

Tseung Kwan O - & Lam Tin Tunnel Cross Bay Link

Proposed Scheme
– Consultation Digest



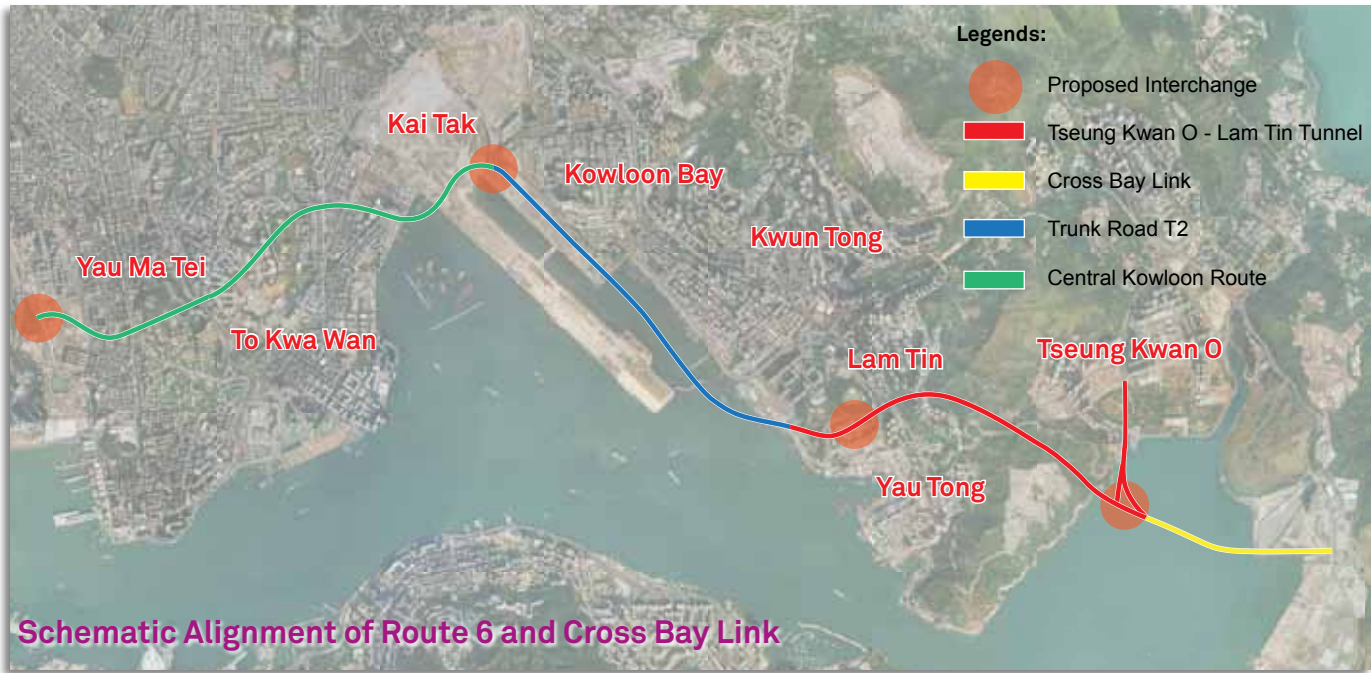
土木工程拓展署

Civil Engineering and
Development Department



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Project Information



The Tseung Kwan O - Lam Tin Tunnel (TKO-LT Tunnel) is a dual-two lane highway of approximately 4.2km long, connecting Tseung Kwan O (TKO) and East Kowloon. The TKO-LT Tunnel, together with the Trunk Road T2 in Kai Tak Development and Central Kowloon Route, will form Route 6 in the strategic road network providing an East-West Express Link between Kowloon and Tseung Kwan O areas.

The Cross Bay Link (CBL) is a dual two-lane carriageway of approximately 1.8km long with a cycle track and a footpath stretching across Junk Bay, connecting the TKO-LT Tunnel at the west and Wan Po Road near Area 86 of TKO at the east.

At present, the existing Tseung Kwan O Tunnel is the main connection between Tseung Kwan O and urban areas of Kowloon. TKO-LT Tunnel together with CBL will form a new external road network for the TKO New Town.

In addition, the two interchanges at Lam Tin and Tseung Kwan O will connect Route 6 to the existing road network at Kwun Tong and Tseung Kwan O, providing convenient connections for traffic to different destinations.



Benefits

- Upon completion of Route 6, the new road network will relieve the existing heavily trafficked road network in the central and eastern Kowloon areas, and hence reduce travel time for vehicles across these areas and related environmental impacts.
- The existing Tseung Kwan O Tunnel is operating near its maximum capacity at peak hours. The TKO-LT Tunnel and CBL will relieve the existing traffic congestion and cater for the anticipated traffic generated from the planned development of Tseung Kwan O.

Table 1: Traffic Improvement - Kwun Tong District

From Yau Tong to West Kowloon Area	Journey Time (Peak Hour)
Current (2012)	22 min.
Via Route 6	8 min.

Table 2: Traffic Improvement - Tseung Kwan O District

From Tseung Kwan O Town Centre to Eastern Harbour Crossing	Journey Time (Peak Hour)
Current (2012)	15 min.
Upon Completion of TKO-LT Tunnel	5 min.

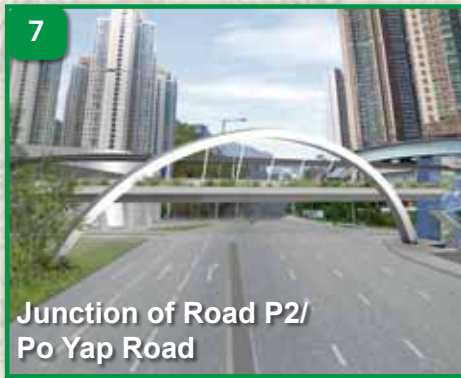


Proposed Scheme of TKO-LT Tunnel and CBL

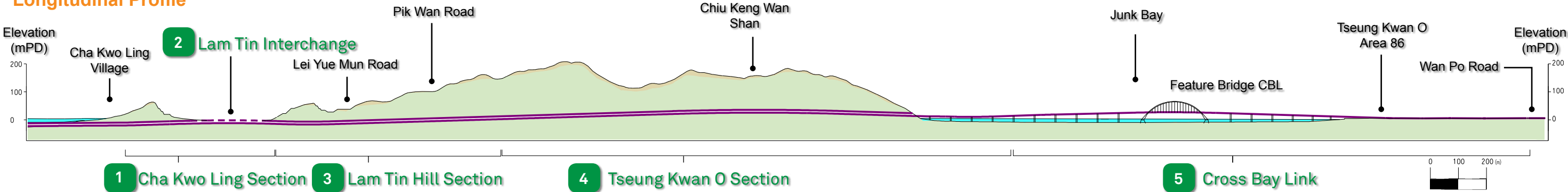
The proposed TKO-LT Tunnel runs beneath the Chiu Keng Wan Shan in a straight alignment with a branch tunnel for direct connection to the Eastern Harbour Crossing.

At Kwun Tong side, the tunnel connects to the Lam Tin Interchange (next to the toll plaza of the Eastern Harbour Crossing), which links the TKO-LT Tunnel to the Trunk Road T2, Eastern Harbour Crossing and local road network of Kwun Tong. The main carriageway of the Interchange is around 20m below the existing ground level.

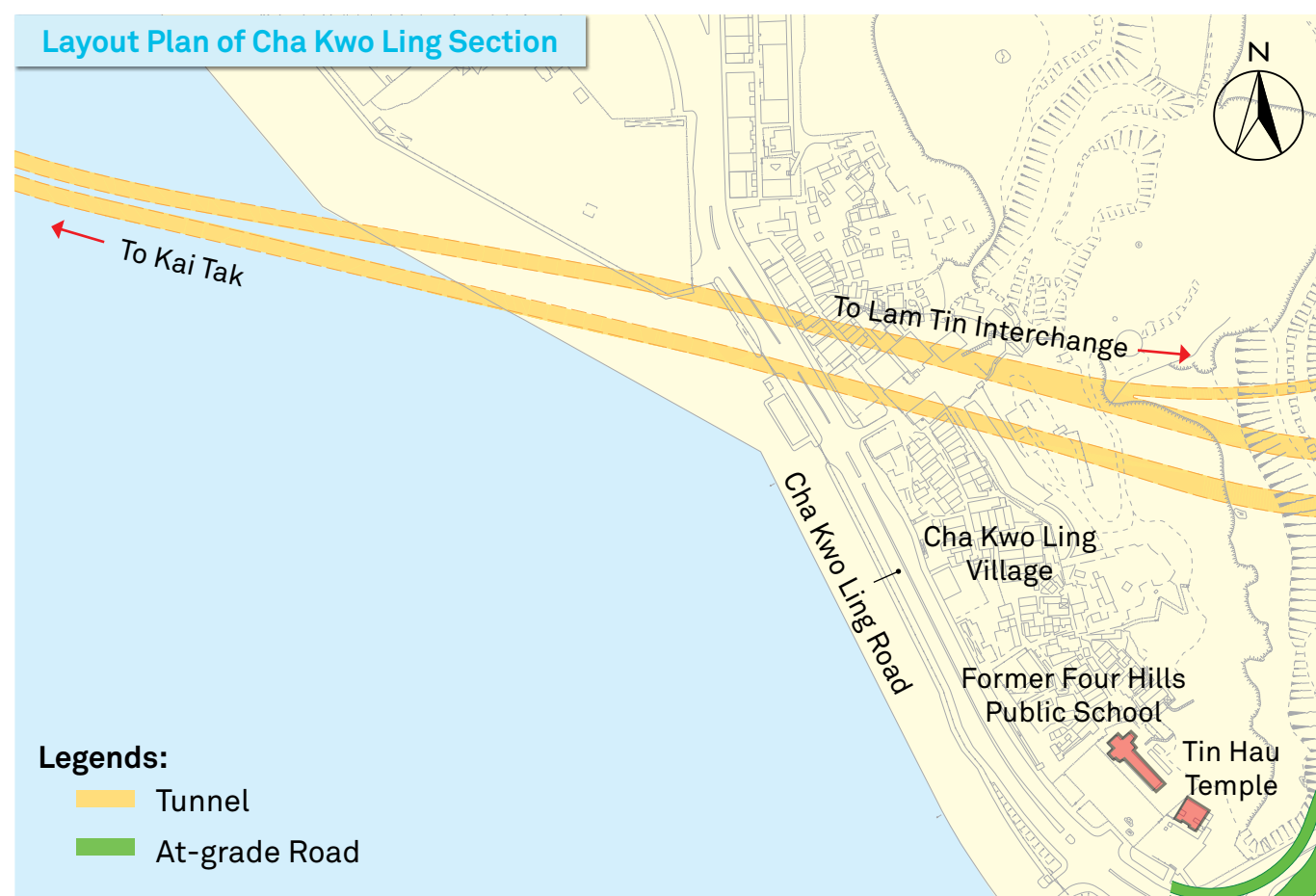
To the west of the Lam Tin Interchange, the tunnel is embedded in bedrock running beneath the Cha Kwo Ling Village. This section of tunnel connects to the proposed Trunk Road T2 at the waterfront while maintaining a distance from the Cha Kwo Ling Tin Hau Temple.



Longitudinal Profile



Cha Kwo Ling Section



Cha Kwo Ling (CKL) Section of the TKO-LT Tunnel is located near the toll plaza of Eastern Harbour Crossing connecting the Trunk Road T2 at west and the Lam Tin Interchange at east. This section of road runs in tunnels embedded in bedrock at about 25m below the ground level of the Cha Kwo Ling Village.

The proposed alignment is an optimum design striking a balance among the site constraints, public views and various engineering factors. In particular, it avoids local landmarks including the Cha Kwo Ling Tin Hau Temple and the former Four Hills Public School.

In addition, as the tunnel is built below ground, the integrity of the Cha Kwo Ling Village could be

preserved and only the underground strata of few private land lots will be affected. No clearance of building structure is required.

In view of the geological conditions and the site constraints, the CKL Section will be constructed by mechanical breaking rather than conventional blasting method. Therefore, the potential impacts on the residents and the building structures in the construction phase (such as vibration, noise and settlement) will be minimized. In addition, we will closely monitor the contractor's works and the ground conditions to ensure that the daily life of residents will not be affected.



Lam Tin Interchange



The Lam Tin Interchange is a major connection of TKO-LT Tunnel and other adjoining roads (including the proposed Trunk Road T2, Eastern Harbour Crossing and road network in Kwun Tong). Comprehensive assessments have been undertaken for identifying the best location for the Lam Tin Interchange. The site adjacent to the toll plaza of Eastern Harbour Crossing is found to be the most suitable location of the interchange for providing the best road connections arrangement.

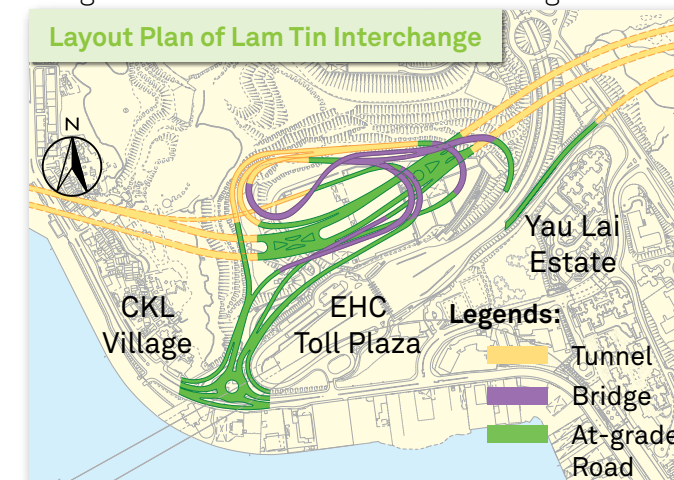
The interchange not only provides a convenient connection for traffic to different destinations, but also helps diverting the traffic from the existing road network of Kwun Tong and thereby alleviates the heavy traffic load in the area.

The Lam Tin Interchange has adopted an integrated design to address the environmental concerns (including noise, air quality, visual impacts and light nuisances) as well as potential flooding risk.

The main carriageways are located at around 20m below ground covered by a landscape deck and light green-colored noise enclosures to minimize the environmental concerns of the public including noise, air quality, visual and

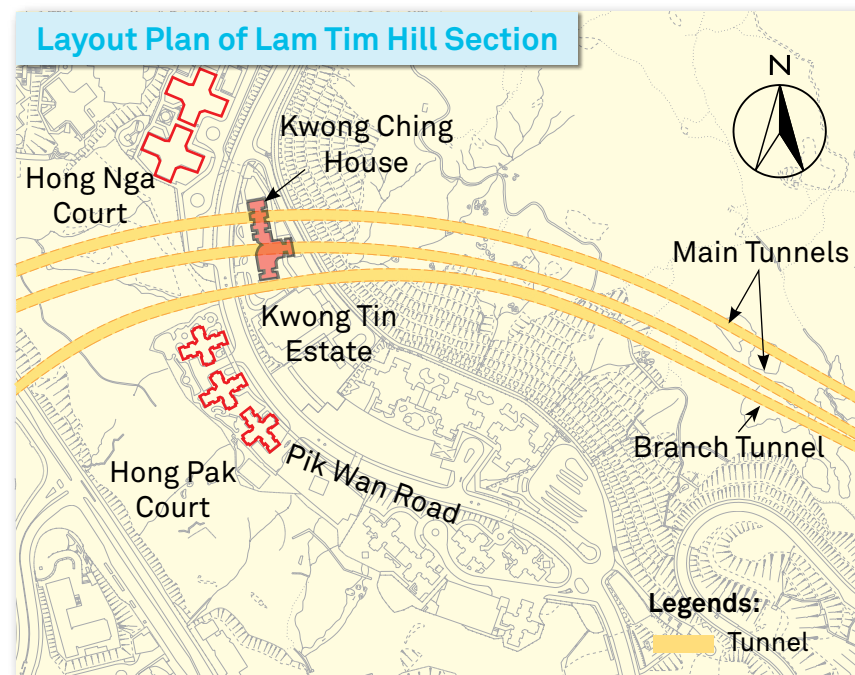
light nuisance. In addition, shrubs and trees will be planted at the landscape deck and adjacent areas.

To further alleviate visual and noise impacts, some parts of the slip roads are in form of tunnel or located between cut-slopes. The slopes at the interchange are carefully designed with streamlined profile with planting at intermediate platforms in harmony with the surrounding landscape. Besides, the tunnel facilities with green terrace roof and planting seamlessly integrate with the topology of the area to enhance the green environment of the interchange.

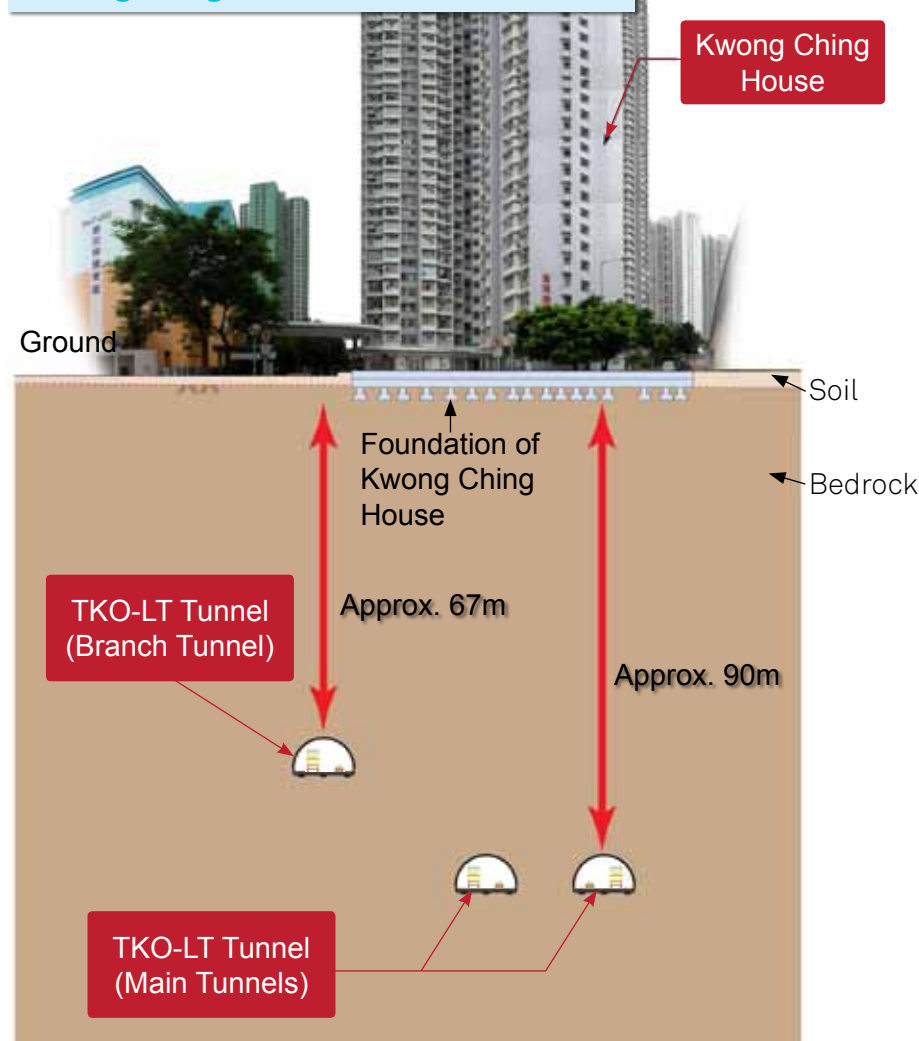


Lam Tin Hill Section

From traffic design point of view (e.g. optimum tunnel curvature), the proposed tunnel alignment is an optimum scheme, which complies with the current desirable road design standards. Owing to the geographical constraints, road design standards and various factors, two main tunnels run in the bedrock beneath Kwong Ching House and only parts of the underground strata of Hong Nga Court and Hong Pak Court at considerable depth within the amenity areas of these two Home Ownership Scheme Estates will be affected.

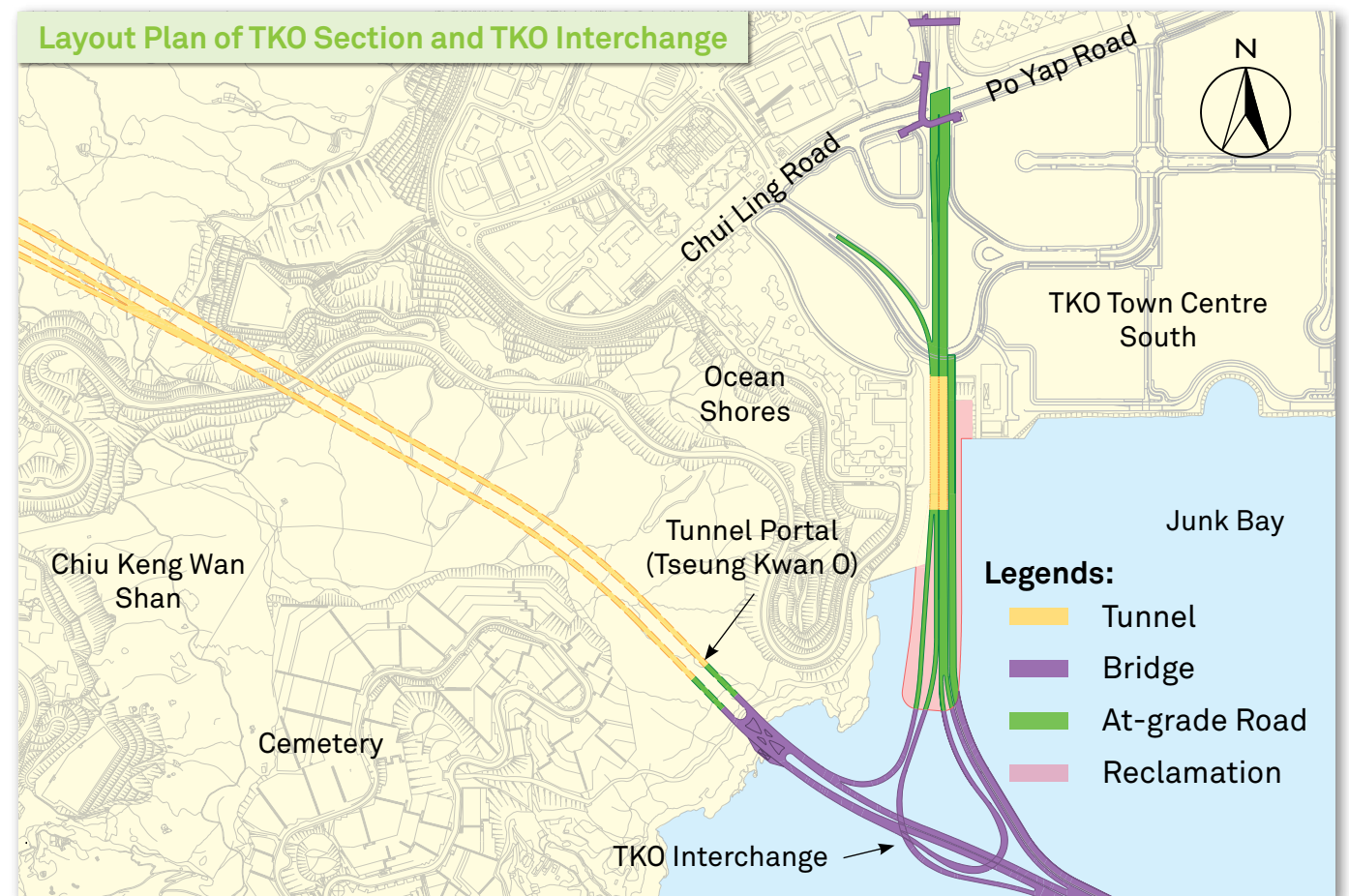


Cross Section of TKO-LT Tunnel under Kwong Ching House



The tunnel is embedded in the bedrock of at least 67m beneath the foundation of Kwong Ching House. Hence, the tunnel construction and operation will have no impact on the existing building structure of Kwong Ching House. In addition, the drill-and-blast method to be used in the tunneling works is well proven to be safe and has been employed in various projects in the territory for tunnel running beneath the buildings (examples include Aberdeen Tunnel, MTRC Tseung Kwan O extension, etc). We will implement monitoring measures (such as vibration and noise monitoring) during the construction of the tunnel, to ensure that the daily life of residents will not be affected.

Tseung Kwan O (TKO) Section



The “straight tunnel alignment without toll plaza option” is adopted for the TKO Section of the TKO-LT Tunnel to minimize geological risks in tunnel construction and achieve a good engineering design (e.g. straight tunnel alignment with reduction in the length of main road). It also has the lowest environmental impacts (including water quality, marine ecology, noise, air and visual) due to minimum reclamation required.

The tunnel portal is located next to the Junk Bay Chinese Permanent Cemetery. Greening works will be applied to the slope on top of the tunnel portal and architectural finishes at portal ventilation building will be designed to harmonize with the surrounding environment.

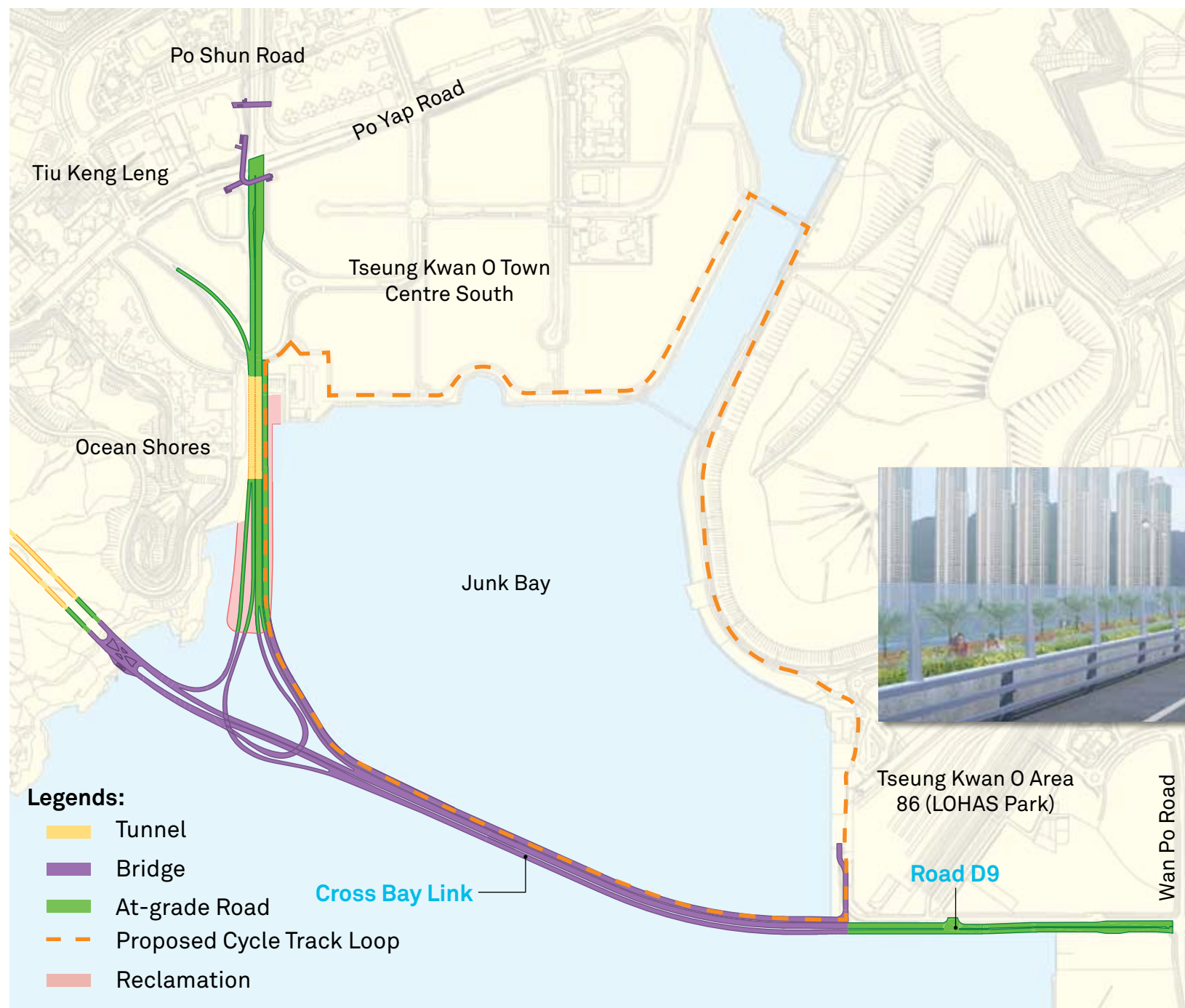
The tolling method for the TKO-LT Tunnel will be studied in the detailed design stage of the project.



Photomontage of TKO Interchange and Tunnel Portal

Cross Bay Link

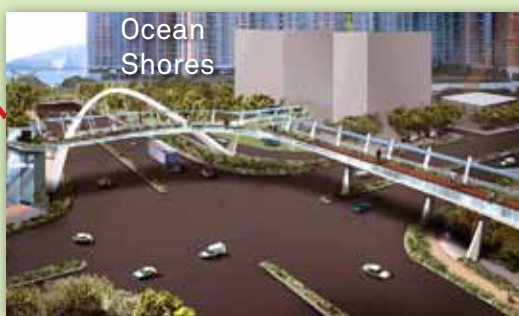
Due to its prominent location, CBL will be designed as a feature bridge to become a future landmark of Tseung Kwan O. A Design Ideas Invitation Event was organized to invite contributions from professionals and the public on the form, appearance and aesthetics of the feature bridge. Based on a series of public engagement activities in 2009 and 2010, the option “Eternity Arch”, which has received overwhelming public support , has been selected. The concept for the Eternity Arch is to create an object with a special symbolic meaning. Two relatively low profile outwardly leaning arches are visually connected to carefully sculpted piers to create the mathematical symbol of infinity, which is a well known expression of eternity or never-ending.



The Eternity Arch adopts a “single corridor “ configuration. The main span of the bridge is approximately 200m with an overall deck width of around 38m; carrying a dual two-lane carriageway, cycleway and footway, which sail between the leaning arches as if the deck and the arches are not touching. CBL is the first of its kind in Hong Kong for a marine viaduct to carry both footway and cycleway. The greening and landscape features along the bridge will provide an enjoyable experience for drivers, cyclists and pedestrians.



Road P2 at Tseung Kwan O & Junction of Road P2 / Po Yap Road



The junction of Road P2 / Po Yap Road is designed as a signalized junction with a cycle track cum footbridge to provide a convenient and safe passage for both cyclists and pedestrians. The footbridge is supported by an outwardly leaning arch and leaning piers forming a gateway of TKO and presenting a welcome to TKO message. In addition, a north footbridge will be constructed to connect Park Central and the future library and sport centre at TKO Area 74.



Road P2 near Ocean Shores is a depressed road with a landscape deck on top, which is designed to minimize visual and noise impacts to residents of nearby housing estates. The landscape deck connects the amenity areas on both sides of the Road P2 creating more landscape area and providing a convenient access to waterfront promenade. Reclamation of about 3 hectares is required for the Road P2 construction. Promenade, cycle track and viewing platform will be constructed along the Road P2.

Public Consultation

We conducted the first stage of public consultation in 2009 to understand public's concerns and collect ideas for development of design options. Taking into account of initial public views and preliminary engineering assessments, we formulated and presented different design options to seek public views in the second stage of public consultation conducted from March to December 2010.

We then undertook studies and assessments to refine and optimize the design scheme with reference to the public views, environmental factors and engineering issues. We have now formulated the proposed scheme for the TKO-LT Tunnel and CBL projects, which is presented in this consultation digest.

Your Views and Next Steps

We would like to hear your views on the proposed scheme of the TKO-LT Tunnel and CBL projects. We will take your views into consideration when finalizing the proposed scheme and completing the preliminary design and various assessments of the projects (including environmental impact assessment). Please forward your views on the proposed scheme to:

Address: Suite 1213 Chinachem Golden Plaza,
77 Mody Road, Tsim Sha Tsui East, Kowloon

Email: tkoltt-cbl@cedd.gov.hk Fax: 2721 8630

For enquiry, please call: 2301 1504

For further details, please visit our project website:
www.tkoltt-cbl.hk