

Efficient Land Use: Tools and Practices

Enhancing Land Management, Land Development and Construction



المؤتمر العربي الثاني للأراضي

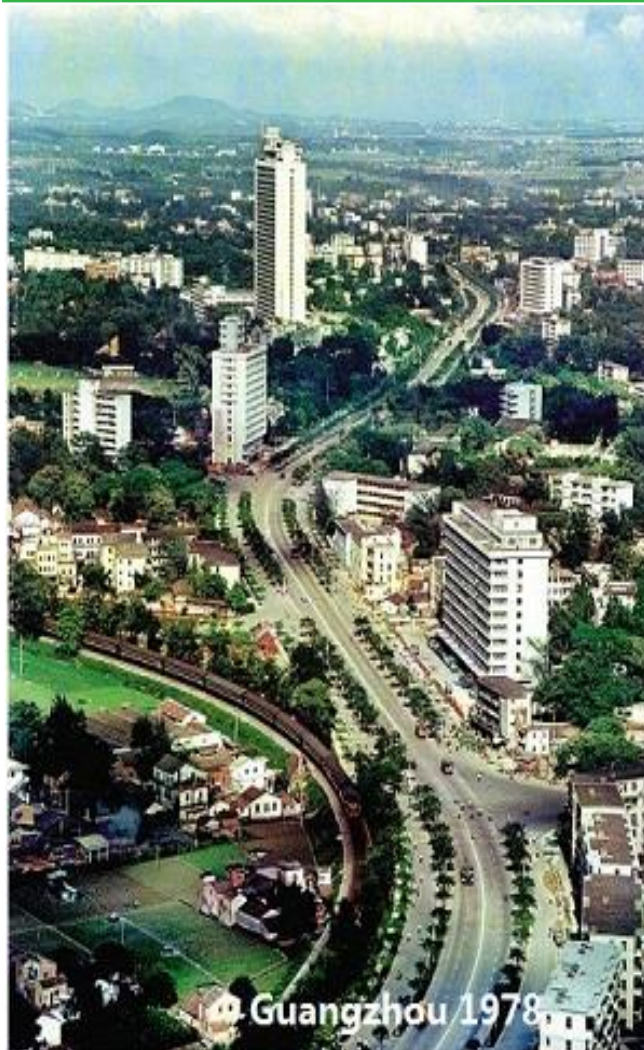
Second Arab Land
Conference

22-24 FEBRUARY 2021
CAIRO, EGYPT

The role of urban governance in shaping the resilience of urban form

Alaa Mohamed Kassem

Change in Urban form



Space Syntax

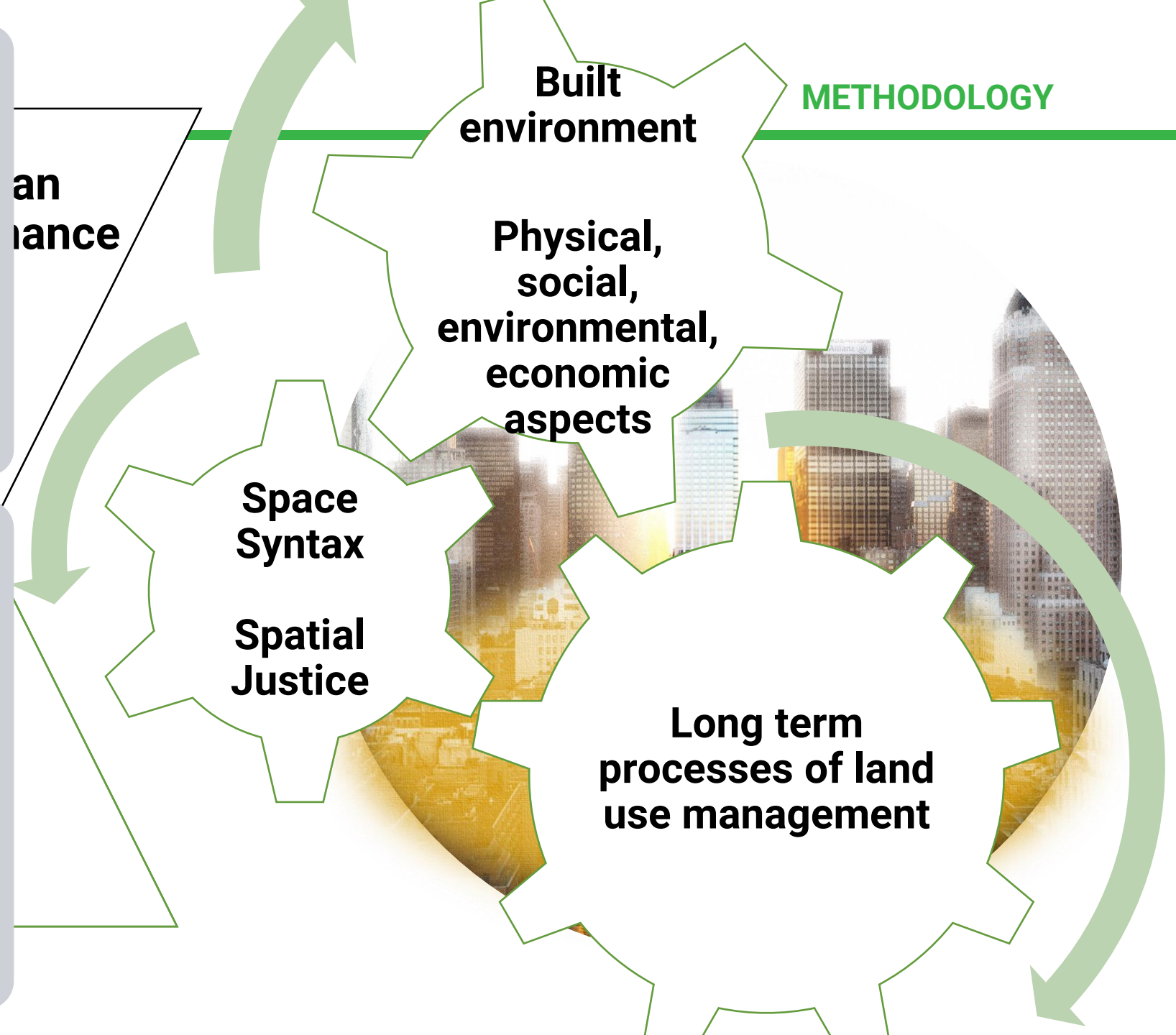
Is a set of techniques for analyzing spatial layouts and human activity patterns in buildings and urban areas.

where people are, how they move, adapt, develop and how they talk about it.

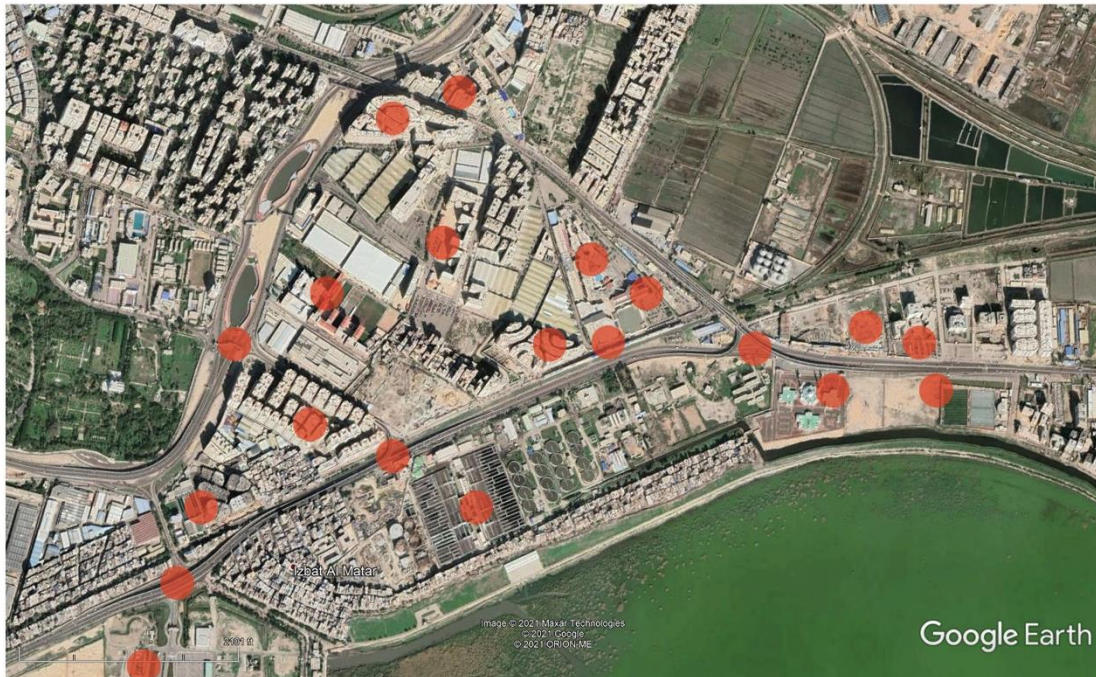
Spatial Justice

Is about people's control over how urban space is imagined, planned/designed and lived.

It is both a goal and a tool to be used in the process of design.



							Case 1	Case 2	
Maps		Before	Observational comparison through years						
		After							
Built environment	Physical	Density							
		Street layout and building types							
	Environmental	Public transport accessibility							
		Green space							Data collection Trace the change
	Social	Land use							
		Tenure							
	Economic	Property values over time							
		Property values in urban context							
Urban Governance Long-term processes of land use management		Land ownership							
		Planning							
		Finance							
Resilience Attributes			A1	A2	A3	A4	Correlation		
Space Syntax		Choice	●			●			
		Integration		●					
		Connectivity			●	●			
Spatial Justice		Usage	●						
		Experience	●	●	●				
		Future		●		●			
								Qualitative and quantitative analysis Measure the effects	



Mahmoudeya Canal Road re-planning
New University Campus
Hotel

Airport closure and reusing land into
futuristic projects

International Schools

Shopping Mall

Bridges

Residential Compounds

Mosques and ballrooms Complex

New Alexandria Government Building

Reusing "Entertainment Forest" into new
recreational projects

URBAN GOVERNANCE and BUILT ENVIRONMENT aspects

Built Environment			Ezbet El-Nozha	Sidi gaber
Physical	Density	Levels of population	+	+ +
		Built form	-	+ +
	Street layout and building topologies adaptations		+ +	-
Social	Diversity	Land use	+ +	+
		Tenure	+ +	+
Environmental	Public transport accessibility		-	+ +
	Green spaces		+	-
Economic	Property values		+ +	-

SPACE SYNTAX / Connectivity

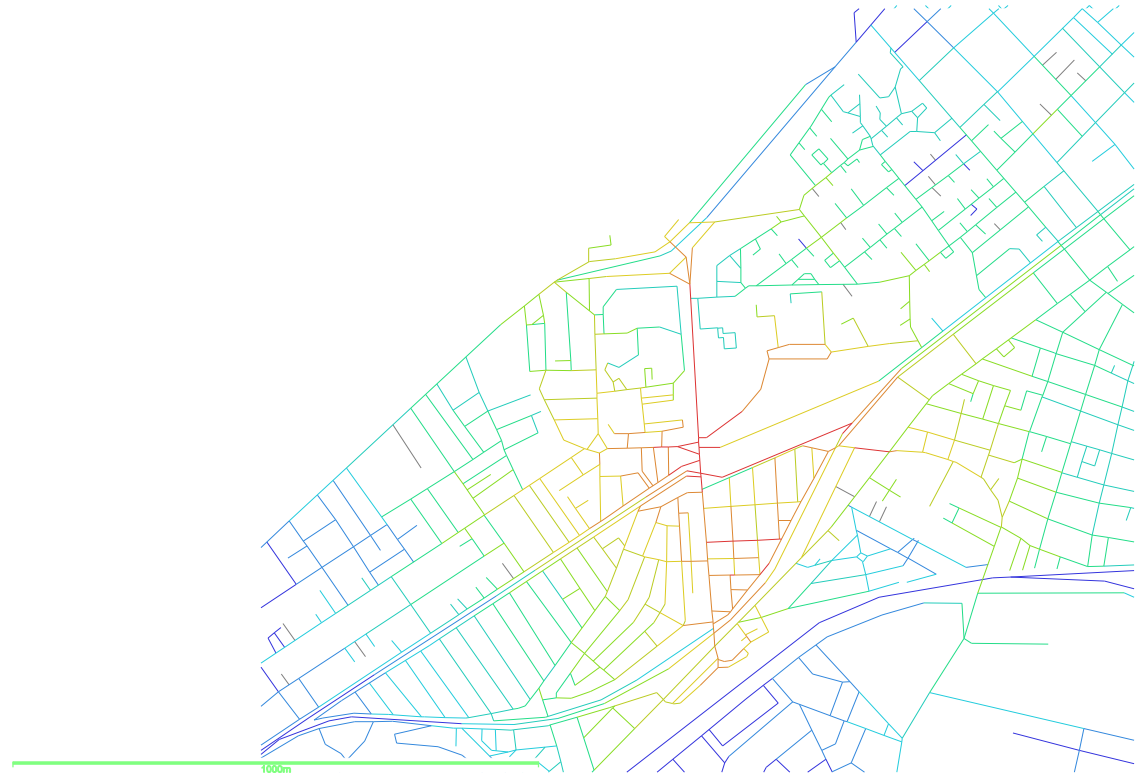
Sidi Gaber

2021

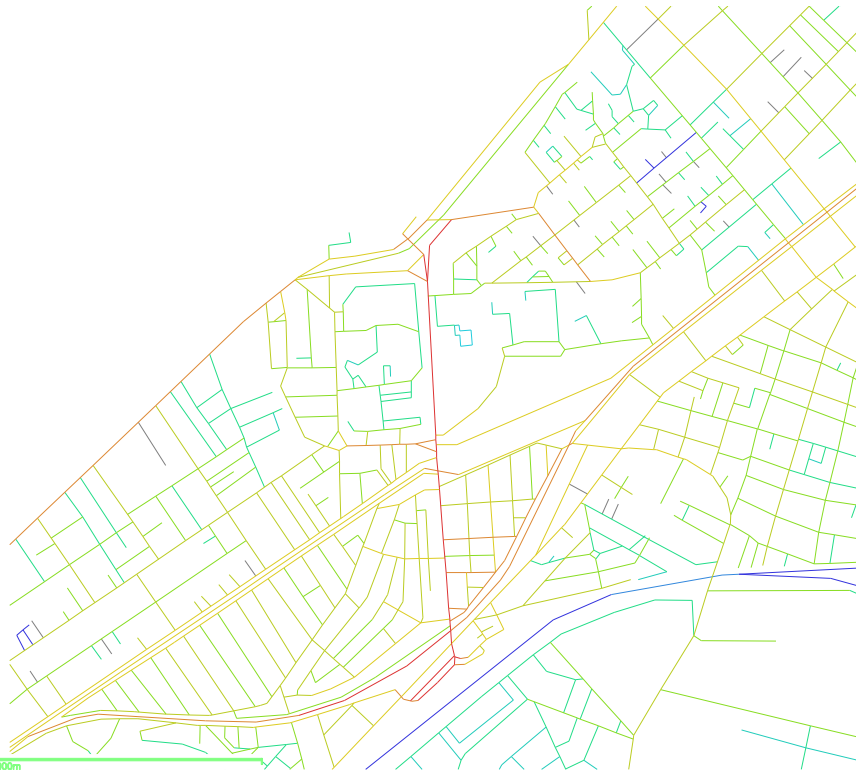
Global Connectivity
R25000 M



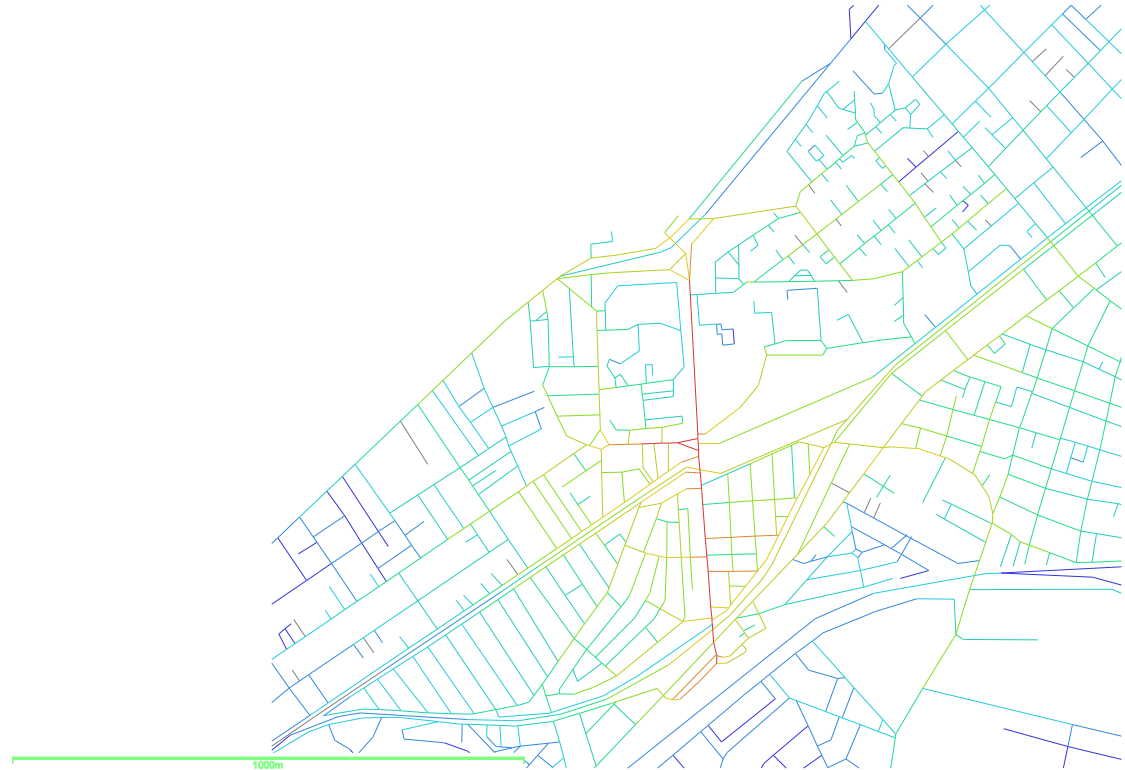
Local Connectivity
R800 M

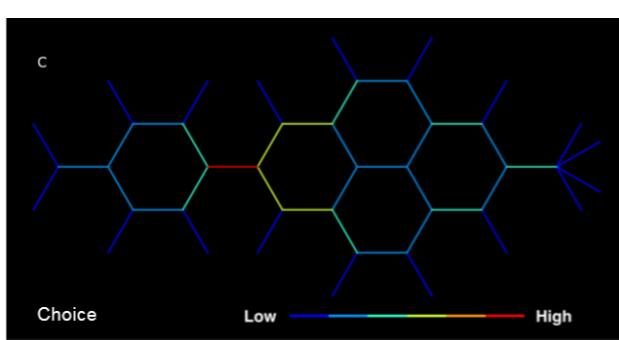


Global Integration
R25000 M



Local Integration
R800 M



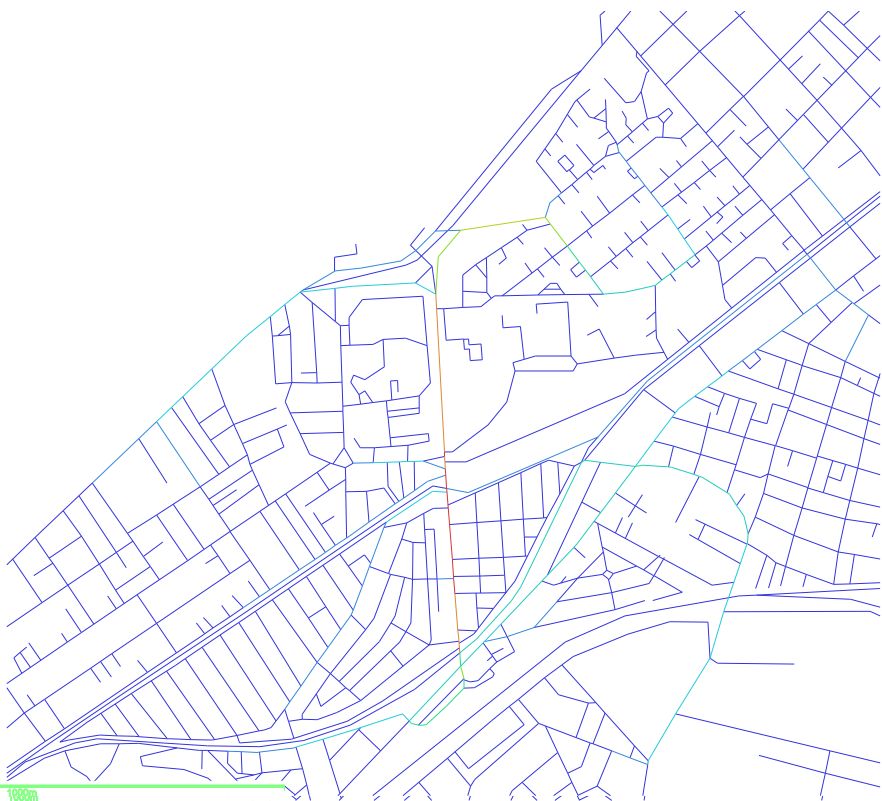


SPACE SYNTAX / Choice

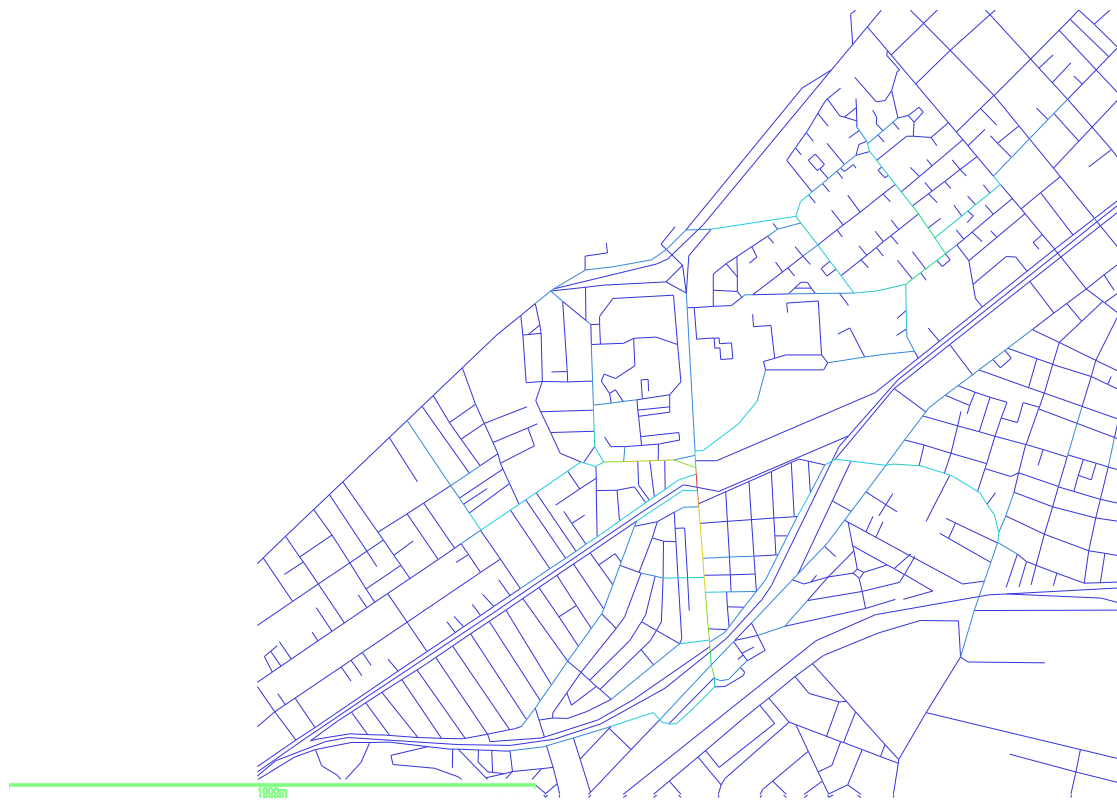
Sidi Gaber

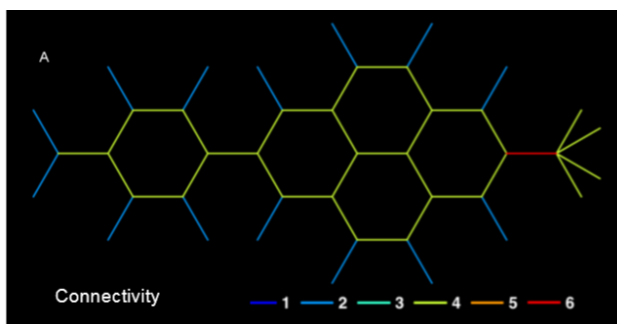
2021

Global Choice
R25000 M



Local Choice
R800 M



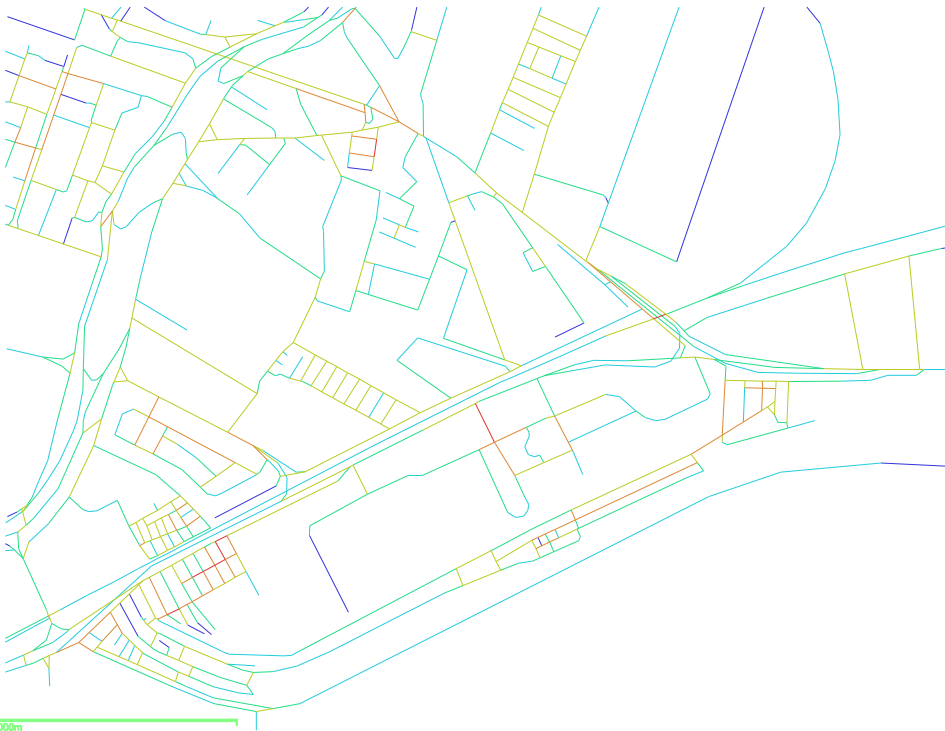


SPACE SYNTAX / Connectivity

Ezbet El-Nozha

2021

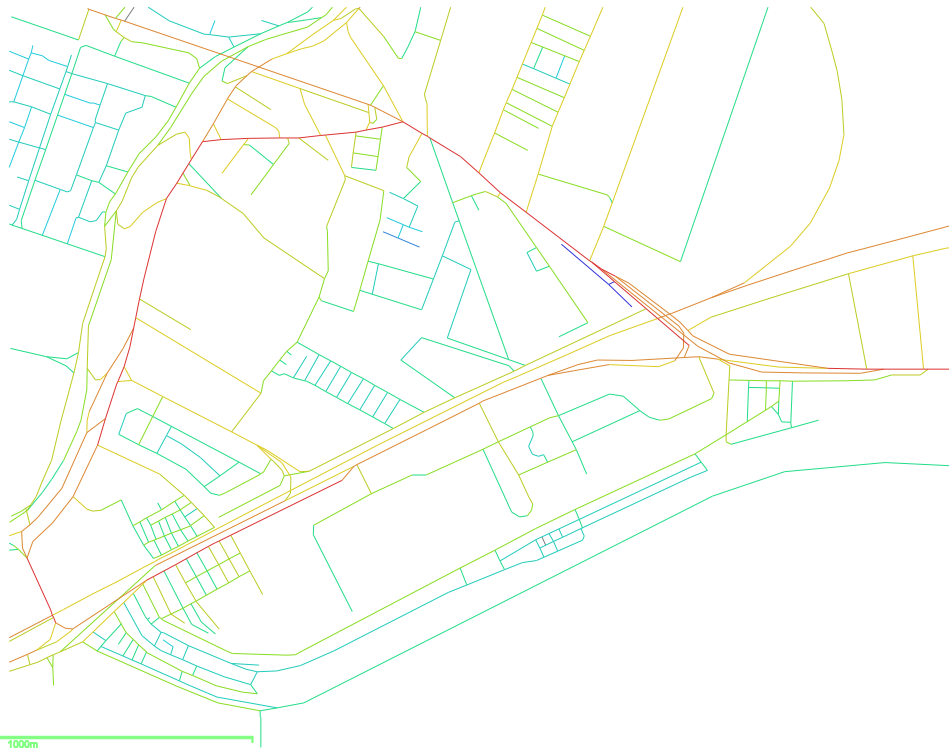
Global Connectivity
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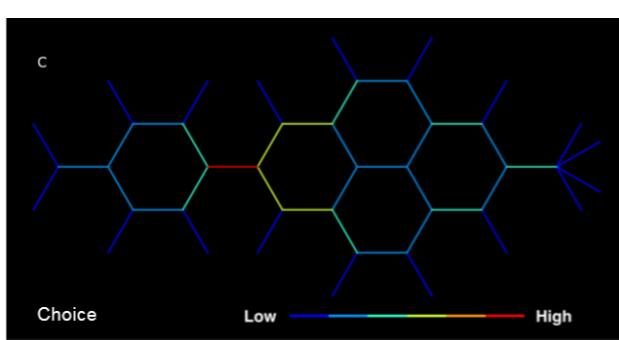


Global Integration
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Local Integration
R800 M



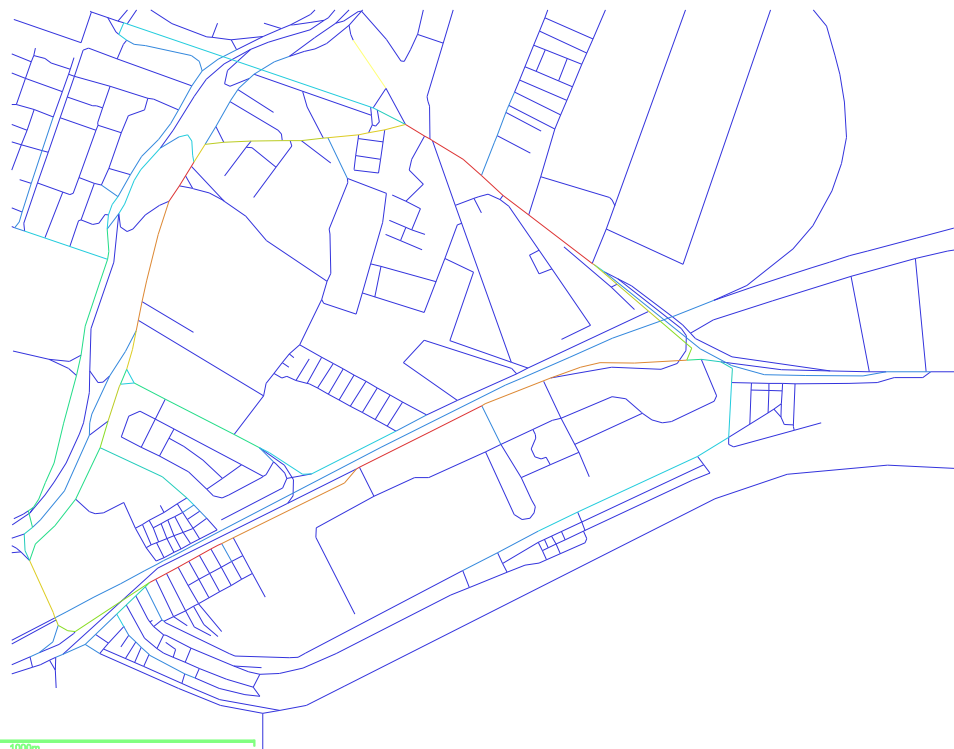


SPACE SYNTAX / Choice

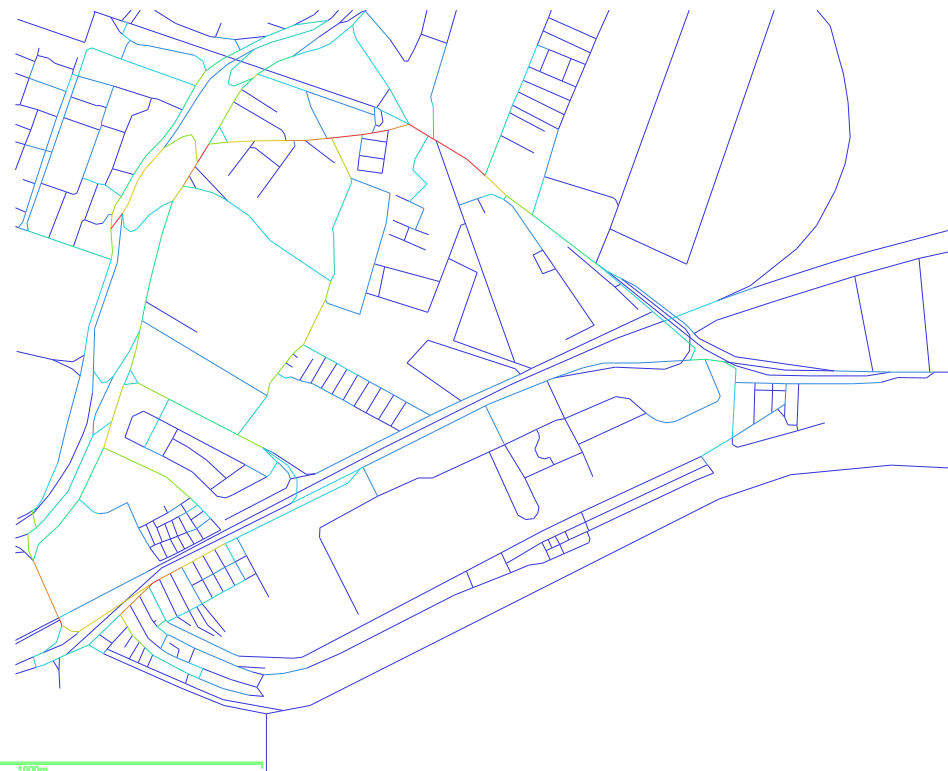
Ezbet El-Nozha

2021

Global Choice
R25000 M



Local Choice
R800 M



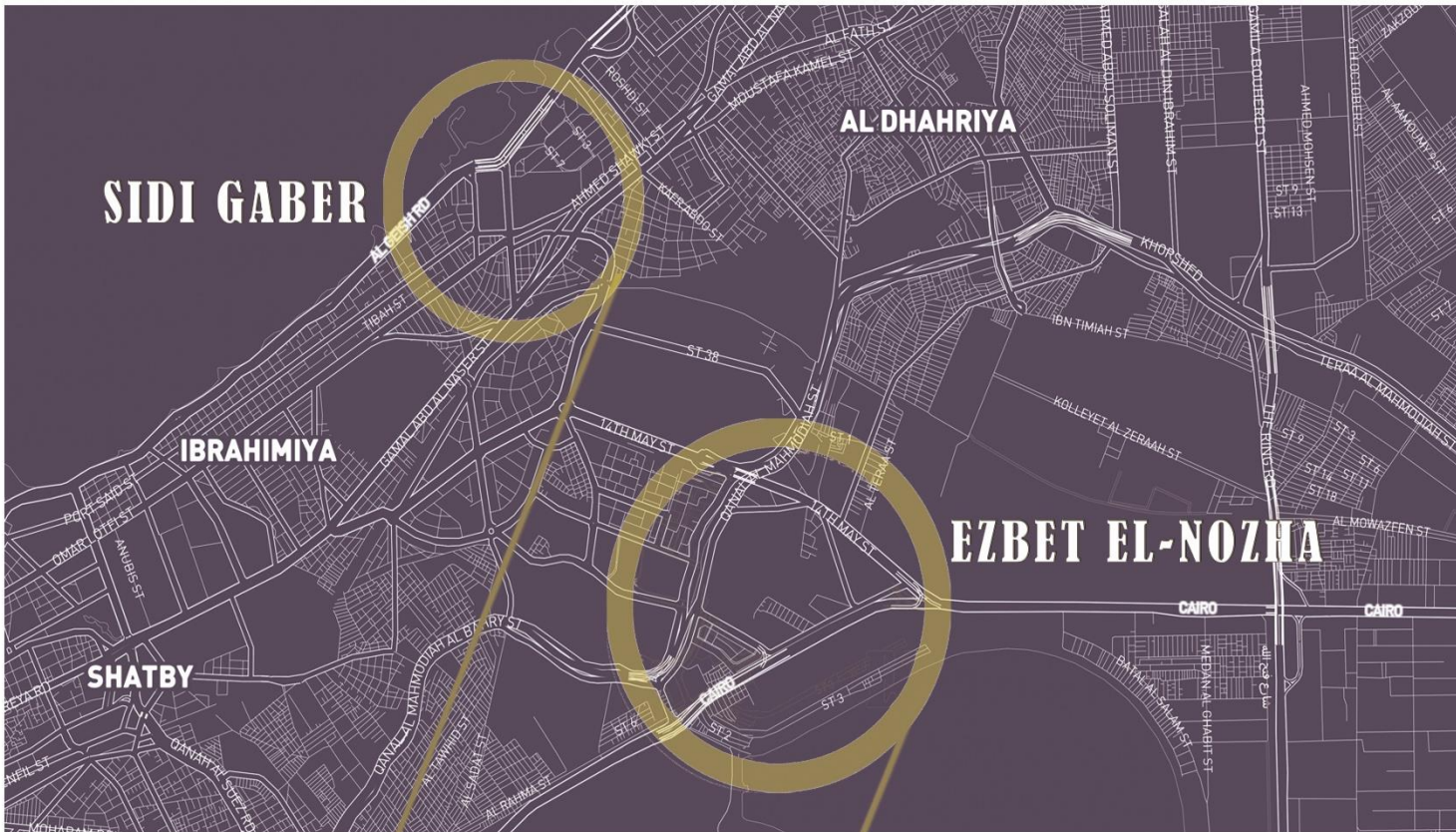


SPACE SYNTAX

Data Comparison

3.40	Connectivity	3.14
4030.65	Total Connectivity	2924.33
997.68	Local Connectivity	580.52
215.28	Global Integration	177.12
83.35	Local Integration	53.92
27052.70	Global Choice	21790.30
2839.53	Local Choice	1551.33

Ezbet El-Nozha	Key words	Criteria	Values	Measures	Sidi gaber
+	Journey quality Connectivity	Accessibility	Usage	Travel time (public /private) Reliability Distance and connectivity	+ +
+ +	Sensitive to changes in function Lasting value	Adaptability	Future	Flexibility in development over time Investment value and depreciation	-
+	Functional dynamics Simultaneous functions	Sustainable structure	Future	Integration of land use zoning with factors of environment/social cohesion	-
-	existing infrastructure utilisation Logical sequencing	Functionality in time	Future	Initial investments Phasing	+
+	Sustainable development				+



5	Usage value	3
4	Experience value	-1
-2	Future value	4

SPATIAL JUSTICE

Data Comparison

Rating system		
Highly sufficient	++	2
Moderately sufficient	+	1
Moderately insufficient	-	-1
Highly insufficient	--	-2



3	Flexibility	6
2	Efficiency	4
6	Capital Building	1
8	Physical/Social Connectivity	3

Results and CONCLUSIONS

Long term perspectives and planning regulations enhanced capital building and physical/ social connectivity, which aids resilience

Urban scale projects and investments led to higher efficiency and flexibility, due to diversity in land uses, and higher land values, while gated communities, building-by-building development and fragmented ownership led to loss in capital building and physical/social connectivity

**Resilience attributes in correlation to
“estimated” results from Space Syntax and Spatial Justice upon comparative analysis**

THANK YOU FOR THE ATTENTION!