



Green Screen

How temporary living walls can transform the appearance and perception of construction sites

Tuesday 20 March 2018

Introductions

An aerial photograph of a dense urban landscape, likely New York City, featuring numerous skyscrapers and buildings. The scene is captured during the "blue hour" or dusk, with a soft, warm light from the setting sun illuminating the city. The sky is a deep, hazy blue, and the buildings are silhouetted against the light. The overall mood is one of a bustling, modern metropolis.

Shaping a better world

We are an independent firm of designers, planners, engineers, consultants and technical specialists working across every aspect of today's built environment.

Who we are



Alistair Law

Building façade specialist

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Biodiversity specialist

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Green infrastructure benefits

Environmental Benefits	Economic Benefits	Social Benefits
Improved Visual Amenity	Increased Property Prices	Encouraging Physical Activity
Enhanced Urban Microclimate	Increased Land Values	Improving Childhood Development
Improved Air Quality	Faster Property Sales	Improved Mental Health
Reduced Flood Risk	Encouraging Inward Investment	Faster Hospital Recovery Rates
Better Water Quality	Reduced Energy Costs via Microclimate Regulation	Improved Mental Health
Improved Biodiversity	Improved Chances of Gaining Planning Permission	Improved Workplace Productivity
Reduced Ambient Noise	Improved Tourist and Recreation Facilities	Increasing Social Cohesion
Reducing Atmospheric CO ₂	Lower Healthcare Costs	Reduction in Crime

Buenos Aires



1.9m²

Tokyo



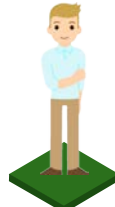
3m²

Istanbul



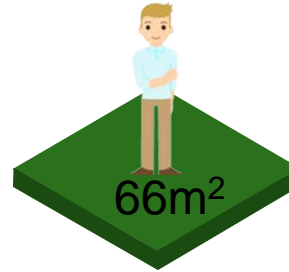
6.4m²

WHO*



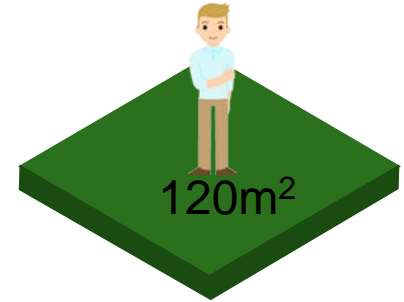
9m²

Singapore



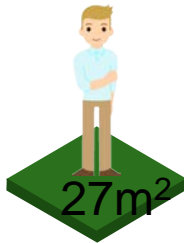
66m²

Vienna



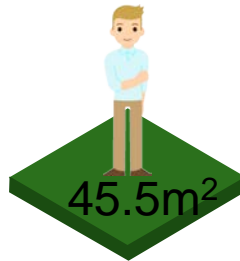
120m²

London



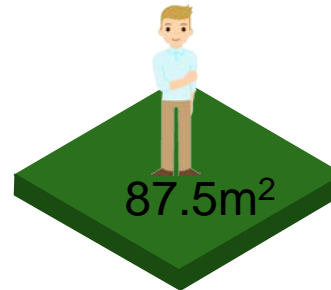
27m²

Amsterdam



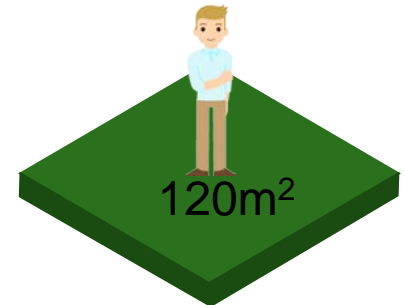
45.5m²

Stockholm



87.5m²

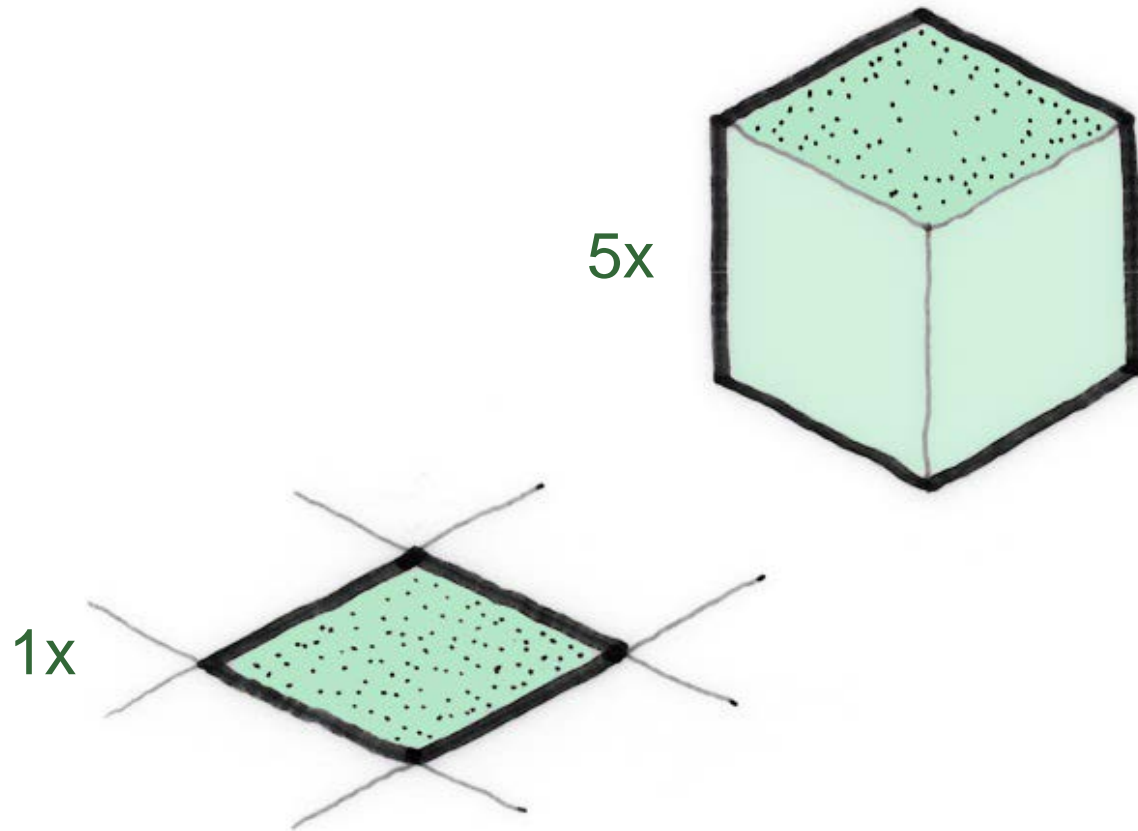
Vienna



120m²

*Minimum requirements by World Health Organisation

The role of buildings

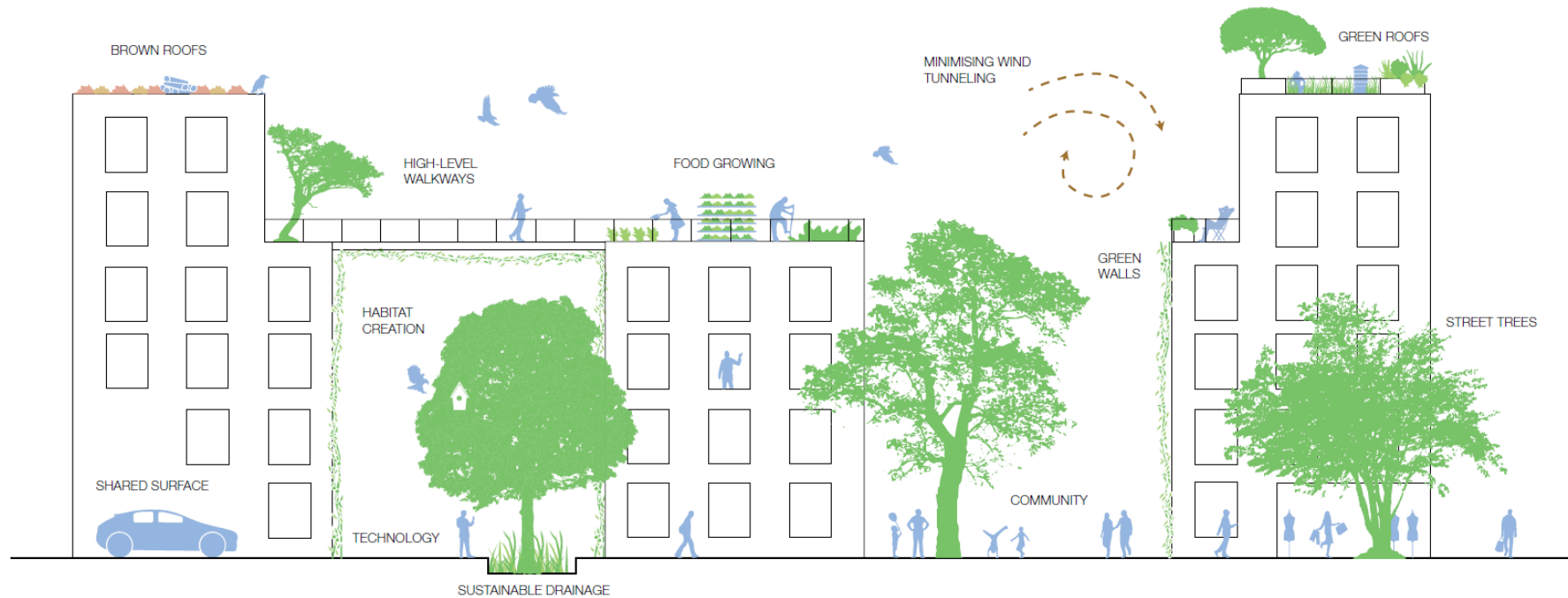




“Cities need green in
sizes S, M, L and XL
otherwise the human
ecosystem is incomplete”

Gil Peñalosa, CEO “8-80 Cities” quoted in
“Happy City” by Charles Montgomery (2013)

Buildings as green infrastructure



Cities Alive

Green Building Envelope









Endorsed by









Year 1 – More uniform
wildflower
meadow look











Year 2 – more traditional
wildflower
meadow look







Air Quality Monitoring Study

Air Quality Monitoring Study

- Elm sensors supplied by PerkinElmer
- Measurement of:
 - Temperature
 - Relative humidity
 - Nitrogen dioxide (NO₂)
 - Particulate matter (PM₁₀)
- Low-cost sensors, providing real-time data using WiFi
- Calibrated with certified instruments prior to installation
- Monitoring period: 18 Nov 2016 to 4 Dec 2017 (approx. 12 months)





GW UP JN

GW UP

ST JN

ST

GWL

Starbucks

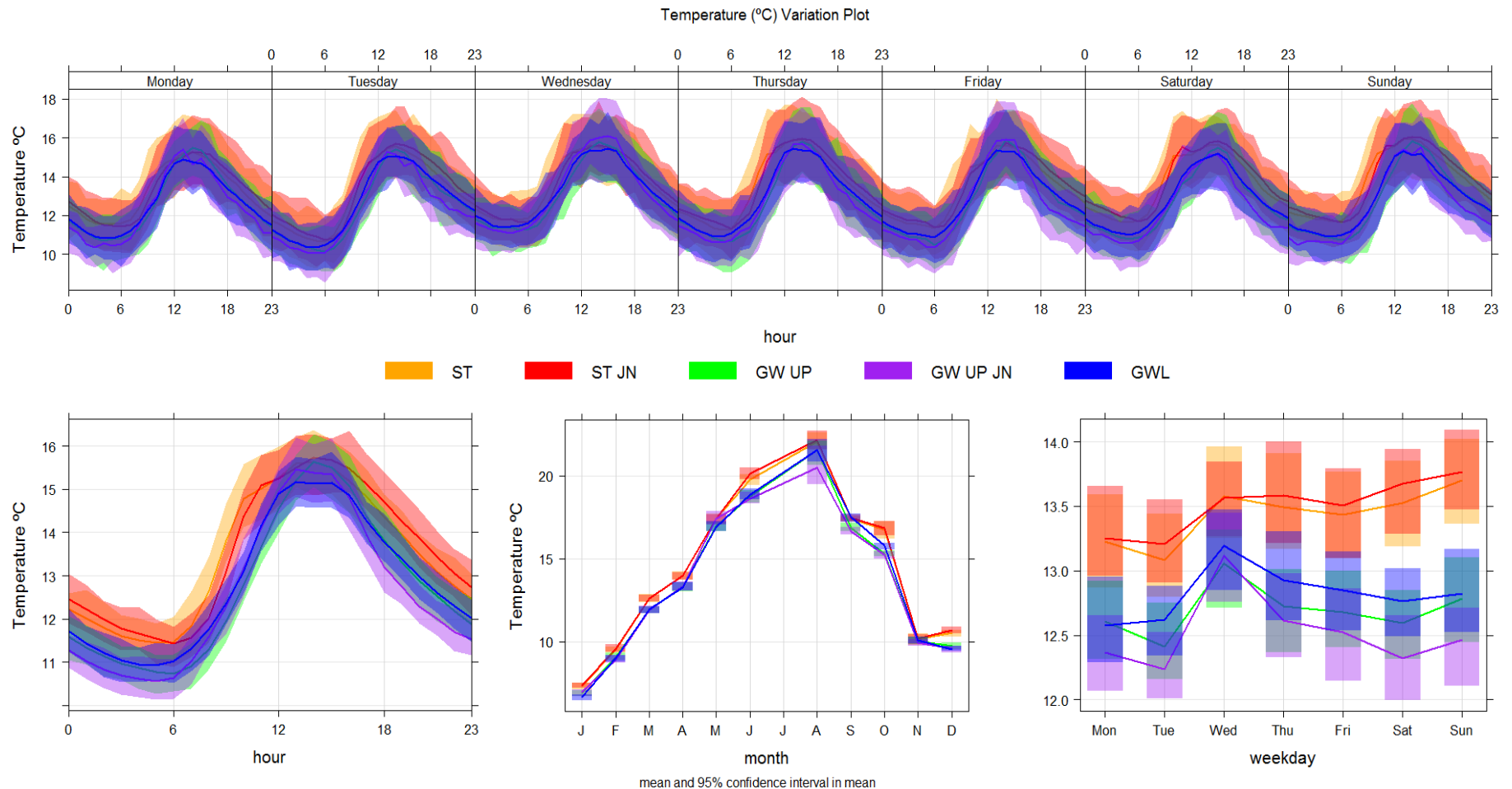
Key Findings

PM₁₀ and NO₂ Concentrations

- No simple relationship between measured concentrations at the green wall and Starbucks.
- Numerous complicating factors, including the construction site itself being a PM₁₀ source, and uncertainty regarding accuracy of sensor measurements.

Temperature

Temperature Variation



Key Findings

PM₁₀ and NO₂ Concentrations

- No simple relationship between measured concentrations at the green wall and Starbucks.
- Numerous complicating factors, including the construction site itself being a PM₁₀ source, and uncertainty regarding accuracy of sensor measurements.

Temperature

- Average temperatures at Starbucks sensors between 0.5 – 1 °C higher than green wall.

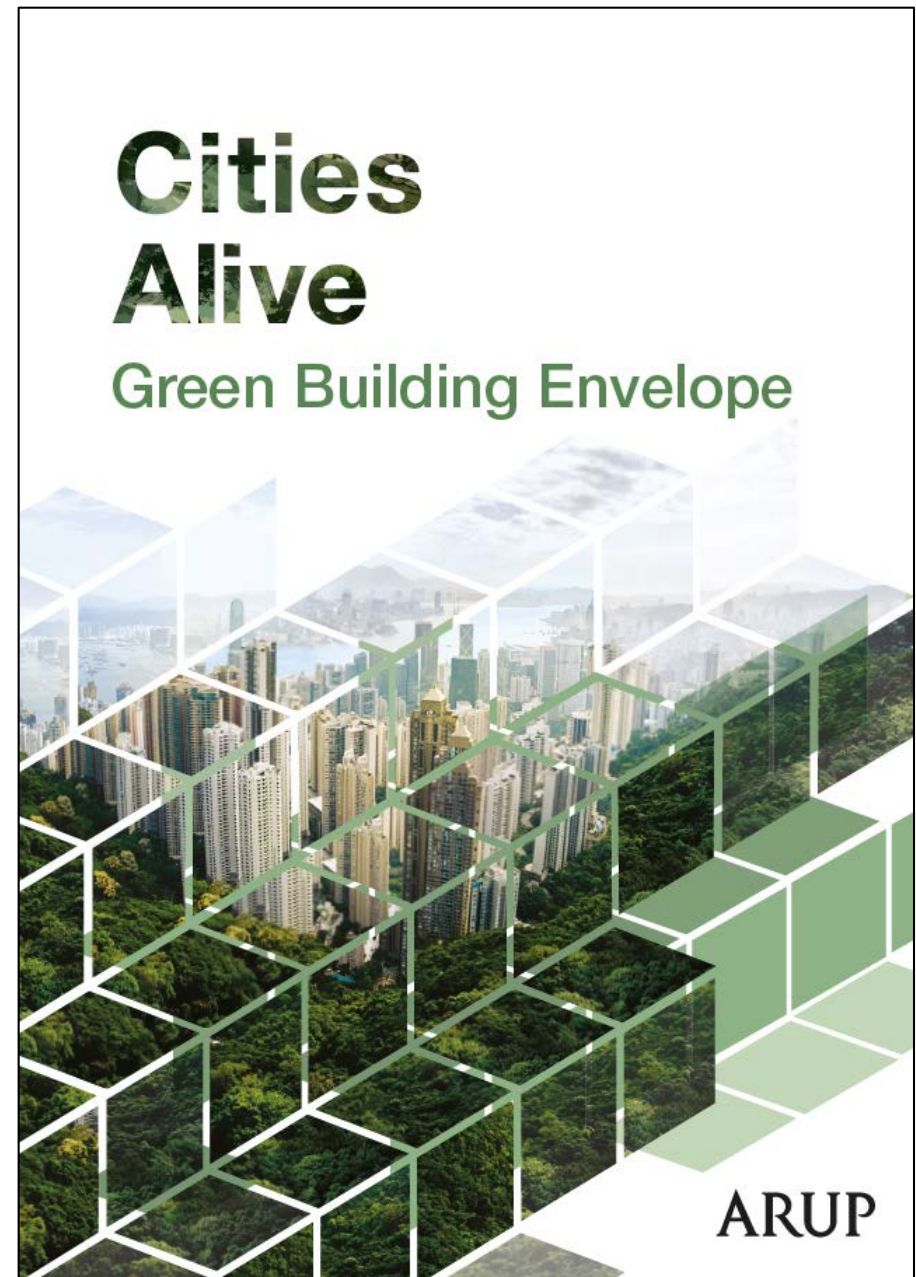
Future Work

- Design a monitoring study to include measurements before, during and after the installation of green infrastructure
- Undertake monitoring at a longer stretch of a road to avoid other localised effects and sources

Cities Alive

- Research by Arup
- Computational modelling of 5 case studies around the world
- Findings: localised reduction of 10-20% PM

<https://www.arup.com/publications/research/section/cities-alive-green-building-envelope>



Biodiversity Monitoring Study















E RETARDANT, LPCB APPROVED TO LPS 1207, 1215.

FLAMM RETARDANT LPCB APPROVED TO







**WILD
WEST
END**

SUPPORTED BY
MAYOR OF LONDON



ARUP

Thank you!

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