

**Legislative Council**  
**Panel on Development**

**Addressing the “Wall Effect” in Developments**

**Purpose**

This paper informs Members of the measures that have been implemented to address the “wall effect” in developments. It also focuses on the various items raised in the letter from the Clerk to Panel dated 3 January 2008.

**Background**

2. Hong Kong is a highly compact city and there is naturally a strong desire to put the scarce land resources to optimal use. Given the hilly topography and the need to minimize encroachment into the countryside, we have, out of necessity, resorted to a compact form of development to cater for the housing and social needs of our population and economic growth. With this mode of development, we have been able to maximize efficiency in terms of utilization of land as well as the provision of needed infrastructure, such as sewerage, power supply and mass transport. More compact urban development also has the advantage of reducing traveling time and cost from home to workplace, as employment opportunities still tend to be concentrated in the more urbanized areas.

3. As our development matures and with our community becoming more aware of our cityscape, the effect of high-rise and high-density development is more keenly felt. At the same time, there is growing community aspiration for a better living and working environment. The community is particularly concerned about the design, layout, massing, permeability and connectivity of development as well as provision of open space which directly affect both the quality and character of the surrounding area. More recently, calls for action to prevent developments creating the “wall effect” are more widely heard. While there is no particular definition of the “wall effect”, this phenomenon generally refers to high density and compact building bulk affecting

ventilation to residents living in the vicinity. Our challenge is to balance the social, environmental and economic needs of the community in order to support our future growth and yet achieve a quality environment to meet the community aspiration. Constrained by existing street layout and private property interests, it is not always possible to re-plan our old urban fabric to meet new expectations. However, there is scope to apply new planning measures to address the concern to a certain extent.

### **Promoting Sustainable and Balanced Developments**

4. Over the years, we have put forward various planning measures to promote sustainable planning and building designs to achieve our planning goal. Among these measures are the promulgation, and regular updating, of the Hong Kong Planning Standards and Guidelines (HKPSG) which set out the criteria for determining the scale, location and site requirements of various land uses and facilities, including the standards for residential densities, open space and greening provisions.

5. In 2003, after thorough public consultation, we introduced the Urban Design Guidelines setting out the major urban design considerations and the broad framework for urban design assessment in the HKPSG. The considerations include general massing and disposition of buildings, stepped height profile for the protection of the ridgelines and the harbour view, provision of breezeways, view corridors, setback of buildings at street level, etc. In accordance with the Urban Design Guidelines, in the planning of new development, due regard needs to be given to the layout and disposition of buildings; the possible impact on the surrounding areas, particularly those in respect of visual quality and air ventilation will also need to be assessed.

6. In the Team Clean report published in August 2003, we undertook to examine the practicality of stipulating air ventilation assessment (AVA) as one of the considerations for all major development or redevelopment proposals in future planning. In the “First Sustainable Development Strategy for Hong Kong” promulgated by the Office of the Chief Secretary for Administration in May 2005, a strategic objective to promote sustainable urban planning and design practices was set out

amongst other objectives with special regard to issues such as buildings affecting view corridors or restricting air flow.

7. A “Feasibility Study for Establishment of AVA System” (AVA Study) was commissioned by the Planning Department (PlanD) in 2003. Following the completion of the AVA Study in late 2005, the performance-based AVA methodology and a set of qualitative guidelines to achieve better air ventilation objectives were incorporated in the HKPSG and promulgated in August 2006.

## **Measures**

8. In July 2006, the then Housing, Planning and Lands Bureau and the then Environment, Transport and Works Bureau jointly issued a Technical Circular specifically on air ventilation assessments (Technical Circular). Under this Technical Circular, air ventilation is formally recognized as one of the considerations in the planning of major development and redevelopment proposals. Proponent departments / bureaux or authorities responsible for major government projects are required to undertake AVA and ensure that air ventilation impact is given due consideration in the planning and design of the projects.

9. The promulgation of this Technical Circular demonstrates the Administration's resolve to take the lead in undertaking AVA in the planning of major development projects and in plan-making. In addition to the AVA undertaken for the Kai Tak Planning Review, AVA was also conducted for the government sale site at Oil Street, North Point, and for the Central Government Complex at Tamar. AVA will also be conducted for the government sale site at the ex-North Point Estate and the forthcoming Central Reclamation Urban Design Study.

10. The Technical Circular provides a clear framework and timely internal guideline for including AVA in major government projects. We encourage quasi-government organizations and the private sector to include AVA in the planning and design of their projects on a voluntary basis. In the case of redevelopment projects, the Urban Renewal Authority has adopted the guidelines set out in the Technical Circular and conducts AVA for large scale projects under planning, e.g. the Peel Street

/ Graham Street and Lee Tung Street projects and the Kwun Tong Town Centre redevelopment. For railway property development without approved planning schemes (including new railway extensions), the MTRC takes into account the government guidelines on air ventilation in the planning and design of the projects, and conducts AVA for its projects, where required.

### **The 2007-08 Policy Address**

11. In his 2007-08 Policy Address, the Chief Executive (CE) also acknowledged that over the past few years, the public had raised concerns about the “wall effect” caused by high-density buildings, affecting ventilation and leading to a rise in temperature. He said that despite the absence of a scientific definition of the “wall effect”, we believed that a slight reduction of development density could increase the distance between buildings and upgrade building design. This would enhance the vista of the buildings and improve ventilation.

12. To meet the CE’s pledge for a quality city environment, PlanD, under the steer of the Development Bureau, has commenced the review of outline zoning plans (OZPs) of various districts in a gradual and prioritized manner and, where justified, will revise the relevant planning parameters to lower the development density. We are also reviewing the approved schemes of above-station property development projects at the Nam Cheong Station and the Yuen Long Station along the West Rail, with a view to lowering their development densities. We have recently reviewed the development densities and building heights permissible for a number of Government sale sites. The Town Planning Board (TPB) has also taken the initiative of reviewing and amending OZPs to incorporate suitable planning parameters that best serve our planning intention in guiding future developments and meeting the aspiration of the community. Such measures will help address any cases about the “wall effect”.

**Response to the specific points raised in (a) to (f)  
of the letter from Clerk to Panel dated 3 January 2008**

**(a) whether the Government will conduct Air Ventilation Assessment (AVA) in respect of all government sites that have been or are to be included in the Application List; if not, what are the criteria for determining whether an AVA should be conducted for a particular site**

13. Land sale sites included in the Application List have to comply with the land use zonings, planning intentions, development restrictions and other provisions (hereinafter called the requirements) as stipulated on the relevant OZP and approved departmental plans. The Government has observed the Technical Circular on AVA issued in July 2006 in deciding whether to undertake AVA for individual land sale sites from the 2007-08 Application List onwards. Where necessary, we will conduct an AVA to assess the impact of the development on the pedestrian wind environment and include the relevant restrictions in the Conditions of Sale of the land sale site to ensure that air ventilation in the surrounding area would not be adversely affected.

**(b) what development parameters would be included in the Conditions of Sale to prevent a wall effect**

14. There is no standard and precise scientific definition of the “wall effect” but we understand that the public concern on the subject is mainly related to the visual and air ventilation impacts of developments. Before the inclusion of the land sale sites in the Application List, relevant Government departments will ensure that the development of the sites will comply with the requirements of the relevant OZP and approved departmental plans. Appropriate development parameters, for example site coverage, maximum gross floor area/plot ratio, building height, podium size, non-building area, building set-back, etc. will also be specified in the Conditions of Sale, having regard to the site conditions. All these development parameters will be specified in the Conditions of Sale of the land sale sites in the Application List and are uploaded onto the Lands Department (LandsD)’s website, when the sites are ready for application. These measures would help to ensure that the future

development of land sale sites would not cause adverse visual and air ventilation impacts on the surrounding areas.

**(c) for sites to be redeveloped through modification of the lease conditions of the respective lots, what measures the Government can and will take to prevent the new developments from creating a wall effect**

15. Redevelopment of private lots also has to comply with the requirements of the relevant OZP and approved departmental plans. Lease modifications are subject to Government approval.

16. In processing applications for lease modification, relevant Government departments will review the site particulars to ensure that the proposed lease modification will comply with the requirements of the relevant OZP and approved departmental plans. Appropriate development parameters, similar to those for land sale sites as set out in paragraph 14 above, will be included in the lease conditions for the redevelopment to ensure that the proposed redevelopment would not bring about adverse visual and ventilation impacts on the surrounding areas.

17. LandsD circulates lease modification applications to PlanD and other departments concerned for comments. The planning parameters and other requirements as recommended by the departments, including those put forward by PlanD in addressing the “wall effect”, will be reflected in the modified lease, as appropriate.

**(d) what is the present position regarding the planning and design of the property development projects at Nam Cheong and Yuen Long Stations as well as other railway development projects that may potentially be developed into buildings creating a wall effect**

18. The Government is liaising with MTRC on the review of the development density and improvement of the overall layout design of the proposed Nam Cheong Station and Yuen Long Station developments. The reduction in development density will be site-specific, as each site has its own special features and surrounding environment. A

comprehensive design review for the two projects is being conducted by MTRC. Various measures, such as possible reduction in building blocks, review of building heights, adjustment of the building block arrangement, reduction of car parking provisions etc., are under consideration. Various technical assessments, including air ventilation assessment, will be carried out to substantiate technical feasibility of the initial improvement options, before further discussion with the Government, engagement with the local community and revising the Master Layout Plan (MLP) for submission to the TPB.

19. For other existing projects with approved planning schemes, they should be allowed to proceed. For these projects, relevant environmental considerations will have been incorporated in the scheme design, and fine-tuning of schemes will be made at the detailed design stage for continuous design improvement. Projects without approved planning schemes (including new railway extensions) will be planned and designed following the latest planning standards and design guidelines, including the undertaking of air ventilation assessments where required.

**(e) what is the progress of the comprehensive review of the existing Outline Zoning Plans to provide clear development restrictions to guide individual developments**

20. As pledged in the 2007-08 Policy Address, the Government will review the OZPs of various districts in a progressive manner and, where justified, review the relevant planning parameters to lower the development density. Priority is given to reviewing areas with potential land sale sites, areas subject to high development or redevelopment pressure and areas of special setting and character (e.g. areas around Victoria Harbour and within view corridors to important ridgelines) which warrant particular attention. Since December 2006, five OZPs (for North Point, Wong Nai Chung, Homantin, Ma Tau Kok and Yuen Long) have been reviewed and amendments made to incorporate development restrictions. Comprehensive review of 53 other OZPs will be undertaken to incorporate appropriate development restrictions progressively.

**(f) what is the progress of the study on the "Urban Climatic Map and Standards for Wind Environment" which examine, among others, the feasibility of establishing more quantitative criteria/standards in wind environment**

21. The "Urban Climatic Map and Standards for Wind Environment – Feasibility Study" (the Study) aims to prepare an urban climatic map for Hong Kong in which climatically sensitive areas are to be identified from a wind environment perspective. The Study would provide a scientific and objective basis for the formulation of air ventilation standards for plan making and the assessment of the impact of major developments and planning proposals on the local wind environment. The Study is now at the data collection and analysis stage, and is expected to be completed by end 2009. The Study consultants are developing the methodology for drawing up an urban climatic map for Hong Kong. The draft urban climatic map would be ready around late 2008 for public consultation. The feasibility of formulating a set of air ventilation benchmarking standards will be examined in 2009.

## **Conclusion**

22. The Government is committed to meeting the community's aspirations for a better living and working environment. We will continue to work closely with LegCo, District Councils, professionals in the related fields, and all stakeholders to further our efforts of planning with community through an open, transparent and consultative engagement process.

**Development Bureau  
January 2008**