

Research Trends and Results

Development of “simplified block performance evaluation system for densely built-up areas”

KATSUMATA Wataru (Dr. of Engineering), Senior Researcher
Urban Development Division, Urban Planning Department

IWAMI Tatsuya, Senior Researcher
Construction Economics Division, Research Center for Land and Construction Management

MIKI Yasuhiro (Dr. of Engineering), Senior Researcher
Residential Environment Planning Division, Housing Department

NISHIZAWA Shigeki (Dr. of Engineering), Senior Researcher
Environment and Equipment Standards Division, Building Department

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1. Forward

In order to improve disaster prevention performance and living environment within blocks of densely built-up areas where group provisions of Building Standard Law (obligation for a building site to adjoin the road, road slant plane restrictions, allowable building coverage ratio restrictions, etc.) are strictly enforced, it is considered effective to utilize “special methods for harmonious rebuilding”, such as combinations of building design systems and street scenery-improving district planning.¹⁾ These methods, with permission and authorization of the designated administrative agency to replace general building regulations with a local rule to equivalent standard in terms of performance, promote individual rebuilding at each site within a district. These methods are clearly expressed as a basic policy for promoting development and improvement in the densely built-up areas in “Basic Plan for Housing (National Plan)”.²⁾

2. Simplified block performance evaluation system for densely built-up areas

To promote utilization of special methods for harmonious rebuilding, it is important for the administrator and community planning consultant to evaluate the actual harmonious rebuilding rule plan during the consensus formation between the landowners and leaseholders. Specifically, evaluations regarding the ability to secure the same level of block performance (fire safety and residential environment performance) as the general regulation, the improvement level from status quo, in comparison with alternative plans and so forth.

Therefore, National Institute for Land and Infrastructure Management is developing some PC software called “simplified block performance evaluation system for densely built-up areas”(fig.) The system, by entering 3 dimensional

data of such as building, road and site, which is current status and after rebuilding in accordance with harmonious rebuilding rules, and local conditions such as latitude and wind, allows a user to easily evaluate block performance in the area of fire prevention, evacuation, sunlight, daylight, ventilation and airflow.

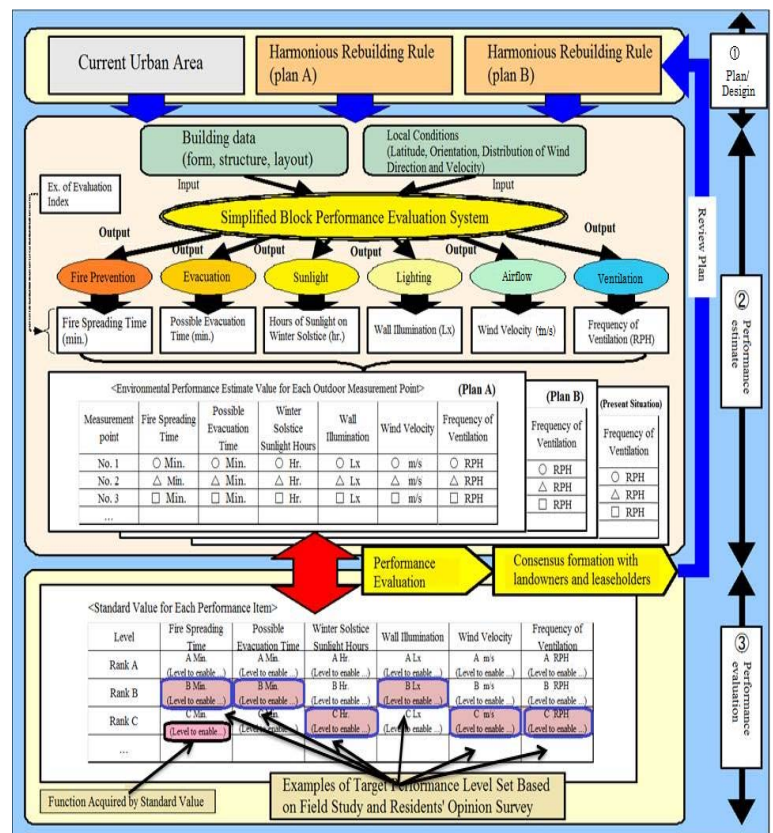


Fig. Image of simplified block performance evaluation system for densely built-up areas

3. Future issues

In parallel to the system development, Housing Bureau, academic experts and local municipalities are working

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together to examine the target level for block performance to be secured in densely built-up areas. By the end of fiscal year 2013, we plan to publish the “guideline on making harmonious rules for rebuilding” with the system, to be fully available at the sites.³⁾

【Reference】

- 1) Guidebook on Special Permissions in the Zoning Code under the Building Standard Law to Promote Rebuilding in Densely Built-up Areas” by TECHNICAL NOTE of NILIM (2007)
<http://www.nilim.go.jp/lab/bcg/siryou/tmn/tmn0368.htm>
- 2)“Basic Plan (National Plan) for living” by Ministry of Land, Infrastructure, Transport and Tourism(2011)
<http://www.mlit.go.jp/jutakukentiku/house/torikumi/jyuseikatsu/hyodai.html>
- 3)Development of supporting technology on making harmonious rules for rebuilding in densely built-up areas(NILIM Urban Development Div. HP)
<http://www.nilim.go.jp/lab/jeg/index.htm>