

Wind Safety and Comfort Assessment for an neighbourhood located in Zagreb, Croatia

FEATURES

Type of Urban Area	Mixt
Period of Construction	Mixt
Total Surface Area	112 769 m ²
Part Built-Up Area	39 %
Climate	Humid Continental
Prevailing wind	South-West

CHALLENGE

To utilise the wind module of urban microclimate simulation technology to assess the wind distribution for the problematics of safety and comfort with a new building project in a Zagreb neighbourhood.

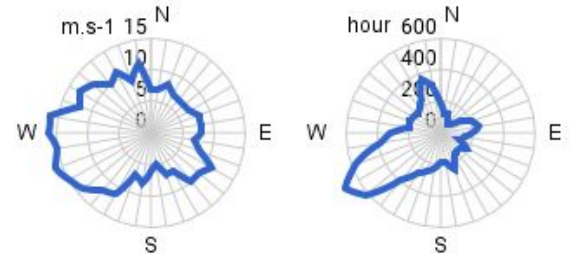
CONSULTANCY

We ran CFD simulations (wind distribution) on the 3D modelled neighbourhood throughout the year, based on wind data of the region.

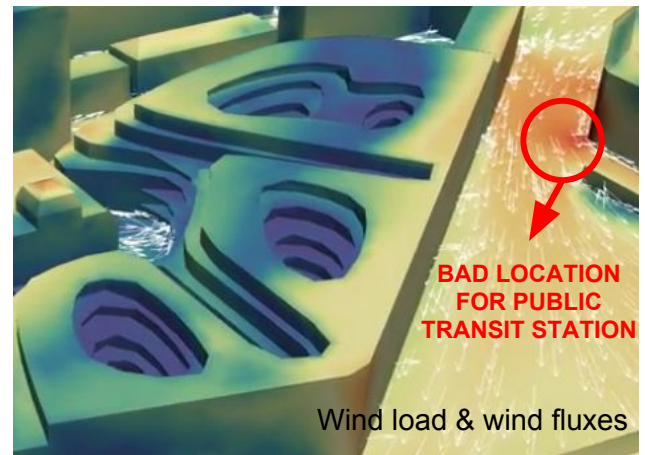
From this, we made a wind comfort and safety assessment on the neighbourhood, verified wind speeds and wind loads along the surface of the project building and determined the comfortable locations with low wind for public transport stop.

BENEFITS

- The wind comfort and safety assessment showed that the project building should not generate discomfort and safety risk on most of the geometry.
- The wind speeds and wind loads on the building walls and the risk of detachment of elements constituting the facade of the building were evaluated and showed no risk for the pedestrians.
- Several locations were identified with relatively lower wind fluxes which have the potential for setting public transit stations where pedestrians can be comfortable to wait for their public transit.



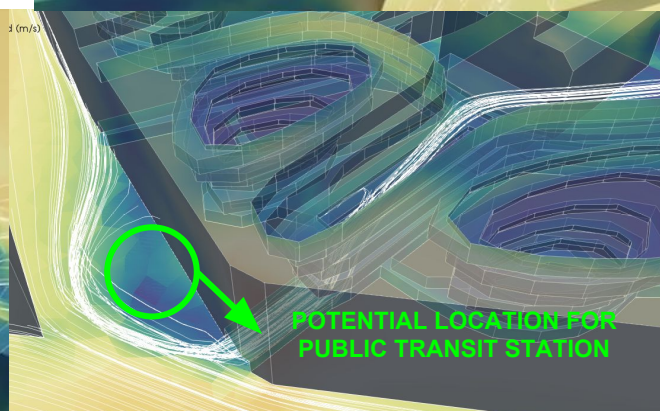
Max speed and frequency for each direction



Wind load & wind fluxes



Wind distribution



POTENTIAL LOCATION FOR PUBLIC TRANSIT STATION