



# Interactive Spatial Planning on a GIS Network Model

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## 1. OBJECTIVE

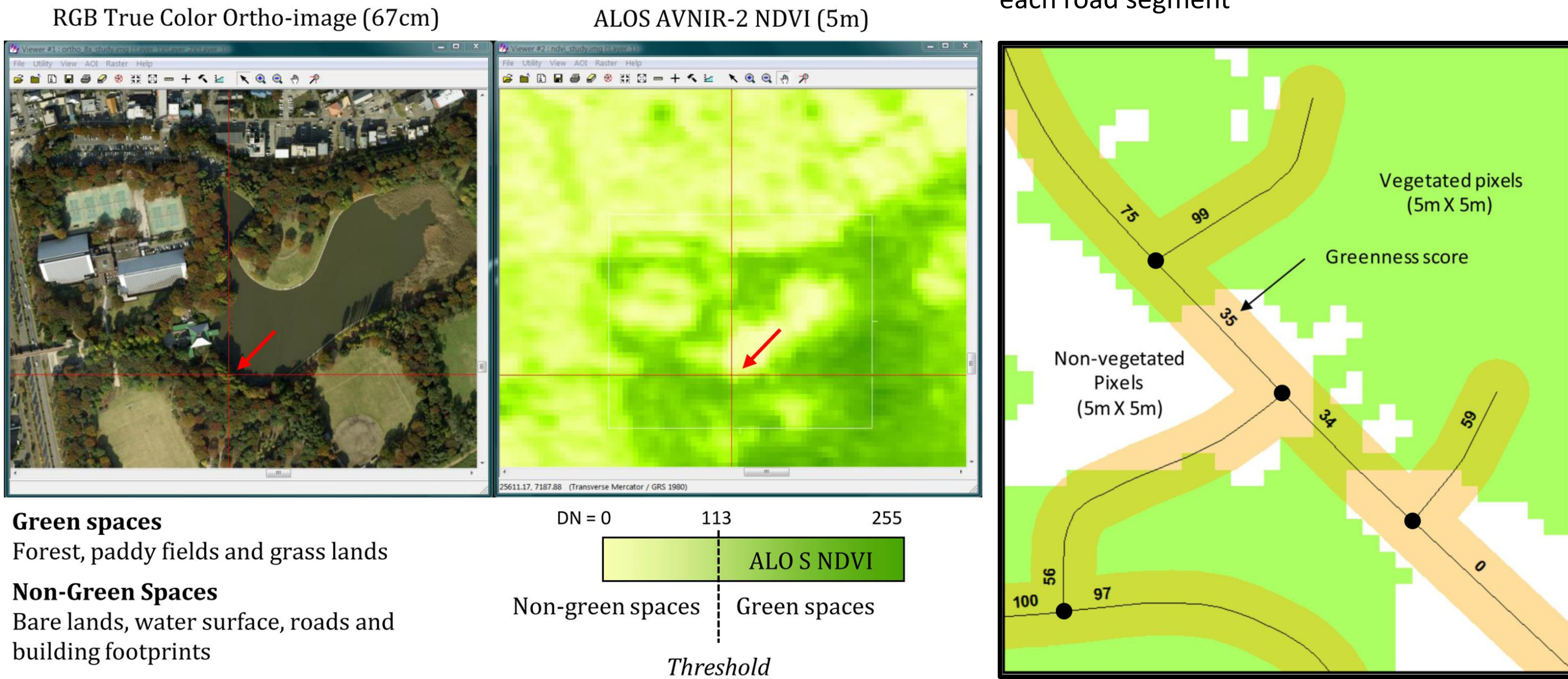
We use spatial web technology to help local residents make decisions related to neighbourhood environmental quality, such as how to choose an **eco-friendly living space** when buying a home or how to find the **shortest or greenest route** to walk to improve their health.

## 2. DATA

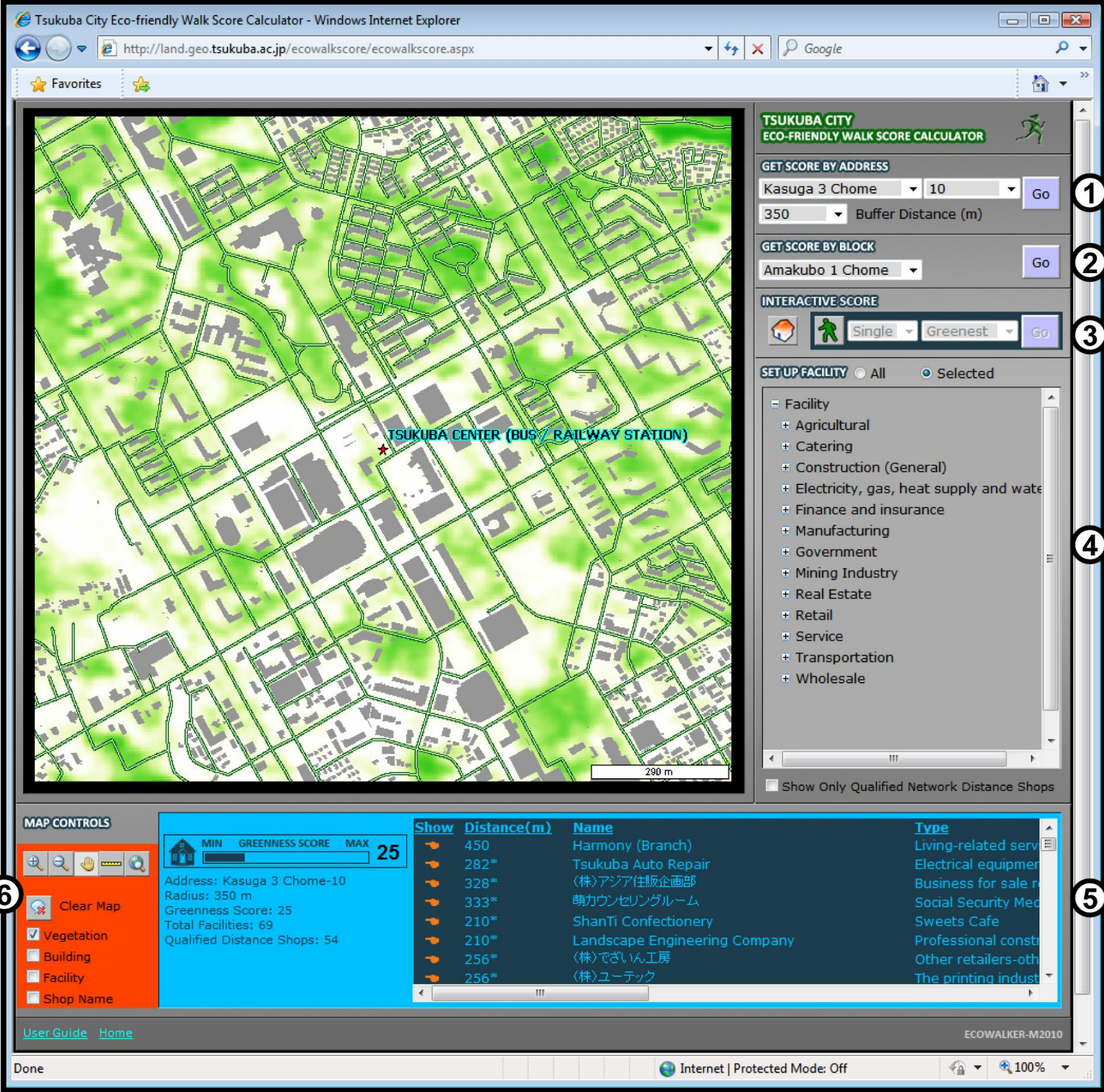
- Advanced Land Observing Satellite ALOS (JAXA)
- Road center lines (Geospatial Information Authority of Japan)
- Building footprints (Zmap TOWN II Map)
- NTT iTownpage (Nippon Telegraph and Telephone )

## 3. GREENNESS SCORE

Calculate greenness score for each 10m buffered road segment from ALOS NDVI binary data



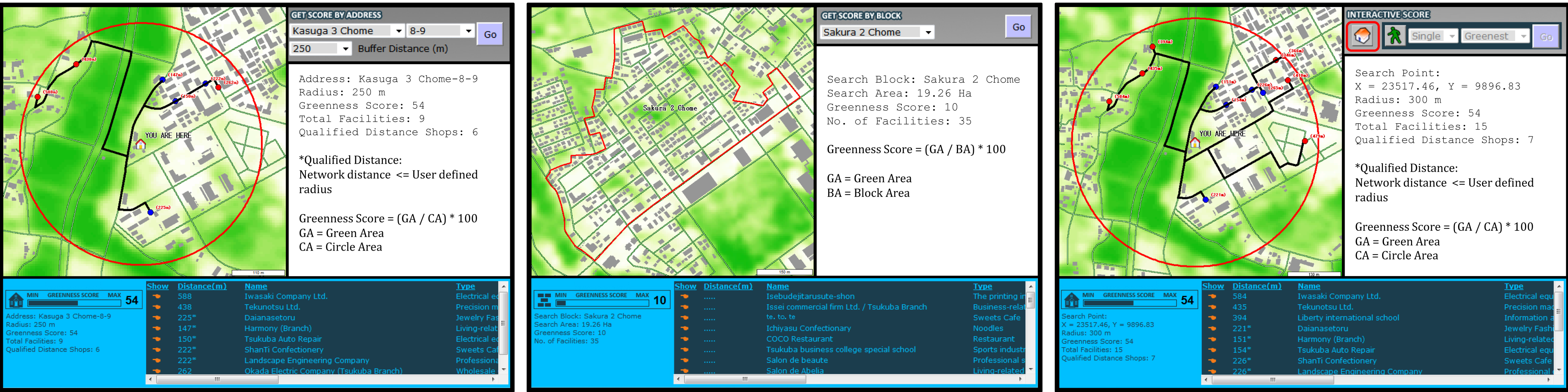
## GRAPHICAL USER INTERFACE



- ① Get score by address
- ② Get score by block
- ③ Interactive score
- ④ Setup desire facilities
- ⑤ Results display
- ⑥ Map controls

<http://land.geo.tsukuba.ac.jp/ecowalkscore>

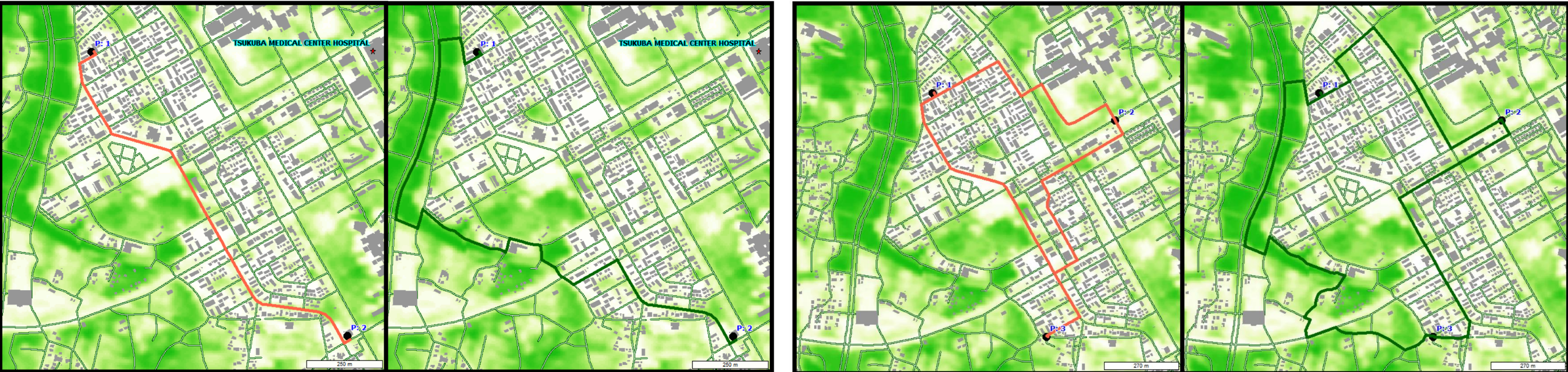
## 4. MEASUREMENT MODES



4.a. Get greenness score by address

4.b. Get greenness score by administrative block

4.c. Get greenness score by user defined point



MIN GREENNESS SCORE MAX 14

Route Information: Shortest  
P1-P2: 1.46Km (G.Score: 14)  
Total Distance: 1.46Km  
Total Average Green Score: 14

MIN GREENNESS SCORE MAX 58

Route Information: Greenest  
P1-P2: 2.26Km (G.Score: 58)  
Total Distance: 2.26Km  
Total Average Green Score: 58

MIN GREENNESS SCORE MAX 13

Route Information: Shortest  
P1-P2: 0.91Km (G.Score: 18)  
P2-P3: 1.13Km (G.Score: 10)  
P3-P1: 1.18Km (G.Score: 12)  
Total Distance: 3.21Km  
Total Average Green Score: 13

MIN GREENNESS SCORE MAX 46

Route Information: Greenest  
P1-P2: 1.13Km (G.Score: 44)  
P2-P3: 1.22Km (G.Score: 21)  
P3-P1: 2.08Km (G.Score: 72)  
Total Distance: 4.43Km  
Total Average Green Score: 46

4.d. Shortest vs. Greenness (Single)

4.e. Shortest vs. Greenness (Loop)