

Urban Climate Diagnostic for an neighbourhood located in Prague, Czech Republic

FEATURES

Type of Urban Area	Residential
Period of Construction	19th Century
Total Surface Area	138 135 m ²
Part Built-Up Area	46 %
Aspect Ratio	0.7 - 1.2
Climate	Humid Continental
Date of Simulation	3rd to 14th August

CHALLENGE

To utilise urban microclimate simulation technology to assess outdoor comfort based on simulated wind assessment, air temperature and solar radiation.

CONSULTANCY

With urban microclimate simulations, we studied 4 cases in terms of air temperature, wind speed and solar radiation and assess outdoor comfort for each case. We determined which design scenario is most comfortable scientifically and optimum for investments for improving the outdoor comfort in urban designs.

BENEFITS

- From the microclimate assessment, it was advised that adding a row of trees in the streets with larger width and oriented in the East-West direction were more suitable in terms of outdoor comfort for the people in this neighbourhood.
- The change to lighter colour paint should be chosen if the option to implant trees is not available with respect to the street orientation and width.
- There are more possibilities to explore other solutions such as the impacts of albedo variation for each type of surface (sidewalk, roof, facade), and to determine precisely above which sidewalk it is interesting to plant trees.

