9 Summary of the Webinar Presentation

Vítor Oliveira

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Hosted by: Spatial Analysis and Simulation Lab/Community (SASL)
Title: **Discussions about New York's Ground: Dense, Diverse, and Sustainable**

Introduction

The Spatial Analysis and Simulation Lab (SASL) recently hosted Professor Vítor Oliveira. The session drew participants from around the world to explore how spatial morphology—the study of urban forms and patterns—can be integrated into urban design to address pressing environmental and social challenges. Dr. Nabil Mohareb, Associate Professor and session host, highlighted SASL's commitment to combining cutting-edge spatial analysis with innovative approaches to urban planning.

Speaker Profile

Prof. Vítor Oliveira is the President of the International Seminar on Urban Form (ISUF), Principal Researcher at CITTA/FEUP, and Professor of Urban Morphology and Spatial Planning at UL. He is associate editor of Urban Morphology, advisory editor for Springer's The Urban Book Series, and has authored several influential books and articles, earning over 3,000 citations worldwide.

Presentation Insights: **Theoretical Framework and Research Approach**

Oliveira presented key ideas from his forthcoming book, On New York's Ground: Dense, Diverse and Sustainable.

- **Core Concept:** The presentation centered on MRG Conzen's mid-20th-century concept of the "ground plan" (or town plan), which integrates three fundamental elements of urban form: street systems, plot patterns, and building arrangements on the ground.
- **Focus on Density:** The research uniquely emphasizes density within the ground plan framework, an aspect not heavily focused on by Conzen or subsequent researchers. Oliveira proposes the ground plan as a unifying concept to integrate diverse elements of cities.
- **Case Study - New York City**: NYC was explicitly chosen because its 1811 Commissioners' Plan for Manhattan inherently applied ground plan principles 150 years before Conzen formalized the concept, demonstrating its historical and practical relevance in a dynamic, mega-city context.

- **Objective:** To examine how specific types of ground plans coexist with and influence socioeconomic diversity and environmental sustainability.

Key Themes and Analysis Steps

Concept of the Ground Plan: Oliveira introduced and extensively discussed the "ground plan"—a foundational concept by MRG Conzen, comprising street systems, plot patterns, and building arrangements. Oliveira emphasized the ground plan's critical role in shaping urban form, influencing socioeconomic dynamics, and environmental sustainability. The research explored the relationship between the physical ground plan and its broader impacts through several steps:

1. **Analyzing Ground Plan and Building Fabric:**
    - Distinguish between land for movement (streets, connectivity measured by nodes) and land for occupation (street blocks divided into plots).
    - Highlighted the importance of plot characteristics (number, size – small plots foster adaptability, large plots lead to stasis) and building positioning (street-facing vs. setback).
    - Significant morphological differences between NYC boroughs (e.g., Manhattan's high connectivity and building-plot frontage coincidence vs. Staten Island's lower connectivity and detached buildings) were shown.
    - Analyzed building fabric, including height (noting 2/3rd of NYC buildings are low-rise) and street section (building height to street width), finding denser ground plans support more varied building fabrics.
    - Considered change over time, noting the age of NYC's building stock (2/3rds pre-1950) and analyzing changes within historic districts (e.g., plot amalgamation).
2. **Linking Ground Plan to Socioeconomic & Environmental Dimensions:**
    - **Social Fabric (People):** Investigated if the ground plan correlates with social indicators (income, employment, education, race) using case studies across boroughs (excluding Staten Island due to homogeneity). Found distinct correlations: East Village example showed Ground Plan Type A (dense, connected, small plots) coexisted with different social profiles than Type C (sparse, disconnected, large plots). Type A generally showed higher diversity, except for education.
    - **Economic Fabric (Establishments)**: Found denser ground plans (Type A) coexisted with significantly higher density (10x) and diversity of economic establishments compared to sparser types (Type C). Speculated that the prevalence of small plots in NYC encourages its high number of very small businesses.
    - **Environmental Impact (Land & Energy)**: Assessed consumption effectiveness. Denser ground plans accommodated more residents, workers, and pedestrians per

unit area. Preliminary energy data suggested that denser areas might be efficient (lower energy/GHG intensity for comparable buildings) and encouraging walking, and reducing transport energy use.

3. **Understanding Change (Past and Future):**

    - **Past:** Analyzed the 1811 Manhattan Plan as a foundational example of ground plan thinking, detailing its rules (street grid, block/plot sizes) and comparing its intent with the present-day city (noting plot survival and dominant building frontage).
    - **Future**: Explored the ground plan's applicability for intervention. Tested principles on the Gowanus Neighborhood Plan (Brooklyn), proposing modifications to enhance street connectivity, increase plot density (using a modular system), create continuous facades, and promote socioeconomic mixing in housing estate rehabilitation.

Interactive Session (Q&A): The interactive session featured several insightful questions from the audience:

Key discussion points included:

- Density Thresholds: While acknowledging thresholds likely exist beyond which density becomes detrimental, Prof. Oliveira argued most modern developments are far below this. He stressed his definition focuses on streets, street-blocks and plots density, not just building height, and sees density variation as a powerful planning tool.
- Density and Social Diversity: Density (particularly plot density) doesn't *create* diversity but *favors* socioeconomic mixing by providing varied, smaller units, unlike large plots/buildings that often house homogenous groups. Urban form enables or hinders social processes.
- Climate Change: Prof. Oliveira noted that his environmental analysis focused on land/energy use, not explicitly on climate change vulnerability patterns.
- Relevance to Other Contexts (e.g., Cairo): Prof. Oliveira reiterated his definition of density based on plots/agents/strategies, finding resonance with observations about activity linked to ground floor conditions in Cairo.
- Dynamic vs. Static Density: Adding the layer of people's daily movement ("movable density") would enrich the analysis. Current methods capture potential movement via connectivity, but analyzing actual flows is a further step.
- Planning & Inequality: Urban planning *can* significantly reduce social inequalities, especially when focusing on fundamental ground plan structures rather than superficial elements. Effective planning requires evaluation and understanding the link between interventions and outcomes.
- Cultural Context: The importance of cultural context shaping street form and frontage (citing Rappaport) was reinforced, with Manhattan serving as a key example.

Key Takeaways

- The organization of the ground (street systems, plot patterns, and building arrangements) profoundly influences urban life, including density, diversity, and sustainability.
- Denser ground plans correlate positively with socioeconomic diversity, economic vitality, and environmental efficiency.
- Small, adaptable plots are crucial for urban resilience and social mixing.
- The 1811 Manhattan Plan validates ground plan principles.
- These principles can be actively used in contemporary urban design and regeneration.
- Understanding the *type* of density is critical; plot-based density often differs in impact from building density (such as FAR).
- Effective urban planning for social equity should address fundamental spatial structures**.**

Conclusion

Oliveira reiterated the core idea: how cities are organized on the ground fundamentally shapes everyday life and long-term sustainability. Mohareb thanked the speaker for a valuable and insightful presentation and discussion, concluding the session.

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