

Appendix 9.3

Comparison of Assumptions of 2009-based and 2011-based TPEDM

Comparison of the impacts to SSTI between 2009-based and 2011-based TPEDM

1. Introduction

The Sewerage and Sewage Treatment Implication (SSTI) section is to present the findings and recommendations of the assessment of impacts on the public sewerage, sewage treatment and disposal facilities arising from the Project. The SSTI section of this project would assess the impacts on the existing sewerage system which connects between the designated manhole collecting the discharge from the Airport and Siu Ho Wan Sewage Treatment Works (SHWSTW) via Tung Chung Sewerage Pumping Station (TCSPS). Therefore, the sewage flow estimation in the concerned catchment area in this section has been carried out based on the population data from 2009-based Territorial Population and Employment Data Matrix (TPEDM).

With the release of the latest 2011-based TPEDM in July 2013, there has been a review process to consider if the SSTI section should be updated with an update set of traffic data developed from 2011-based TPEDM. A review of investigating the impact of the two sets of planning data has been carried out. This appendix is to compare the difference of population forecast between 2009-based TPEDM and 2011-based TPEDM and recommend which set of planning data is the most suitable to be adopted in the SSTI section.

2. Comparison of Development Assumption adopted in 2009-based, 2011 based TPEDM and this SSTI section

There are some development planning assumption adopted in SHWSTW works catchment area in both the 2009-based and 2011 based TPEDM as summarised in Table 2.1.

Table 2.1

Development	Assumptions		Adoption of Updated Assumption in this SSTI
	2009-based	2011-based	
The Airport	Provided by AAHK in March 2011	Provided by AAHK in July 2012 and March 2013 and the Legislative Council Panel on Economic Development Paper No. CB(1)1368/11-12(02) dated 26.3.2012	The planning data of the Airport has been extracted in both versions of TPEDM and superseded by the latest planning information from AAHK.
Lantau Concept Plan	Based on the Revised Concept Plan for Lantau released in May 2007, and on-going projects being pursued by CEDD	Based on the Revised Concept Plan for Lantau released in May 2007, and on-going projects being pursued by CEDD	NA
Tung Chung New Town	Based on best in-house estimate	Reference made to the Tung Chung New	The population planning data of the Tung Chung Remaining

Extension		Town Study Extension Agreement CE32/2011(CE)	Development in 2009-based and 2011-based TPEDM has been excluded in our estimation. And the updated assumption from Agreement CE32/2011 (CE) has been incorporated into this study.
Public Housing Development in Tung Chung Area 56 and Are 39	Included	Included as same in 2009-based TPEDM	According to the Paper No. IDC/2013 from the Islands District Council from PlanD, the proposal for housing development in Tung Chung Area 39 was revised by increasing 1000 nos. of unit. The revised proposal has been incorporated in this study.

Based on the comparison in the table above, there should be no difference between 2009-based and 2011-based TPEDM in view of the planning assumptions for the major developments within the sewerage catchment of SHWSTW because these kinds of planning assumption or data have been superseded by the latest updated assumptions received from the AAHK and relevant government authorities.

In conclusion, the majority of the planning assumptions adopted within the sewerage catchment of SHWSTW have been updated and delinked from the 2009-based and 2011-based TPEDM for this assessment.

3. Comparison between 2009-based and 2011-based TPEDM

The population forecast for residential, employment and school places (contributors of sewage estimation) has been compared based on the 2009-based and 2011-based TPEDM. The original assumptions in 2009-based and 2011-based are superseded by the updated assumptions as highlighted in Table 2.1. A summary table showing the population comparison for the SHWSTW's sewerage catchment extracted and estimated from 2009-based and 2011-based TPEDM for Year 2011, 2016, 2021, 2026, 2036 is presented in Table 3.1.

Table 3.1- Comparison of 2009-based and 2011-based TPEDM for SHWSTW sewerage catchment

Year	Summation of Residential, Employment and School Population		% Change 2011b/2009b
	2009-based	2011-based	
2011	140,100	129,900	-7.3%
2016	157,500	141,100	-10.4%
2021	202,000	178,500	-11.6%
2026	236,800	218,500	-7.7%
2031	254,200	232,900	-8.4%
2036	272,300 ^b	246,600	-9.4%

Note:

a. All population is rounded to the nearest hundred.

b. The population of Year 2036 of 2009-based TPEDM is extrapolated from the Year 2026 and Year 2031.

As shown, the summation of residential, employment and school population extracted from and estimated by 2009-based TPEDM for Year 2011, 2016, 2021, 2026, 2031 and Year 2036 is generally higher than that by 2011-based TPEDM. Therefore, it is

anticipated that the adoption of 2009-based TPEDM for sewage estimation would be more conservative.

4. Conclusion

A comparison of population forecast between the 2009-based TPEDM and 2011-based TPEDM within the SHWSTW's sewerage catchment has been conducted for Year 2011, 2016, 2021, 2026, 2031 and 2038. The comparison reveals that the summation of residential, employment and school population within the SHWSTW's sewerage catchment under 2011-based TPEDM are generally less than that according to 2009-based TPEDM.

In addition, the major planning assumptions within the sewerage catchment of SHWSTW including airport development and Tung Chung development have been delinked from the 2009-based and 2011-based TPEDM and the updated assumptions as advised by the AAHK and relevant Government Authorities have been adopted.

Based on the above discussion and the result comparison, it is considered that the adoption of 2009-based TPEDM with updated planning assumptions for sewage estimation would be slightly greater than that under 2011-based TPEDM. The difference is minor and the adopted population forecast of 2009-based TPEDM should be more conservative. It is therefore concluded that the sewage estimation under the 2009-based TPEDM should be adopted in this Sewerage and Sewage Treatment Implication (SSTI) section.