

Shatin to Central Link : C1106 Hung Hom Station and Associated Tunnels

INTRODUCTION

Atkins China has been commissioned to lead the detailed design of Hung Hom Station (HUH) and Associated Tunnels as part of the proposed Shatin to Central Link (SCL) for the MTRC. This will entail a full range of detailed design services encompassing engineering, architectural, building services, transportation planning and human factors design.

HUH will be a semi-underground station integrated with an existing station to provide interchange between an East West Line (EWL) and a North South Line (NSL). It is located under the existing HUH Station podium slab and will be constructed using cut and cover methods. The existing station will be modified in stages to allow for a phased opening of SCL.

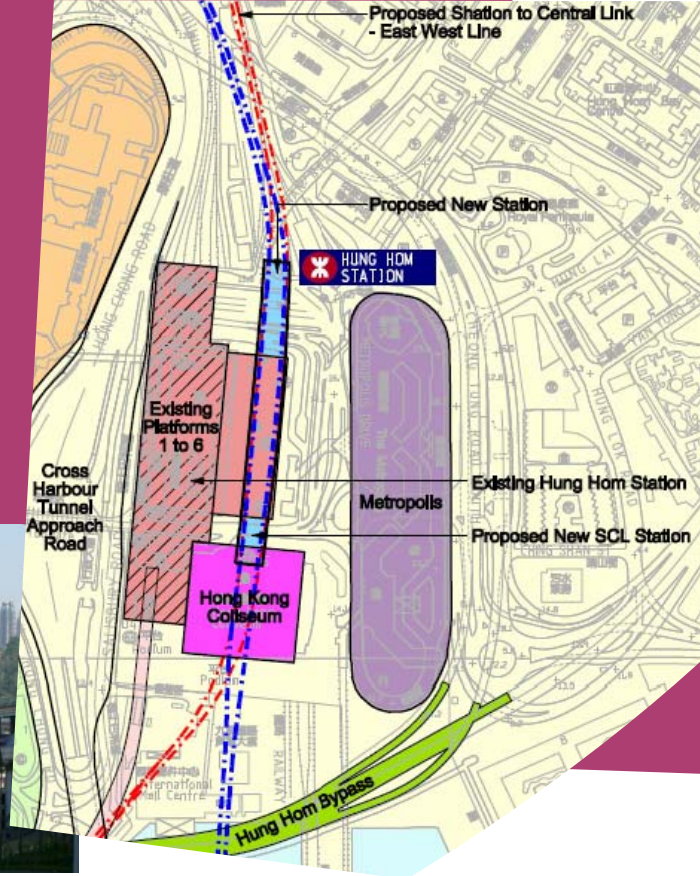
North of the station a tunnel portal to the HUH section of the NSL will be constructed using cut and cover methods below existing operational tracks. Demolition and re-provisioning of facilities serving the existing railway and major underpinning and modification of the existing buildings to enable construction of railway related structures will be required.



OUR SOLUTION

Atkins will develop its own Preliminary Design to provide a Phase 2 arrangement of stacked platforms serving the EWL and NSL and catering for an anticipated peak hour load of 60,000pph.

The Phase 1 arrangement will facilitate interchange between the new EWL platform and the existing platforms 1-6.



OUR APPROACH

Value engineering studies at an early stage of scheme design resulted in significant savings and value added design. These studies focused on improvements to the Preliminary Design that can realize significant operational benefits as well as cost reductions.

Pedestrian simulation modeling is being employed to validate the station layouts for each phase against the latest patronage forecasts to demonstrate efficient station operation and passenger level of service under various operational scenarios.

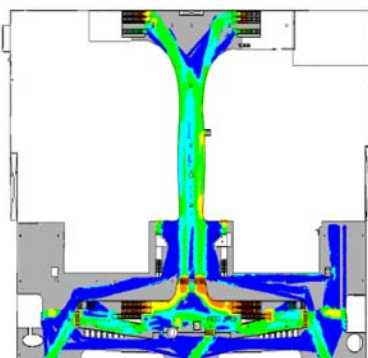
A thorough audit of the Preliminary Design according to Human factors considerations was undertaken early in Scheme Design to ensure the

design reflects the need to address unique human attributes beyond prescriptive requirements with respect to user-friendliness, system efficiency and reliability.

OUTCOMES

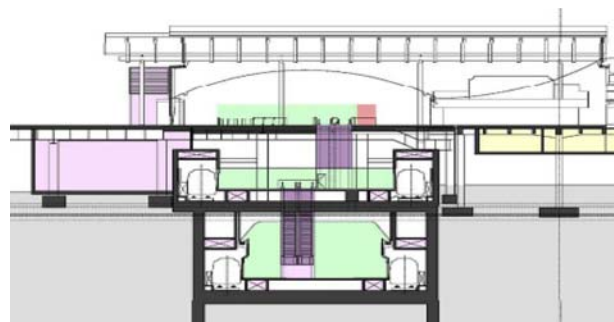
HUH is set to become a pivotal station in MTRC's network facilitating interchange between the major north-south and east-west services in Kowloon and providing the northern gateway for Hong Kong's fourth rail harbour crossing.

Atkins is responsible for the transformation of HUH into an iconic mass transportation centre with enhanced accessibility, highly efficient rail interchange and revitalized retail at concourse level.



Legion Walking Level of Service

LOS	Person per square metre	Square metre per person (Fruin 1987)
LOS A	0-0.31	>3.3
LOS B	0.32-0.43	2.3-3.3
LOS C	0.44-0.72	1.4-2.3
LOS D	0.73-1.08	0.9-1.4
LOS E	1.09-2.17	0.5-0.9
LOS F	2.18-10	<0.5



Plan Design Enable