Public Works Subcommittee Meeting on 29 February 2016
List of issues requiring follow-up actions by the Administration before the relevant meeting of the Finance Committee

Item PWSC (2015-16)55
786CL – Tung Chung New Town Extension

1. At the request of Subcommittee members, the Administration will provide information about the planning for provision of markets including public markets operated by the Food and Environmental Hygiene Department (FEHD) or the Housing Department in the Tung Chung New Town Extension (TCNTE).

The Administration's response is as follows:

With reference to the Hong Kong Planning Standards and Guidelines (HKPSG), a policy review conducted in 2007 by the Food and Health Bureau (FHB) and FEHD concluded that the future provision of new markets should be considered on a case-by-case basis to ensure the efficient use of public resources. There are at present market facilities and other fresh provision retail shops in the Tung Chung New Town such as the public wet markets in Yat Tung Estate and Fu Tung Estate. Two new public wet markets are to be further provided within public housing developments in Areas 56 and 39 of Tung Chung, which are under construction for completion by 2016 and 2018 tentatively. As market facilities and other fresh provision retail shops already exist in the Tung Chung New Town, and taking into account the the actual situation in Tung Chung, FHB/FEHD currently has no plan to set up new public market in TCNTE.

Notwithstanding the above, sites have already been reserved in TCNTE for possible development of a myriad of government, institution and community (GIC) facilities in which public markets are always permitted and could be developed should the need arises. Besides, retail facilities including markets could also be provided at "Residential (Group A)" (R(A)) sites for both public and private housing developments. In the

implementation stage of TCNTE, relevant bureaux and departments will be invited to further examine the need to provide public markets, other market facilities and retail shops to meet local needs at the reserved GIC sites and the R(A) sites.

2. At the request of Hon CHAN Han-pan, the Administration will provide information on -

(a) the distribution of the 10 000 car parking spaces to be provided in TCNTE; and

The Administration's response is as follows:

The car parking provisions within TCNTE are proposed in accordance with the HKPSG. A total of about 12 000 car parking spaces (including car parking spaces for private cars, motorcycles, light goods vehicles and loading/unloading bays) altogether would be provided within individual developments of TCNTE, including about 9 000 car parking spaces in Tung Chung East and about 3 000 car parking spaces in Tung Chung West.

(b) whether the number of the above car parking spaces will be adjusted to cater for the increasing demand of the residents.

The Administration's response is as follows:

The Government has always been adopting a policy that is centred on public transport by maintaining a public transport system with wide coverage, high efficiency and diversity. TCNTE will be mainly supported by railway transport. Members of the public are encouraged to make good use of the public transport instead of private cars. Notwithstanding, adequate car parking spaces will be provided in individual developments in accordance with the HKPSG and on the advice of the Transport Department to meet district demand. If the road traffic condition in the vicinity of the development warrants, private developer will be requested to provide additional number of public parking spaces in the new development, as appropriate. The Government would also consider allocating suitable sites which have

no imminent development plan for use as temporary car parks to address short-term parking demand within the district if considered necessary. Additional on-street parking spaces for different vehicle types will also be provided to meet short-duration parking needs provided that the road traffic would not be adversely affected.

3. At the request of Hon TANG Ka-piu, the Administration will provide information on -

(a) the plan and timetable for the construction of the extension of the MTR Tung Chung Line (TCL) and the two new railway stations at Tung Chung East and Tung Chung West; and

The Administration's response is as follows:

According to the Railway Development Strategy 2014 (RDS-2014) announced by the Transport and Housing Bureau (THB) in September 2014, it is planned to extend the existing MTR TCL westward with a new station at Tung Chung West. An indicative implementation programme, subject to detailed studies and availability of resources, in around 2020 to 2024 has also been noted in RDS-2014.

The TCNTE Study also recommends a new Tung Chung East railway station. During the detailed design stage of the TCNTE project, the Development Bureau and the Civil Engineering and Development Department will continue to liaise with the relevant parties including THB, the Highways Department and the MTR Corporation Limited with a view to facilitating the implementation of the new Tung Chung East railway station in a timely manner to meet the development needs of TCNTE.

(b) the figures for the concentrations of air pollutants, including ozone, carbon monoxide and respirable suspended particulates (both PM_{10} and $PM_{2.5}$), detected in the air in Tung Chung New Town over the past 10 years.

The Administration's response is as follows:

According to the air quality monitoring data recorded at Environmental Protection Department (EPD)'s Tung Chung Air Quality Monitoring Station (AQMS), the concentrations of various air pollutants over the past 10 years (i.e. 2006 – 2015), including nitrogen dioxide, ozone, carbon monoxide, respirable suspended particulates (RSP) or PM_{10} and fine suspended particulates (FSP) or $PM_{2.5}$ relative to the respective Hong Kong Air Quality Objectives, are graphically presented in **Attachment 1**.

It should be noted that EPD's air quality monitoring data for the entire year 2015 was not available at the time when the Environmental Impact Assessment (EIA) Report was prepared, and only data up to year 2014 was presented in the EIA Report of TCNTE. To reflect the latest trend of different air pollutants over the past 10 years as requested by the Subcommittee, the monitoring data up to December 2015 is adopted in this submission.

4. At the request of Hon Albert CHAN, the Administration will provide information on -

(a) the estimated traffic volumes in Tung Chung and in Lantau upon the commissioning of the Hong Kong-Zhuhai-Macau Bridge (HZMB) (while the project of the third runway of the Hong Kong International Airport (the Airport) is underway);

The Administration's response is as follows:

The estimated peak hour traffic flows in HZMB, Tung Chung and North Lantau in year 2021 upon the commissioning of the HZMB and before the commissioning of the third runway of the Airport are shown in **Table 1** below. In the year 2021 scenario, both the projects of the third runway and TCNTE would be underway.

Table 1 Estimated Peak Hour Traffic Flow in Year 2021

Major Roads		Design Capacity (passengers car unit per hour) (pcu/hr)	Traffic Flow Forecast in 2021 (pcu/hr)	
			AM	PM
HZMB	E/B	6 100	900	1 250
	W/B		1 250	1 150
Ying Hei Road	E/B	3 200	200	150
	W/B		200	150
Yi Tung Road	S/B	3 200	200	250
	N/B		250	200
Shun Tung Road	E/B	2 800	750	750
	W/B		950	700
Tung Chung Road	E/B	1 160	50	100
	W/B		100	100
North Lantau Highway (East of Tai Ho)	E/B	6 100	3 200	3 350
	W/B		3 650	3 400

Note: E/B, W/B, S/B and N/B stand for eastbound, westbound, southbound and northbound traffic respectively.

(b) according to the results of the wind tunnel tests conducted, the areas with the highest concentrations of air pollutants (including respirable suspended particulates) in Tung Chung during the period from 12:00 noon to 2:00 pm; and

(c) the figures of concentrations of air pollutants detected in the areas referred to in (b);

The Administration's response is as follows:

The concentrations of air pollutants are assessed in the air quality impact assessment under the EIA instead of the wind tunnel tests under the Air Ventilation Assessment (AVA). The AVA only reveals the ventilation circulation performance within the Project boundary. With reference to the Hong Kong Air Quality Objectives (AQOs) and the Technical Memorandum on EIA Process, concentrations of RSP

and FSP are assessed in the EIA Study on a 24-hour basis rather than on an hourly basis. Accordingly, only the results on the 10th highest 24-hour average concentrations and annual average concentrations of RSP and FSP are presented in the EIA Report for comparison with the respective AQOs. Projected pollutant concentration during a particular time interval such as the period from 12:00 noon to 2:00 pm only represents a part of the assessment data for determination of the air quality impact. Hence, quoting such incomplete information in isolation could lead to a misleading impression about the air quality assessment for TCNTE.

To illustrate the air quality in Tung Chung, the predicted air pollutant concentrations at various locations in Tung Chung in the worst assessment year of year 2023 are presented in **Attachment 2**. Assessment result shows that the air pollutant concentrations in this worst assessment year comply with the AQOs.

(d) the respective numbers of aircraft movements during the period from 00:00 am to 7:00 am that would generate noise exceeding (i) 75 decibels (dB), (ii) 80 dB, (iii) 85 dB, in the residential areas in Tung Chung East; and

The Administration's response is as follows:

For aircraft noise impact assessment, Noise Exposure Forecast (NEF) contour (instead of operational noise level measured in dB at specific location) is an internationally recognised standard and has therefore been adopted as the standard in the Technical Memorandum on EIA Process. Based on the aircraft noise impact assessment under the EIA of the Three-Runway System (3RS) of the Airport carried out by the Airport Authority Hong Kong, the predicted NEF 25 contours of the 3RS would be shifted away from TCNTE upon the commencement of operation of the 3RS.

(e) the names of international airports which adopt the NEF 25 contour in respect of daily average noise level as the standard for assessing the noise impact arising from aircraft operations.

The Administration's response is as follows:

The evaluation of aircraft noise impacts was conducted in accordance with guidelines set out by the International Civil Aviation Organisation and the U.S. Federal Aviation Administration. NEF is a criterion which takes into account duration of flyover, peak noise level, tonal characteristics and number of aircraft movements in daytime and night-time period. For the development of the new airport at Chek Lap Kok, the HKPSG stipulates a more stringent criterion of NEF 25 contour (as compared to NEF 30 contour for the Kai Tak Airport) for planning of noise sensitive land uses. This criterion is in line with the international standards adopted by developed countries. For Singapore Changi Airport, NEF 35 contour (much less stringent than NEF 25 contour) is adopted as the limit for residential developments. For airports in Canada, Transport Canada recommends that where NEF contour exceeds 30, new residential development should not proceed. For airports in Australia, the Australian NEF, which is modified from the NEF system to suit the Australian conditions and is comparable to NEF 25 contour, is adopted. For airports in the US, the Day-Night Average Sound Level (DNL) is adopted and residential use has been identified as normally compatible with noise levels less than DNL 65, corresponding to NEF 30 contour.

5. The Administration has advised that by 2036, the passenger number for the MTR TCL is estimated to be 19 500 per hour, with 3% from the commissioning of the third runway and 7% from the commissioning of HZMB. At the request of Hon Michael TIEN, the Administration will provide information on the basis of the aforementioned estimation.

The Administration's response is as follows:

An additional population of about 144 400 is proposed for the TCNTE while the existing Tung Chung New Town could accommodate a planned population of 44 000 on top of the existing population of about 80 000. The total population of Tung Chung New Town after completion of its extension in the long term is expected to be about 268 400. The patronage forecast was estimated by a four-stage computer transport modelling process adopting the Tung Chung New Town planning parameters, as well

as other potential development parameters.

The assessment results show that the peak patronage of TCL will reach 19 500 passenger per hour per direction (pphpd) (from Sunny Bay to Tsing Yi) in 2036[1]. According to the model patronage projection, the forecast of 19 500 pphpd (during morning peak hours) includes about 3% of patronage from the Airport under 3RS, and around 7% from HZMB Boundary Crossing Facilities (BCF) and topside development at BCF Island.

The 19 500 pphpd of TCL patronage in the urban direction during the morning peak hours will mainly come from the residential development in Tung Chung and other areas of Lantau. The trips generated from the Airport, HZMB BCF and topside development at BCF Island towards the urban area will account for only about 10% of the total TCL traffic in that direction, as trips mainly go in the reverse direction (i.e. from the urban area towards the commercial developments at the Airport and HZMB) in the morning.

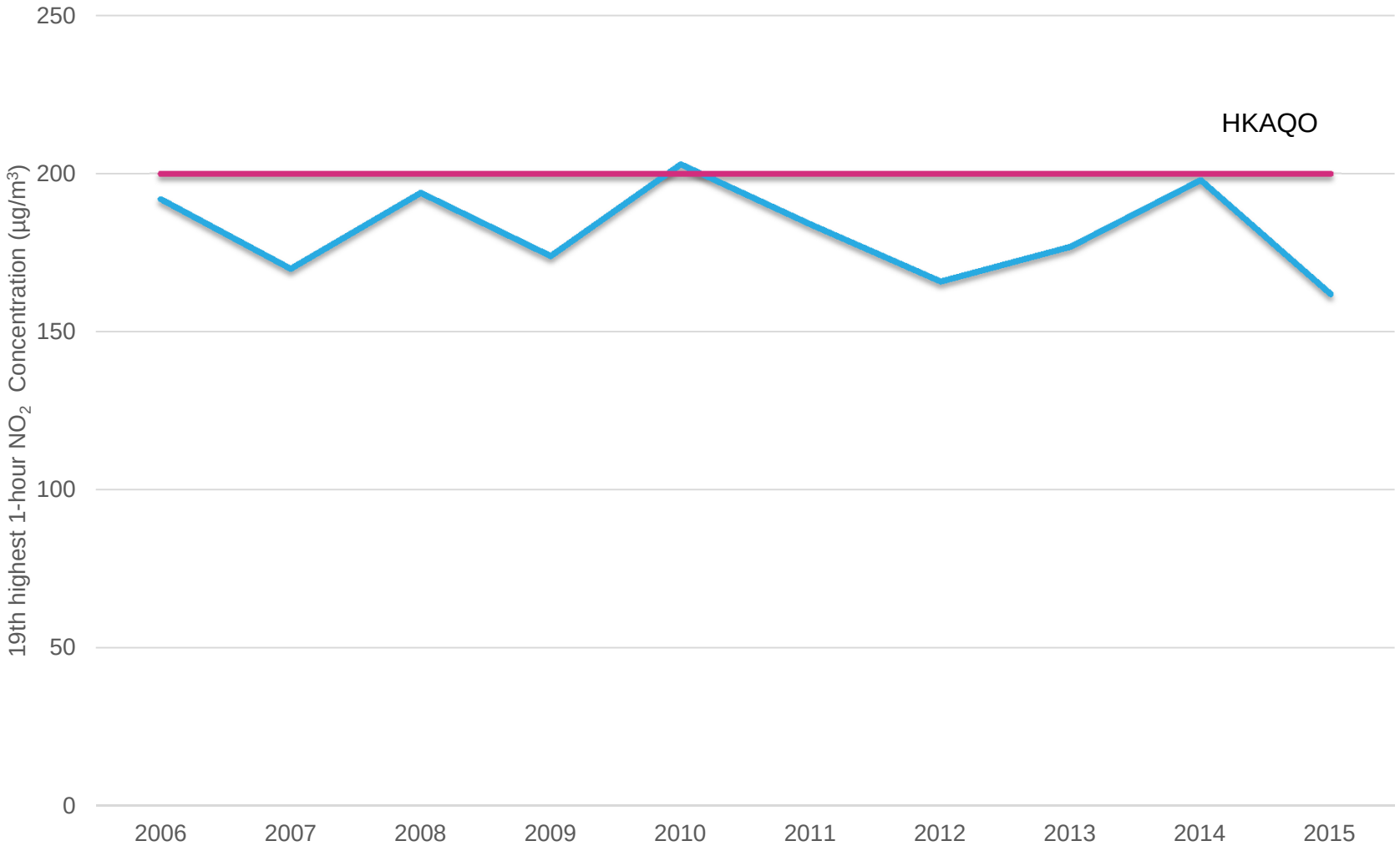
Development Bureau
Planning Department
Civil Engineering and Development Department
May 2016

[1] TCL can be divided into two sections, i.e. from Tung Chung to Tsing Yi and from Tsing Yi to Hong Kong. The peak patronage in 2036 for the former section will reach 19 500 pphpd (from Sunny Bay to Tsing Yi) and that for the latter section will reach 41 700 pphpd (from Kowloon to Hong Kong).

Attachment 1

Air Quality Monitoring Data at Tung Chung AQMS in the Past 10 Years

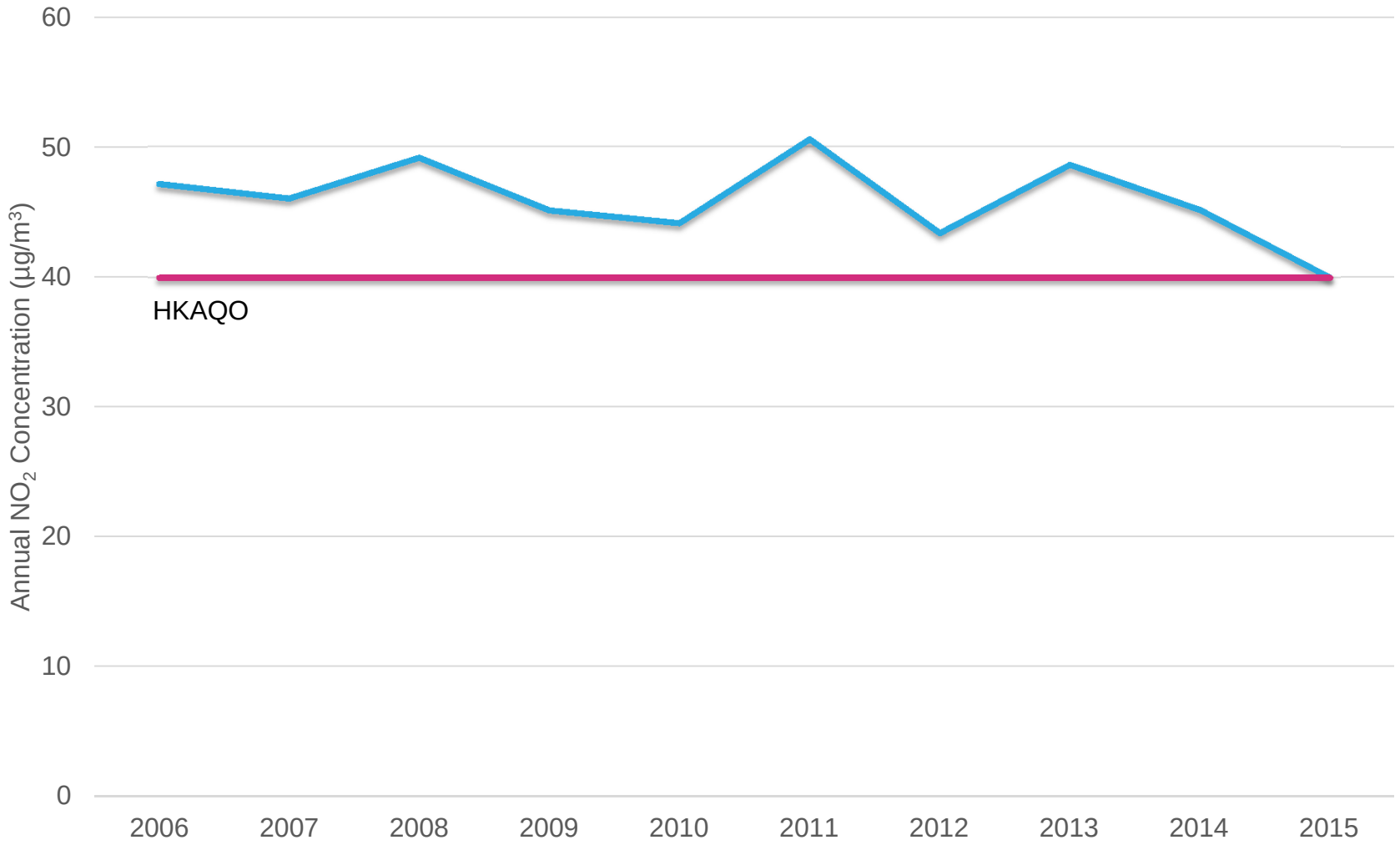
19th highest 1-hour NO_2 Concentration



Note: Only <u>preliminary</u> air quality monitoring data for Year 2015 is available

Air Quality Monitoring Data at Tung Chung AQMS in the Past 10 Years

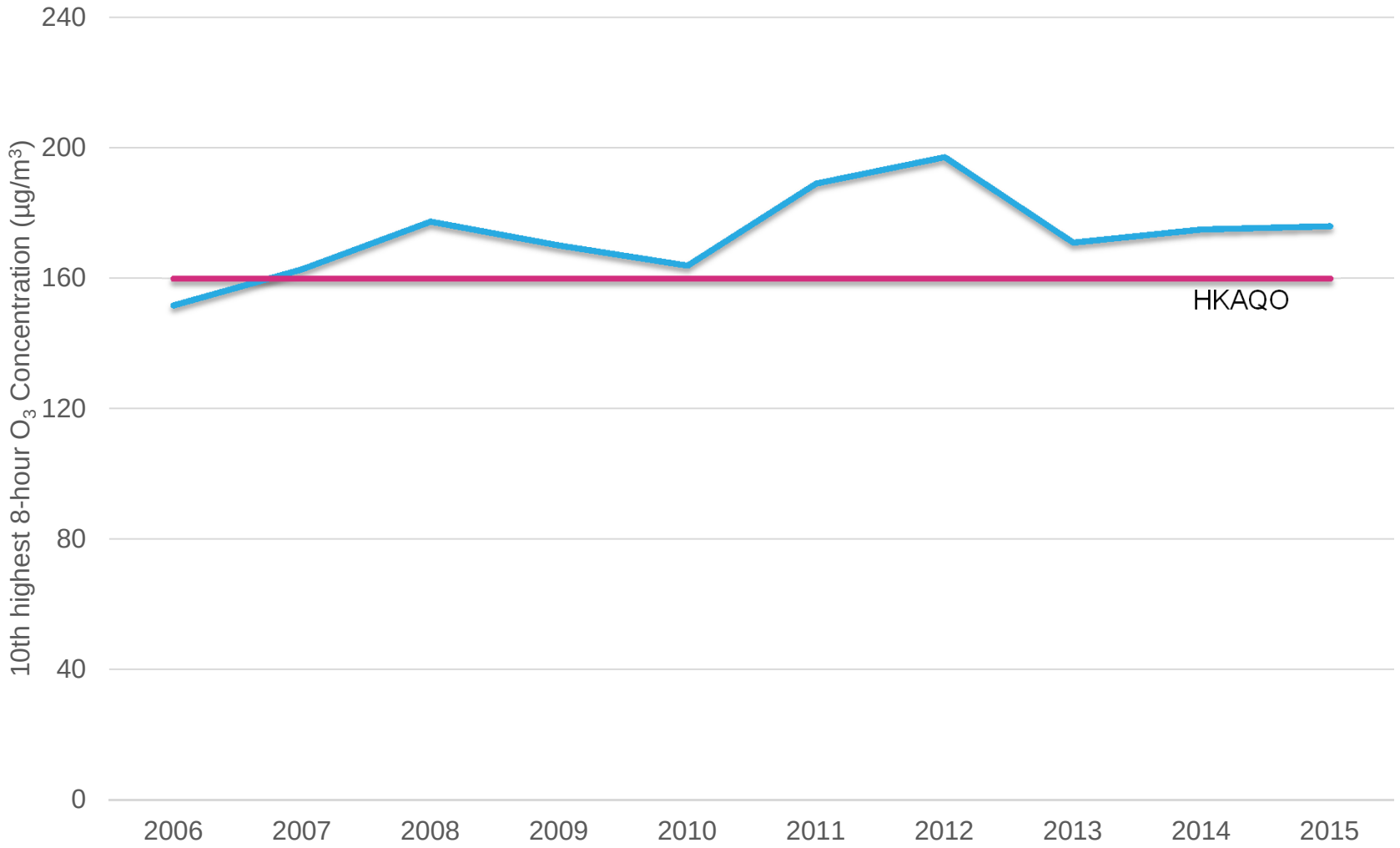
Annual NO_2 Concentration



Note: Only <u>preliminary</u> air quality monitoring data for Year 2015 is available

Air Quality Monitoring Data at Tung Chung AQMS in the Past 10 Years

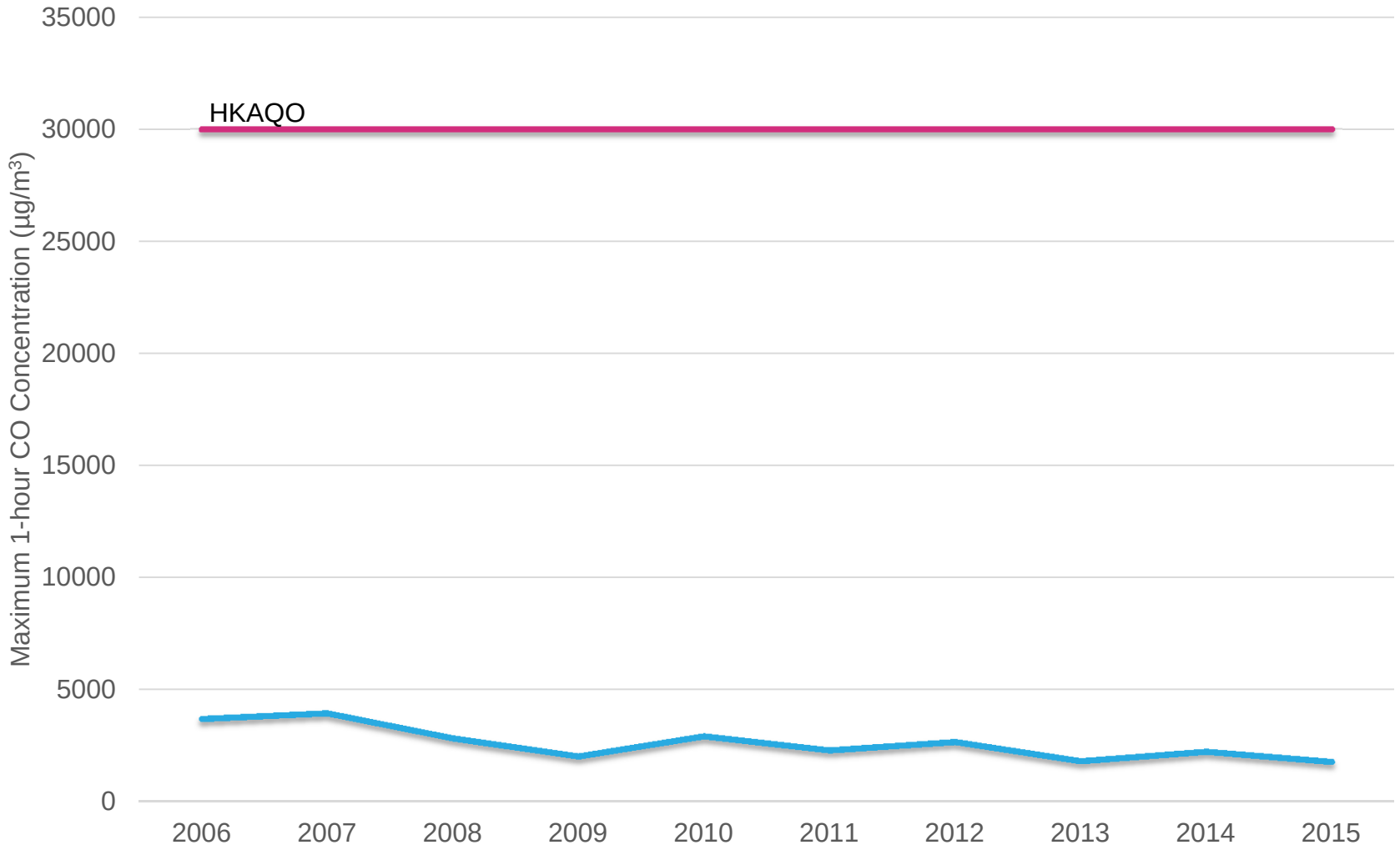
10th highest 8-hour O_3 Concentration



Note: Only preliminary air quality monitoring data for Year 2015 is available

Air Quality Monitoring Data at Tung Chung AQMS in the Past 10 Years

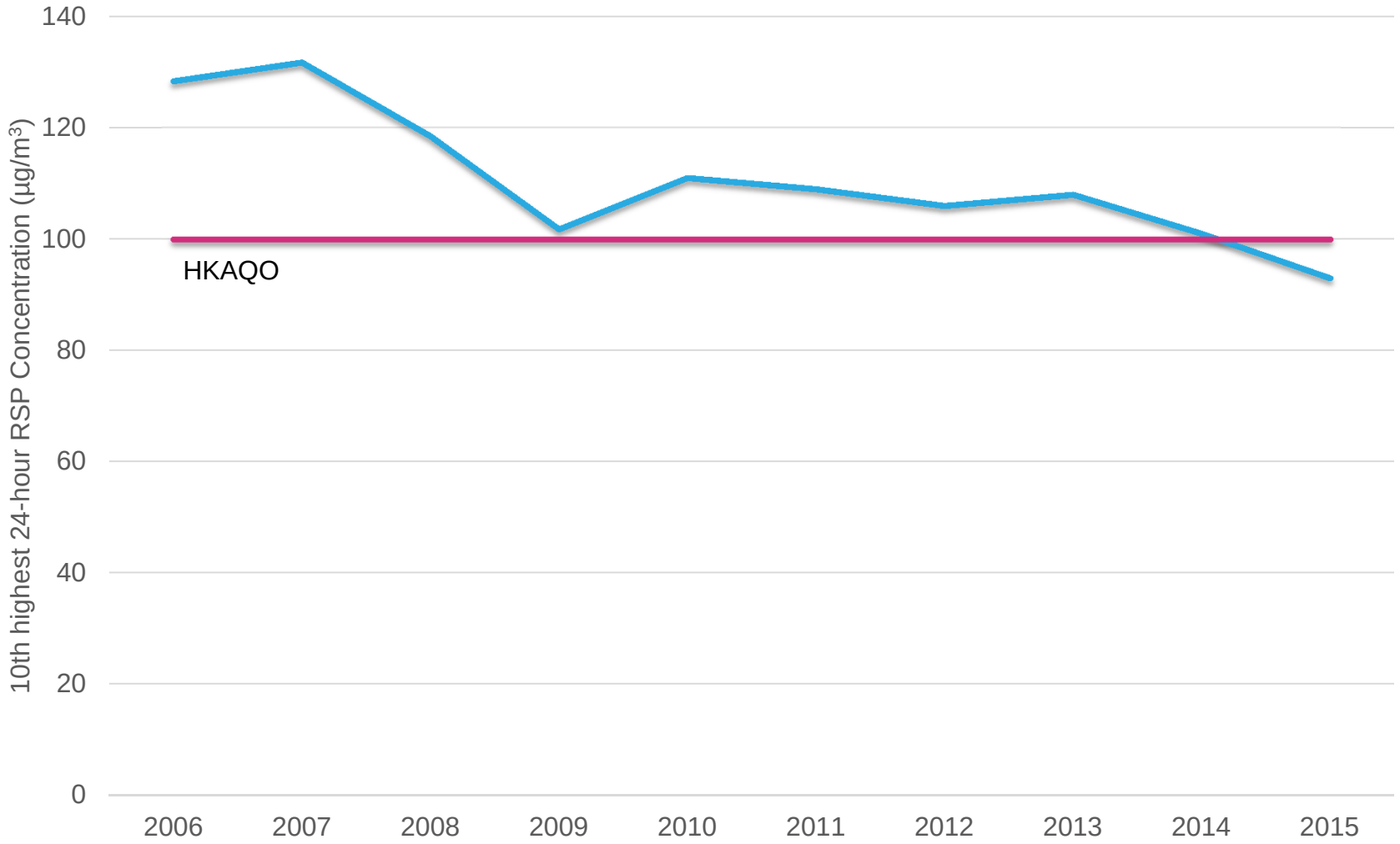
Maximum 1-hour CO Concentration



Note: Only preliminary air quality monitoring data for Year 2015 is available

Air Quality Monitoring Data at Tung Chung AQMS in the Past 10 Years

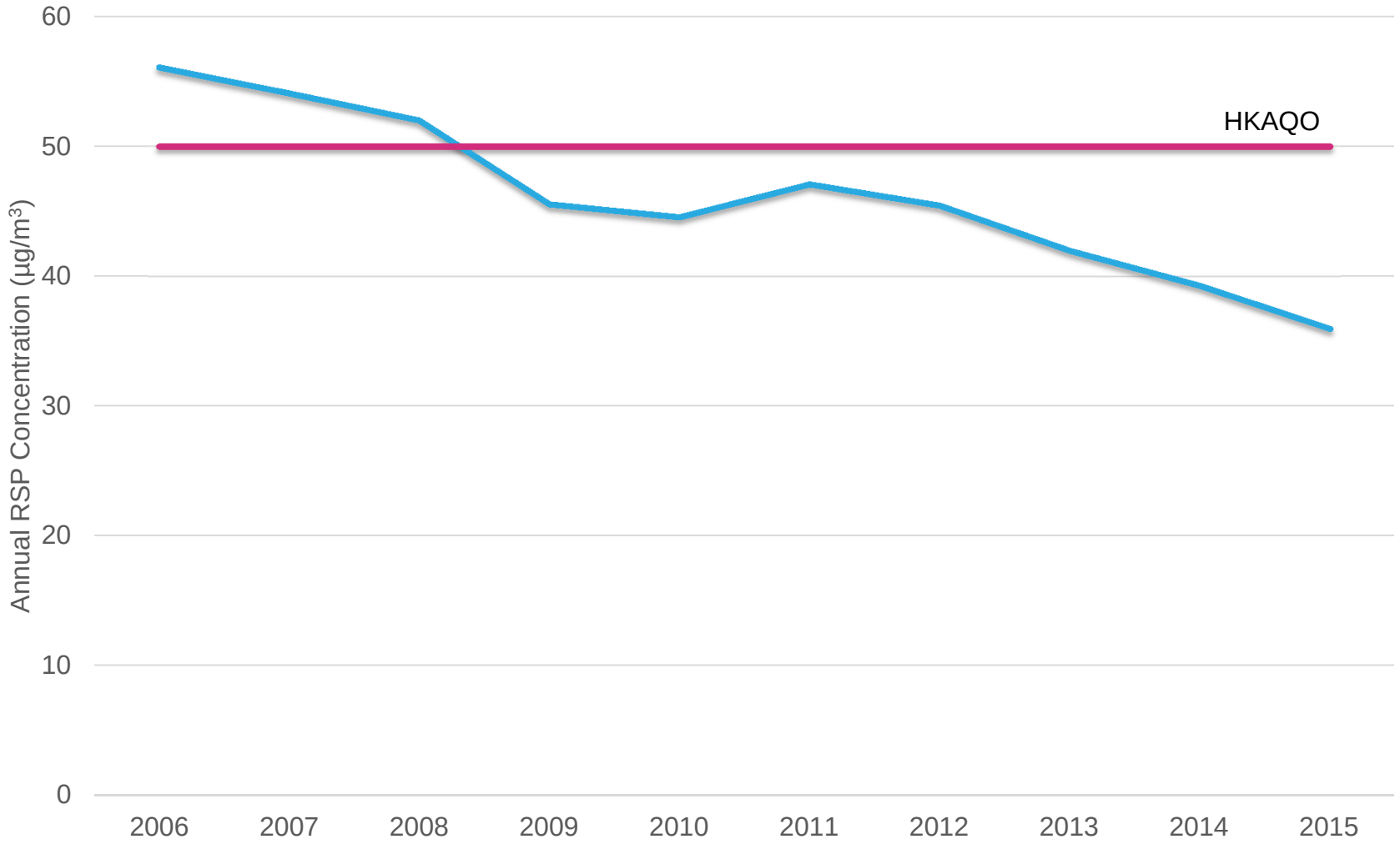
10th highest 24-hour RSP Concentration



Note: Only preliminary air quality monitoring data for Year 2015 is available

Air Quality Monitoring Data at Tung Chung AQMS in the Past 10 Years

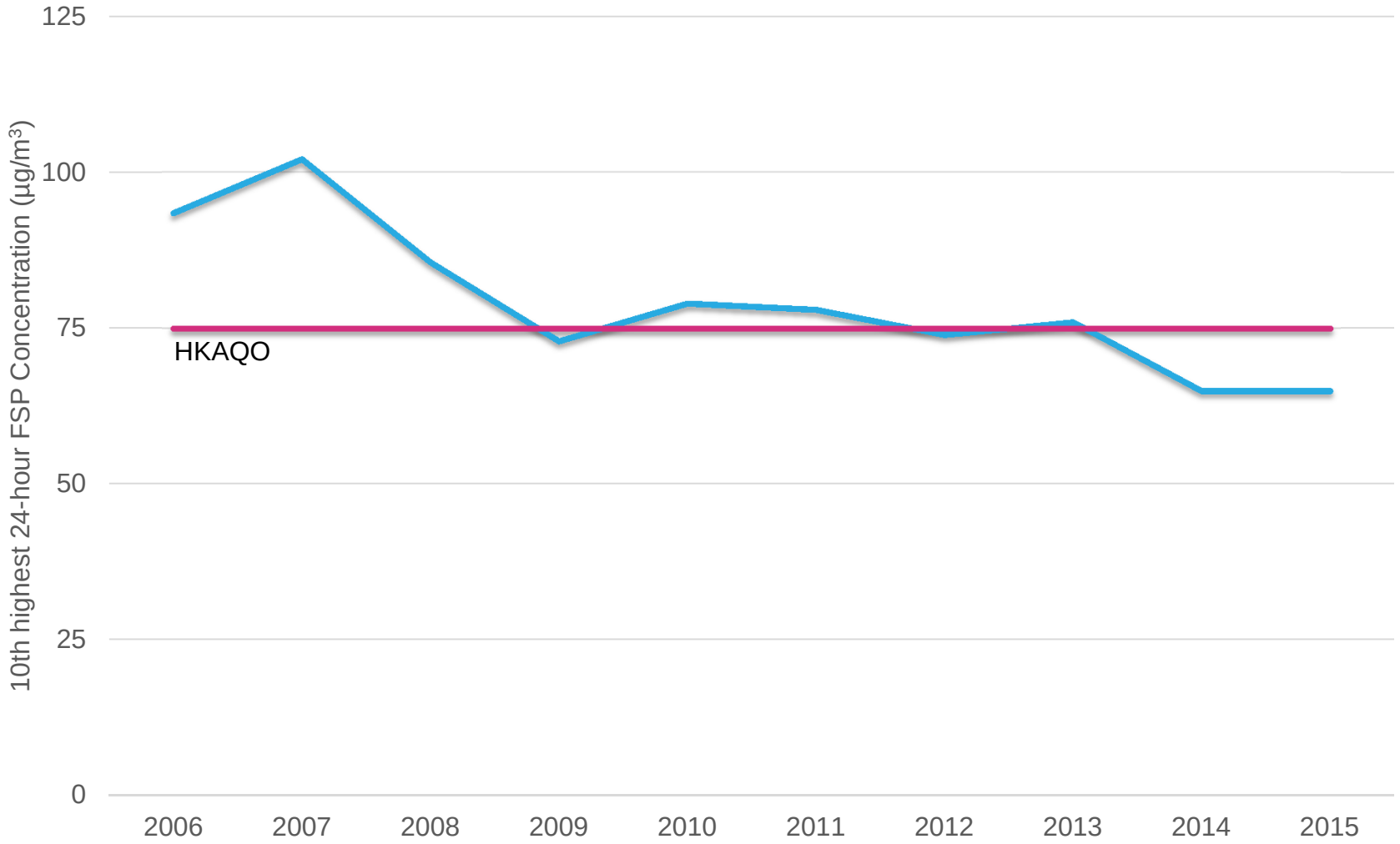
Annual RSP Concentration



Note: Only <u>preliminary</u> air quality monitoring data for Year 2015 is available

Air Quality Monitoring Data at Tung Chung AQMS in the Past 10 Years

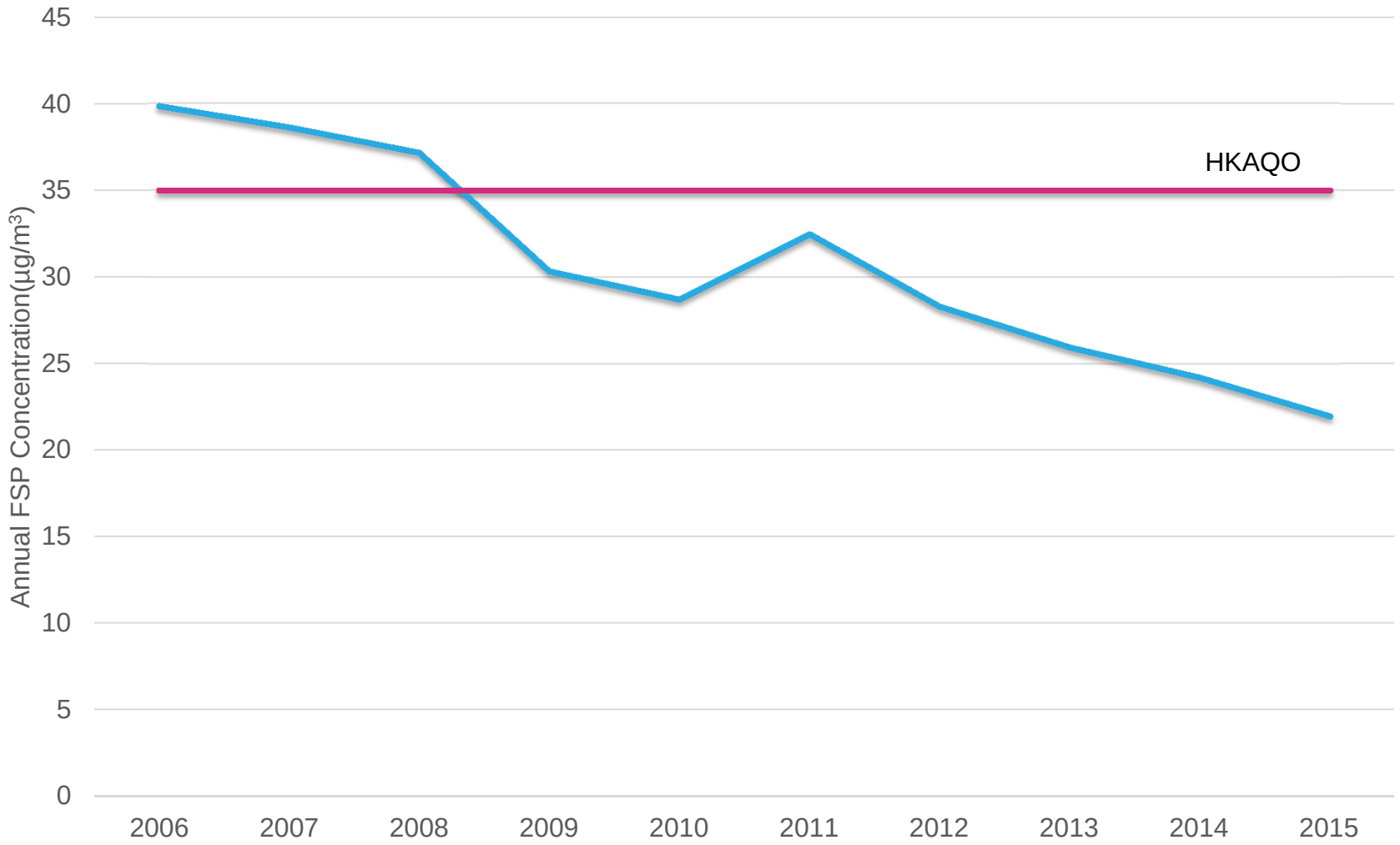
10th highest 24-hour FSP Concentration



Note: Only preliminary air quality monitoring data for Year 2015 is available

Air Quality Monitoring Data at Tung Chung AQMS in the Past 10 Years

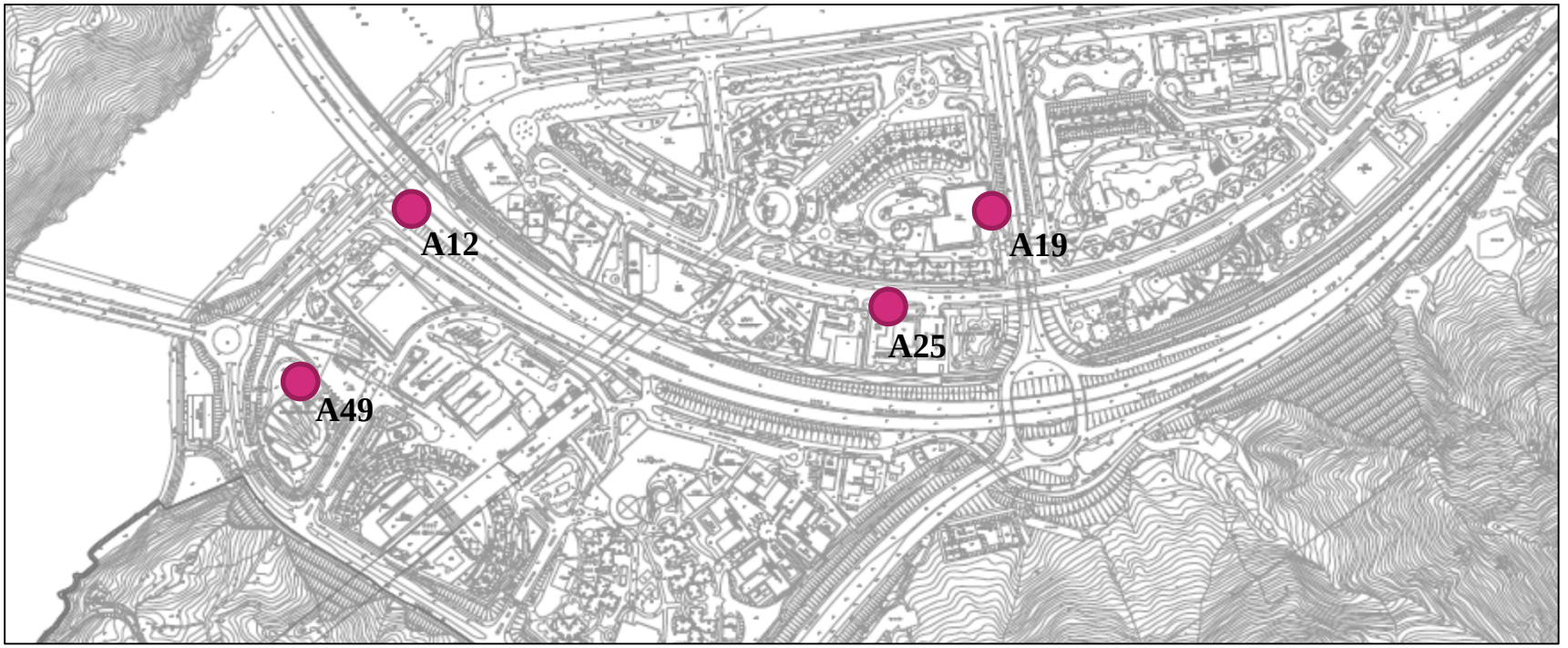
Annual FSP Concentration



Note: Only preliminary air quality monitoring data for Year 2015 is available

Attachment 2

Predicted Air Pollutant Concentration (Year 2023)



ASR	Description	Annual NO_2	10th highest 24-hour RSP	10th highest 24-hour FSP
A12	Tat Tung Road Park	33	78	58
A19	Coastal Skyline Block 1	31	77	58
A25	Ling Liang Church Sau Tak Primary School	32	77	58
A49	Tung Chung Swimming Pool	36	77	58
	AQOs	**40**	**100**	**75**