

design objectives

The Joyce Collingwood SkyTrain station is one of the original Expo Line stations opened in 1986. It has the sixth highest passenger volume on the Skytrain system and is in need of essential upgrades to extend its useful life for another 25 years. The project's design objectives seek to improve capacity, exit times, passenger safety and accessibility while reinventing the stations identity and relationship with the surrounding neighborhood. The following objectives have been identified as important considerations :

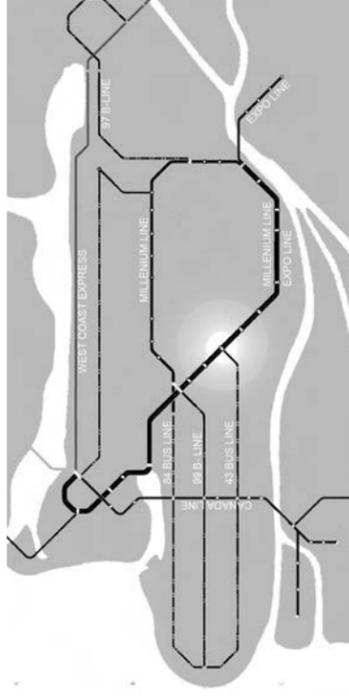
- Improve the station's capacity and exit times to accommodate 2041 passenger ridership forecast
- Improve passenger and pedestrian safety in and around the station including CEPTED considerations
- Improve accessibility, way finding, and lighting in and around the station
- Increase the station transparency at both ground level and platform level
- Enhance the station's integration with the surrounding urban environment
- Introduce a new station identity which builds on the legacy of Expo 86
- Consider ongoing station and bus operations throughout construction
- Ensure the station upgrades support the stations long term vision including :

Optimizing intermodal connections between the bus exchange and skytrain station

Establish how road geometries and the BC parkway can safely separate cyclists and vehicles throughout the station area

The design for the 'station upgrades' facilitates a long term vision; developed in parallel between Translink, the City of Vancouver and omb architects. The long term vision reconfigures the existing Joyce Collingwood bus exchange to address multi-modal challenges, establishes a safe route for the BC parkway throughout the station area while improving neighborhood connections.

site location + zoning



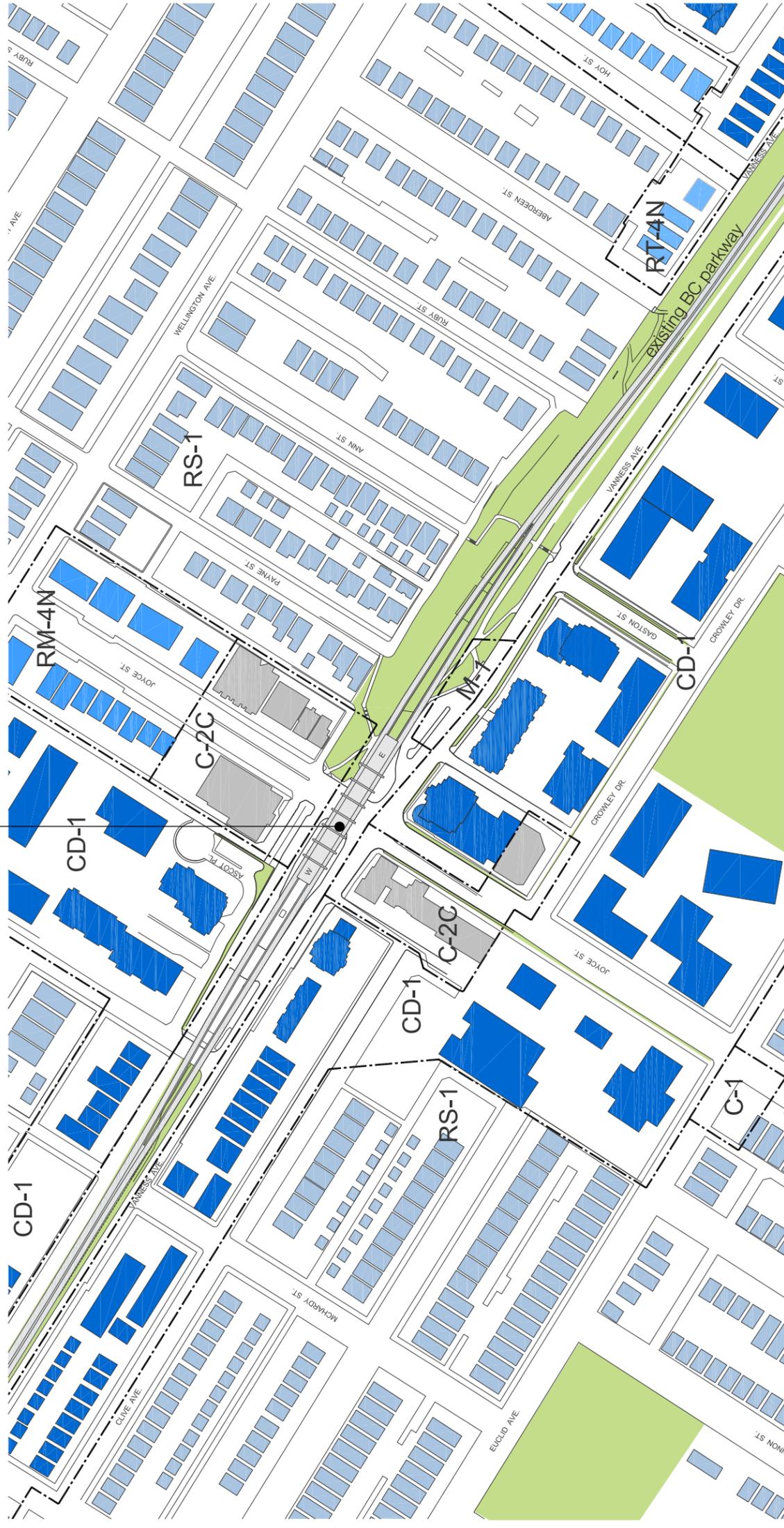
Joyce Collingwood Skytrain station is one of the original Expo Line stations which opened in 1986 and is located at the intersection of Joyce Street and Vanness Avenue. The existing station and adjacent bus exchange sits north of Kingsway at the intersection of Joyce Street and Vanness Avenue. It is a significant transit hub in a dense and growing residential community.

Zoning

The station and adjacent bus exchange sits north of Kingsway at the intersection of Joyce Street and Vanness Avenue. The station is surrounded by a mixture of CD-1 high rise residential and RS-1 single family homes with commercial uses along Joyce Street. The BC parkway extends both east and west from station area, providing green space and community gardens to the east.

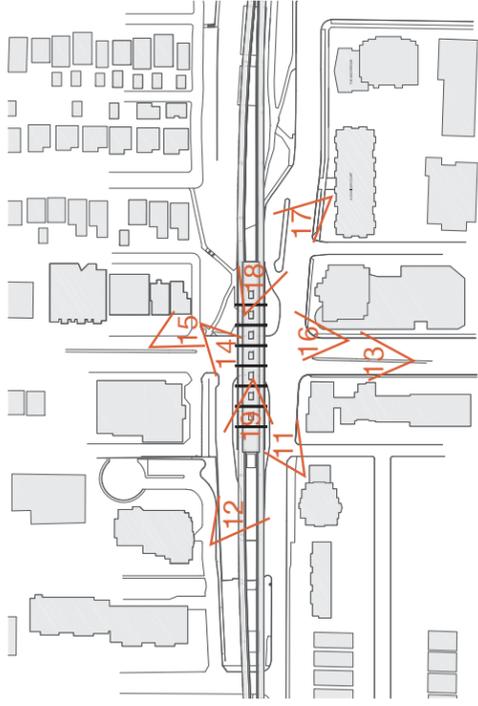
- C-2C Commercial
- CD-1 Comprehensive Development
- RM-4N Multiple Dwellings
- RT-4N Two Family Dwellings
- RS-1 One Family Dwelling
- M-1 Industrial District

Joyce Collingwood Skytrain Station



context photos

existing station



The existing station has had original elements adapted over time and as such lacks a clear architectural identity. The legibility of the iconic hoop trusses, as primary structure, and the suspended platform roof is compromised by metal mesh treatment at the platform level. The mesh obscures a potential desirable visible connection between street level and platform activities. The platform ceiling is low and contributes to a feeling of being enclosed and separated from the surrounding neighbourhood. Reliance on wayfinding signage is high since the station lacks an identity which responds to the Joyce Collingwood context.

The current station massing and material selection results in a building that appears solid, and part of the guide way infrastructure, which dominates over the streetscape.



11 Looking east to west station house on Vanness Avenue



12 Looking east to the west station house from the bus loop



13 Looking north on Joyce street



14 Looking south to west station house at the city lane



15 Looking south to east station house on Joyce Street



16 Looking north at corner Vanness avenue / Joyce street



17 Looking west to east station house on Vanness avenue



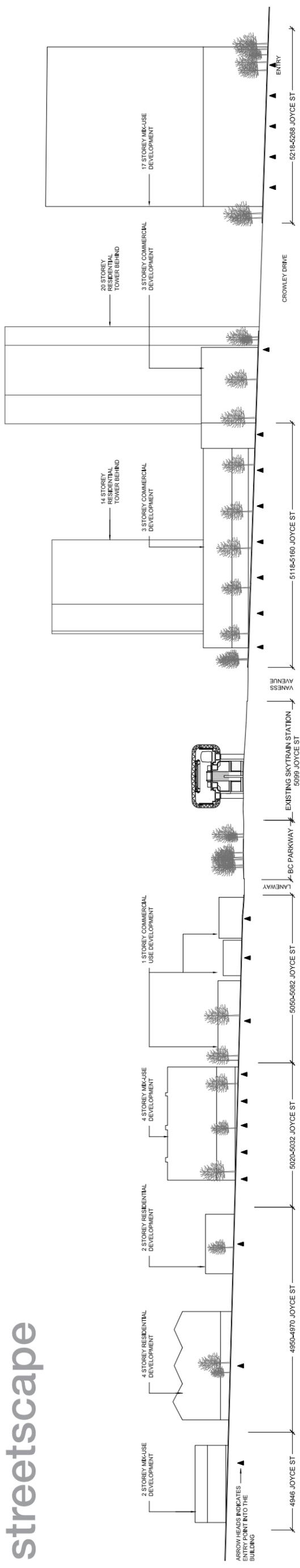
18 Looking east on the station platform



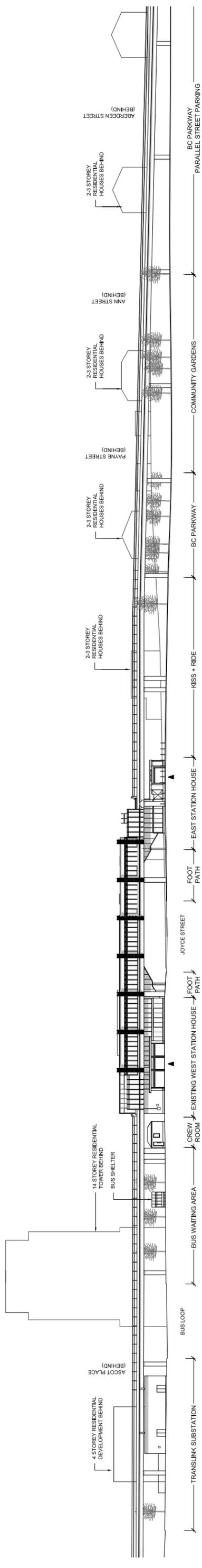
19 Looking west on the station platform

site

streetscape



extent of site



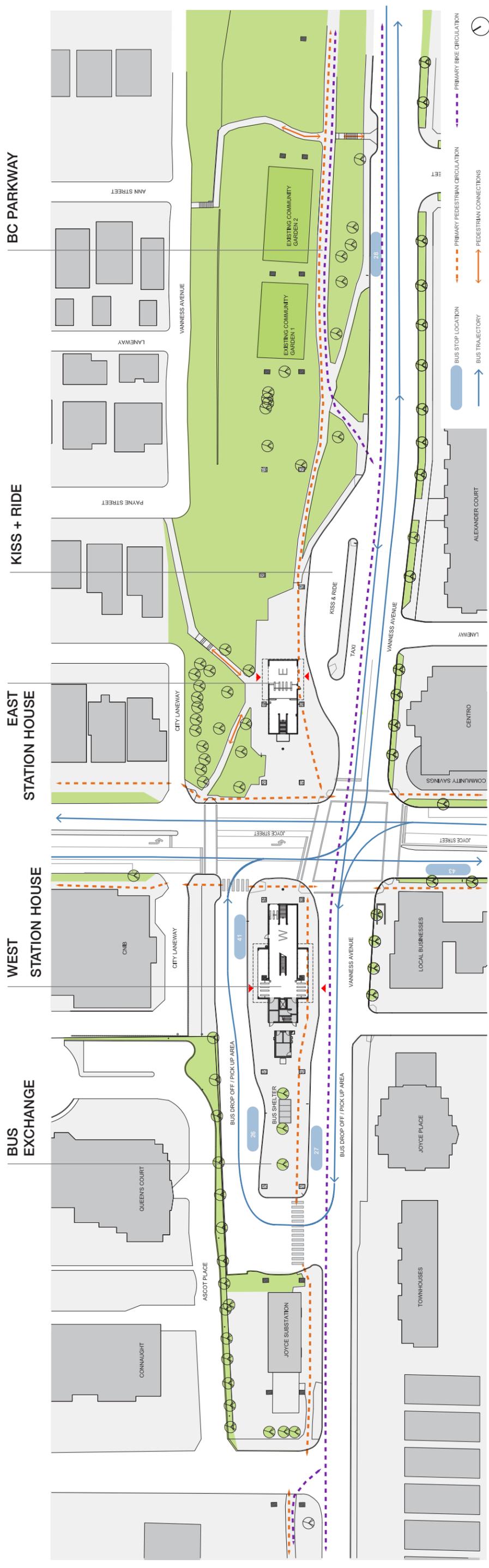
extent of site - platform level



extent of site

existing condition

multi-modal transit circulation



Joyce Collingwood Skytrain station and bus loop was built prior to significant residential development in the area. As a result the exchange suffers from being over capacity and poorly integrated with the current neighborhood context. The station's elevated platform bridges Joyce Street, with the primary entrance at the West Station house inside the existing bus loop. The current East Station house provides stair access between the platform and Kiss + Ride area with direct connections to the BC parkway.

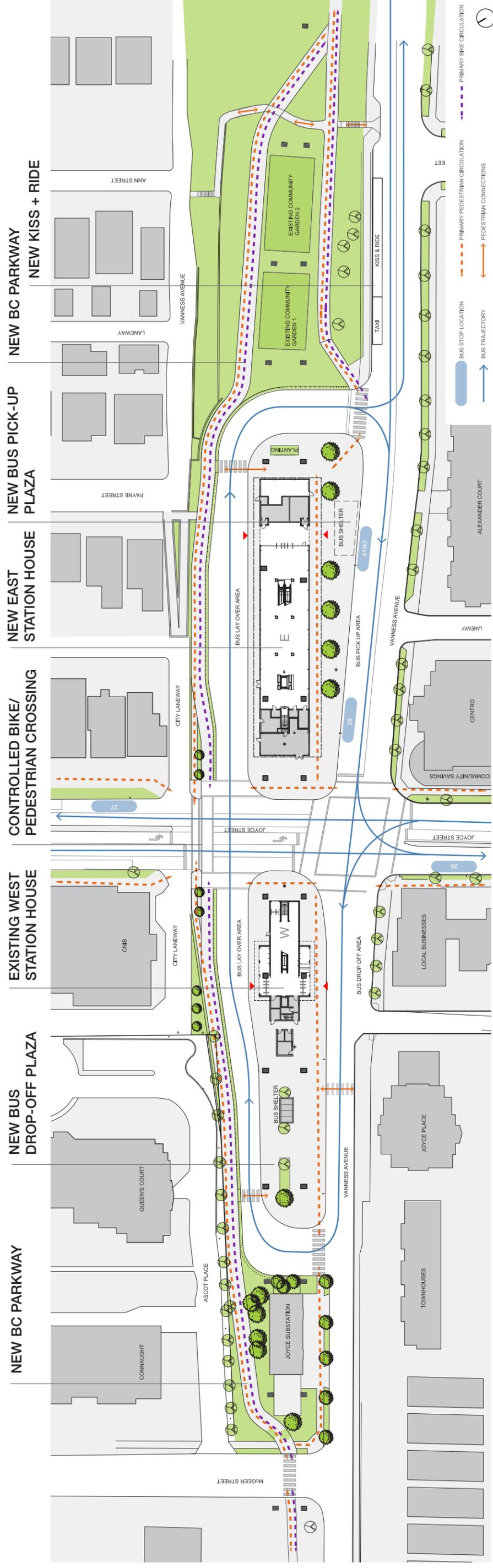
The bus exchange is configured such that all bus passenger drop off, pick up, and lay over activities occur at the Skytrains West Station House. One of the regions busiest bus routes (41/43 B-line) starts and terminates here as well as the #28 and several other through bus routes. Increased bus ridership is forecast placing significant pressure on the space available to safely accommodate

bus bays, passenger queuing areas, Skytrain station pedestrian access, as well as traffic and pedestrians bypassing the station area.

The resulting urban environment adjacent the station is dense and vehicle focused without a dedicated route for cyclists. Pedestrian safety and CEPTED issues are a significant concern especially after dark and there is insufficient space to accommodate much needed public space and adequate soft landscaping.

long term vision

multi-modal transit circulation

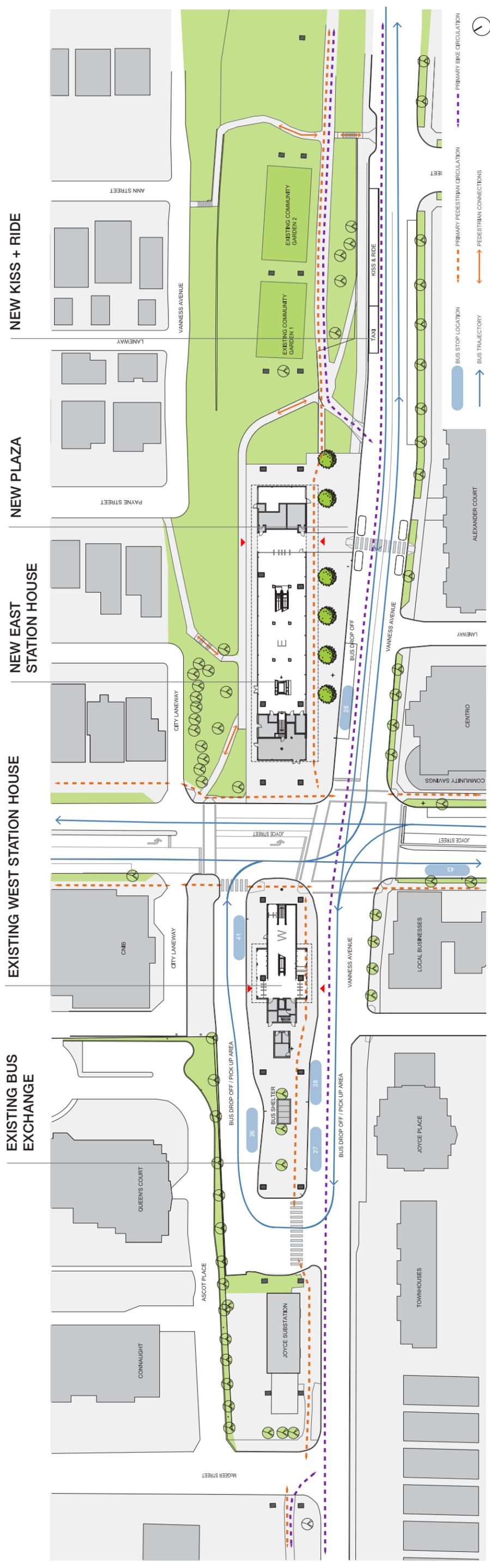


The long term vision simplifies intermodal transfer between bus and skytrain users. This is achieved by reconfiguring bus services, adjusting existing street and bus loop geometries and introducing a new bus drive aisle around the new East Station House. Once implemented the West bus loop becomes a dedicated bus drop off area, and the East Station House plaza becomes fully animated as a vibrant public space with dedicated bus queuing and pick up area. Works to the West Station house vertical conveyance, electronic systems and finishes will be addressed and a new west plaza inclusive of hard and soft landscaping treatment, way finding and lighting.

The long term vision also suggests a safe and dedicated routing of the BC parkway north of the station through to McGeer Street with a controlled crossing over Joyce Street. A continuous soft landscape buffer runs parallel to the BC parkway throughout the exchange highlighted by additional soft landscaping and street trees along its length to further enhance the public realm and station's integration into the neighborhood public realm.

station upgrades project

multi-modal transit circulation



The 'station upgrades project' has been carefully designed to facilitate the long term vision established between Translink, the City of Vancouver and omb architects.

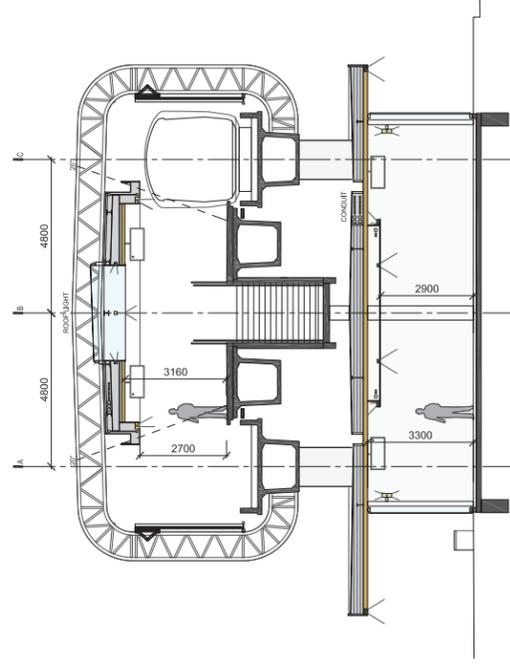
The new east station house, plaza and kiss and ride curb has been configured to allow for the new east bus drive aisle and BC parkway to be built in the future. The plaza, which provides the 'heart' of the long term vision, will be used by the #28 bus line upon completion.

design concept

The legacy value of the Expo Line stations lies in their “kit of parts” philosophy and modular “exoskeleton” that allows for effective expansion in either direction. The concept developed for the Joyce Collingwood upgrades showcases the existing iconic hoop structure, and provides as a counterpoint, a new simple linear form, which is articulated to showcase the functions and activities within and around the station in an elegant way.

The new architectural identity seeks to reduce elements and integrate engineering and building systems to respond to the needs of today and of the future. The original 1250mm module is rigorously respected to organize the stations new parts, yet subtly expressed with increased transparency and daylighting.

The new east station house is clearly expressed as distinct and separate from the existing elevated concrete guideway. At its edges it is intentionally modest in height, to address the pedestrian scale of the enhanced public realm.



materials

The material palette is reimagined with the introduction of wood, local stone and a rich metal colour to infuse warmth into the stations spaces and a civic quality to the public plaza.

The kit of parts philosophy which guided the original designs has informed the new station's approach to structure and prefabricated construction solutions. Structural mass timber laminated veneer lumber (LVL) panels are proposed for the station house roof and LVL slats to the underside of the platform roof. Both the station house and platform ceilings have been carefully considered and treated as elevations.



1



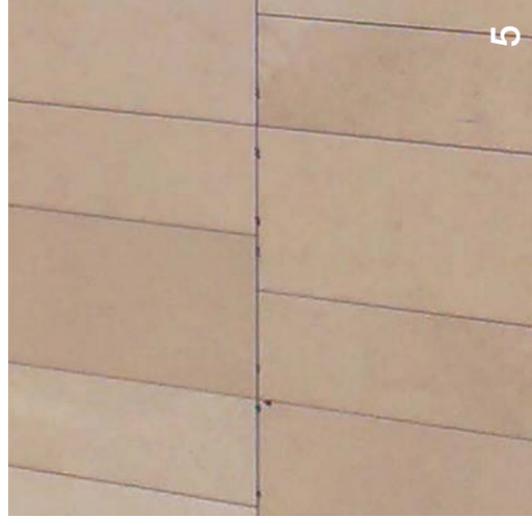
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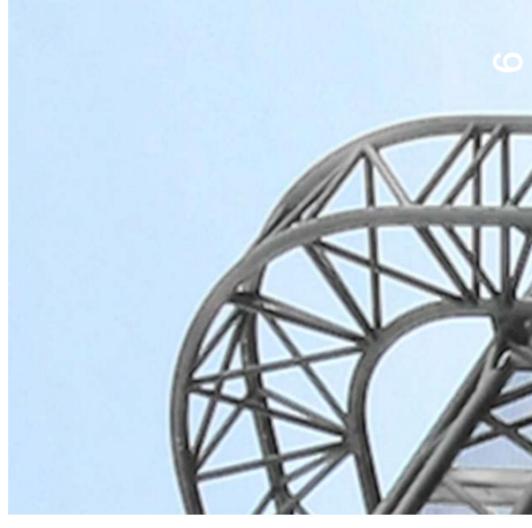
3



4



5



6

- 1 laminated veneer lumber
- 2 dark metal panels
- 3 light metal panels
- 4 existing concrete
- 5 local stone
- 6 existing hoop truss painted

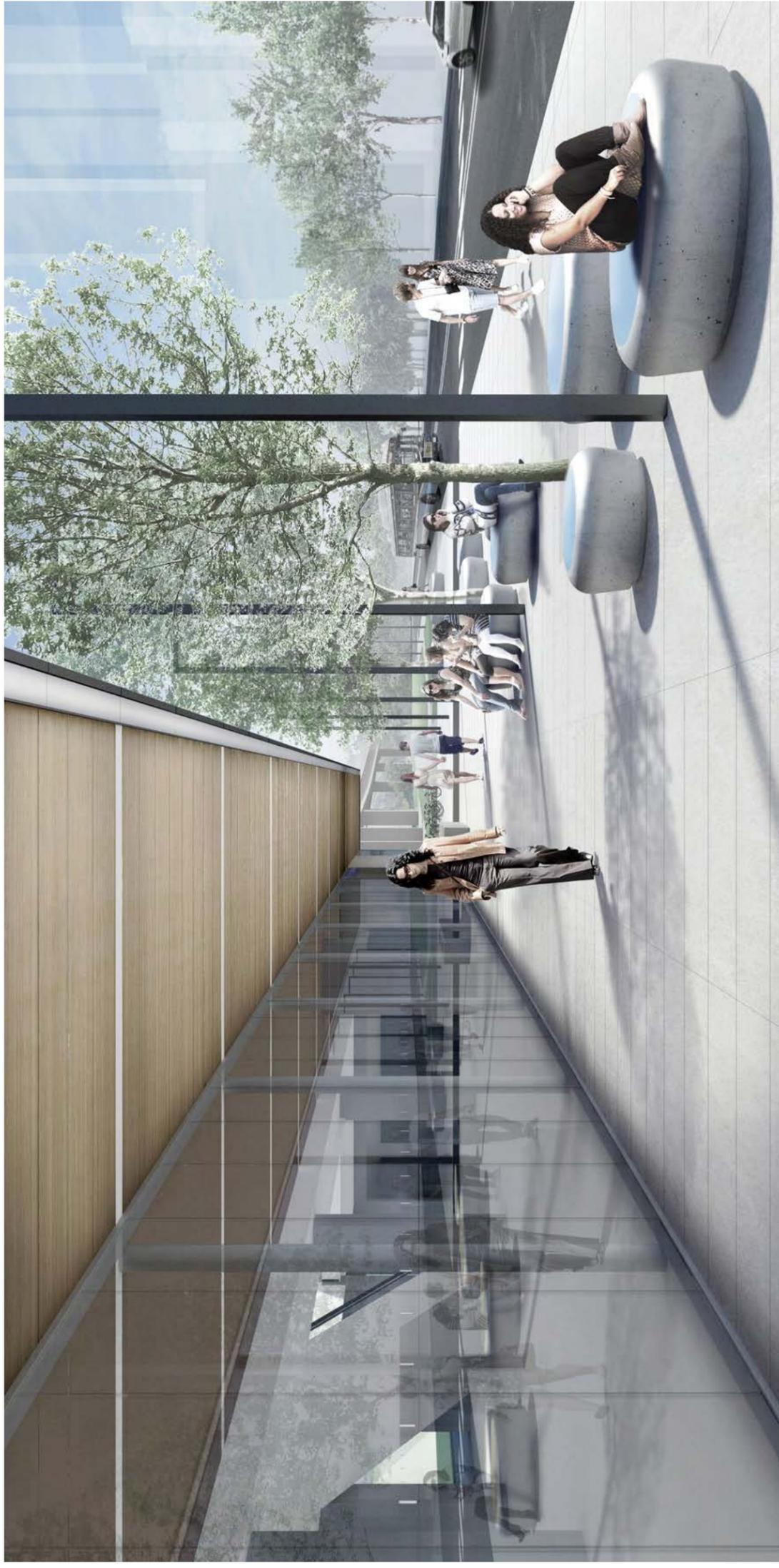
proposal

At ground level the new 875 sq.m station house is a pavilion; fully glazed on all sides to provide transparency and views through the building. Ancillary uses have been efficiently centralized in two solid cores to ensure the two ends of the station house are glazed and their activities highly visible. The building engages the public plaza with a generous canopy and continuous weather protection is provided to and from the north and south station entrances. Ancillary space adjacent Joyce Street is designed to accommodate a future use which encourages activity along the street edge and plaza. A publically accessible bike storage room is provided with easy access to the BC parkway at the buildings eastern end.

The new escalator housing is articulated to read as part of the station house, extending vertically to platform level between the existing guideways and maintenance walkways. This element provides passengers with a unique spatial experience, while transitioning between grade and platform levels, with natural daylight and pastoral views to the east along the BC parkway.

The platform and roof are extended to the east and the entire platform roof is re clad along its length with a slimmer profile. This permits the platform ceiling level to be raised and new skylights afford much need daylight to the platform. The original mesh screening is replaced with glazing along the full platform length. The increased transparency aims to improve the visible connection to the surrounding street scape while emphasizing the platform roof as being suspended from the existing hoop trusses.

The generous south facing public plaza acts as a focal point for the community and provides much needed bus queue space and seating. New street trees, playful seating opportunities, and lighting assist animate the plaza and give it a unique and memorable identity.



View of new Public Plaza

project data

FLOOR AREAS	EXISTING	PROPOSED
WEST STATION HOUSE		
Ground Level	297.58 sq.m	297.58 sq.m
Mezzanine Level	47.76 sq.m	47.76 sq.m
Total	345.34 sq.m	345.34 sq.m
EAST STATION HOUSE		
Ground Level	144.3 sq.m	875 sq.m
Mezzanine Level	0 sq.m	0 sq.m
Total	144.3 sq.m	875 sq.m
PLATFORM LEVEL		
Total	581.95 sq.m	738.33 sq.m
FSR SUMMARY		
Ground Level	441.88 sq.m	1172.58 sq.m
Mezzanine Level	47.76 sq.m	47.76 sq.m
Platform Level	581.95 sq.m	738.33 sq.m
TOTAL FSR	1071.59 sq.m	1958.67 sq.m

BUILDING HEIGHT	
Existing Station Height (Top of existing Hoop Truss)	13.117m
Proposed East Station House Height	13.117m
PARKING	
Kiss + Ride - Existing	5
Kiss + Ride - Proposed	5
Taxi - Existing	2
Taxi - Proposed	2
BIKE STORAGE	
Interior Bike Room	68
Exterior	12
TOTAL	80

night-time view

