A Web-Based Geodesign Tool for Evaluating the Integration of Transport Infrastructure, Public Spaces, and Human Activities

Liu Yang [1,2,]

[1] School of Architecture, Southeast University, Nanjing 210096, China; yangliu2020@seu.edu.cn
[2] Research Center of Urban Design, Southeast University, Nanjing 210096, China

The following is the survey used for collecting data on the demand for "computer-aided quantitative analysis and evaluation tools" in urban planning and design.

Hello!
Thank you for participating in this survey. This survey hopes to understand the usage and demand of computer-aided tools for supporting quantitative analysis of urban planning and design (site analysis, data analysis, etc.), quantitative evaluation (indicator evaluation of plan scenarios) and decision-making (multi-scenario comparison, etc.).

1. In your area of interest, have you used quantitative analysis methods (such as GIS, spatial analysis, mathematical statistical methods, professional models, visualization techniques, etc.) to support urban planning and design? If your answer is yes, then answer Question 2 and 3 as well.
    A. Yes   B. No

2. Which quantitative tools have you used/are using at work? Please list them below:

    ——————————————————————————————————

3. How have you used these quantitative tools (at which stage of your work)?

    ——————————————————————————————————

4. Based on your experience, do you believe there is a need for further quantitative analysis, evaluation, forecasting, and decision-making support in urban planning and design? If your answer is yes, then answer Question 5 as well.
    A. Yes   B. No

5. Which part of the urban design process needs further support?
    A. Basic study (such as status quo analysis)
    B. Planning scheme generation
    C. Planning scheme evaluation
    D. Project reporting and decision-making

6. What do you think are the deficiencies of the existing urban design quantitative tools/what do you expect from the computer-aided quantitative analysis and

evaluation tools, please list them below:

——

7. Given the current situation, do you feel further support is needed by computer-aided quantitative analysis and evaluation tools in **Basic study** (such as status quo analysis)? And which of the following quantitative analysis content or methods should be used more? (Multiple choice)
A. Geographic Information System (GIS) B. Mathematical and statistical methods C. Professional simulation models or software (e.g., sunshine analysis, traffic simulation) D. Visualization techniques (eg, 3D modeling)

8. Given the current situation, do you feel further support is needed by computer-aided quantitative analysis and evaluation tools in **Planning scheme generation**? And which of the following quantitative analysis content or methods should be used more? (Multiple choice)
A. Geographic Information System (GIS) B. Mathematical and statistical methods C. Professional simulation models or software (e.g., sunshine analysis, traffic simulation) D. Visualization techniques (e.g., 3D modeling)

9. Given the current situation, do you feel further support is needed by computer-aided quantitative analysis and evaluation tools in **Planning scheme evaluation**? And which of the following quantitative analysis content or methods should be used more? (Multiple choice)
A. Geographic Information System (GIS) B. Mathematical and statistical methods C. Professional simulation models or software (e.g., sunshine analysis, traffic simulation) D. Visualization techniques (e.g., 3D modeling)

10. Given the current situation, do you feel further support is needed by computer-aided quantitative analysis and evaluation tools in **Project reporting and decision-making**? And which of the following quantitative analysis content or methods should be used more? (Multiple choice)
A. Geographic Information System (GIS)   B. Mathematical and statistical methods C. Professional simulation models or software (e.g., sunshine analysis, traffic simulation)   D. Visualization techniques (e.g., 3D modeling)

11. Which indicators do you think can/should be quantified in urban planning and design evaluation, please list below:
A. Sunlight duration and area
B. Wind environment
C. Greenery coverage
D. Car traffic efficiency
E. Walkability
F. Bikeability
G. Public transport accessibility

H. Public space accessibility

I. Other; if other factors exist, please list below:

_____

12. What do you think is the biggest obstacle in learning and mastering a new computer-aided planning and design tool?

    A. Not sure how the tools learned can assist daily work

    B. Resource restraint (e.g., cost of the license)

    C. Time cost of learning it

    D. Difficulty of learning

    E. Other, if other factors exist, please list below:

_____

13. Do you want to know the planning content and analysis methods outside the areas of your interest (e.g., land use, municipal administration, transportation)? If your answer is yes, then answer Question 14 as well.

    A. Yes   B. No

14. What is the level of your concern?

    A. Very much concerned   B. Moderately concerned   C. Slightly concerned

    Which sector do you want to know, please list it below:

_____

15. Is there anything else you would like to comment on?

Your years of work in this field: _____

Your years of using quantitative tools: _____

Your age span:

    A. 20-30   B. 30-40   C. 40-50   D. 50-60

2022.05.25