INTRODUCTION

This report provides a baseline review and a traffic and transport impact assessment of the proposed North East New Territories (NENT) New Development Areas (NDAs) Development under the Recommended Outline Development Plans (RODPs), for the existing and planned transport system. A 2-tier transport modelling approach is adopted. Strategic transport model is developed to provide quantitative input for highway capacity analysis of the major highway corridors, whereas local transport models are developed to support the local network and junction design.

TRAFFIC AND TRANSPORT ASSESSMENT ON THE RODPs

The model runs have identified the potential overloading of the existing Fanling Highway Kwu Tung Section, the Po Shek Wu Interchange and the So Kwun Po Interchange due to the proposed NDAs Development. Various highway network improvement options to resolve the problem and minimise noise and air pollution are explored and outlined below.

HIGHWAY INFRASTRUCTURES

Widening of Fanling Highway Kwu Tung Section

It is recommended to widen the existing Fanling Highway Kwu Tung Section between the San Tin Interchange and Po Shek Wu Interchange from the existing dual 3-lane without hard shoulder to dual 4-lane with hard shoulder, and to divert the adjacent Castle Peak Road with the associated utilities. Various widening scheme options have been reviewed and it is recommended to widen the expressway towards the northern side so that the impacts to the existing nearby historical buildings and Old and Valuable Trees (OVTs) could be minimised. A new elevated Kwu Tung Interchange and improvement works to the existing Pak Shek Au Interchange have been proposed to serve as the access interchange to the Kwu Tung North NDA.

Po Shek Wu Interchange Improvement

Different schemes for improving the existing Po Shek Wu Interchange and So Kwun Po Interchange have been studied. Public opinions received during the Stage 2 Public Engagement have also been considered. It is recommended to improve the existing Po Shek Wu Interchange by constructing an elevated right-turning bypass flyover above the existing Po Shek Wu Road. Southbound traffic to Yuen Long direction can bypass the existing Po Shek Wu Interchange via the new flyover, and hence the existing congested traffic condition can be relieved. Noise mitigation measures are also proposed along Po Shek Wu Road in accordance with EIAO.

Proposed Fanling Bypass

Fanling Bypass is proposed as a regional highway linking Fanling North and Fanling Highway to alleviate the anticipated traffic congestion in Fanling and Sheung Shui districts when the proposed Fanling North NDA is in place. The current traffic forecasts reconfirm the need for Fanling Bypass. The bypass will bring the following benefits to the highway network:

- Give access to Fanling North NDA from the strategic road network;
- Prevent overloading of Fanling Highway Sheung Shui Section and its interchanges (So Kwun Po Interchange and Po Shek Wu Interchange); and
- Allow traffic from Fanling North and Sha Tau Kok Road northeast of Lung Yeuk Tau to bypass Fanling town centre.

In view of the ecological value of Long Valley, this Study suggests to resolve the traffic problem of the NDA by linking up the Fanling Bypass with Fanling Highway through the improved Po Shek Wu Road and Po Shek Wu Interchange, rather than an elevated bypass through the ecologically sensitive areas.

An underpass option for the Lung Yeuk Tau Interchange between Fanling Bypass and Sha Tau Kok Road is also proposed to minimise the visual impact to the neighbourhood.

Other Internal/External Road Interfaces

This report also outlines the external highway access and the internal road network for the NDAs Development and the interface with other projects in the vicinity. For Kwu Tung North NDA, the eastern primary distributor road from Kwu Tung Interchange and the western primary distributor road from Pak Shek Au Interchange will connect the NDA to Fanling Highway. Provision has been allowed in the north for future road connection to the Lok Ma Chau Loop. For Fanling North NDA, the proposed Fanling Bypass will serve as the distributor road connecting to Fanling Highway near Wo Hop Shek Interchange and the improved Po Shek Wu Interchange. For Ping Che/Ta Kwu Ling NDA, it is suggested to connect it to the proposed Liantang/Heung Yuen Wai Connecting Road and Sha Tau Kok Road through the existing Ping Che Road.

ENVIRONMENTALLY FRIENDLY TRANSPORT MODE (EFTM)

The study also includes a financial and engineering assessment for the rail-based EFTM (Automatic Guided Transit/Automatic People Mover (APM)) system. The assessment finds that rail-based EFTM would not be justified by transport demand and the system is proved to be not financially viable without financial support on the capital cost. Also, the alignment of the proposed APM is seriously constrained by the existing buildings and valuable mature trees. Rail-based EFTM is considered not the best option, in terms of finance, land and environmental impacts.

Instead, the report has studied and compared different road-based EFTM systems that better suit the development scale of NENT NDAs. It is concluded that a road-based EFTM should be implemented in NENT NDAs. The government and bus operators are undertaking trial tests of operating electric vehicles in Hong Kong. Land has been reserved in the NDAs to allow flexible operation of various types of electric vehicles.

PUBLIC TRANSPORTATION PROVISION

The report has outlined the public transportation strategy for the NENT NDAs. In Kwu Tung North NDA, more than 80% of the population will reside within 500 meters from the proposed Kwu Tung railway station. This will encourage residents to use mass transport

system to reduce the traffic demand on road. In Fanling North and Ping Che/Ta Kwu Ling NDAs, high quality local feeder services to the Fanling and Sheung Shui MTR Stations are recommended to encourage the use of rail-based transport mode. Public transport interchanges and a road-based EFTS depot have also been proposed in the RODPs.

PROPOSED CYCLING AND PEDESTRIAN NETWORKS

Proposed Cycling Network for NDAs

The report has proposed a cycling network and facilities for NENT NDAs. Connectivity, safety and sufficiency of these facilities are the basic principles considered in formulating the network. The proposed cycle track network will connect the existing cycle track network in Fanling/Sheung Shui New Town, as well as the proposed cycle track network in Northeast New Territories and Northwest New Territories. Cycle parking facilities are proposed at the Kwu Tung railway station and other major destinations to encourage cycling. Land for recreational cycle park with rental kiosks and resting station for leisure cycling purpose has also been reserved in the NDAs under the RODPs.

Pedestrian Strategy

The report has formulated the pedestrian network within each NDA. Emphasis has been put on the connectivity with the existing new town and villages in the surrounding. It aims to reduce the number of short motorised trips and the conflict between pedestrians and vehicles with a view to increasing mobility, enhancing road safety and improving pedestrian environment in general. A three-zone concept (through zone, road amenity zone & frontage zone) is adopted in designing the footpath. The roadside amenity zone provides sufficient space for tree planting to promote the green environment of NENT NDAs. At-grade crossings, footbridges and subways are proposed in accordance with the local circumstances.

CONCLUSIONS

The traffic and transport assessment has confirmed that with the proposed highway improvement, the highway system can address the traffic demand from the NDAs. Flexibility for environmentally friendly transport mode has been allowed. Proposals for the public transportation, cycling and pedestrian networks have also been put forward. It is concluded that the NDAs Development is technically feasible from traffic and transportation point of view.