



**Growth Management Policies - An
Assessment of Their Impact on Open Space:
The Case of Israel's Sharon Region**

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Research questions

- **What is the rate of loss of open space in the Sharon region between 1966 and 2003?**
- **What policies might be influencing this rate?**
- **Are growth management policies successful or do they have the potential to be successful?**
- **What cultural, demographic and/or economic trends might be influencing the rate of land cover transition?**

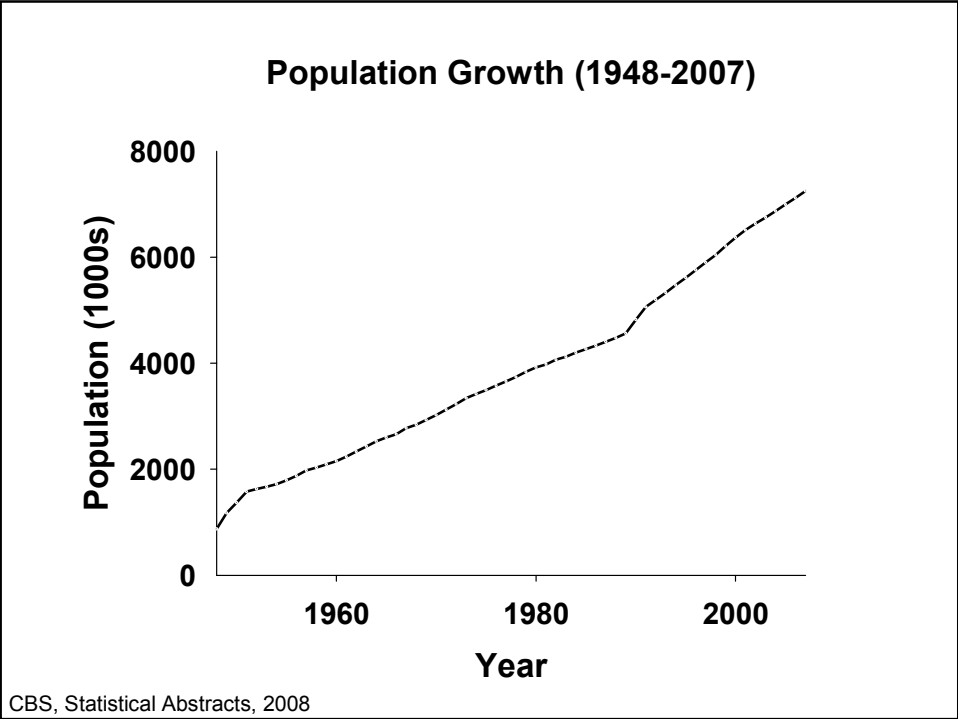
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Why study loss of open space?

- High biological diversity
- Damage and loss of ecosystems
- Ecosystem services
- Future reserves





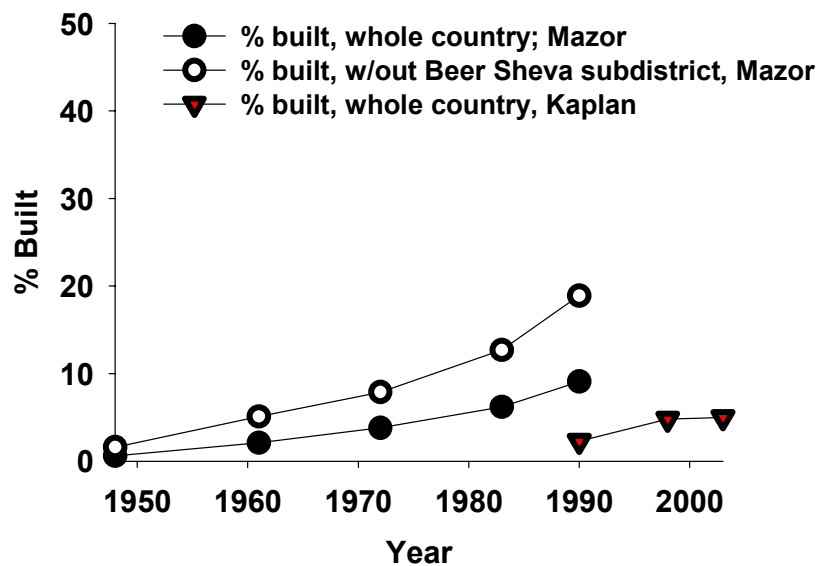
**Israel's
National
Bird?**



Israel's National Bird? Crane!



Proportion of land built (1948-2003)



Mazor, Table 5.2; P164; Israel 2020

Kaplan, Table 8.2; P161 Patterns of utilization of constructed land in Israel

Evolving paradigms in Israeli spatial planning

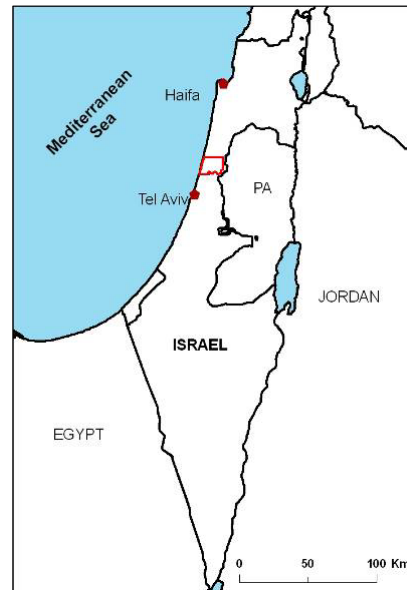
- **1950s – 1960s**
 - Distribute population to peripheries
 - Preserve agricultural land
- **1970s – 1980s**
 - Decline of consensus around agriculture
 - Rise of suburbs and exurbs (peripheries)
 - Fragmentation of planning goals
- **1990s - present**
 - Provide for immigrants and increased demand for development
 - Preserve open space
 - Distribute population to peripheries
 - Resurrection of national-level spatial planning

Central principles of Master Plan 35

- **Urban development and prevention of suburbanization (sprawl)**
- **Preservation of open space: Nature, agriculture and village**
- **Accelerated development of public transportation**
- ...

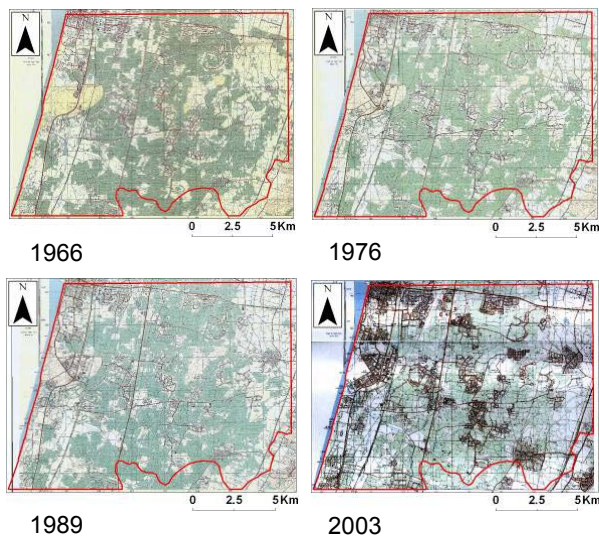
Spatial unit of analysis

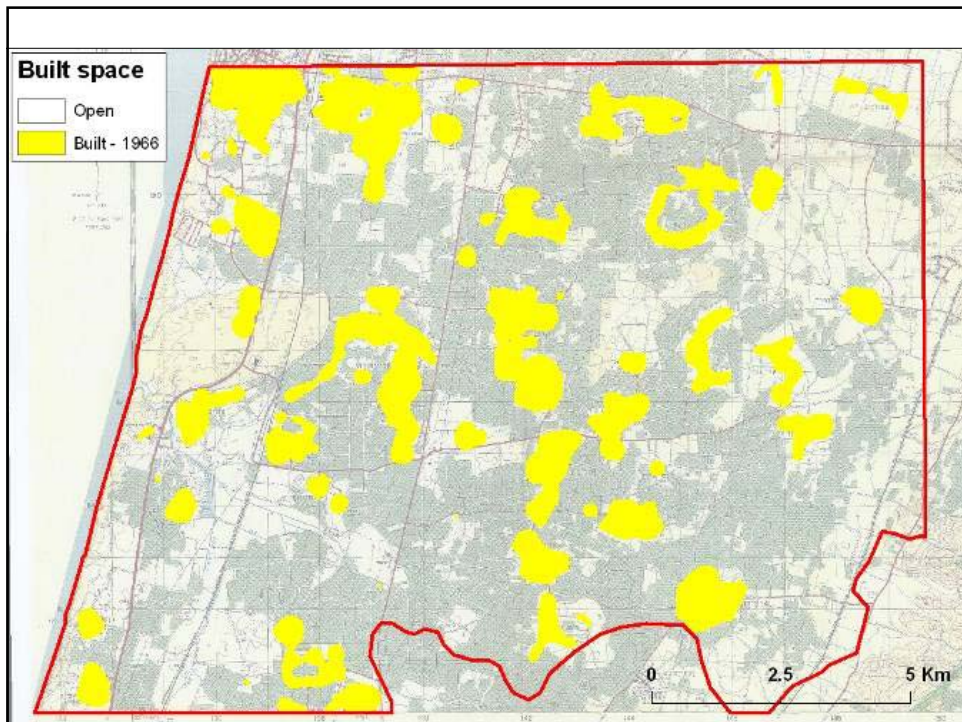
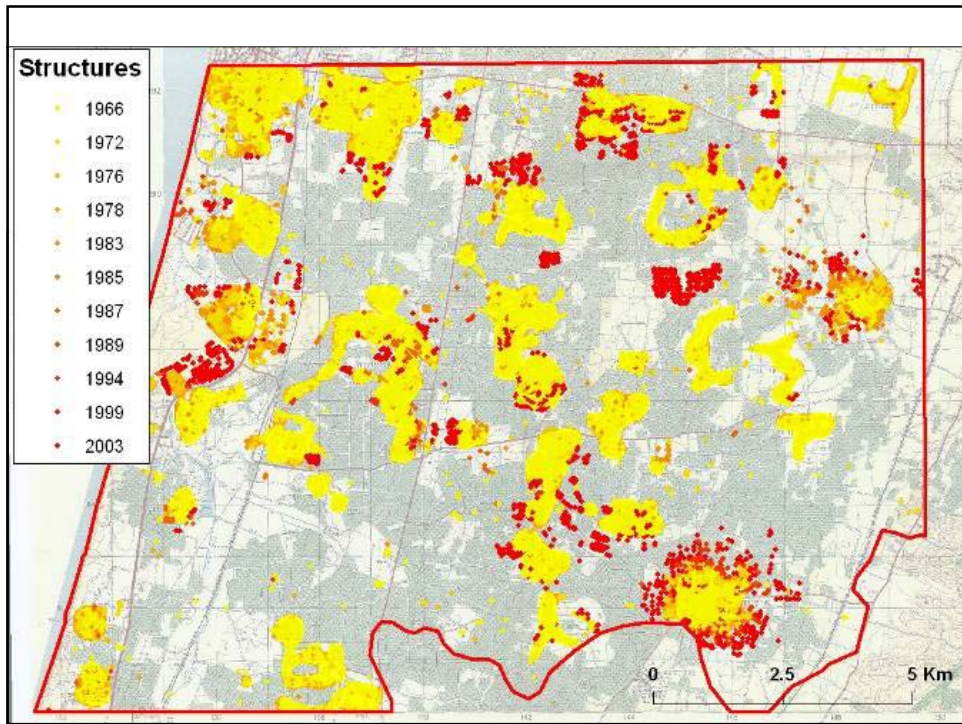
- Sharon coastal region
- 17,200 ha
- Comprised of regional councils (3), local councils (5), and cities (3)

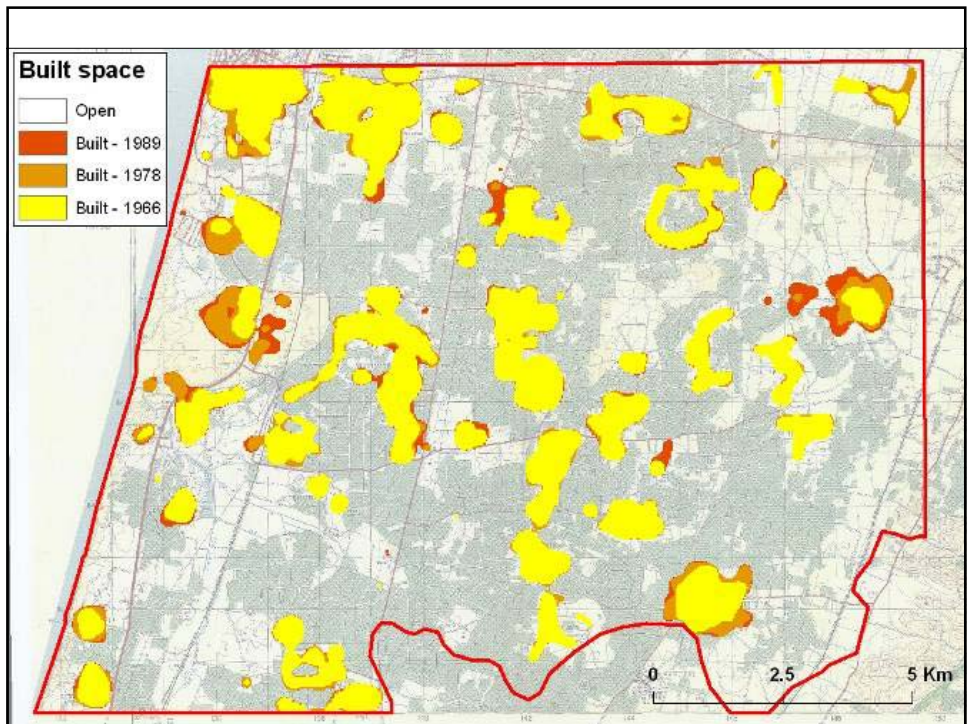
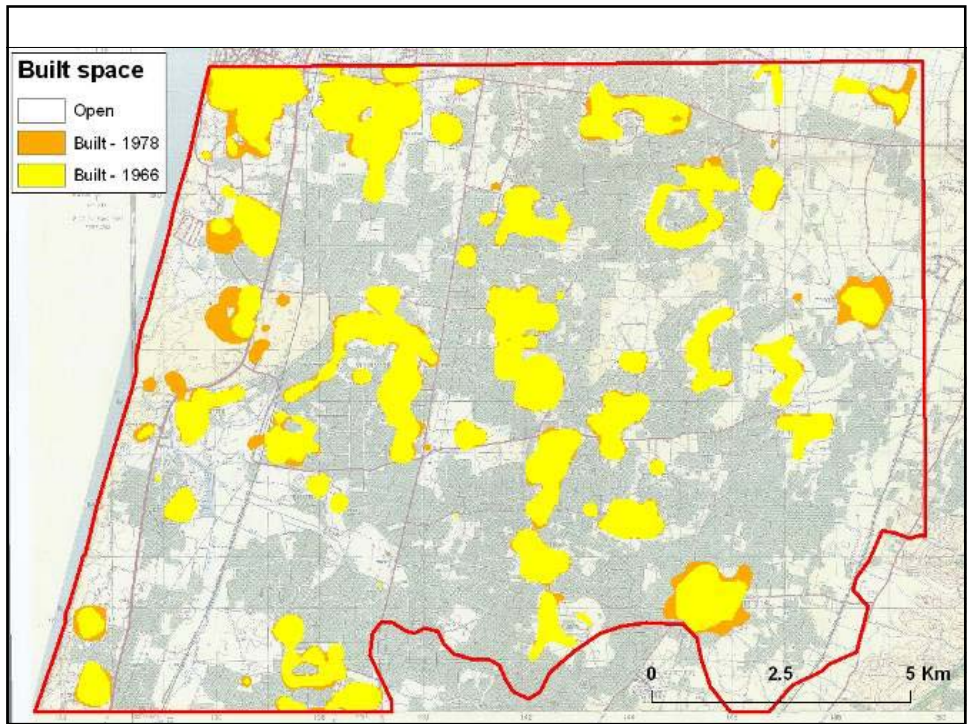


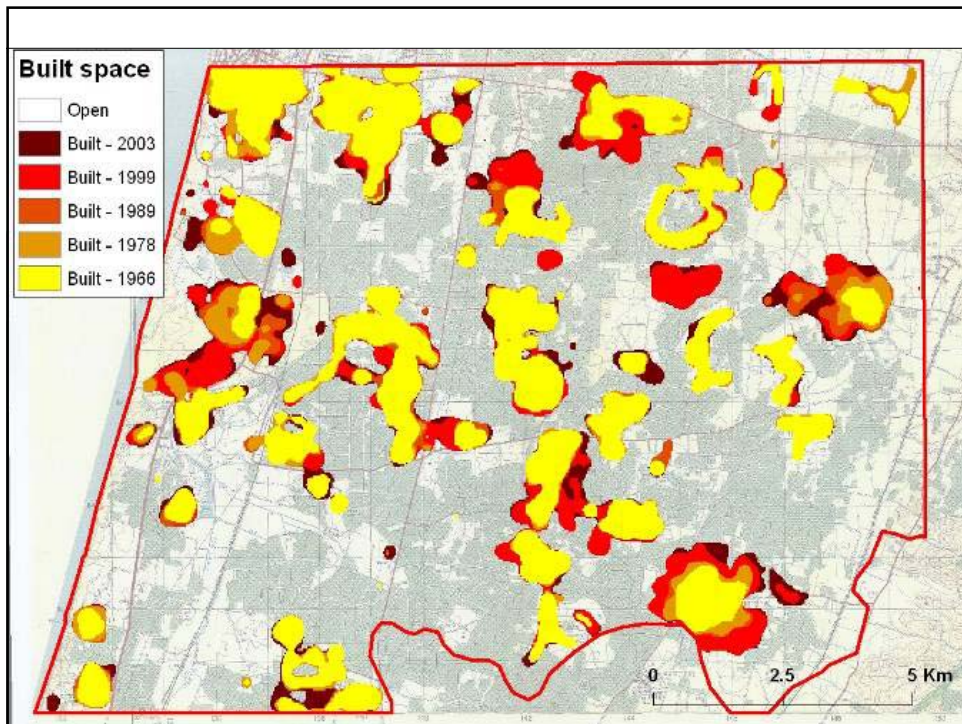
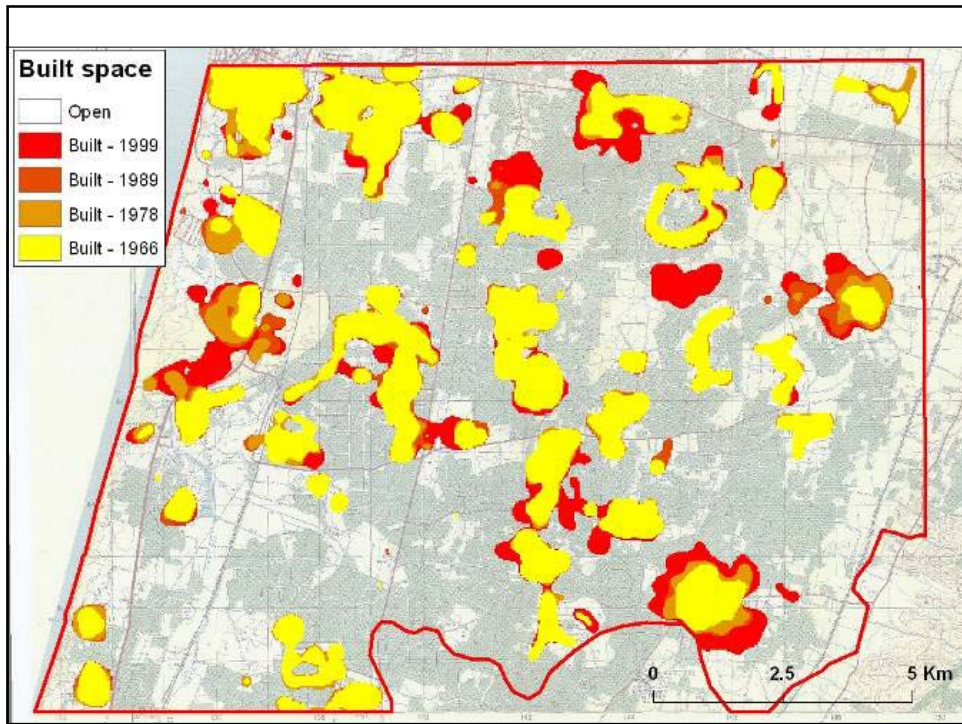
Spatial Data

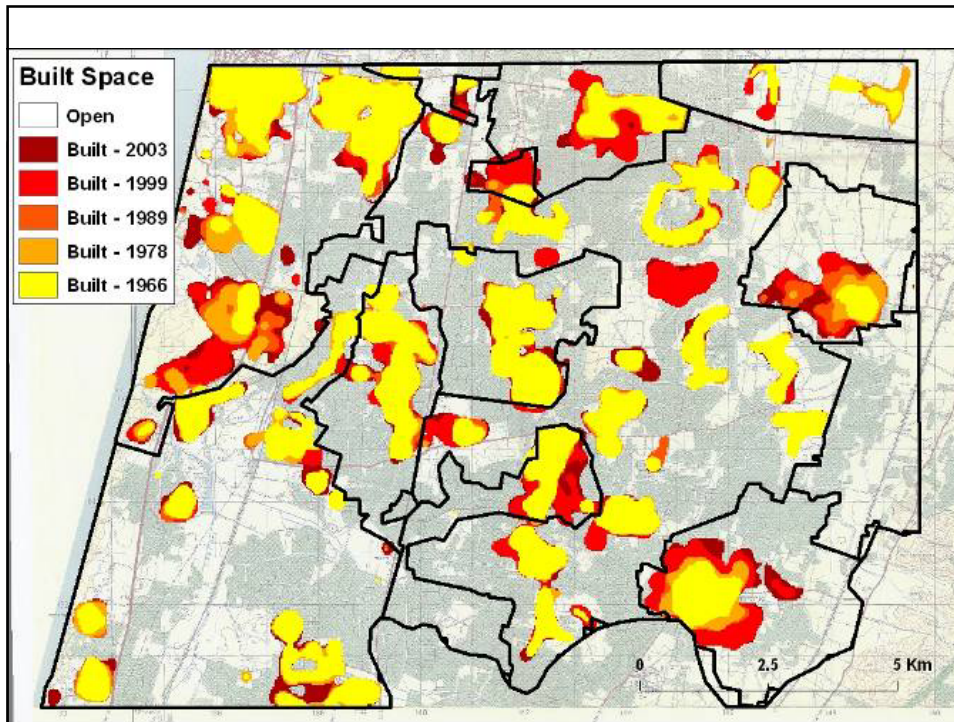
- 11 maps
 - Survey of Israel
 - 1:50,000 scale
 - Buildings, roads, land use, topography, infrastructure
 - 1966-2003



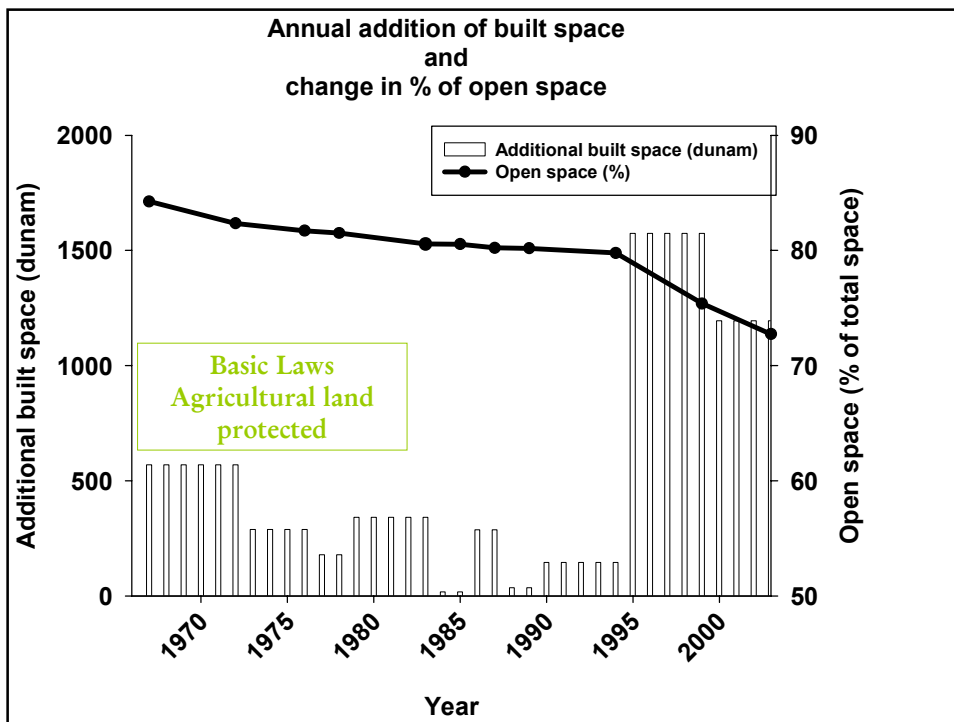
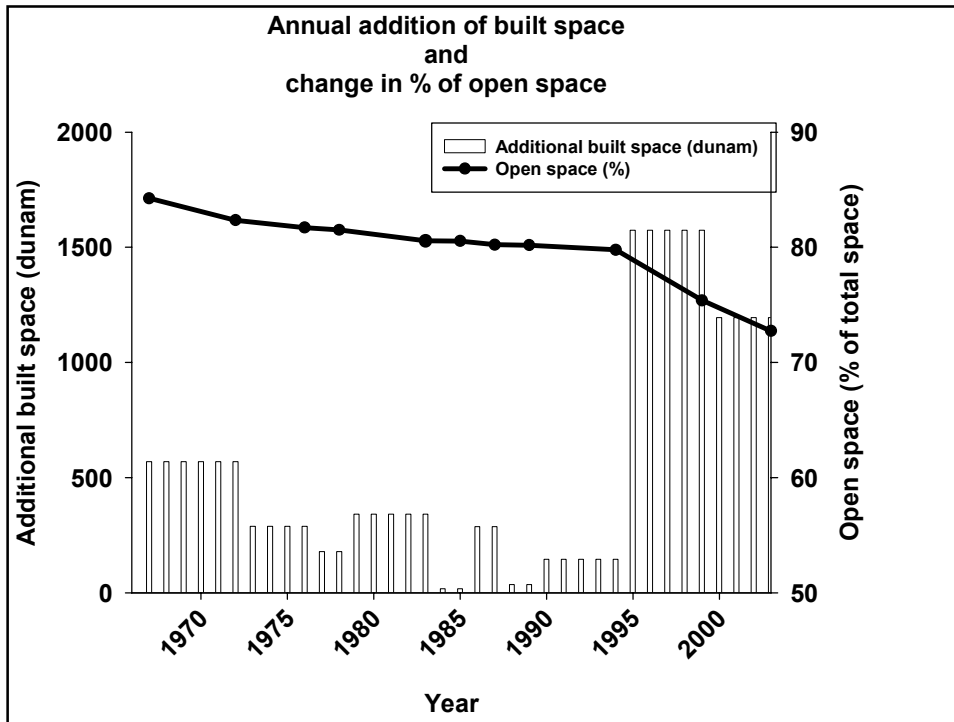


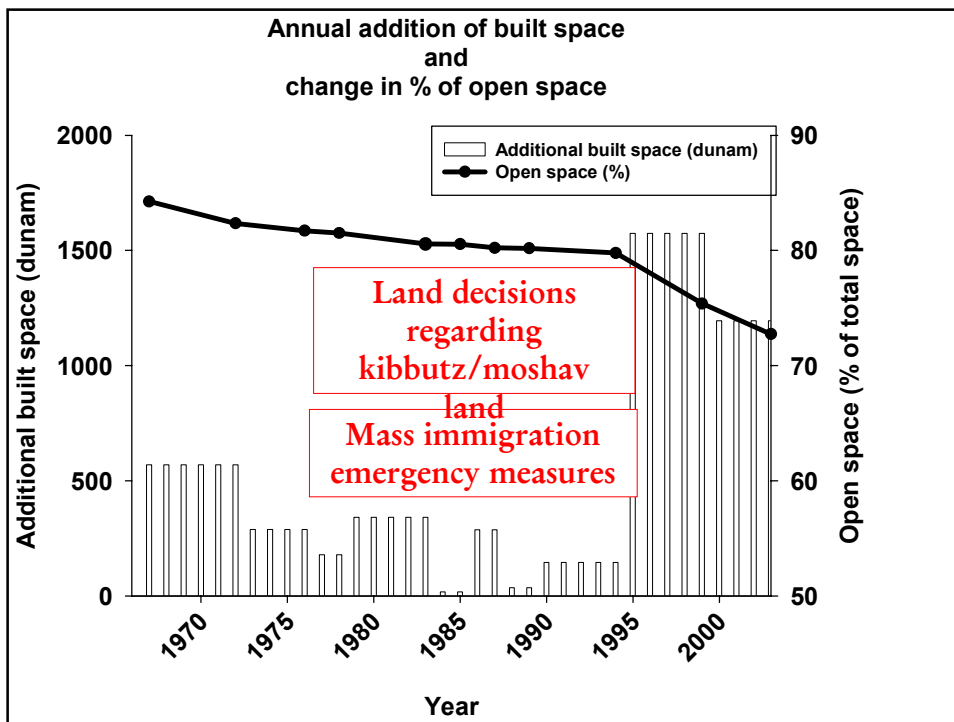
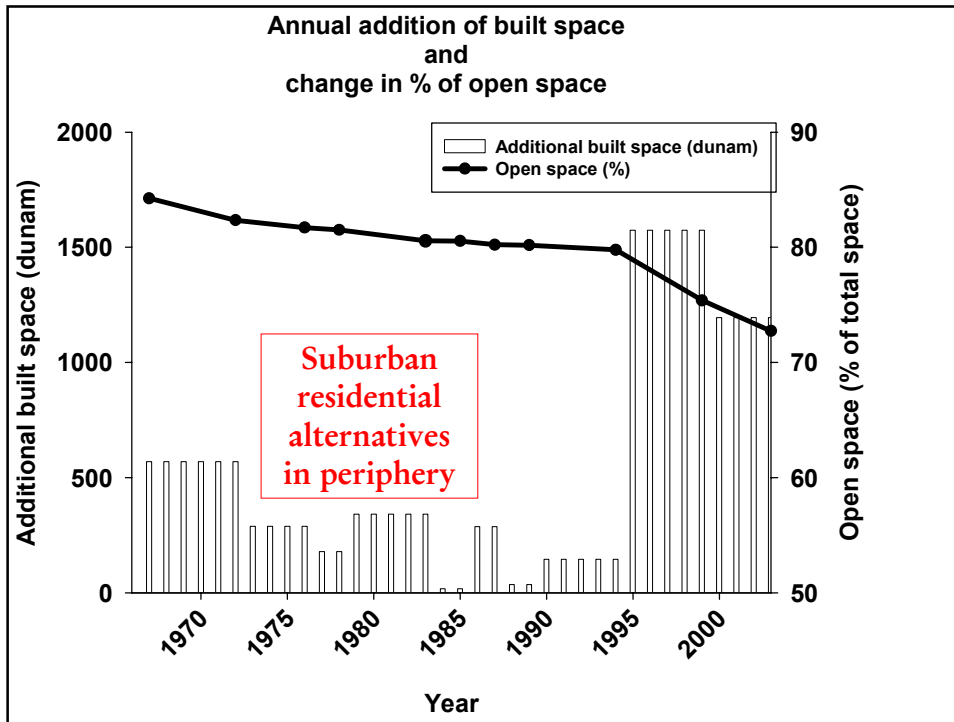


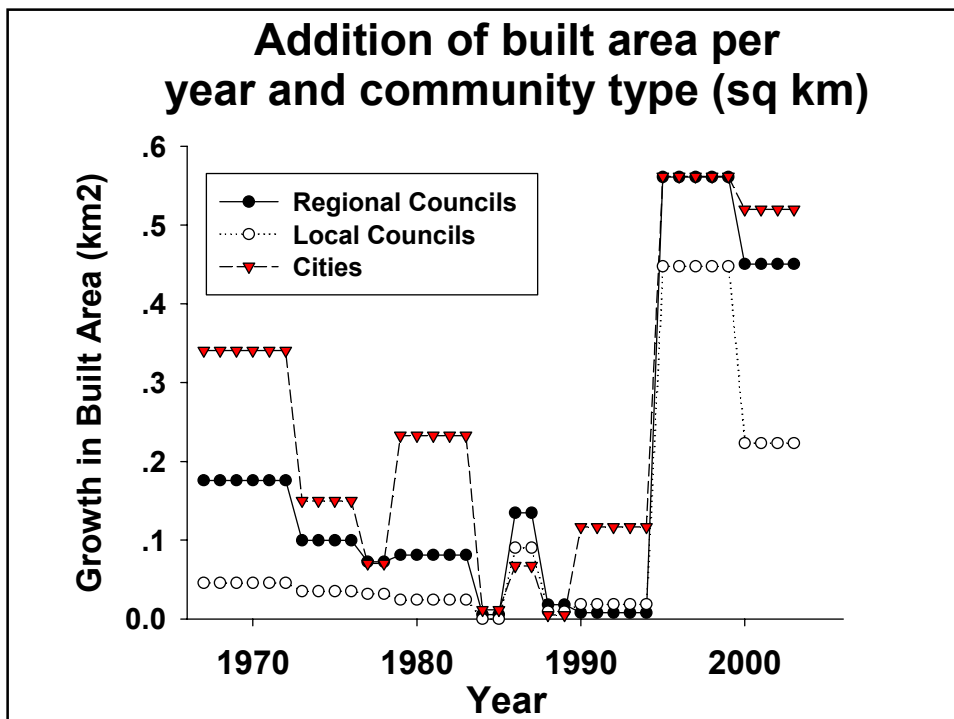
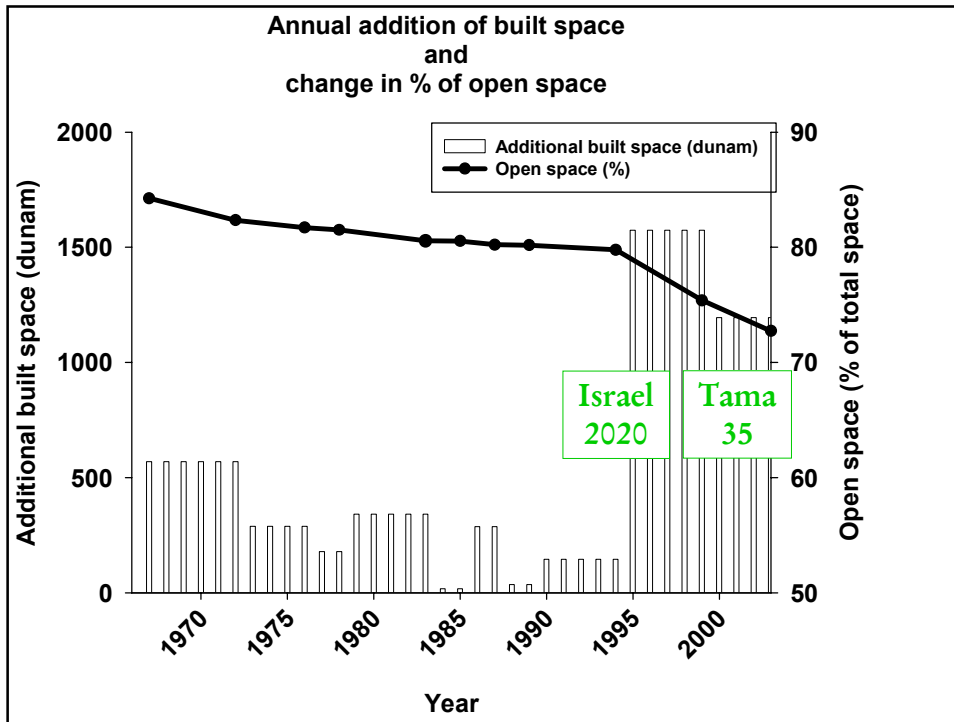




Year	Built (ha)	Annual Change Built $[(\text{Built } t_2 - \text{Built } t_1) / \text{Built } t_1] / (t_2 - t_1)$	Open (%)
1966	2830		84.25%
1972	3170	0.32%	82.35%
1976	3280	0.16%	81.71%
1978	3320	0.10%	81.51%
1983	3490	0.19%	80.56%
1985	3490	0.01%	80.54%
1987	3550	0.16%	80.22%
1989	3560	0.02%	80.18%
1994	3630	0.08%	79.78%
1999	4420	0.88%	75.39%
2003	4890	0.67%	72.73%







Interim conclusions

Historical analysis of thematic maps can assist in:

- Quantifying rates of land cover conversion and loss of open space
- Assessing the temporal gap between policy implementation and the creation of facts on the ground
- Spatially explicit analyses of the impact of land use policies

Agricultural land preservation policies were effective at preserving open space

The impact of open space preservation policies may take an extended amount of time to show on the ground

Thank you!

