

# **Trolley Overhead Adjacent Works Program (TOH AWP) Project Consent Process**

*Guide for project owners*

December 7, 2021

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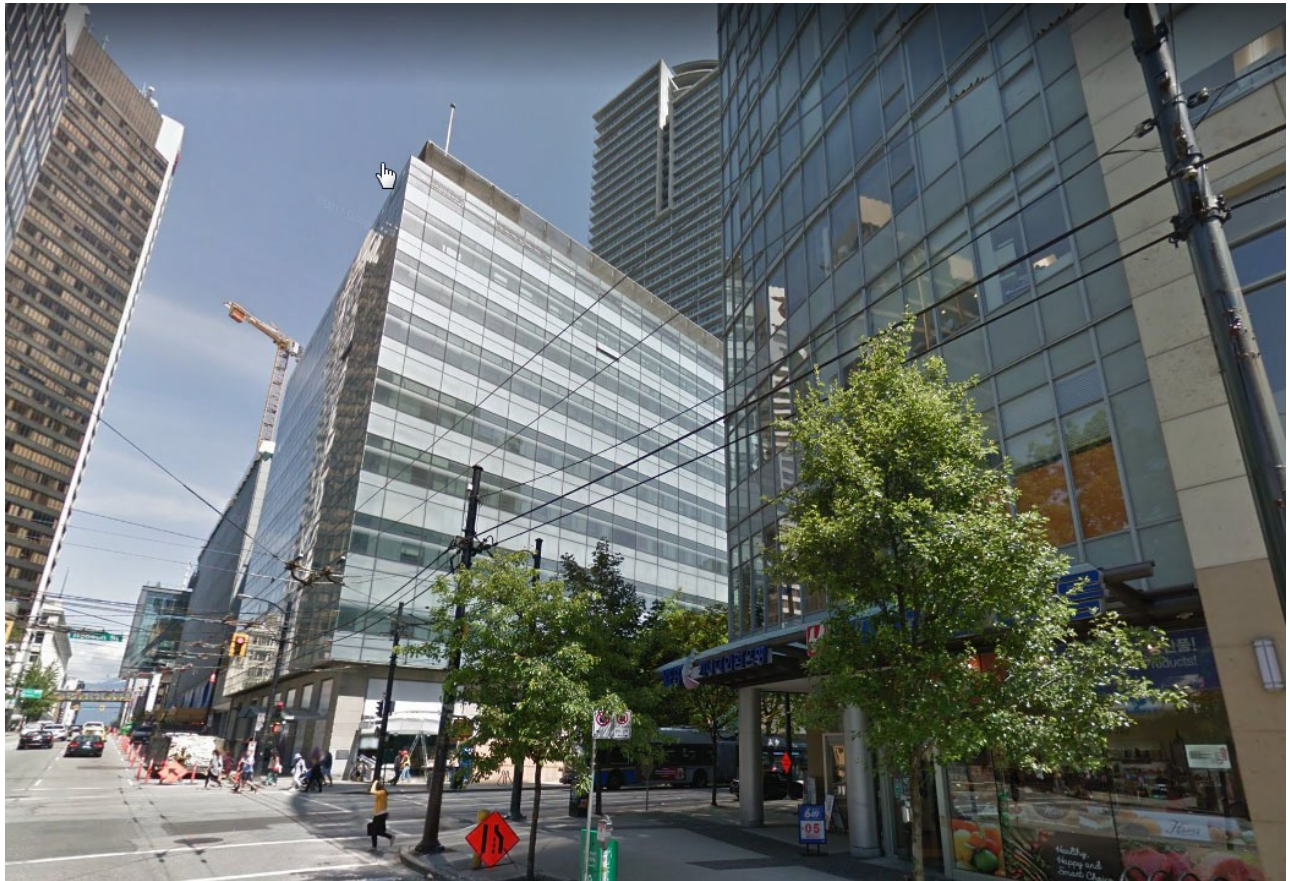
## About TransLink

TransLink serves more than one million passengers every day and connects people, businesses and communities across Metro Vancouver. It operates an integrated regional transportation network consisting of buses, SkyTrain, West Coast Express commuter trains, SeaBus commuter ferries and HandyDART accessible buses and Park and Ride facilities. It owns, operates and maintains critical bridge infrastructure (Knight Street Bridge, Pattullo Bridge, Golden Ears Bridge and Westham Island Bridge) and it shares responsibility for the Major Road Network (MRN) with municipalities across Metro Vancouver. TransLink is authorized by the South Coast British Columbia Transportation Authority Act (SCBCTA Act) to maintain and protect its system and provide safe, continuous operation to the public. As stewards of the system, TransLink must diligently act in the public's best interest in all of its business affairs.

TransLink's Real Estate Division established the **Trolley Overhead Adjacent Works Program** under its Adjacent & Integrated Development (AID) Group to facilitate development adjacent to TransLink's trolley overhead infrastructure, to manage and protect its property rights during development and to preserve the safe, secure and uninterrupted operation of the transit system during construction.

## About the Trolley Overhead System

The Trolley Overhead (TOH) System spans across Burnaby and Vancouver, powering its trolley buses which carries thousands of passengers each day. The system, which includes 315 km of overhead network, powers 262 trolley buses and supplies 22 rectifier stations, occupies city streets above sidewalks and are also in close proximity to roadway structures. The overhead wires are energized with 600 volts of direct current (VDC) in which the overhead feeder lines are mounted onto power poles or lamp standards, and the feeder lines are extended between adjacent lamp standards on which running wires for the trolley buses are run on to be powered.

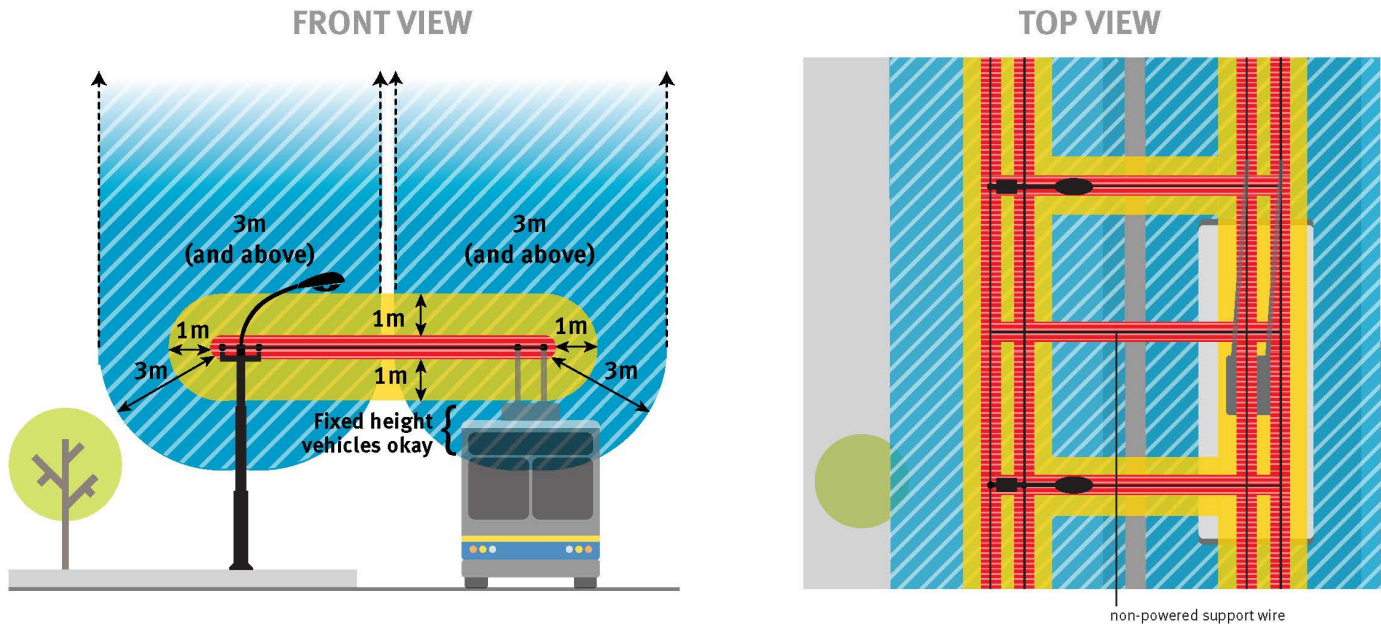


## Risks Associated with Working near Trolley Overhead

In a recent Coast Mountain Bus Company (CMBC) Safety Risk Assessment, it was determined that contact made to the energized trolley overhead lines was sufficient to cause serious injury or death to a person. Even after a section of the system has been isolated, residual hazardous energy may be present in the wires. Inadvertent contact to feeder or running wires may cause serious injury to public and/or significant damage to equipment, leading to major disruptions to bus service levels in the surrounding area of damage.

# TOH Limits of Approach

Activities occurring within 3 meters of any powered and non-powered TOH infrastructure are subject to TransLink's Trolley Overhead (TOH) Adjacent Works Program in which the following limits of approach will apply:



**WITHIN 3 METERS OF ANY POWERED OR NON-POWERED TOH INFRASTRUCTURE**  
 INDEPENDENT QUALIFIED SAFETY WATCHER REQUIRED

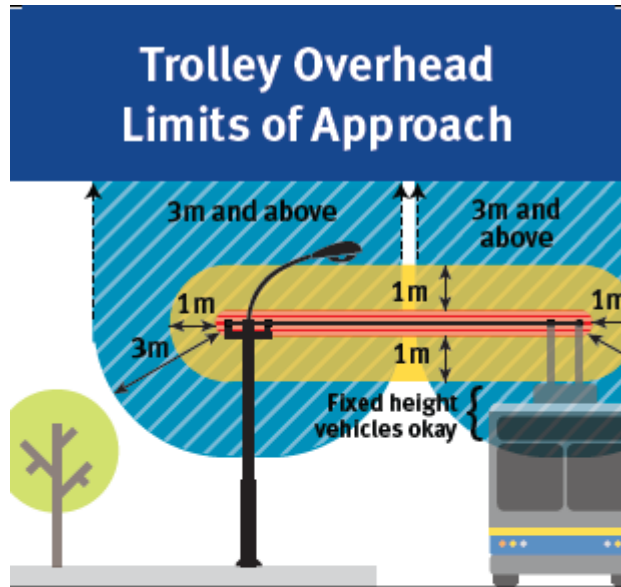
**WITHIN 1 METER OF ANY POWERED OR NON-POWERED TOH INFRASTRUCTURE**  
 CMBC AUTHORIZED WORKERS ONLY




**CONTACT WITH ANY WIRES**  
 CMBC WORKERS ONLY

## Project Signage Requirements

Specific safety signage should be installed and maintained in a prominent location on-site:

- Signage indicate the Limits of Approach and Precautionary Requirements (available at [translink.ca/realestate](http://translink.ca/realestate))
- Signage with TransLink emergency phone number and contact information
- Wallet cards for each worker, as shown below. Graphics will be provided by TransLink




 **WITHIN 3M**     **CONTACT**  
 **WITHIN 1M**

Call Bus Emergency  
778.593.5536

translink.ca      

 **WITHIN 3 METERS OF ANY POWERED OR NON-POWERED TOH INFRASTRUCTURE**  
 INDEPENDENT QUALIFIED SAFETY WATCHER REQUIRED

 **WITHIN 1 METER OF ANY POWERED OR NON-POWERED TOH INFRASTRUCTURE**  
 CMBC AUTHORIZED WORKERS ONLY

 **CONTACT WITH ANY WIRES**  
 CMBC WORKERS ONLY

## TOH Adjacent Works Program (AWP)

The TOH Adjacent Works Program (TOH AWP) allows TransLink to assess the risks of each project against TransLink's operational and legal requirements to provide safe, efficient and reliable service to its passengers and protect its infrastructure from damage. Due to the serious hazards of the energized TOH system, the Limits of Approach must be respected at all times. Only qualified CMBC tradespersons with specialized training are permitted to make contact with and work on the TOH system. If the project requires working within 3 meters of any trolley overhead infrastructure, TransLink will assess the appropriate protective measures required for that section of the system.



## Which Projects Trigger the TOH AWP

TransLink is primarily concerned with construction activities in close proximity to infrastructure that could cause damage, affect operations or endanger transit passengers or employees. TransLink's attention is primarily focused on activities within the limits of approach (within 3 meters of any powered and non-powered trolley overhead infrastructure), or which require TOH system adjustment or relocation.

Examples of construction activities which may trigger the requirement for consent include, but are not limited to, activities that could:

1. **Result in direct collision with TransLink infrastructure**, especially with rolling stock that carries passengers (i.e., buses and SkyTrain trains), including:
  - Cranes, excavation equipment, bucket trucks, ladders and other moving equipment that could enter the limits of approach from above or below, including unplanned intrusions.
  - Any form of physical connection to TransLink infrastructure or facilities, or any relocation of TransLink infrastructure or facilities.
  
2. **Result in items falling** onto the trolley wires, or other infrastructure that would cause service disruption, injury or death, including:
  - Improperly secured work zones, from which tools, material, equipment or people could fall
  - Scaffolding erected adjacent to any TransLink infrastructure
  - Built structures that have openable windows, open balconies or other openings above a station, guideway, bus loop, structure or vulnerable infrastructure
  
3. **Provide unauthorized access** to elevated TOH infrastructure, including:
  - Construction scaffolding or ladders
  - Tall equipment and materials parked or stored next to the infrastructure
  - Built structures, whether temporary or permanent
  
4. **Disrupt pedestrian, bicycle or vehicular access** to TransLink facilities, including:
  - Temporary bus loops, re-routing of trolley services, sidewalk, bicycle or road detours and community notification.
  - Development or construction that results in new driveway or road access onto TransLink roads, ramps or bridges
  
5. **Create unsafe conditions** for TransLink passengers, employees, contractors or vendors, including:
  - Tripping hazards resulting from temporary sidewalks, curbs and gutters that aren't flush with permanent improvements.
  - Construction fencing with sharp edges or large mounting feet.
  - Equipment, materials or supplies that protrude through, above or below safety fences and barriers.

6. **Impact operations and routine or periodic maintenance procedures on TOH infrastructure**, especially those where TransLink access is routinely or occasionally required to service TOH poles, feeder cables, and running wires.

## The TOH AWP Project Consent Process

The following is an outline of TransLink's TOH AWP Consent Process (the "Consent Process"). It is intended to serve as a guideline in obtaining TransLink's consent to developments adjacent to TOH infrastructure and operations, but is not exhaustive of all potential issues or requirements. TransLink reserves the right to amend or supplement the Consent Process at any time from time to time without notice.

The Consent Process consists of five phases as follows:

Phase 1 – Introductory Phase

Phase 2 – Project Assessment

Phase 3 – TOH Adjacent Works Agreement Phase

Phase 4 – Execution Phase

Phase 5 – Construction Phase

The following is a description of the Phases and Related Milestones:

### **Phase 1 - Introductory Phase**

To initiate Phase 1, the project owner should contact TransLink when either working within 3 meters of TOH infrastructure, or when requiring any TOH adjustments. The project owner will submit a TOH Adjacent Works Request Form to provide their contact information, the civic address of their site, and high level details of their project and anticipated impacts to the system. TransLink will arrange for a site kickoff meeting with the project owner to identify potential impacts on transit infrastructure, facilities and operations, and proximity of proposed work within the TOH Limits of Approach.

1<sup>st</sup> Milestone: TransLink reviews TOH Adjacent Works Request Form and arranges for a site kickoff meeting with the project owner.

### **Phase 2 – Project Assessment**

At the site kickoff meeting, TransLink will discuss impacts to the TOH system and determine if TOH adjustments are required, and therefore, if the project requires the TOH Adjacent Works Program process.

### **Phase 3 – TOH Adjacent Works Agreement Phase**

The Trolley Overhead Adjacent Works Agreement is an agreement between the project owner and TransLink that serves two principle purposes. First, it provides the project owner's commitment to comply with the TOH Adjacent Works Program process in connection with the project. Second, it provides the project owner's agreement to reimburse TransLink for all costs incurred by TransLink and its consultants associated with the project.

In order for the TOH Adjacent Works Program process to commence, both parties must execute the agreement and the project owner must provide, among other things, a letter of credit or cash security to TransLink for the project owner's agreement to reimburse TransLink's costs.

TransLink and the project owner will work together to identify the key risks and causes for interference that construction may impose on transit infrastructure, facilities and operations. The project owner will submit a Construction Safe Work Plan that addresses these risks and causes, and describes methods of construction, risk mitigation and safety monitoring that allows for continuous, safe and efficient transit operations and protects public safety and transit infrastructure. The Construction Safe Work Plan must also incorporate TransLink's standard protocols for working close to transit infrastructure, in particular, within the "Equipment Limits of Approach". Construction Safe Work Plan acceptance will form part of the TOH Adjacent Works Agreement to be entered into.

In the event that infrastructure adjustments are required, CMBC will prepare a costing sheet (the "TOH Relocation Costing Document") for the necessary adjustments, and a set of site specific mandatory safety instructions (the "Trolley Overhead Hazard Advice") in relation to the adjusted infrastructure that the project owner must adhere to at all times. If required,

the TOH Relocation Costing Document and the Trolley Overhead Hazard Advice will be attached to the TOH Adjacent Works Agreement.

- 3<sup>rd</sup> Milestone: TransLink and project owner execute TOH Adjacent Works Agreement, and if required, the Trolley Overhead Hazard Advice
- 4<sup>th</sup> Milestone: Project owner provides to TransLink a letter of credit or cash security
- 5<sup>th</sup> Milestone: Project owner remits payment to TransLink for the one-time application fee and, if required, cost for the TOH adjustments
- 6<sup>th</sup> Milestone: Project owner provides indemnities and proof of insurance satisfactory to TransLink

#### Phase 4 – Execution Phase

Upon full execution of the TOH Adjacent Works Agreement and receipt of all the required items pursuant to Phase 3, TransLink will execute the physical infrastructure adjustments and arrange for a site safety meeting with all necessary site personnel.

#### Phase 5 – Construction Phase

TransLink will monitor construction on an as-needed basis until completion to ensure that the project owner and its contractors are performing the work in accordance with the TransLink accepted Construction Safe Work Plan and all other agreements. All workers shall maintain a minimum approach distance of 1 meter. When operating vehicles or equipment at the job site pose a risk of compromising the minimum safe distance of 3 meters, the employer shall be responsible for providing an Independent Qualified Safety Watcher.

***Notice and Disclaimer:*** Any review, approval or acceptance, by or on behalf of TransLink pursuant to the Consent Process of any plans, drawings, specifications, reports, schedules, methods of construction or other information or materials relating to the project owner's development or any other work of or for the project owner, and any consent to or inspection, examination, audit, testing, supervision, monitoring, approval or acceptance of any work by or on behalf of TransLink, shall in all cases be for general compliance only and no such consent, review, inspection, examination, audit, testing, supervision, monitoring, approval or acceptance, whether negligent or otherwise, and no changes suggested or required by TransLink and incorporated into any drawings or specifications or the work, shall relieve the project owner from any of its obligations under applicable laws, any registered agreements or any agreements with TransLink, nor constitute a waiver or release by TransLink of any right of TransLink or any duty or liability owed by the project owner or any of its design professionals, nor create or impose any obligation or liability on TransLink.

# TransLink Information

## Incident/Accident Reporting

Working around TransLink Infrastructure can be risky and complex. The project owner and TransLink need to work collaboratively to investigate incidents/accidents as they occur, to understand the causes and prevent its reoccurrence.

This section applies to all work sites proximal to TransLink infrastructure including:

- Development working under a TOH Adjacent Works Agreement issued by TransLink
- Contractors to TransLink or any of its operating companies
- Municipal workers, contractors to municipalities or other workers performing work adjacent to TransLink infrastructure who have been in contact with TransLink or one of its operating companies to plan or organize work that may impact TransLink infrastructure or the service(s) being provided by TransLink
- Work sites where work is being performed within 3 meters of a TOH structure belonging to TransLink or one of its operating companies

## What incidents/accidents must be reported?

The person in charge of the work site (as listed above) is responsible for reporting safety occurrences of the following nature to TransLink:

- Contact with an energized or de-energized conductor owned by TransLink or one of its operating companies (e.g., trolley wire, feeder cables, substation equipment)
- Contact (impact or collision) with TransLink Infrastructure whether or not there is damage (e.g., contact with TOH wires, poles, stations or bus stops; contact with a CMBC bus or other structure)
- Injury to TransLink passengers, employees or the public associated with the work site activities
- Damage to infrastructure belonging to TransLink or its operating companies caused by work at the work site
- Any interruption to service or material interference to service caused by work at the work site
- Near misses or an incident of some danger where damage to TransLink infrastructure or passengers (or service interruptions) did or didn't occur but could have under slightly different circumstances (e.g., workers or equipment entered a Limit of Approach or restricted area without permission or advanced notice)

## How do you report an incident/accident?

Persons in charge of a work site must ensure all – employees, subcontractors, and site visitors – are trained in required safe work procedures and understand what safety occurrences require reporting.

To report a safety occurrence in a timely manner, you must have the following contact information readily available.

### **Urgent situations**

In incidents/accidents where TransLink or one of its operating companies must act immediately to protect lives or prevent the situation from worsening, the person in charge of the work site or the person discovering the event must immediately phone the number appropriate to your work site:

Coast Mountain Bus Company Transit Communications (TCOMM): 778.593.5536

Please note that these numbers are staffed 24/7, and should only be used to request emergency response from CMBC Duty Managers.

### **Stable situations**

Incidents/accidents where the situation is stable (e.g. where no ongoing danger exists, and/or where an immediate response from TransLink or emergency response agency is not required), the person in charge of the work is responsible for notifying TransLink by email or phone in a timely manner.

Emails can be sent to [TOHReview@translink.ca](mailto:TOHReview@translink.ca) to notify key staff at TransLink and operating companies who can respond accordingly, in due time. This email address is not intended for situations requiring an immediate response.

Upon request, copies of documentation relating to the incident (e.g., WorkSafeBC report, accident investigation findings, root cause analysis, camera footage, recurrence prevention strategy, additional training, safety meeting minutes, etc.) will be shared with TransLink following the incident.

### **Required Communications**

Effective open communication between the project owner, the general contractor and its sub-trades, local authorities and TransLink will be critical to ensure safe, reliable transit service. At the project kick-off meeting, the following contacts should be established and distributed to all parties:

- Contractor
- Project Owner
- TransLink Real Estate
- TransLink Safety
- CMBC TOH

## Additional Information

### Fees and expenses

The project owner is responsible to pay for TransLink's one-time application fee incurred while reviewing the project and preparing the TOH Adjacent Works Agreement. In addition, the project owner is responsible for TOH crew costs to adjust TOH infrastructure and safety monitoring until construction is complete. These costs include, but are not limited to, TransLink's staff costs, third-party consultants' fees and expenses, legal fees and expenses, an administrative mark-up on all third-party costs and any other fees and expenses necessary for TransLink to complete its review.

### Timelines

TransLink is committed to working in a timely manner. It will make reasonable effort to complete its review and issue its consent to coincide with a project owner's reasonable schedule.

### Contact TransLink

*A project owner can initiate TransLink's TOH Adjacent Works Consent Process or hold preliminary discussions with TransLink staff by doing one of the following:*

- *Send an email to [TOHReview@translink.ca](mailto:TOHReview@translink.ca)*
- *Submit a TOH Adjacent Works Request Form online at [translink.ca/realestate](https://translink.ca/realestate)*