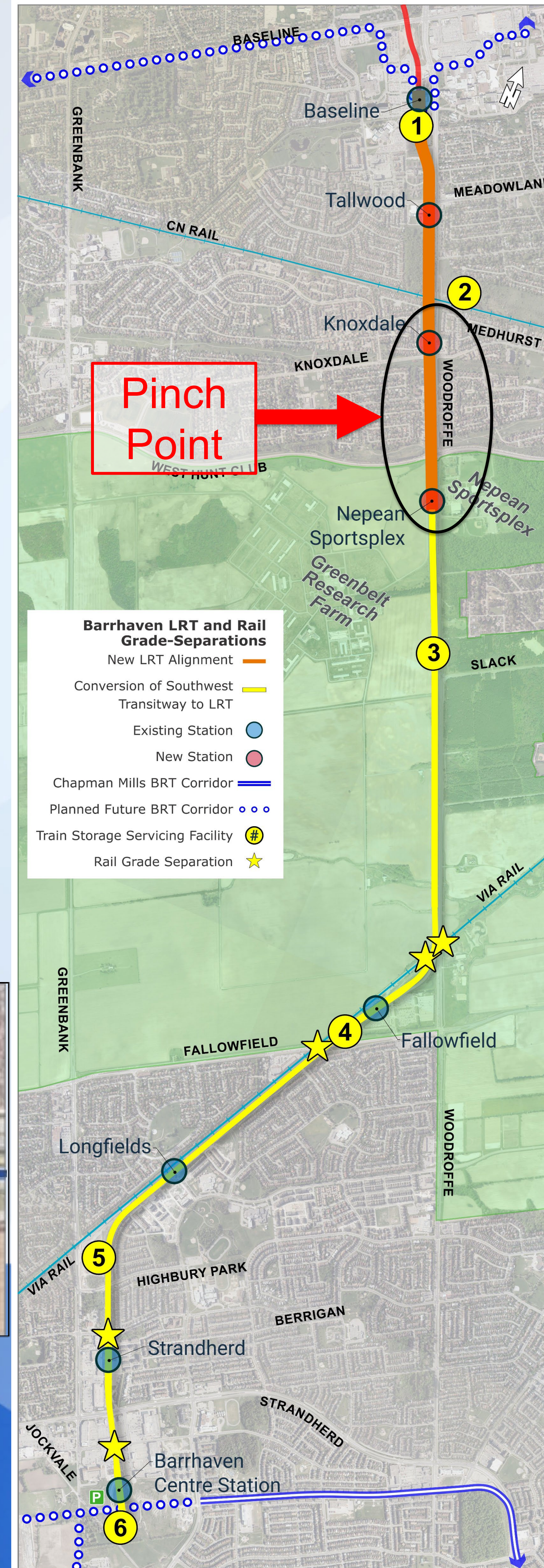


Barrhaven LRT and Rail Grade-Separations Planning and Environmental Assessment (EA) Study

Introduction and Background

On November 25th, 2020, Ottawa City Council approved a Recommended Plan for the Barrhaven LRT extension from Baseline Station to Barrhaven Town Centre that incorporated an elevated LRT guideway located immediately west of the Woodroffe Avenue right-of-way between Algonquin College and the Nepean Sportsplex. One of the impacts of this plan was the removal of 100 low-cost residential housing units situated within a required 20 metre wide strip of land between Knoxdale Road and the West Hunt Club Road referred to as the “**pinch point**”.

Along with their approval of the plan, Council approved a series of motions aimed at mitigating the impact of the loss of these residential units which included establishing a Working Group to examine options on how to assist residents who are facing future relocation because of the LRT alignment.



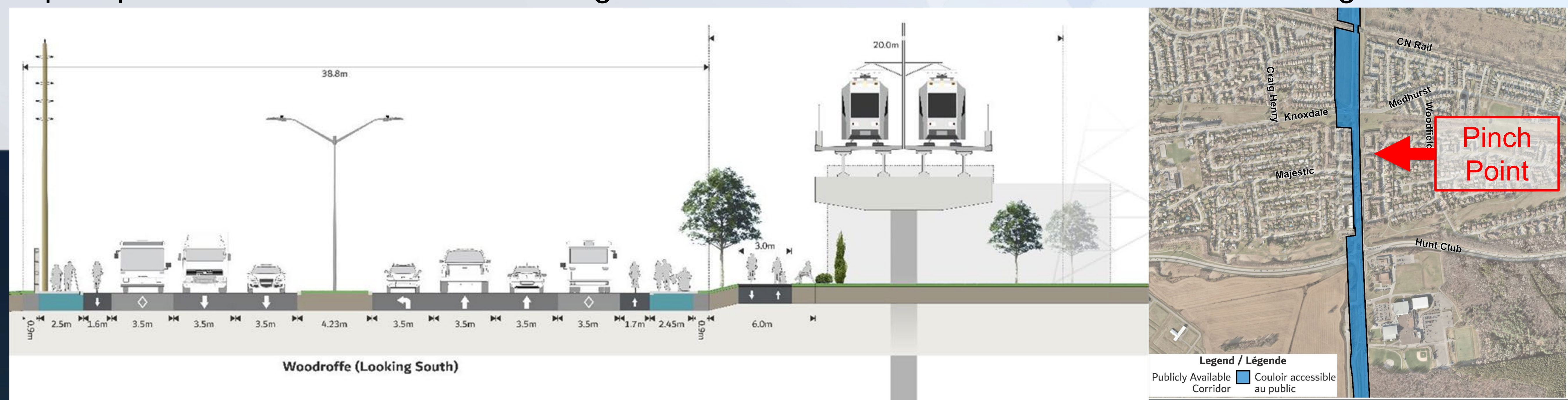
Original Functional Design Overview: Baseline Station to Barrhaven Town Centre

The Working Group chaired by Councillor Egli included participation from Councillor McKenney (Councillor Liaison for Housing and Homelessness), the Manordale Community Association, representatives for the tenants of Manor Village and Cheryl Gardens as well as members of ACORN and senior City Staff.

- The Working Group examined options on how to assist residents who are facing future relocation because of the LRT alignment;
 - Potential wait list for low-cost housing;
 - Potential alternative sites for community housing development;
 - No expropriation for at least five years; and
- Revisited corridor option to eliminate loss of housing units – in the median of Woodroffe.

Based on recommendation from Working Group the Study Team prepared a functional design for a median LRT consistent with the approved Recommended Plan. The revised plan was presented to Transportation Committee and approved by Council on June 8th, 2022. As part of their approval, City Council directed staff to further review and refine the median LRT functional design in this area to mitigate any potential impacts, consult the public on this design change and report back to Transportation Committee on the results of this consultation. Those design changes are the focus of this consultation and feedback on them are requested at this time.

On this basis, please note that the changes to the Recommended Plan are isolated to the portion of Woodroffe Avenue between Knoxdale and the Nepean Sportsplex Station. The Functional Design for the remainder of the corridor remains unchanged.



Barrhaven LRT and Rail Grade-Separations Planning and Environmental Assessment (EA) Study

Recommended Plan: Knoxdale – Nepean Sportsplex

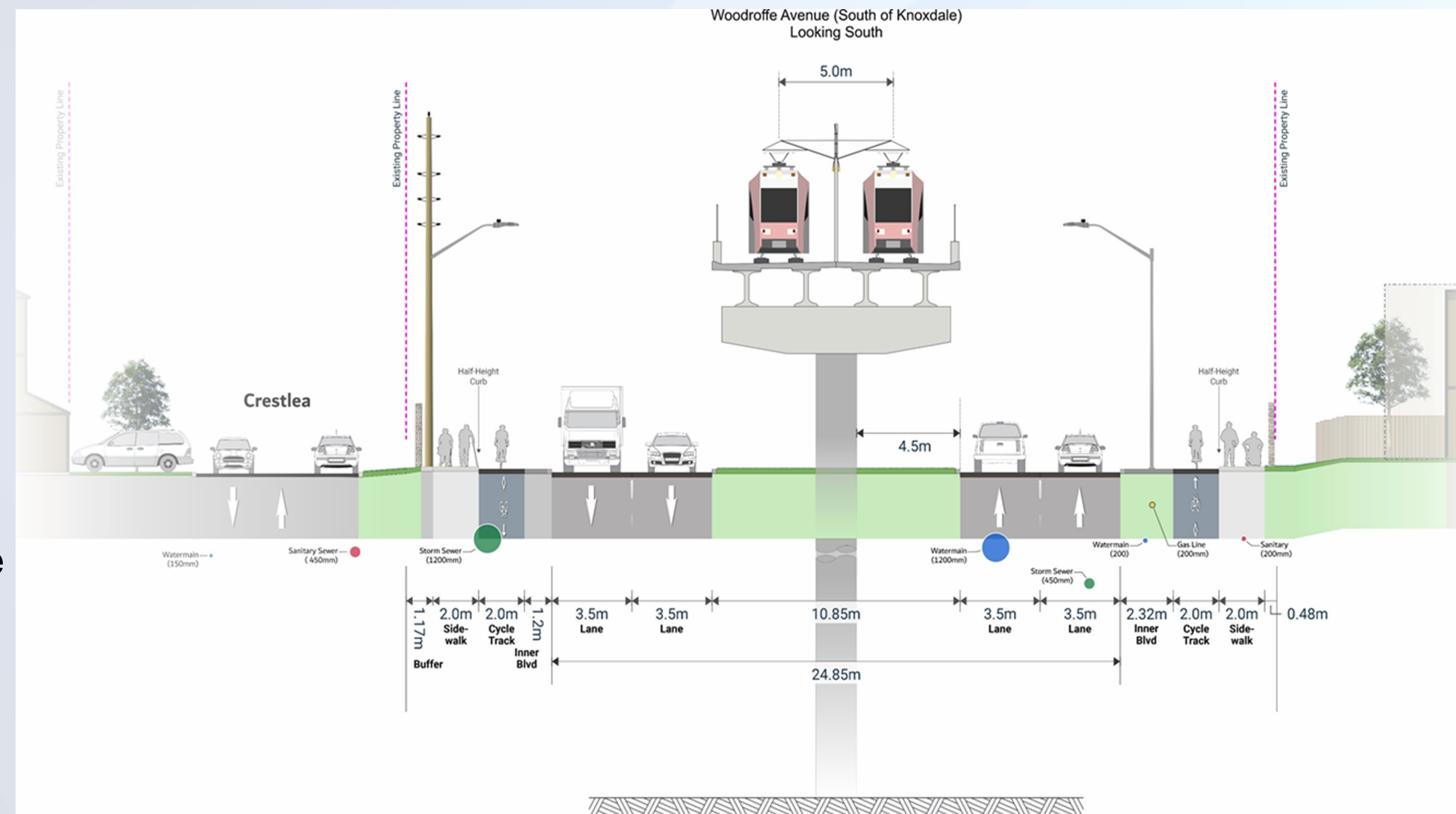
The plan is a refinement of median alternative evaluated as part of the original study that:

- Avoids displacement of residential units;
- Addresses impacts identified in original evaluation; and
- Minimizes property requirements.

The Plan developed with input from a City technical committee.

Placing the elevated LRT alignment in the median of Woodroffe Avenue through the pinch point means:

- Existing bus-only lanes are removed and two general-purpose lanes per direction are maintained;
- Road safety mitigation is required for support piers;
- Sightlines and safety for all modes needs to be considered;
- Rail geometry to shift alignment into median requires introduction of curves – designed to reduce noise and improve ride comfort;
- Knoxdale Station – slight shift in location due to curve in LRT alignment;
- Reconstruction of Woodroffe Avenue to support accessibility for all modes; and
- Construction complexity due to limited space.



Functional Design Refinements

Based on Council's recommendation, the Study Team has:

- Refined the functional design;
- Evaluated impacts and identified mitigation measures where needed;
- Consulted with key stakeholders;
- Undertook a constructability review; and
- Updated the project cost estimate.

What We've Heard So Far...

Feedback received on the design change include comments/concerns related to:

- Support for eliminating need for removal of low-cost residential house units and displacement of residents;
- Sightlines/safety and cross section design on Woodroffe Avenue;
- Impacts to traffic flow during construction;
- Noise and privacy for residential areas through the pinch point;
- Cut through traffic for communities abutting Woodroffe Avenue;
- Implications to hydro lines along Woodroffe and crossings at Knoxdale and West Hunt Club; and
- Landscaping strategy and maximizing/enhancing active transportation facilities and public realm nodes.

Additional feedback will be used to refine the revised Recommended Plan.

Barrhaven LRT and Rail Grade-Separations Planning and Environmental Assessment (EA) Study

Recommended Plan: Elevated Median LRT Alignment

- Existing bus-only lanes are removed to provide space for the median LRT;
- Gentle curves to reduce noise and improve ride comfort at transitions into and out of Woodroffe Avenue median;
- Road safety mitigation is required for support piers; and
- Snow storage and removal operations for LRT are accommodated as part of the design of the elevated guideway.

Woodroffe Avenue looking north



Barrhaven LRT and Rail Grade-Separations Planning and Environmental Assessment (EA) Study

Recommended Plan - Knoxdale Station

Station layout and design similar to original plan. Design changes include:

- Station shifted north approximately 70 m to accommodate transition into median of Woodroffe Avenue;
- Situated on land protected for Southwest Transitway Corridor (1997 EA);
- On-street bus stops for local and rail replacement bus services;
- Planned future Multi-Use Pathway connection to north;
- Adjacent to City-owned lands zoned residential (R3Z); and
- Landscaping opportunities to screen/buffer and enhance station area to be explored as part of detailed design.

Artistic rendering of proposed Knoxdale Station looking southeast



Recommended Plan- Nepean Sportsplex Station

The station design remains unchanged.

- Elevated station located on the west side of Woodroffe Avenue with pedestrian overpass to the east side incorporating an accessible ramp;
- On-street bus stops for local and rail replacement bus services; and
- Integration with existing multi-use pathway on east side, including extension north to West Hunt Club on west side of Woodroffe Avenue.

The revision incorporates protected intersections at both the north and south Nepean Sportsplex entrances.

Artistic rendering of proposed Nepean Sportsplex Station looking southwest



Recommended Plan: Woodroffe Avenue Reconstruction

In order to accommodate the median LRT alignment through the pinch point, reconstruction of approximately 1km of Woodroffe Avenue (Knoxdale to Nepean Sportsplex south entrance) is required. This provides the opportunity to implement Complete Street design elements including five protected signalized intersections (Knoxdale, Majestic, West Hunt Club, Sportsplex North, Sportsplex South) as well as uni-directional cycle tracks.

The reconstruction of Woodroffe Avenue to incorporate the elevated median LRT includes:

- Two general purpose lanes per direction (same as existing condition);
- Existing property accesses are maintained;
- Complete Street design including protected intersections and raised cycle tracks at all (5) intersections;
- Smart-channels for right-turns at some locations to meet traffic operations requirements; and
- Wide median to provide road safety barriers around piers.

Future detailed design will include further analysis of:

- Traffic signal and roadway lighting installations;
- Sightlines, particularly with respect to turning vehicles at crosswalk and cross-ride locations; and
- Shadows created by the overhead guideway.



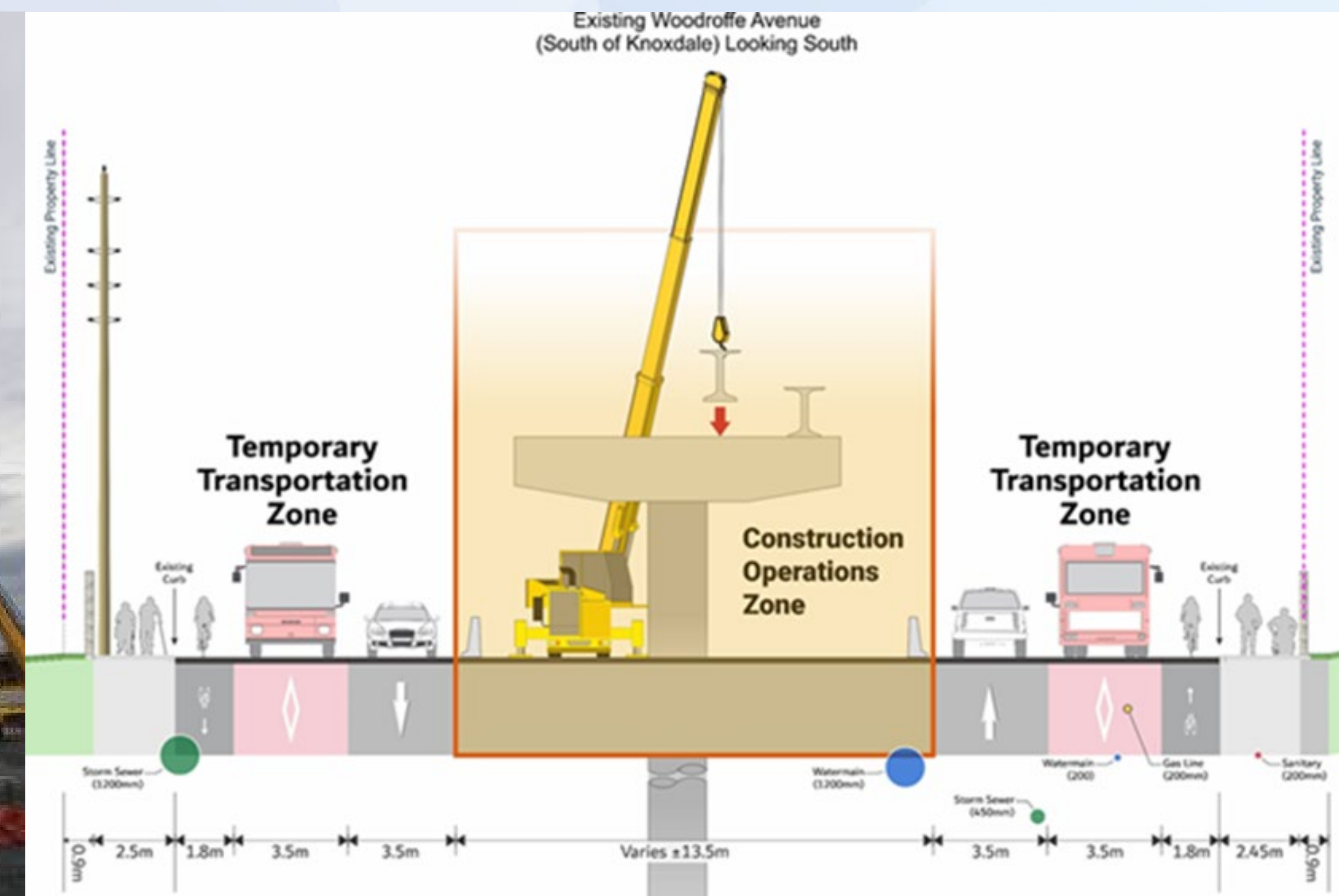
Woodroffe/Knoxdale
intersection looking south

Barrhaven LRT and Rail Grade-Separations Planning and Environmental Assessment (EA) Study

Constructability Review

Implementation and staging resulting from the median LRT alignment is complex. Some points and considerations include:

- Construction timing dependent on funding availability. There is no funding identified to build this project at this time;
- It is estimated that the construction of this segment will require a 4-year construction period;
- During most of the construction, Woodroffe Avenue will be limited to one general purpose and one bus-only lane in each direction. This will result in lane storage capacity reductions;
- It is anticipated that active transportation facilities can be maintained during construction;
- To limit daytime/peak disruptions, deliveries and crane swing/staging will be planned for off peak/overnight;
- Delays and detours will be required for transit service; and
- It is likely that periodic lane reductions on West Hunt Club Road will be unavoidable but limited wherever possible.



Barrhaven LRT and Rail Grade-Separations Planning and Environmental Assessment (EA) Study

Constructability Review – Potential Phasing

Phase 1

Year 1: Advanced Utility Works / Relocations

- Hydro, Telecomms, Gas, Watermain, Sewers, Temp. Signals and Streetlights.

Phase 2

Year 2: Guideway Superstructure Foundation Works

- Footings, Piers, Pier Caps, Straddle Bents.

Year 3: Guideway Superstructure Continued, Foundation Works and Surface Works.

- Girders, Parapet Walls, Deck Slab and Rail system.

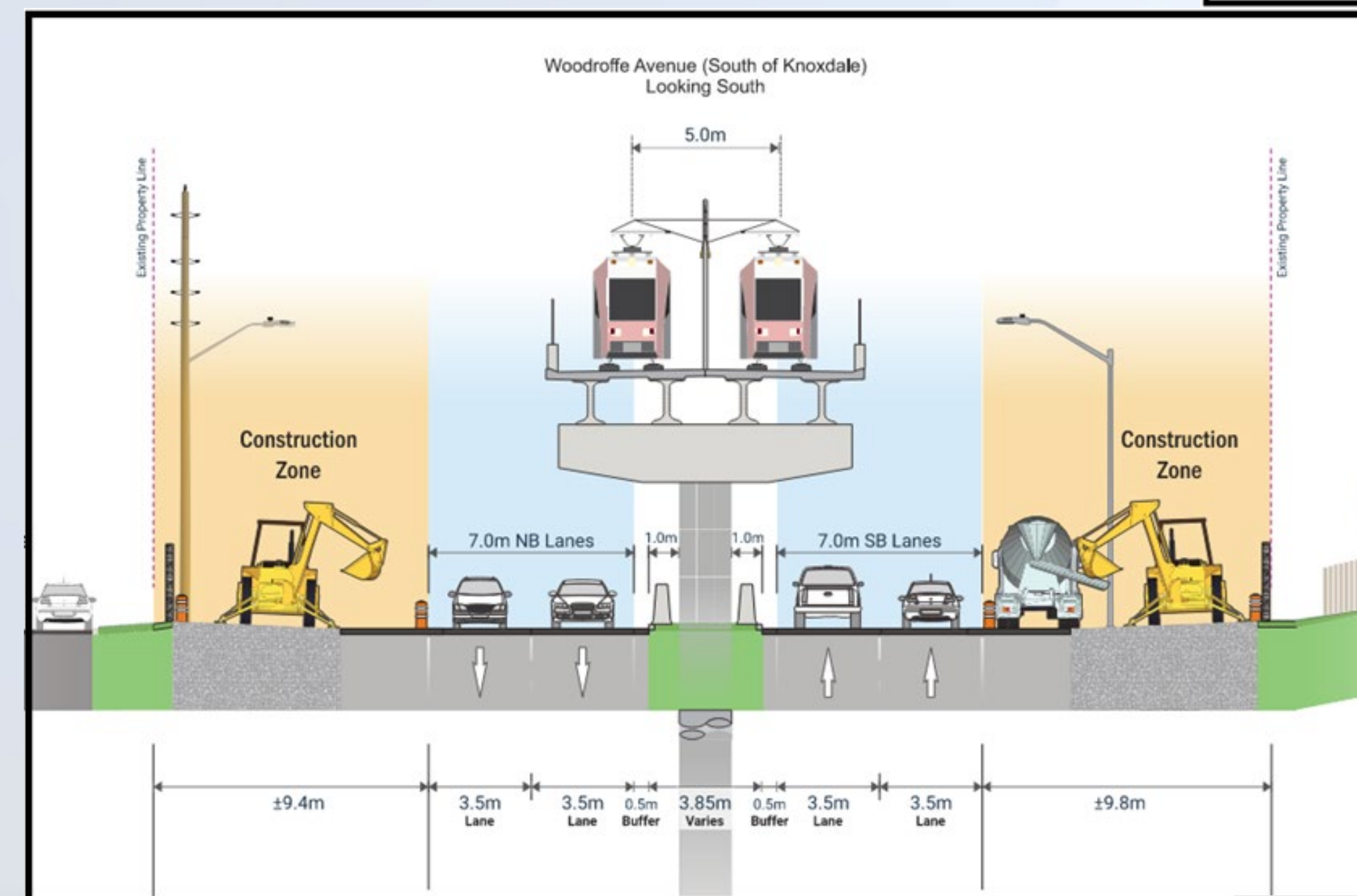
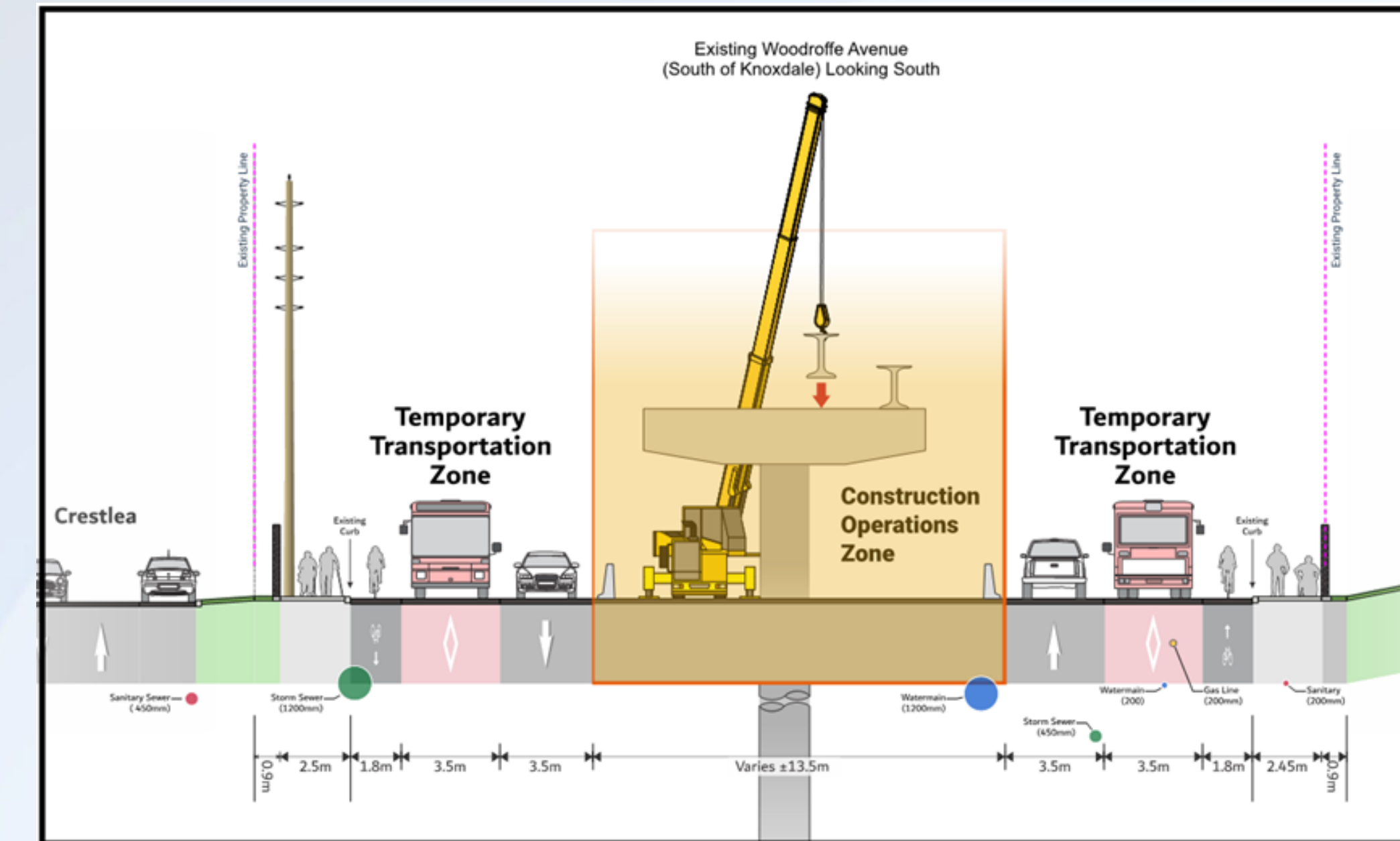
Phase 3:

Year 4: Guideway Final Surface Works

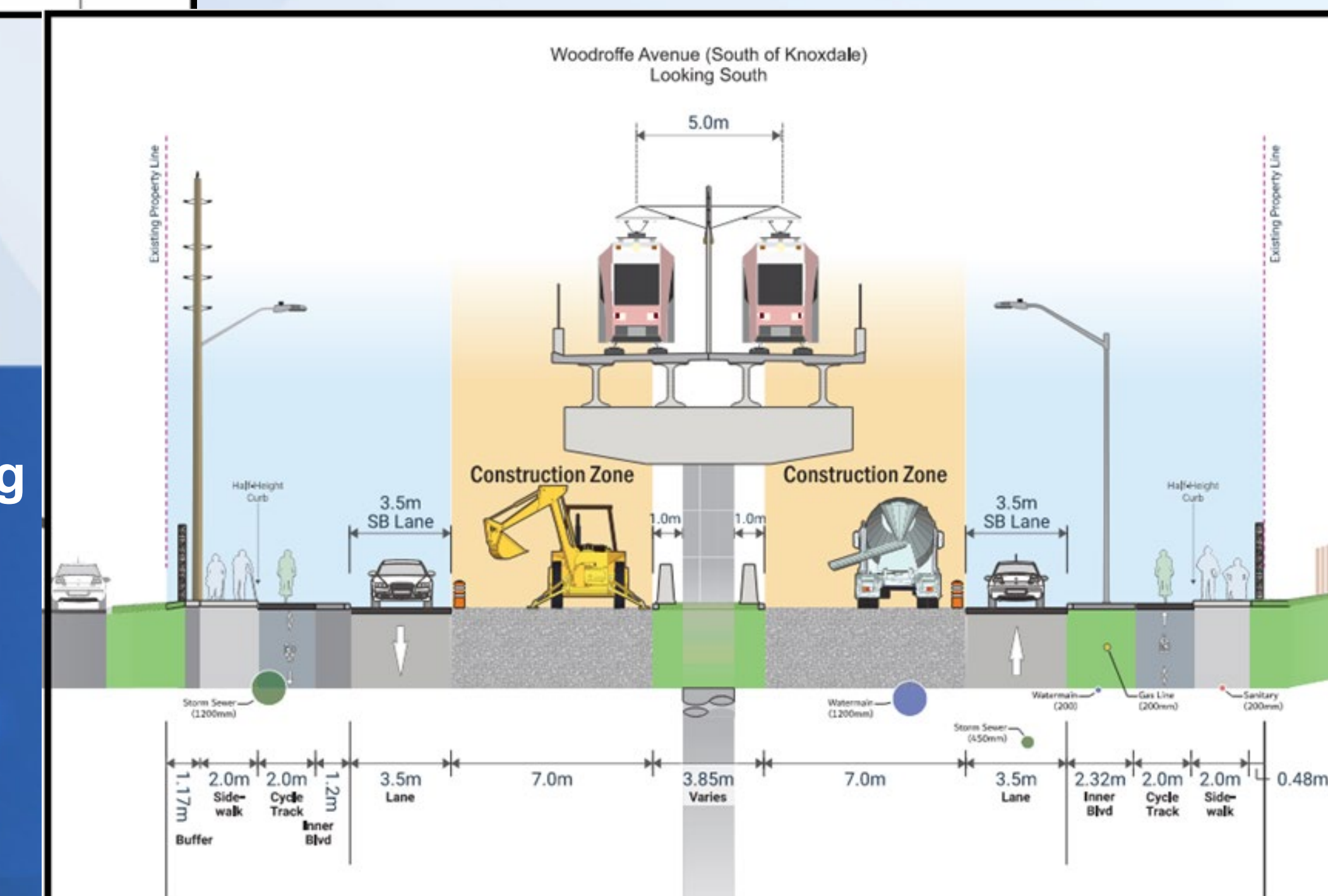
- Catenary system, Noise Wall, Illumination, etc.

Year 4: Reconstruction of Woodroffe Ave corridor including 5 intersections.

Construction Staging and Scheduling Plan – Phase 2, Year 2 & 3



Construction Staging and Scheduling Plan – Phase 3, Year 4

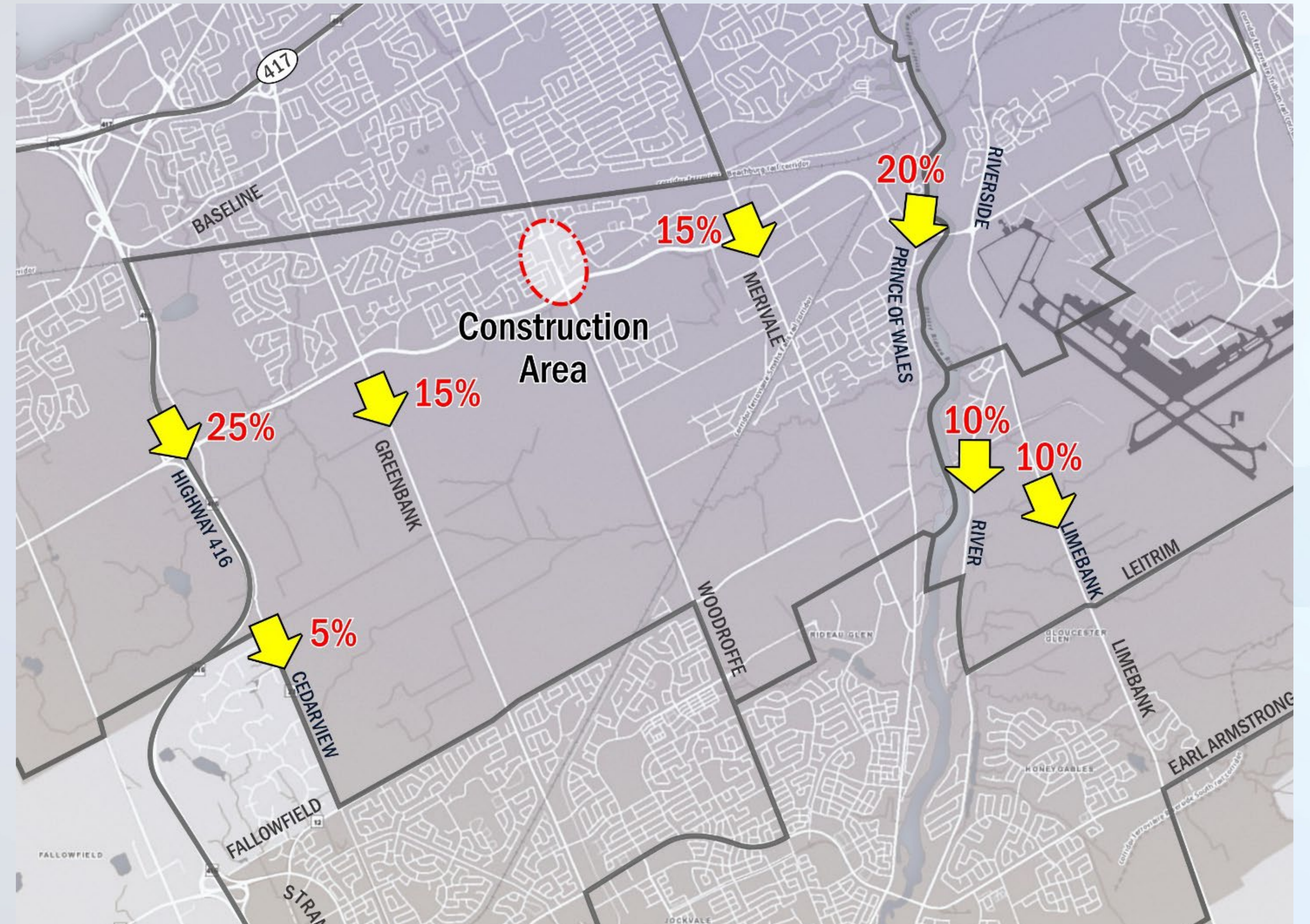


Construction Staging and Scheduling Plan – Phase 3, Year 4

Constructability Review – Transportation Impacts

Key findings include:

- Up to 1,000 vehicles per hour (50% of existing peak volumes) during weekday peak hours need to shift from Woodroffe to alternative corridors, times, or modes of travel;
- Will require a focus on transit as mitigation; and
- Traffic management plans will be developed as part of detailed design and consider updated existing conditions and availability of alternative corridors and measures.

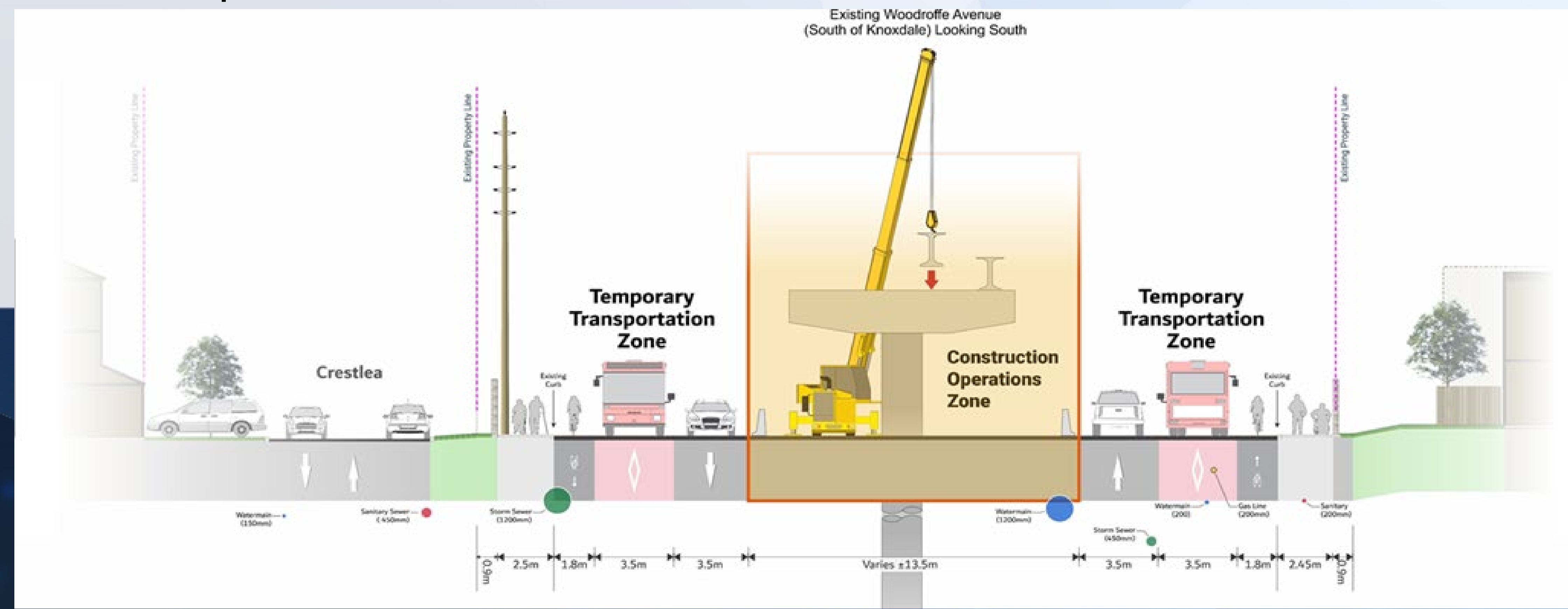


Estimated percentage of temporary weekday peak hour traffic redistribution from Woodroffe to other corridors

Constructability Review – Utilities

Overhead and underground utility infrastructure considerations need careful planning in order to limit impacts during construction, as well as future maintenance requirements during operation. This includes:

- Clearances at Hydro One transmission line crossings must be adhered to. Both Hydro Ottawa and Hydro One are providing input/ongoing consultation with the study team.
- There is a large diameter (1200 mm) watermain that runs parallel to Woodroffe Avenue. With the median LRT alignment, future access/replacement must be considered. Considerations specific to this element includes:
 - 300 m relocation at Knoxdale Station to avoid station and LRT guideway;
 - Piers must be located outside of future watermain maintenance area;
 - Existing watermain is located within Construction Operations Zone and will require special protection measures, such as vibration monitoring; and
 - Possibility of combining watermain replacement and LRT construction.



Barrhaven LRT and Rail Grade-Separations Planning and Environmental Assessment (EA) Study

Impact Assessment

Air Quality, Noise and Ground Vibrations

- The shift in LRT alignment to the median introduces curves in the tracks. To mitigate the impact of the curves, the design includes larger curve radii to reduce noise and improve ride comfort as the alignment transitions/curves into/out of median;
- An addendum to the air quality, noise and ground vibrations assessment was completed based on shift in LRT alignment;
- Analysis found noise levels throughout the Study Area are dominated by area road traffic;
- Implementation of the project will marginally increase noise levels above existing conditions;
- Best Management Practices will be implemented as part of the project to mitigate noise and vibration impacts; and
- Ongoing discussion of lessons learned with the City's Rail Construction Office to ensure appropriate measures are identified and included in the project cost estimate.

Barrhaven LRT and Rail Grade-Separations Planning and Environmental Assessment (EA) Study

Impact Assessment

Property Requirements

- Previous property requirements from the west side of Woodroffe Avenue south of Majestic Drive will no longer be needed and the loss of housing is no longer an impact of the Recommended Plan;
- Small parcels of land to accommodate intersection changes to improve safety and accommodate the LRT in the median as well as construction easements will be required; and
- Property acquisition in accordance with the City's Real Property Acquisition policy.

Privacy

- Views/privacy: ongoing analysis for screening opportunities;
- Parapet/barrier walls will address residents' privacy; and
- It is recommended that impacts to privacy be reviewed during preliminary/detailed design and with current land use(s).



Woodroffe Avenue
looking east

Barrhaven LRT and Rail Grade-Separations Planning and Environmental Assessment (EA) Study

Impact Assessment

• Land Use Designations

- The new Official Plan identifies Woodroffe Avenue as a focus of intensification along the corridor and adjacent to the future LRT line.
 - “Evolving neighbourhood” designation.

• Development Applications

- The proposed redevelopment at 1545 Woodroffe Avenue (Esso gas Station) has been incorporated into the functional design of the Medhurst Drive/Knoxdale Road/Woodroffe Avenue intersection.

• Zoning

- Zoning amendments specific to the property at Majestic Drive and Cheryl Road will be reviewed following the completion of this study.

Landscaping Strategy

- Opportunities to enhance landscaping are challenging due to the constrained corridor width with adjacent residential properties in close proximity to the right-of-way limit;
- Opportunities to enhance landscaping including placemaking and public art are documented in the draft EPR; and
- Details and planting plans will be developed during preliminary and detailed design phases of the project.



Woodroffe Avenue Looking South – Narrow Right-of-Way to add landscaping

Barrhaven LRT and Rail Grade-Separations Planning and Environmental Assessment (EA) Study

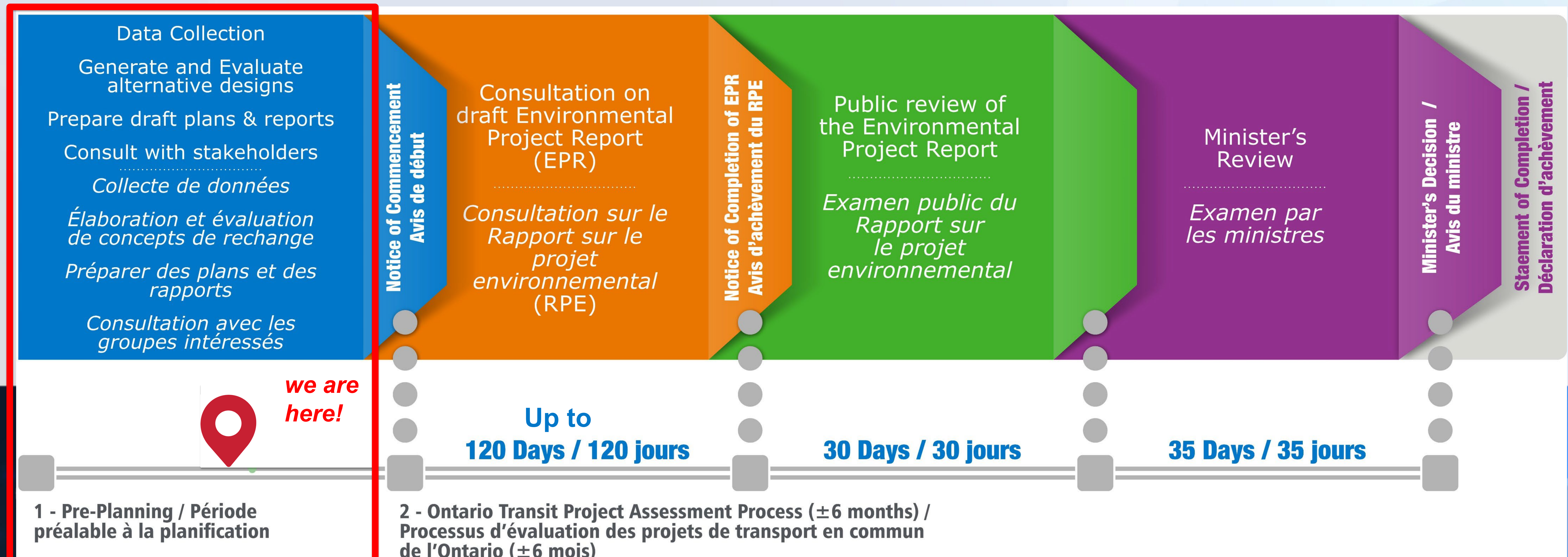
Study Process and Schedule

The study is following the Ontario Transit Project Assessment Process (TPAP) Regulation 231/08. The process is divided into two phases:

Phase 1: A Pre-Planning Phase to develop a **Recommended Plan** (underway).

Phase 2: An Environmental Assessment (EA) Phase that includes mandatory consultation, public review and Ministerial approvals phases.

Scheduled Task	Timeline
Last day for submitting on-line feedback	February 22, 2023
Provide results of consultation on design change to Transportation Committee/Council	March 23 rd , 2023
TPAP Notice of Commencement	June 2023 (Tentative)
TPAP Notice of Completion	October 2023 (Tentative)
Minister's Approval	December 2023



Barrhaven LRT and Rail Grade-Separations Planning and Environmental Assessment (EA) Study

Next Steps

Following this consultation opportunity, the feedback received will be reviewed to finalize the Recommended Plan.

Please identify any comments or concerns you would like to see addressed and provide those to the City using the tools provided on the City's corresponding project website. Additional information on the project can be found on the City's website at: [Ottawa.ca/BarrhavenLRT](https://ottawa.ca/BarrhavenLRT)

Please provide your comments and questions to:

Anna Valliant, P. Eng.

Senior Project Manager

Transportation Planning

Planning, Real Estate and Economic Development

City of Ottawa

Anna.Valliant@ottawa.ca | 613-282-3742



**Your views are important to the success of this study.
Thank you for your participation!**

Barrhaven LRT and Rail Grade-Separations Planning and Environmental Assessment (EA) Study

Background: Study Overview

Below is a timeline of key project milestones to help understand how the project evolved and where the project is currently within the EA process.

2017: The Barrhaven and Merivale Road Rail Crossing Grade-Separation Study examined the feasibility of grade-separating four roads and the Southwest Transitway where they cross the VIA Rail Smiths Falls Subdivision rail line at-grade. These included: Merivale Road, Woodroffe Avenue/Southwest Transitway, Fallowfield Road and Jockvale Road.

June 2018: City Council approved a motion directing staff to undertake the Barrhaven LRT Environmental Assessment (EA) Study.

September 2018: The scope of the ongoing Barrhaven Rail Grade-Separation EA Study was expanded to include extending the Confederation Line LRT to Barrhaven by converting the Southwest Transitway from bus to rail technology due to overlapping study areas, cost saving and efficiency in the EA process. The combined study was renamed as Barrhaven LRT (Baseline Station to Barrhaven Town Centre) and Rail Grade-Separations EA Study.

September 2018 – November 2020: development and refinement of the Recommended Plan incorporating public consultation and synthesis of the Environmental Project Report (EPR).

November 25, 2020: City Council approval of the Recommended Plan and Functional Design for the Barrhaven LRT extension from Baseline Station to Barrhaven Town Centre and rail grade-separations.

Winter/Spring 2021: as per the motions to mitigate the impact to residential housing, the study team was directed to undertake design work and consultation with various City departments to determine the feasibility of a median alignment between Knoxdale and West Hunt Club Roads.

June 8, 2022: City Council approval of the refinement to the approved Functional Design plan placing the elevated LRT alignment within the median of Woodroffe Avenue between Knoxdale and West Hunt Club Roads. Direction to return to Committee and Council providing outcome of consultation with stakeholders on the revised Recommended Plan.

August 2022: an update on the study progress was shared through consultation with agency, business and public consultation groups and key stakeholders on the new median LRT alignment.

Present Day: consultation with agency, business and public consultation groups, key stakeholders and public as a whole on the revised Recommended Plan.

