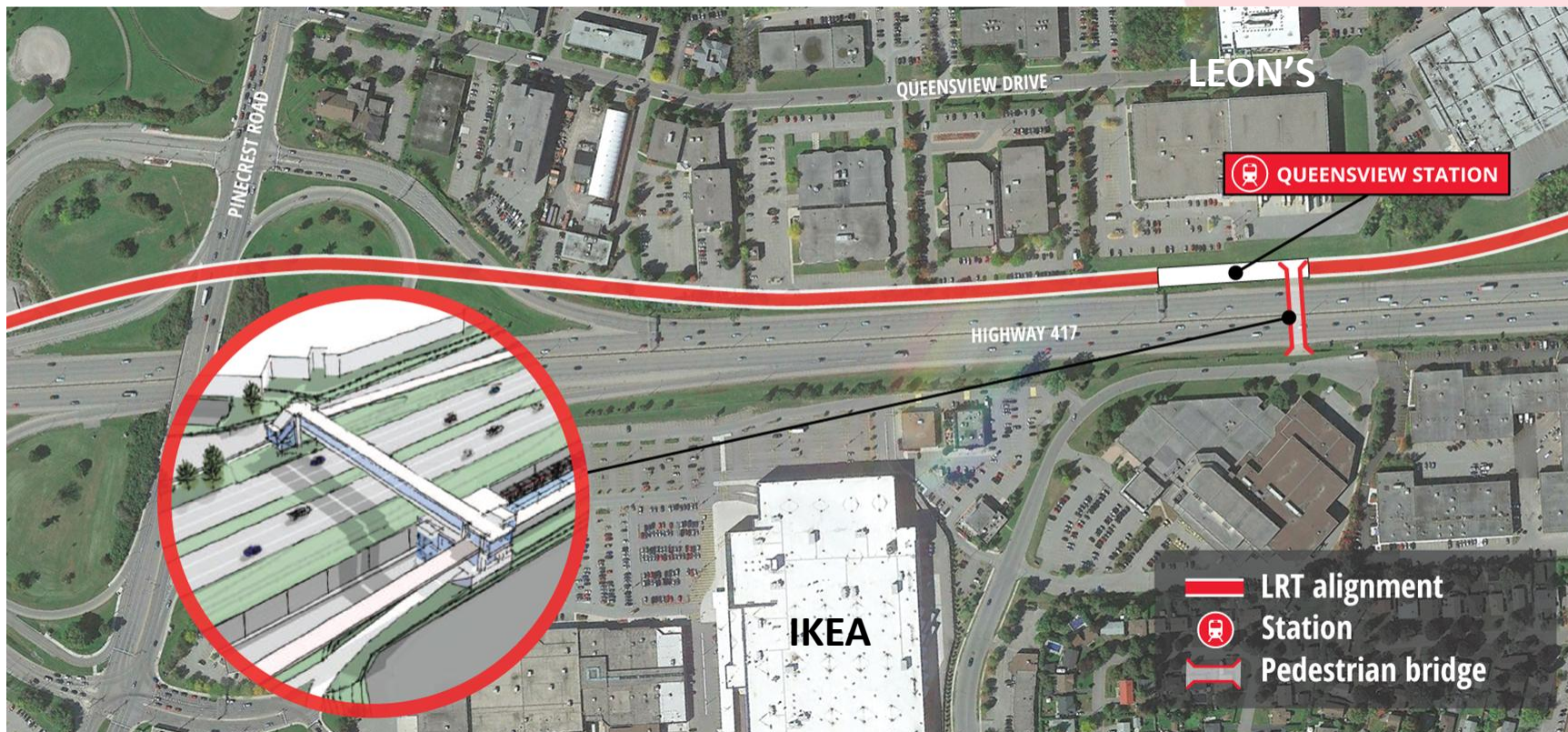
**Resilient Fasteners**



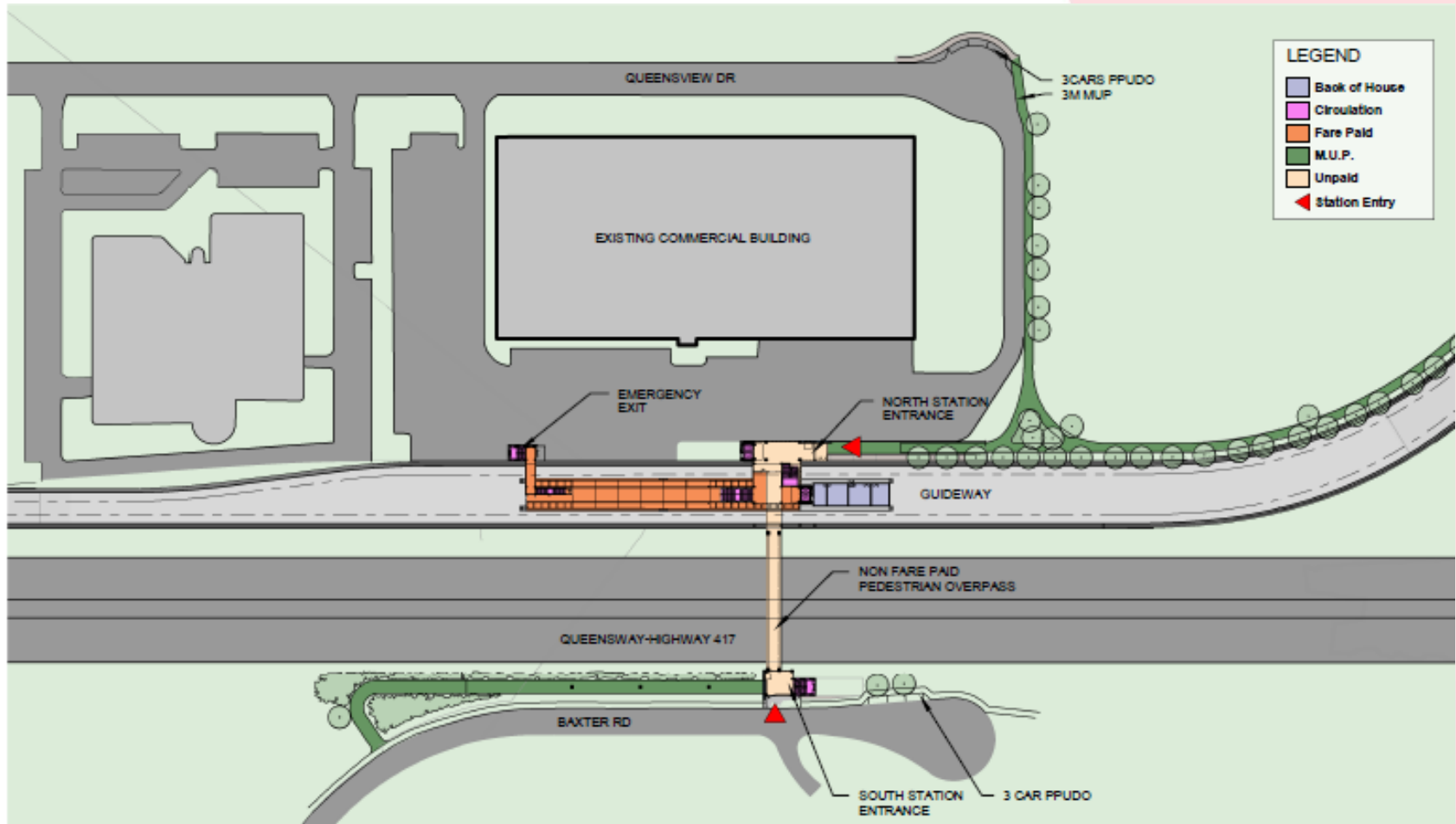
**Floating Slab**



# Queensview Station



# Queensview Station

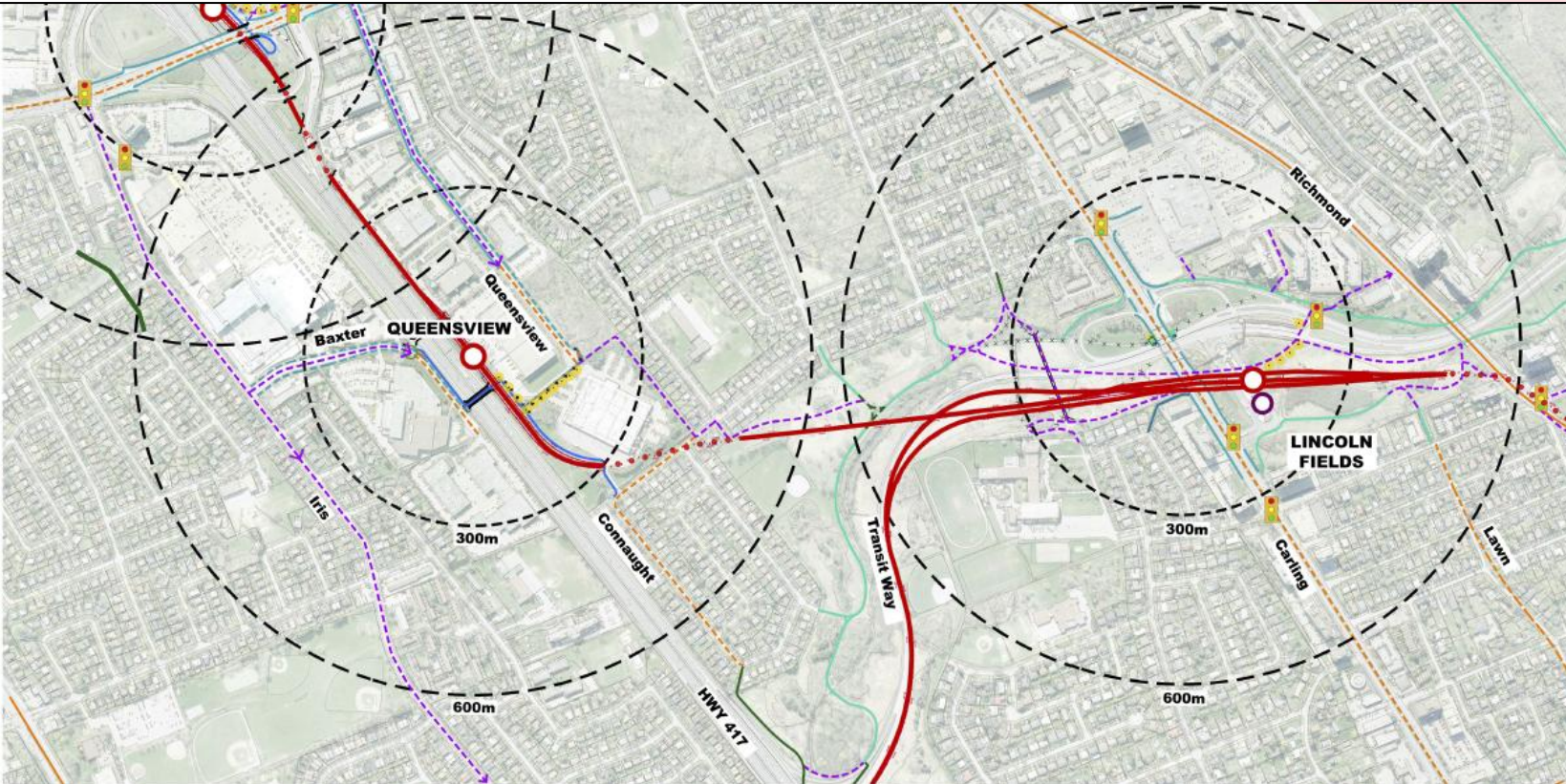




# Forecasted Ridership

Station	Total Boardings and Alightings (2031, AM Peak Hour)
New Orchard	636
Lincoln Fields	2,521
Queensview	540*
Pinecrest	640
*Queensview Station is busier than 11 other Stage 2 stations Ridership forecast takes into account the new pedestrian bridge over Highway 417	

# Connectivity



- 300 METER RADIUS STUDY AREA - 300 METRES DE RAYON ZONE D'ETUDE
- PROPOSED LIGHT RAIL TRANSIT (LRT) - PLATE-FORME PROPOSEE TRAIN (TLR)
- PROPOSED SUB-GRADE LIGHT RAIL TRANSIT (LRT) - PLATE-FORME PROPOSEE TRAIN LEGER SUR RAIL (TLR)
- PROPOSED LRT STATION - STATION DE TLR PROPOSEE
- EXISTING ON-ROAD BICYCLE FACILITY - INSTALLATION DE VELO SUR LA ROUTE EXISTANTE
- TMP PROPOSED ON-ROAD BICYCLE FACILITY - INSTALLATION CYCLABLE SUR ROUTE PROPOSEE DANS LE PCT
- TMP PROPOSED MULTI-USE PATHWAY (TMP) - SENTIER POLYVALENT
- EXISTING PATHWAY - SENTIER EXISTANT
- EXISTING NCC TRAIL SYSTEM - RESEAU DE SENTIERS DE LA CCN EXISTANT
- STUDY PROPOSED FACILITY - INSTALLATION PROPOSEE DANS L'ETUDE
- EXISTING SIDEWALK TROTTOIR EXISTANT
- PROPOSED SIDEWALK - TROTTOIR PROPOSE
- TRAFFIC CONTROL SIGNAL - FEUX DE CIRCULATION
- PROPOSED PASSENGER DROP OFF AREA - ZONE DE DEBARQUEMENT DES PASSAGERS PROPOSEE
- PROPOSED BICYCLE PARKING - STATIONNEMENT POUR VELOS PROPOSE
- PROPOSED PATHWAY ILLUMINATION - ECLAIRAGE PROPOSE DU SENTIER
- CCTV/EMERGENCY STATION - POSTE DE TVC/DE SECOURS
- PROPOSED CROSSWALK AND CROSS RIDE - TABLEAU DE CONCORDANCE PROPOSEE



# Next Steps

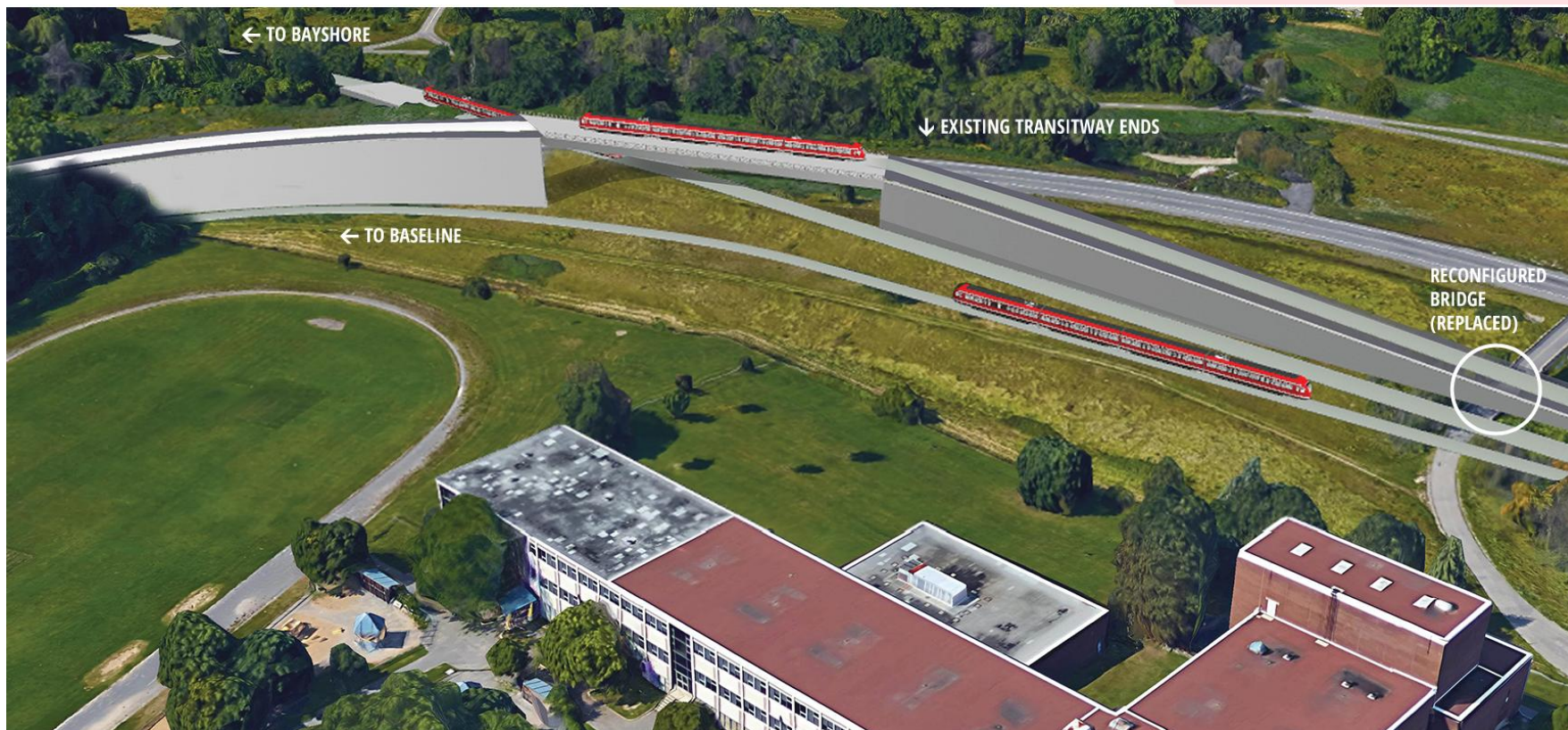
- Upcoming opportunities for public comment:
  - Environmental Assessment process
    - Notice of Completion (September 30, 2016)
  - Staff report outlining recommended design improvements:
    - Finance and Economic Development Committee (Fall 2016)
    - City Council (Fall 2016)

# Questions?

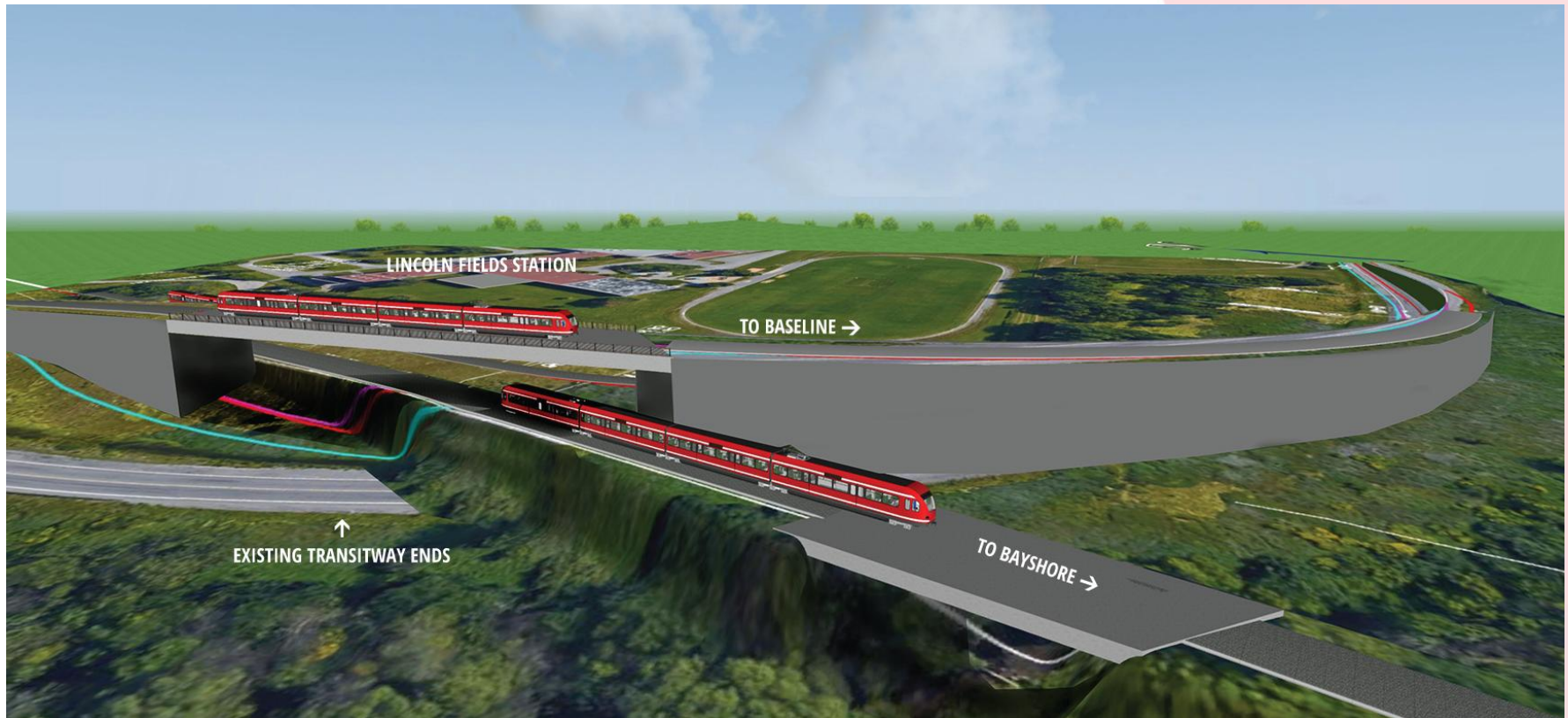




# Alternate LRT Elevated Alignment at Bayshore/Baseline Split

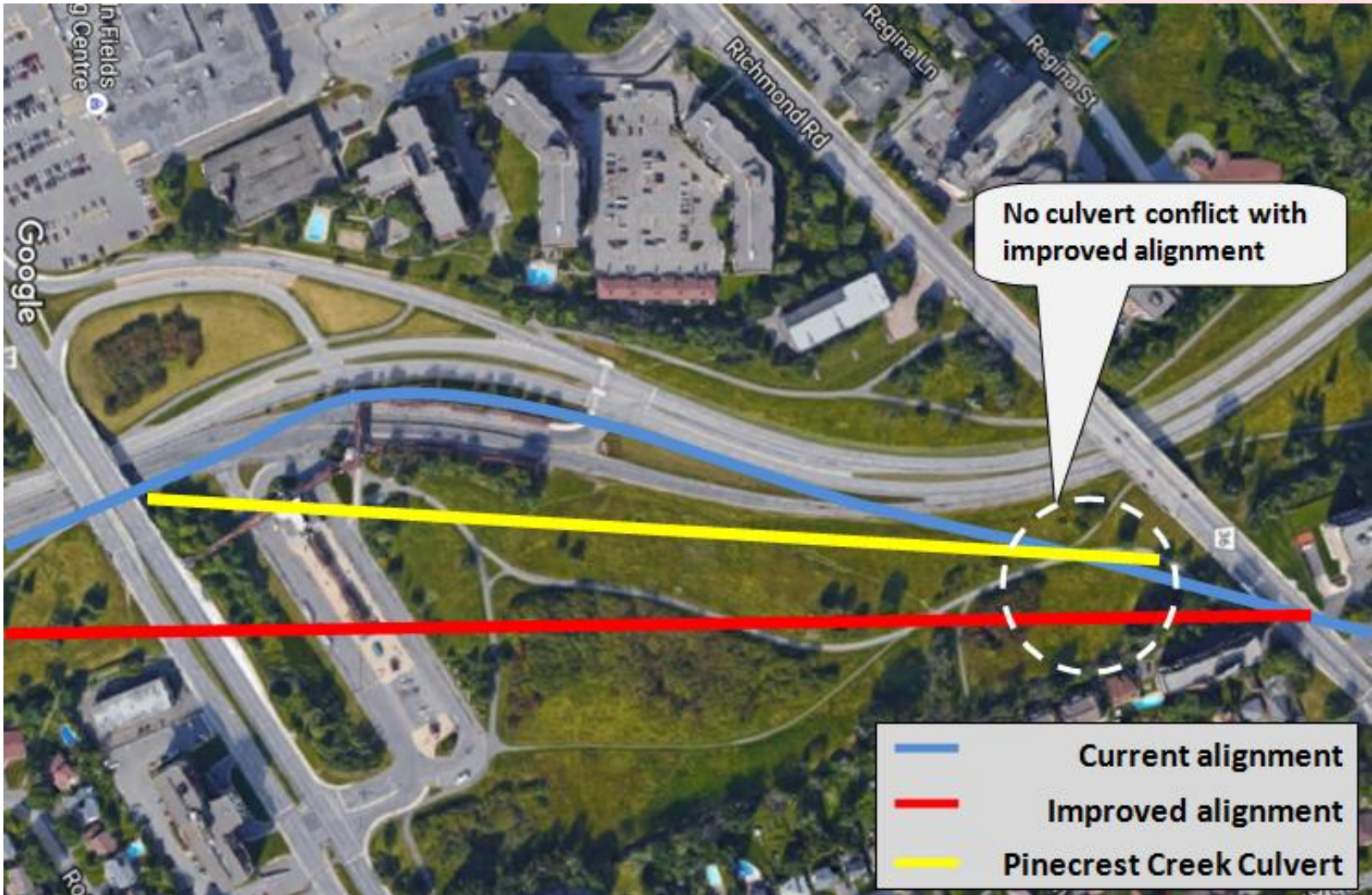


# Alternate LRT Elevated Alignment at Bayshore/Baseline Split





# Conflict with Pinecrest Creek Culvert



# Lincoln Fields Station Improved Concept Platform Configuration

