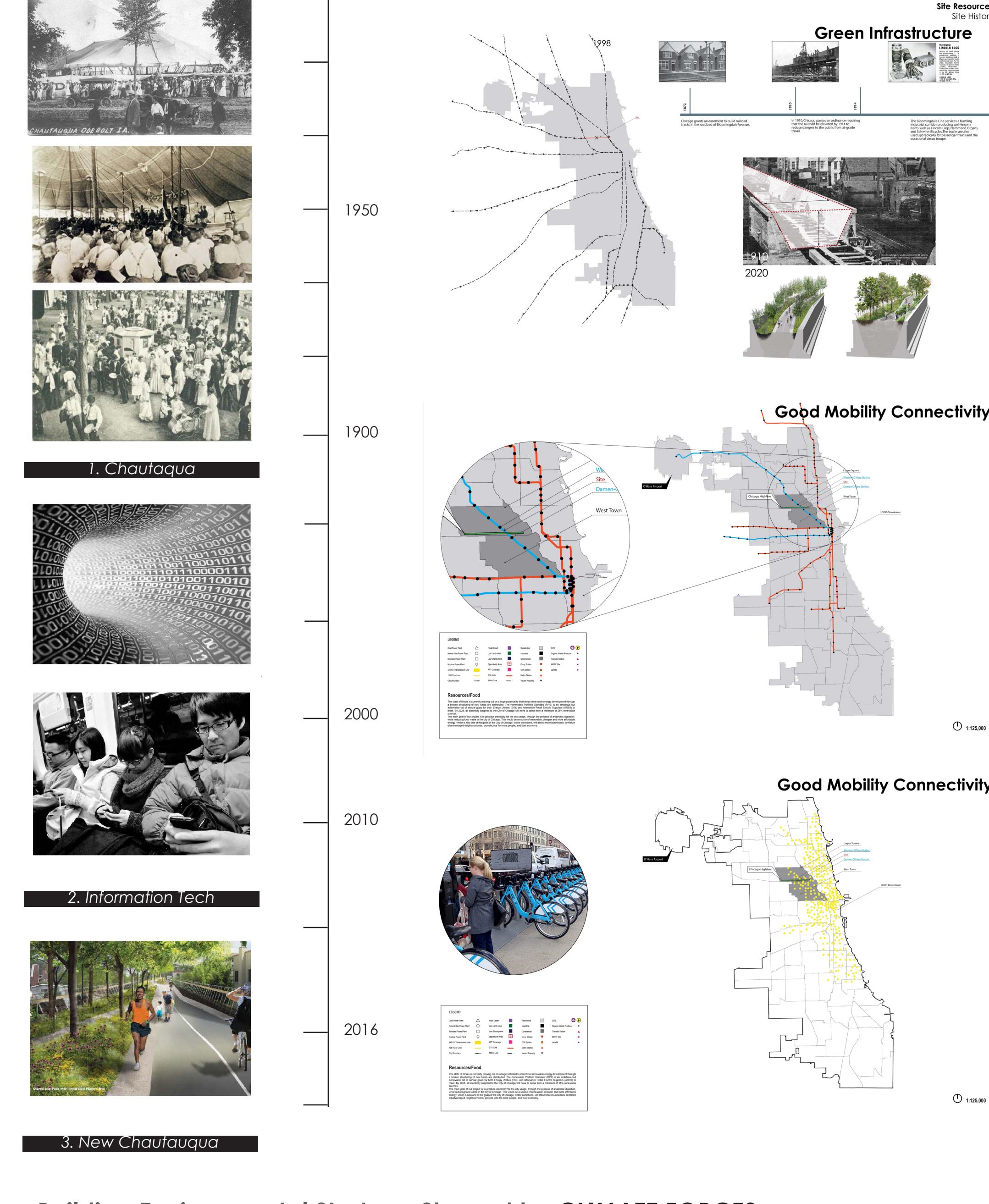


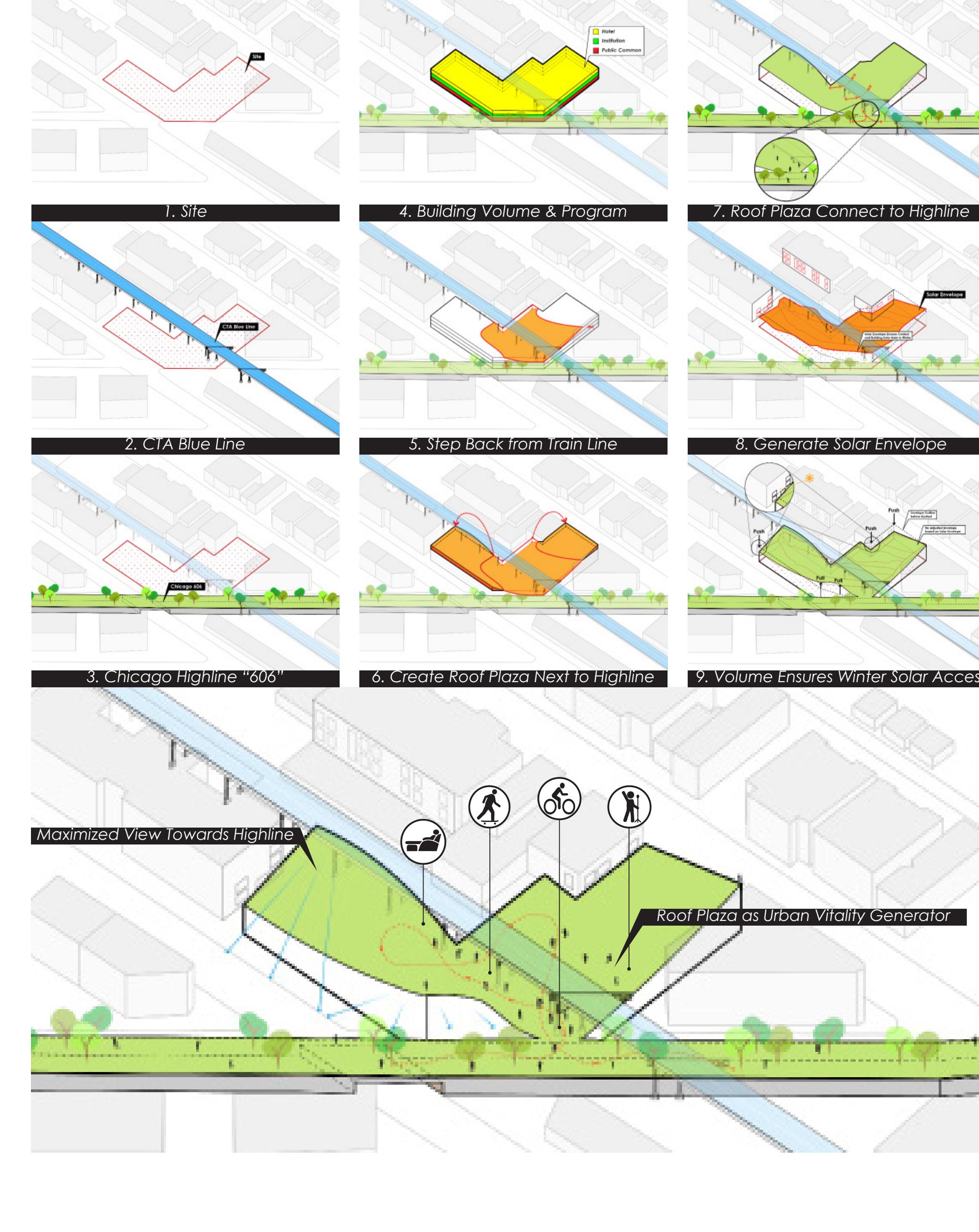
NEW CHAUTAUQUA INSTITUTE IN CHICAGO



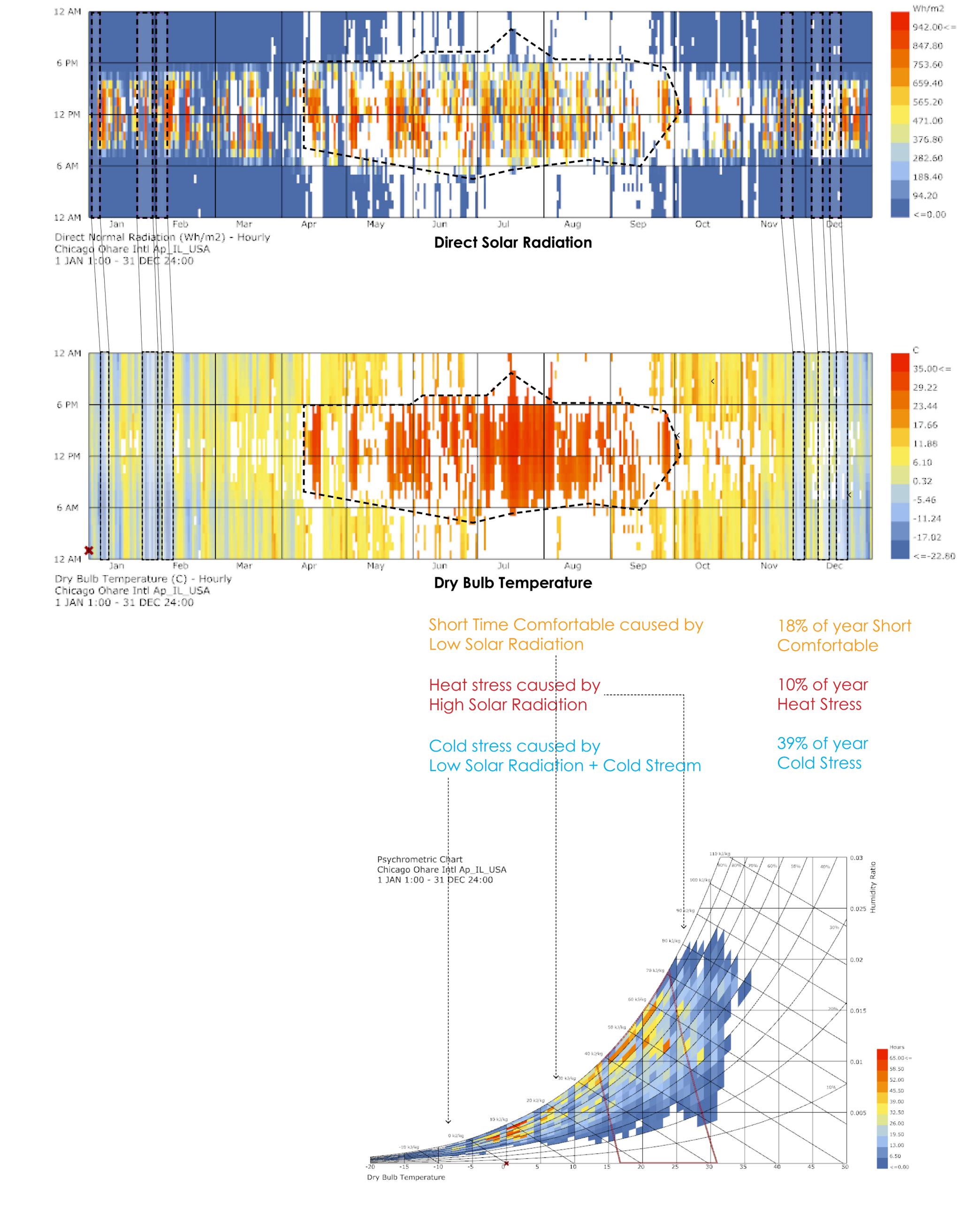
Site and Background



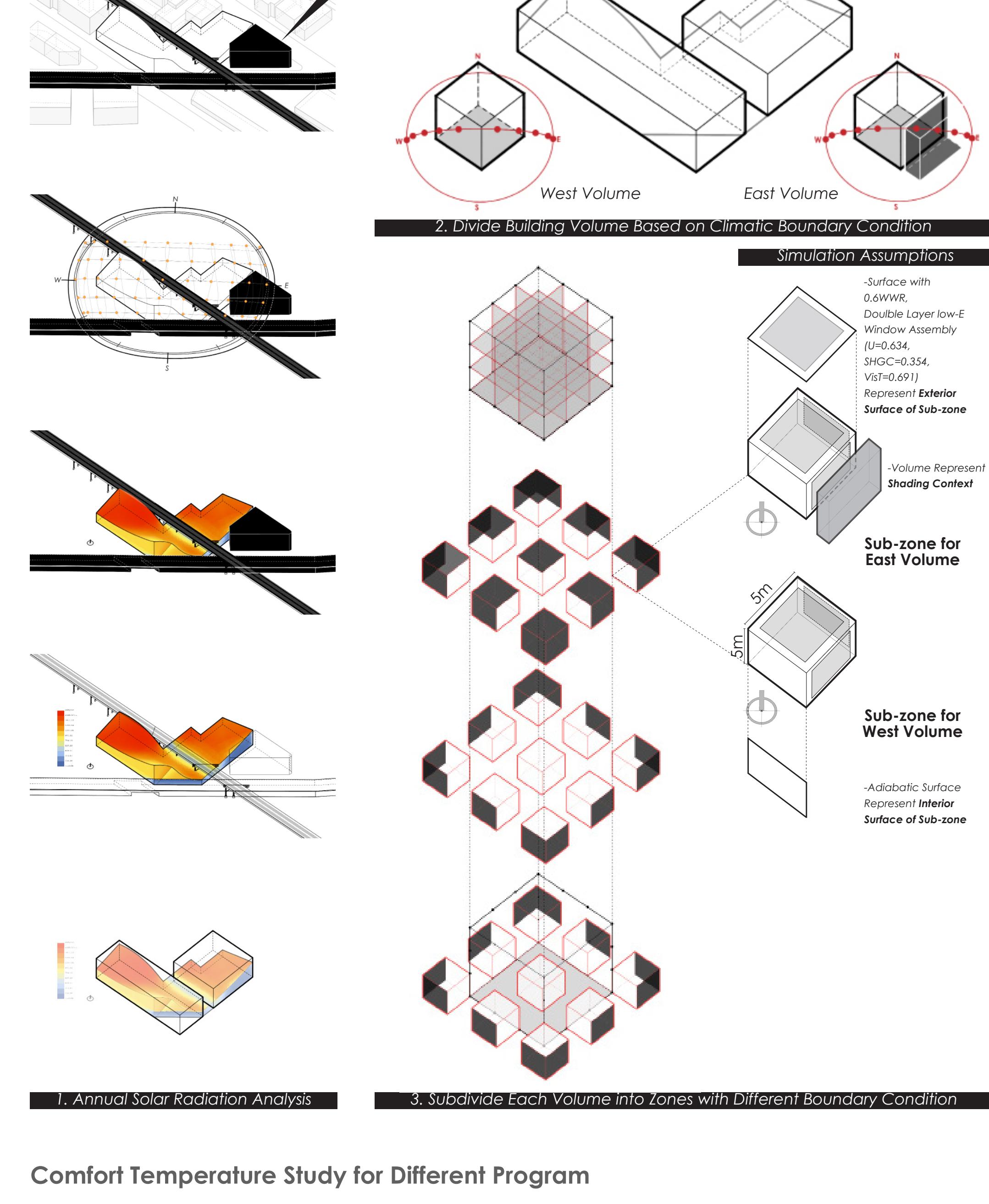
Building Volume Shaped by URBAN FORCES



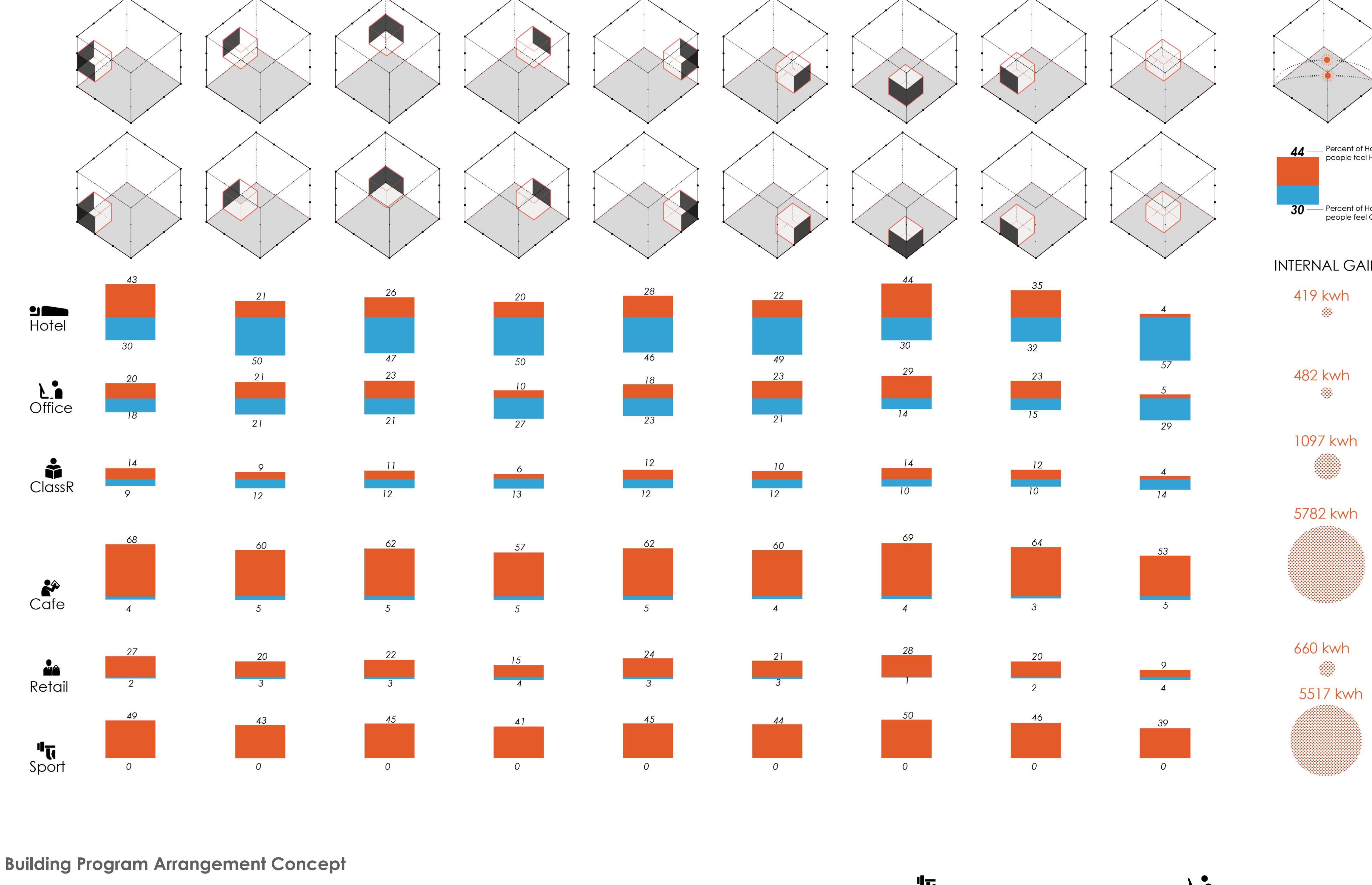
Climate Analysis



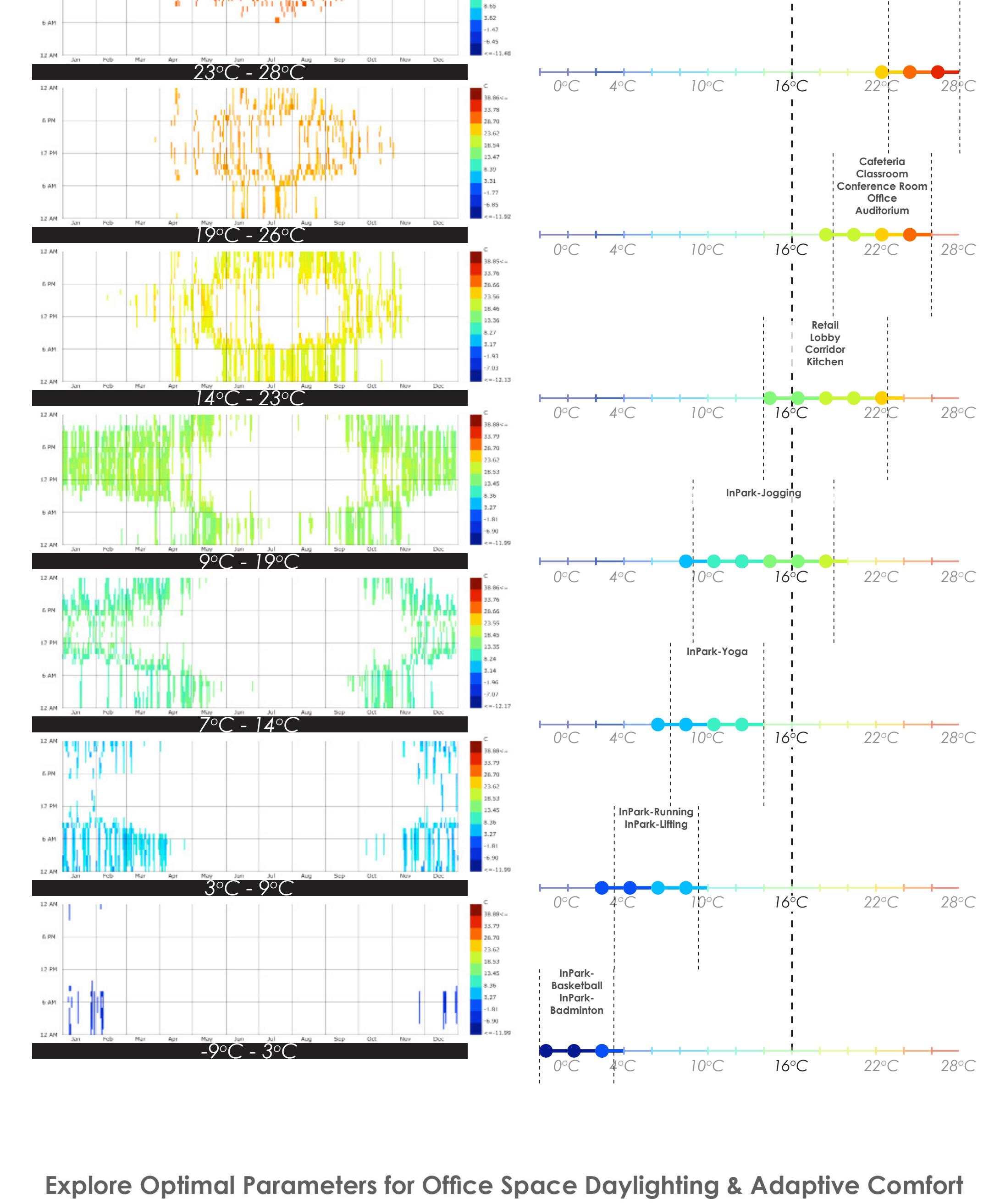
Building Environmental Strategy Shaped by CLIMATE FORCES



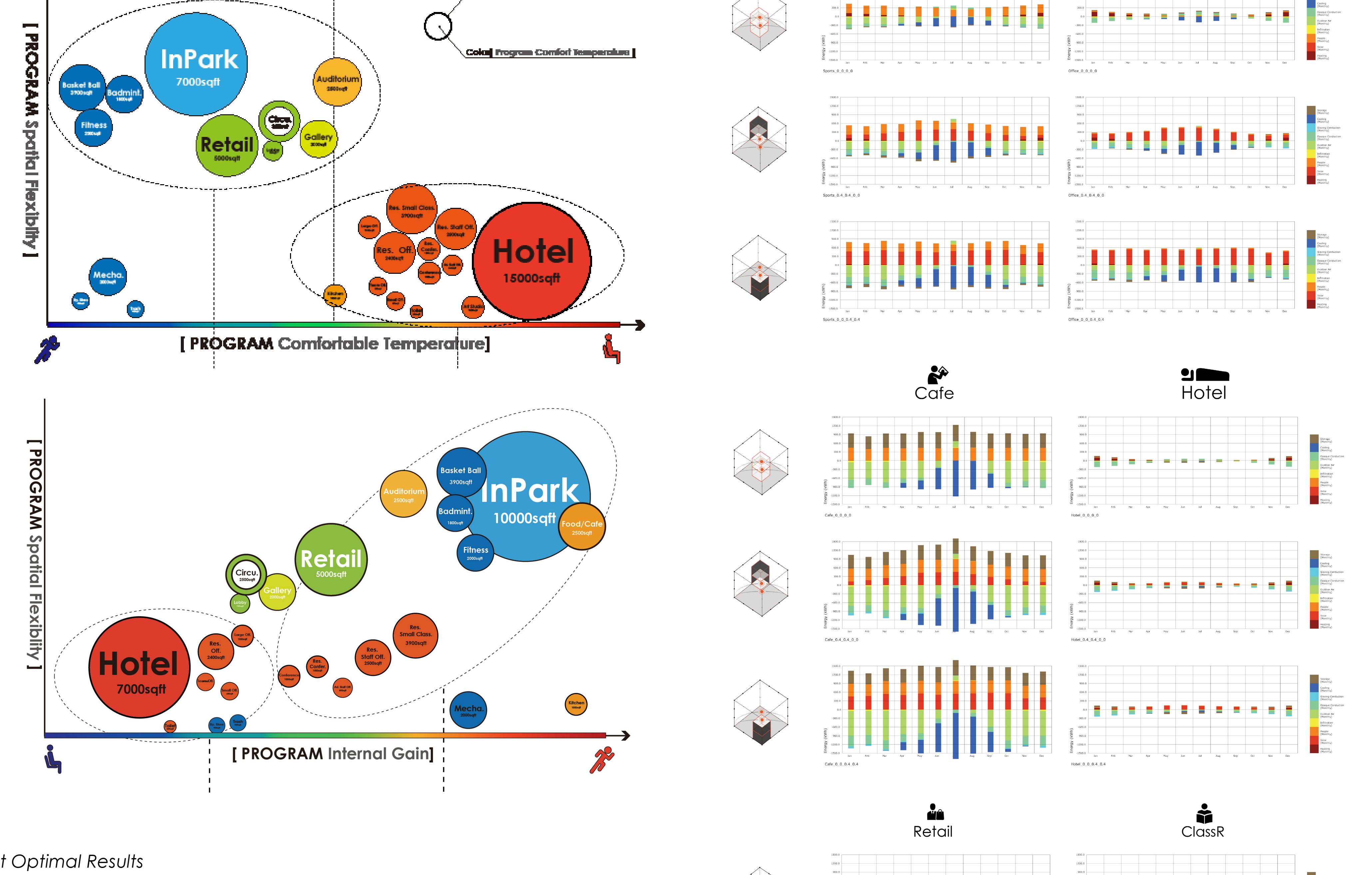
Heat Stress Study through All Program



Comfort Temperature Study for Different Program



Building Program Arrangement Concept

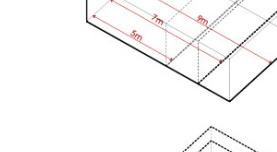


Explore Optimal Parameters for Office Space Daylighting & Adaptive Comfort

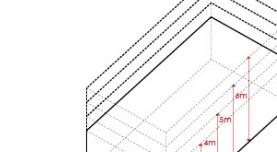
- Run daylighting and comfort simulation of different Input Parameter combinations.
- Visualize all results in "Design Explorer".
- Select result with best adaptive comfort as potential Optimal Result.
- Use input parameter of Optimal Results as guidance for next step design.

Input Parameters

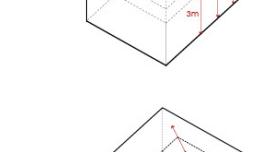
Floor Area: 50 sqm, Depth from 5m to 9m



Floor Area: 50 sqm, Height from 3m to 6m



Floor Area: 50 sqm, SSR from 0.2m to 0.6m, SSR=Skylight to Roof Ratio



Output Values

sDA: Spatial Daylight Autonomy (sDA) describes how much of a space receives sufficient daylight.

Spatial Daylight: Specifically it describes the percentage of floor area that receives at least 300 lux for at least 30% of the annual occupied hours.

Total SolarGain: Solar radiation energy received over one year.

Adaptive Comfort Percentage: Without HVAC system, how many percentage of time a indoor space is comfortable.

UDU: Percentage of time during the occupancy hours that the test point receive 100lux-200lux

Select Optimal Results

Input Parameters

Area, Depth, Height, SRR

Depth_5m, Height_5m, SRR_0.4

Depth_7m, Height_7m, SRR_0.4

Depth_9m, Height_9m, SRR_0.6

Output Values

Total SolarGain, Adaptive Comfort

sDA, Total SolarGain, Adaptive Comfort

Area, Depth, Height, SRR

Depth_5m, Height_5m, SRR_0.4

Depth_7m, Height_7m, SRR_0.4

Depth_9m, Height_9m, SRR_0.6

Depth_5m, Height_5m, SRR_0.2

Depth_7m, Height_7m, SRR_0.2

Depth_9m, Height_9m, SRR_0.3

Depth_5m, Height_5m, SRR_0.5

Depth_7m, Height_7m, SRR_0.5

Depth_9m, Height_9m, SRR_0.7

Depth_5m, Height_5m, SRR_0.8

Depth_7m, Height_7m, SRR_0.8

Depth_9m, Height_9m, SRR_0.9

Depth_5m, Height_5m, SRR_1.0

Depth_7m, Height_7m, SRR_1.0

Depth_9m, Height_9m, SRR_1.1

Depth_5m, Height_5m, SRR_1.2

Depth_7m, Height_7m, SRR_1.2

Depth_9m, Height_9m, SRR_1.3

Depth_5m, Height_5m, SRR_1.4

Depth_7m, Height_7m, SRR_1.4

Depth_9m, Height_9m, SRR_1.5

Depth_5m, Height_5m, SRR_1.6

Depth_7m, Height_7m, SRR_1.6

Depth_9m, Height_9m, SRR_1.7

Depth_5m, Height_5m, SRR_1.8

Depth_7m, Height_7m, SRR_1.8

Depth_9m, Height_9m, SRR_1.9

Depth_5m, Height_5m, SRR_2.0

Depth_7m, Height_7m, SRR_2.0

Depth_9m, Height_9m, SRR_2.1

Depth_5m, Height_5m, SRR_2.2

Depth_7m, Height_7m, SRR_2.2

Depth_9m, Height_9m, SRR_2.3

Depth_5m, Height_5m, SRR_2.4

Depth_7m, Height_7m, SRR_2.4

Depth_9m, Height_9m, SRR_2.5

Depth_5m, Height_5m, SRR_2.6

Depth_7m, Height_7m, SRR_2.6

Depth_9m, Height_9m, SRR_2.7

Depth_5m, Height_5m, SRR_2.8

Depth_7m, Height_7m, SRR_2.8

Depth_9m, Height_9m, SRR_2.9

Depth_5m, Height_5m, SRR_3.0

Depth_7m, Height_7m, SRR_3.0

Depth_9m, Height_9m, SRR_3.1

Depth_5m, Height_5m, SRR_3.2

Depth_7m, Height_7m, SRR_3.2

Depth_9m, Height_9m, SRR_3.3

Depth_5m, Height_5m, SRR_3.4

Depth_7m, Height_7m, SRR_3.4

Depth_9m, Height_9m, SRR_3.5

Depth_5m, Height_5m, SRR_3.6

Depth_7m, Height_7m, SRR_3.6

Depth_9m, Height_9m, SRR_3.7

Depth_5m, Height_5m, SRR_3.8

Depth_7m, Height_7m, SRR_3.8

Depth_9m, Height_9m, SRR_3.9

Depth_5m, Height_5m, SRR_4.0

Depth_7m, Height_7m, SRR_4.0

Depth_9m, Height_9m, SRR_4.1

Depth_5m, Height_5m, SRR_4.2

Depth_7m, Height_7m, SRR_4.2

Depth_9m, Height_9m, SRR_4.3

Depth_5m, Height_5m, SRR_4.4

Depth_7m, Height_7m, SRR_4.4

Depth_9m, Height_9m, SRR_4.5

Depth_5m, Height_5m, SRR_4.6

Depth_7m, Height_7m, SRR_4.6

Depth_9m, Height_9m, SRR_4.7

Depth_5m, Height_5m, SRR_4.8

Depth_7m, Height_7m, SRR_4.8

Depth_9m, Height_9m, SRR_4.9

Depth_5m, Height_5m, SRR_5.0

Depth_7m, Height_7m, SRR_5.0

Depth_9m, Height_9m, SRR_5.1

Depth_5m, Height_5m, SRR_5.2

Depth_7m, Height_7m, SRR_5.2

Depth_9m, Height_9m, SRR_5.3

Depth_5m, Height_5m, SRR_5.4

Depth_7m, Height_7m, SRR_5.4

Depth_9m, Height_9m, SRR_5.5

Depth_5m, Height_5m, SRR_5.6

Depth_7m, Height_7m, SRR_5.6

Depth_9m, Height_9m, SRR_5.7

Depth_5m, Height_5m, SRR_5.8

Depth_7m, Height_7m, SRR_5.8

Depth_9m, Height_9m, SRR_5.9

Depth_5m, Height_5m, SRR_6.0

Depth_7m, Height_7m, SRR_6.0

Depth_9m, Height_9m, SRR_6.1

Depth_5m, Height_5m, SRR_6.2

Depth_7m, Height_7m, SRR_6.2

Depth_9m, Height_9m, SRR_6.3

Depth_5m, Height_5m, SRR_6.4

Depth_7m, Height_7m, SRR_6.4

Depth_9m, Height_9m, SRR_6.5

Depth_5m, Height_5m, SRR_6.6

Depth_7m, Height_7m, SRR_6.6

Depth_9m, Height_9m, SRR_6.7

Depth_5m, Height_5m, SRR_6.8

Depth_7m, Height_7m, SRR_6.8

Depth_9m, Height_9m, SRR_6.9

Depth_5m, Height_5m, SRR_7.0

Depth_7m, Height_7m, SRR_7.0