

Low-carbon reinvention of Suburbia; a thought experiment.

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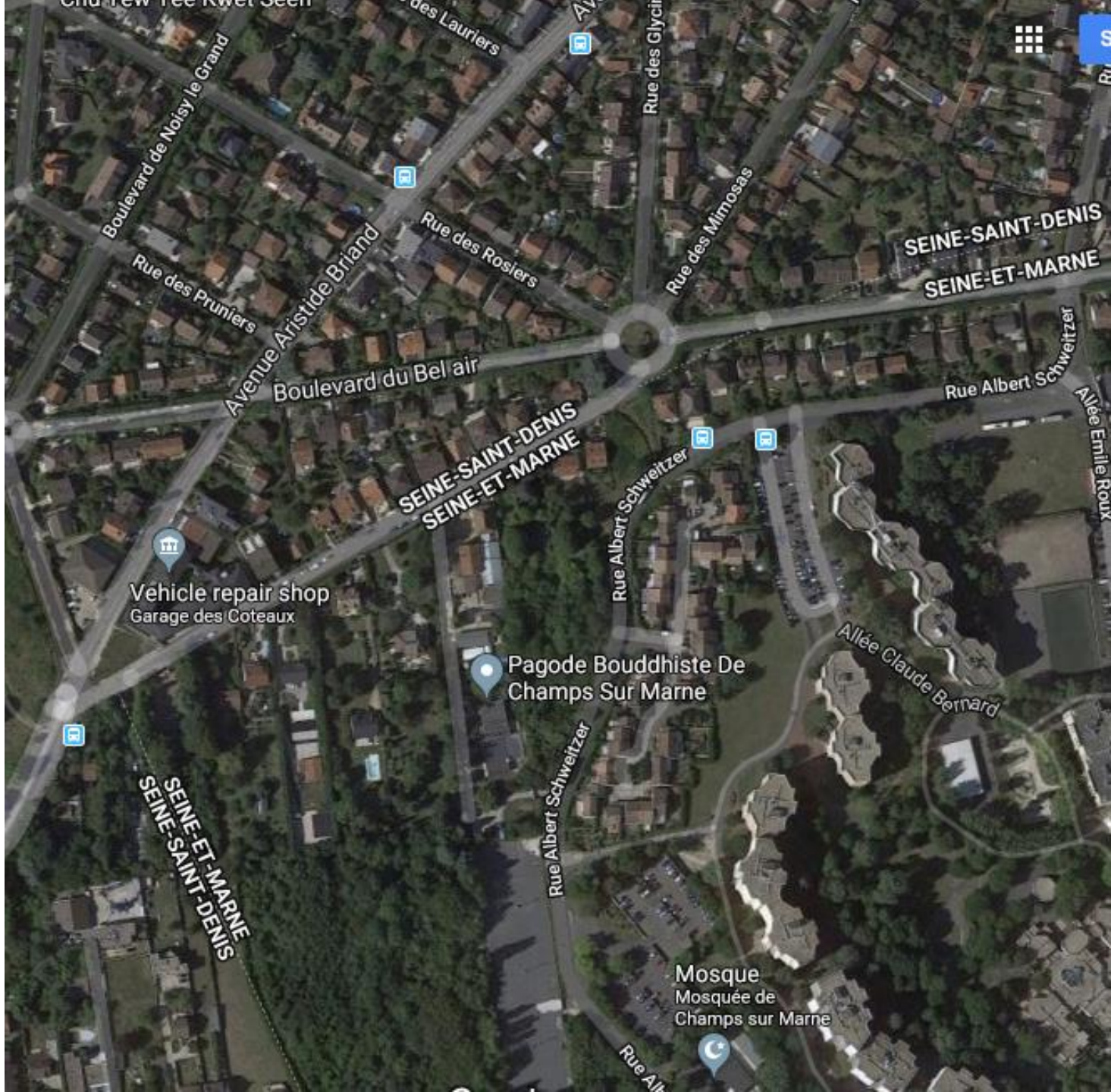
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Visions of a low carbon transition in suburbia?

- Focus on larger cities in the global north
- Not focusing on Shrinking cities
- Not focusing on rapidly growing/expanding cities (like in the global south, China...).
- densification
- Transport mode switch
- Suburbia as distopia

What is suburbia

- An American consumerist dream, imported to less affluent, more crowded and more planned/managed European cities.
- Von Thunen definition? The distance from the city where the cost of a plot of land drops lower whilst the cost of (car) transport to work is still affordable.. i.e. for the working middle class.
- Places to live comfortably (big homes, green, people like you), within driving distance to work.



Boulevard de Noisy le Grand

Rue des Lauriers

Rue des Glycines

Rue des Mimosas

SEINE-SAINT-DENIS

SEINE-ET-MARNE

Rue des Pruniers

Avenue Aristide Briand

Boulevard du Bel air

SEINE-SAINT-DENIS
SEINE-ET-MARNE

Rue Albert Schweitzer

Allée Emile Roux

Véhicule repair shop
Garage des Coteaux

Pagode Bouddhiste De
Champs Sur Marne

Allée Claude Bernard

SEINE-ET-MARNE
SEINE-SAINT-DENIS

Rue Albert Schweitzer

Mosque
Mosquée de
Champs sur Marne

Rue Al...

by Joseph L. Arnold

Arnold, J.L., 1971. *The new deal in the suburbs: a history of the greenbelt town program, 1935-1954*. The Ohio State University Press.

For as long as man has been building cities, families wealthy enough to arrange it have sought to escape the dangers and discomforts of urban life by removing themselves to the suburbs.

As early as the 1820s, American real estate firms were advertising suburban homes for the commuter who wished to combine the advantages of life in the country with the conveniences of the city; and throughout the nineteenth century, extensive suburban settlements grew up around every American city. By the end of the period, indeed, settlements that had once marked the outer limit of the urban fringe had been passed over by newer waves of refugees, all in eager pursuit of the new and inevitably larger homes that had become accessible as a result of the steady extension of the rail and trolley lines.

TURN YOUR DREAMS INTO A

Reality.



4 bedrooms, 3 baths... **2 FORDS**



Suburbs feeling the pinch as fuel prices soar

Helen Chernikoff

9 MIN READ



Reuters.com
July 0, 2008

NEW YORK, (Reuters) - Ever since the rise of the automobile in the 1950s, the American Dream has featured a home in the suburbs and two cars in the garage.



Now the iconic white picket fence comes with a hefty price tag in the form of the cost of the gasoline needed to drive to work and to the supermarket, and the suburban idyll is under review.

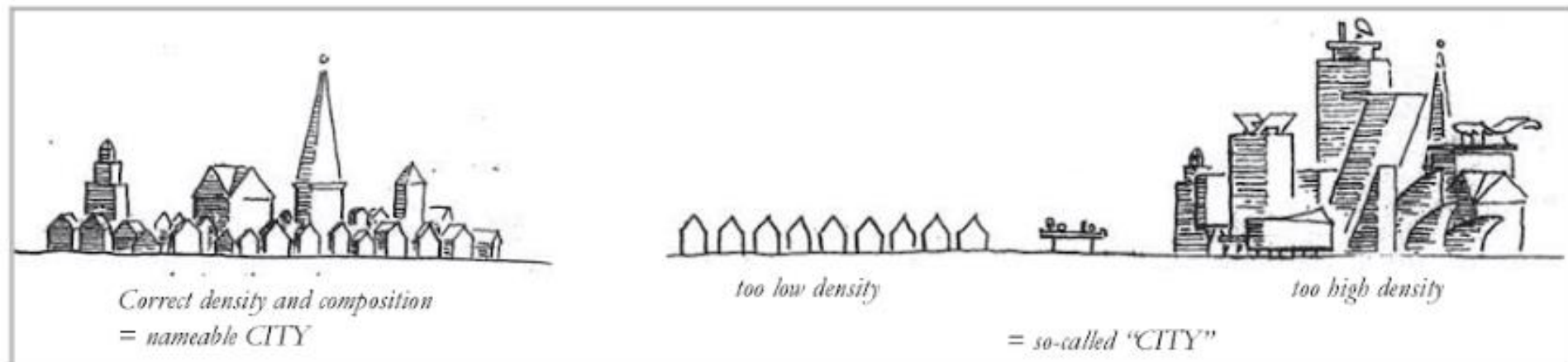
In different parts of the United States, there are signs of change. While home prices in the suburbs have crashed, apartments in city centers are in demand. Home builders across the country are



Nightmare scenario?



Cities; Scale, density, form, function



Deependra Prashad (ed), 2010. *New Architecture and Urbanism: Development of Indian Traditions*. Cambridge Scholars Publishing.

Chapter by Leon Krier; Growth; Maturity or Over-development?

THE CITY OF URBAN COMMUNITIES



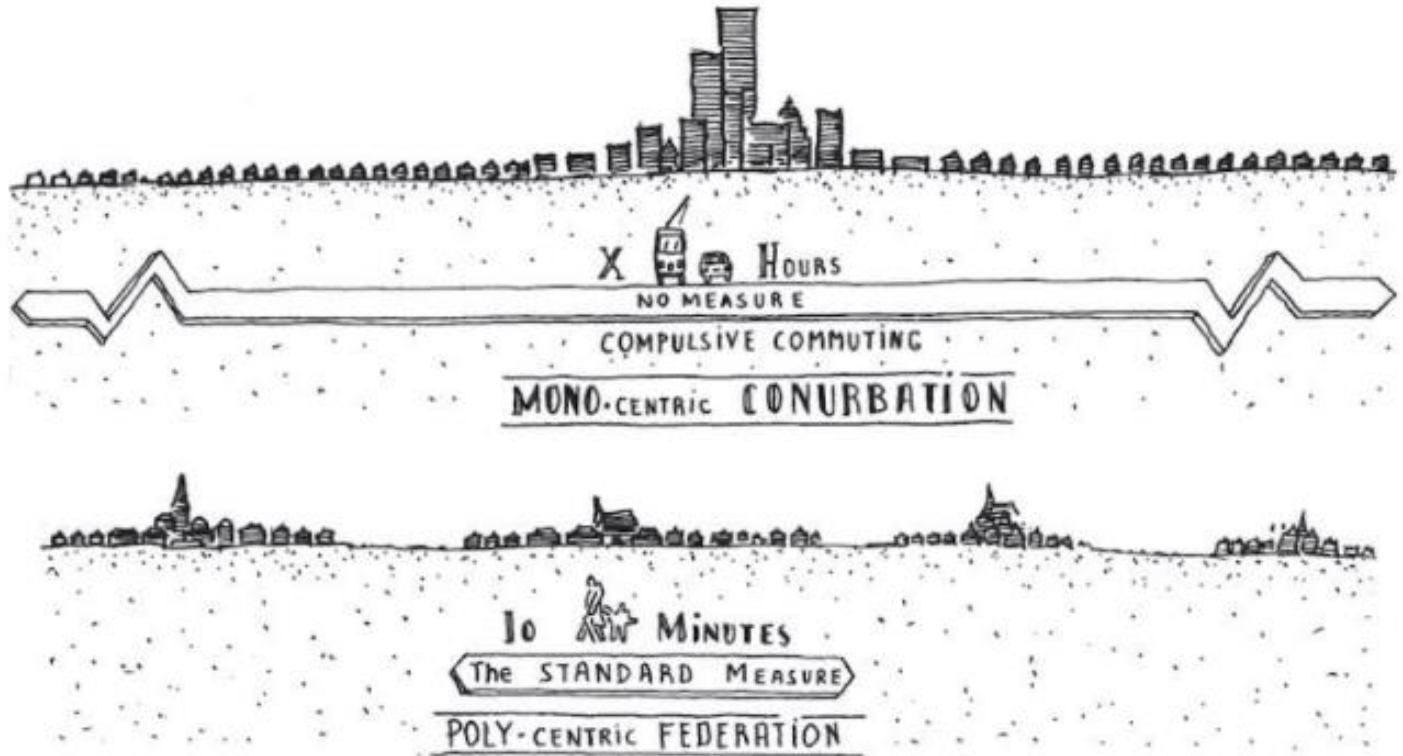
THE ANTI-CITY OF FUNCTIONAL ZONES



The City



Zoning



Mono-centric conurbation vs poly-centric federation approach to planning cities

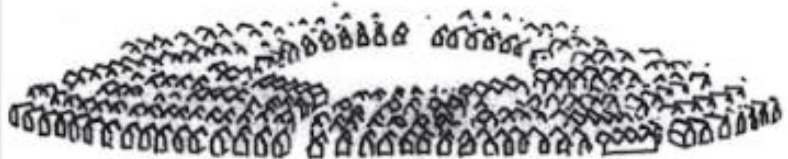
CITY & PARASITE



CITY without SUBURB



CITY with SUBURB



SUBURB without CITY



CITIES within the CITY

But suburbs exist

Costs and benefits (in Europe)

- Valuable assets; Nice homes, old trees, land!
- Long term residents; place attachment, social capital?
- Higher home maintenance costs
- Higher public maintenance costs per home/inhabitant.
- Car dependency / existence of public transport? (relative connectivity with the city centre)
-

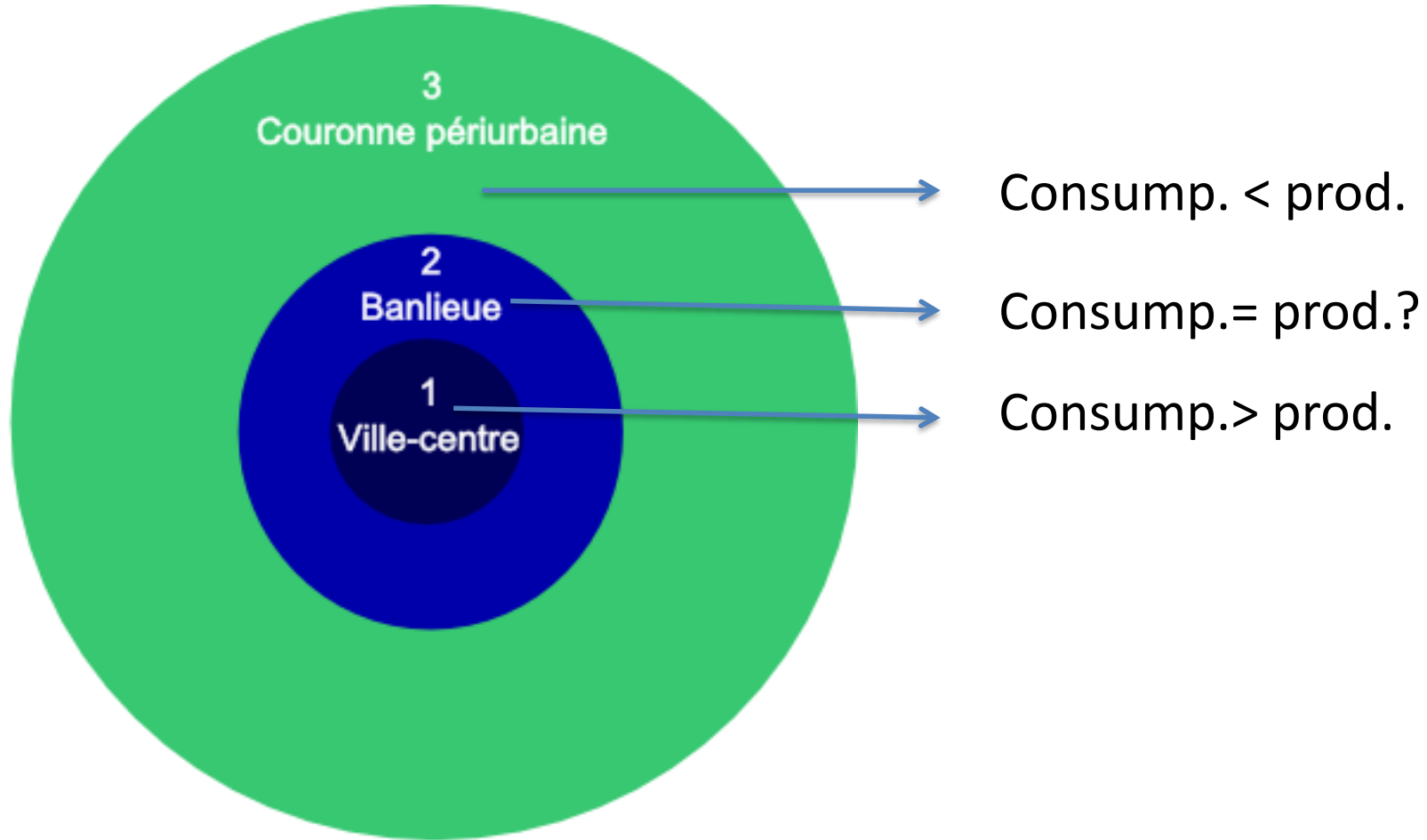
Possible futures for suburbia

- Densification (city expands?)
- (partial) abandonment (city shrinks?)
- Other transitions:
 - More individual self-sufficiency, urban agriculture
? (semi off-grid living?)
 - Village-ification; more local community & economy? (grow a village centre?)
 - Something different/hybrid?

Landscape trends

1. Demographics; aging population, fewer people in work
2. Rising healthcare costs
3. ICT revolution (automation, sensors, data economy)
4. Future of employment?
5. Future of migration?
6. Economic squeeze on younger generations
7. Globalisation (supply chains; capital) constrained?
8. Servicizing (beyond ownership) - more local?
9. From container economy to (local) print-on-demand?
10. Economic or policy drivers to consume less.

So what about energy?



1: Ville-centre ou intra-muros

1+2: Unité Urbaine ou ville ou agglomération urbaine

1+2+3: Aire Urbaine ou aire métropolitaine

Policies to decarbonise the sub-urbs

Standard stuff includes:

- Subsidies for low carbon tech
- Higher taxes for high carbon tech
- Planning policies focused on public transport.

But what about:

- Taxes on under-occupied buildings?
- Extra taxes on poorly insulated homes (+ loans to fix things?)
- Enable/encourage multiple uses of homes, gardens
- Work-place policies – e.g. to reduce commuting.

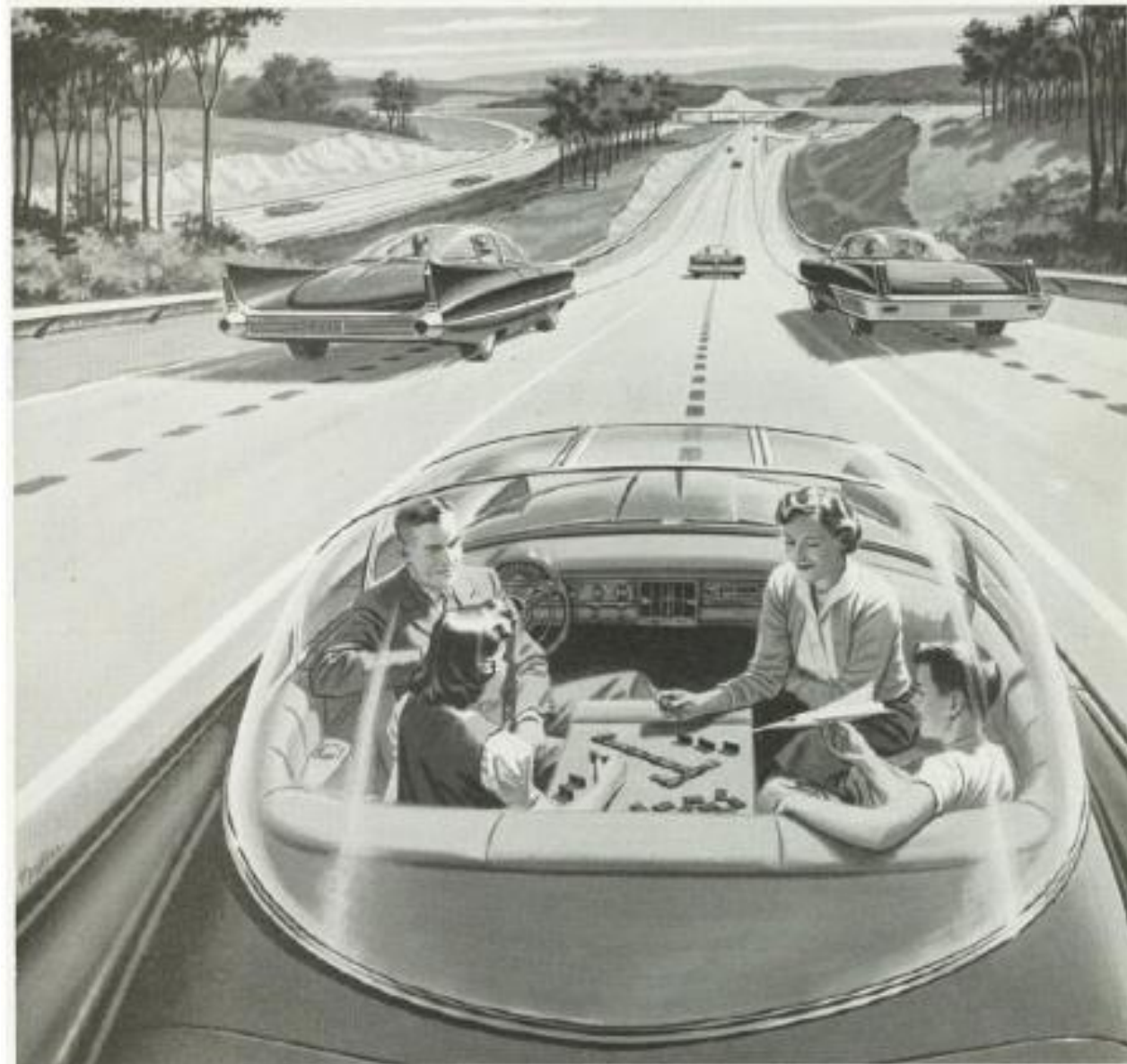
Effects of policy: uburbia varies from country to country

	% Detached	No. Detached	% Semi- detach./ Terraced	No. Semi- detach./ Terraced	% Small MFDs	No. Small MFDs	% Large MFDs	No. Large MFDs
D	26.0	9.6	13.4	4.9	34.3	12.7	18.8	6.9
DK	50.2	1.2	12.6	0.3	12.7	0.3	19.2	0.5
NL	13.0	0.8	51.8	3.4	4.4	0.3	18.1	1.2
B	33.9	1.4	42.0	1.7	11.1	0.5	7.7	0.3
L	38.1	0.0	30.8	0.0	19.1	0.0	10.1	0.0
F	38.6	10.7	21.4	5.9	13.3	3.7	24.5	6.8
UK	22.5	5.4	58.8	14.0	11.3	2.7	3.9	0.9
IRL	51.0	0.6	42.9	0.5	2.3	0.0	0.9	0.0
I	20.2	2.6	12.1	1.6	37.3	4.8	23.5	3.0
EL	31.8	1.3	19.0	0.8	29.3	1.2	18.4	0.7
E	17.5	2.4	19.2	2.6	18.8	2.6	43.8	6.0
P	51.1	1.6	26.7	0.8	13.8	0.4	4.9	0.2
A	47.9	1.7	4.5	0.2	11.8	0.4	27.6	1.0
FIN	47.2	1.0	17.6	0.4	2.4	0.1	30.0	0.7
EU14	34.9	2.9	26.6	2.7	15.9	2.1	18.0	2.0
EU10	36.8	3.2	29.6	3.1	12.3	2.1	16.1	1.8

Note: MFD = Multi-family dwelling

Impacts of changes in private transport; AV

- Sperling, D., 1994. Prospects for neighborhood electric vehicles.
- Guerra, E., 2016. Planning for cars that drive themselves: Metropolitan Planning Organizations, regional transportation plans, and autonomous vehicles. *Journal of Planning Education and Research*, 36(2), pp.210-224.
- Davidson, P. and Spinoulas, A., 2015, June. Autonomous vehicles: what could this mean for the future of transport. In *Australian Institute of Traffic Planning and Management (AITPM) National Conference, Brisbane, Queensland*.



ELECTRICITY MAY BE THE DRIVER. One day your car may speed along an electric super-highway, its speed and steering automatically controlled by electronic devices embedded in the road. Travel will be more enjoyable. Highways will be made safe—by electricity! No traffic jams...no collisions...no driver fatigue.

Impacts of the sharing /collaborative economy & 'servicizing'

- Switch to ESCOs ('pay by thermostat')
- More productive use of over-sized private property (spare rooms, garages, drive ways, spare seats in car, under-used appliances).
- Stuff you don't already own; buy service only.
- Towards hybrid forms of ownership; old owner + improver + marketer/service provider.
- Match-making; information, nudging, facilitation, consultation (on 'how') - role for trusted 3rd party (local, accountable, not for profit?)

Changing the processes of change

- Changing expectations (longer term, focus on big decisions rather than on voluntary daily behaviour).
- Learning by doing; reward risk-taking (pay for learning?), cudos & benefits for early adopters.
- Multiple transition pathways; aligned to life phases, responsive to exogenous factors.
- Secure transitions through lock-in (to reduce the risk of fall-back), e.g. through contracts (services, insurance, finance, taxation)

In summary

- To reduce domestic carbon emissions; utilise spatial footprint to become net zero prosumers.
- To reduce commuting & car dependency; changes to culture, planning and policy.
- Encourage/support collaborative & sharing economy

My suburban diary in 2025?

- Monday; community service
- Tuesday; work from home
- Wednesday; travel to city to meet new clients and have lunch with work colleagues
- Thursday; work from neighbourhood office
- Friday; training & education (chez neighbour?)