

Computational Methods in Urban Studies

Week 2 : Practices – (social) Space Oddity

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Plan



1. Theory | Topological urban studies

→ Social classes, symbolic power and the built environment.

2. Examples | The “system of automobility”

→ How does the (history of the) car relate to social inequalities?

3. Policies | (Un)sustainable transport and social inequalities

→ Framing environmentally *and* socially fair urban policies.

4. Practice | Geometric data analysis and Swiss households’ (un)sustainable practices

→ Uncovering individuals’ (un)sustainable lifestyles.



The Plot

- The discovery phase : a space *oddy*?



↑ réf.: Wikipedia



The Plot

- **The discovery phase : a space *oddy*?**
 - What are the social structures that might help us understand this event?
 - What are the links between social position and transport modes/infrastructures?
 - Are such links indicative of (un)sustainable lifestyles?



↑ *réf.: Wikipedia*



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Siobhán
@Just_Shiv



Traffic's not too bad this morning. Bit cold with the roof down though [#morningcommute](#) [#whataview](#) [#SpaceX](#) [#Starman](#)

7:33 AM - Feb 7, 2018 · Bedford, England

♡ 13 👤 See Siobhán's other Tweets

↑ *réf.: Wikipedia*



1 : Topological urban studies

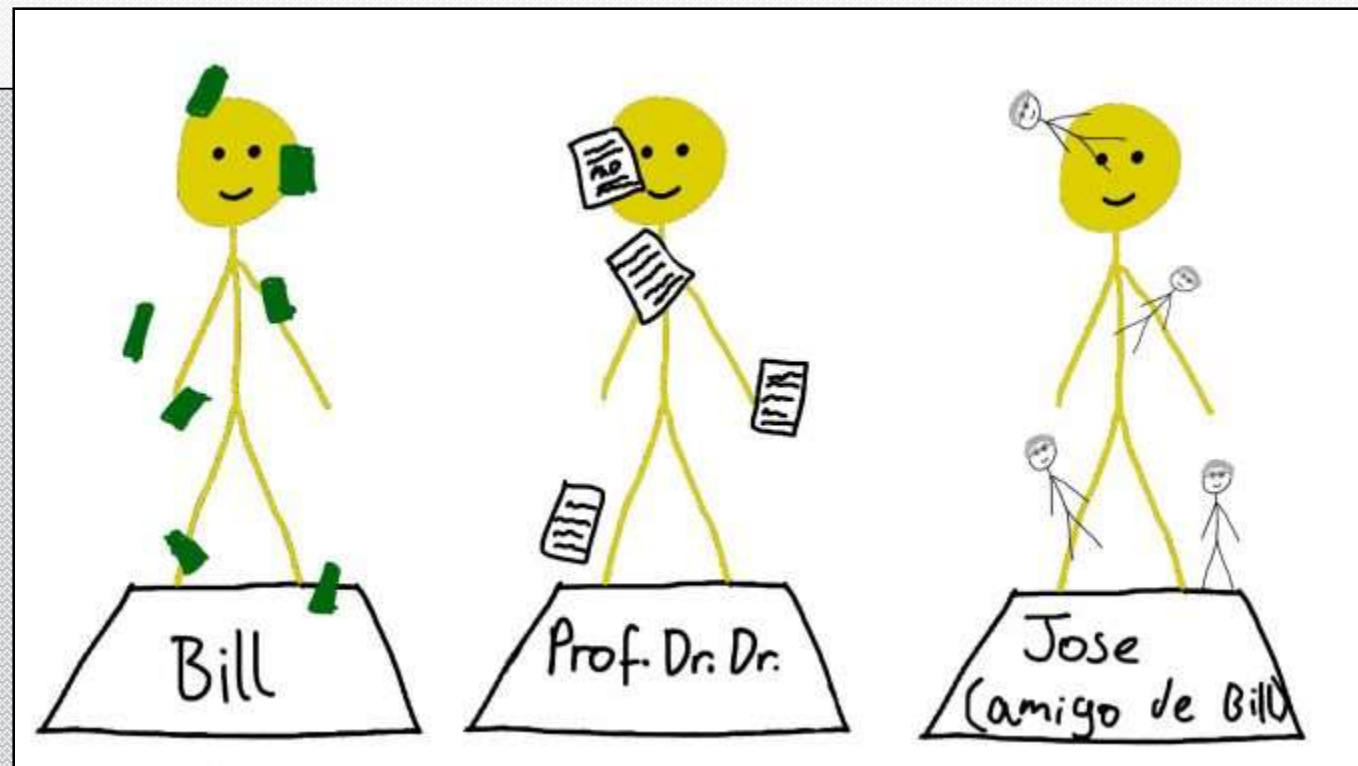
- **Pierre Bourdieu, structuralism and critical sociology**
 - *Relational (1)* and *critical (2)* approaches to understanding of the social (and spatial) world.
 - (1) Positions and their value are determined in comparison to each other (social class).
 - (2) Individuals conform to their position in society (social reproduction).
 - Individuals are distributed based on the allocation of species of *capital* (economic, cultural, etc.) that can be objectified/embodied.
 - Convenient for (1) quantitative measurement and (2) inequalities assessment.



1 : Topological urban studies

“Any property – objectified or embodied – efficient in a social game and producing profits, which exists in difference species, each with its sites of valorization, rules of conversion, mechanisms of transmissions, and effects.” (Bourdieu, 1972)

- **Main species of capital**



réf.: El Blog de Jose ↑

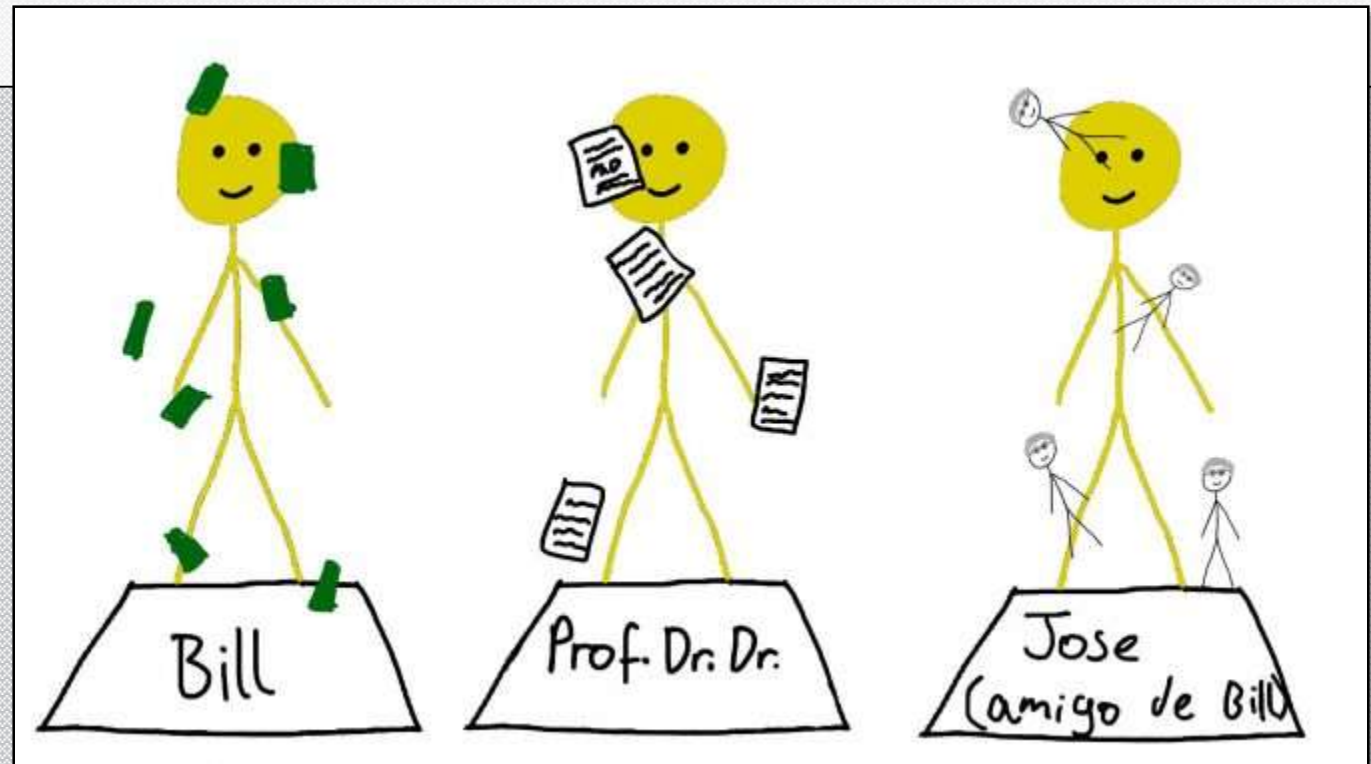


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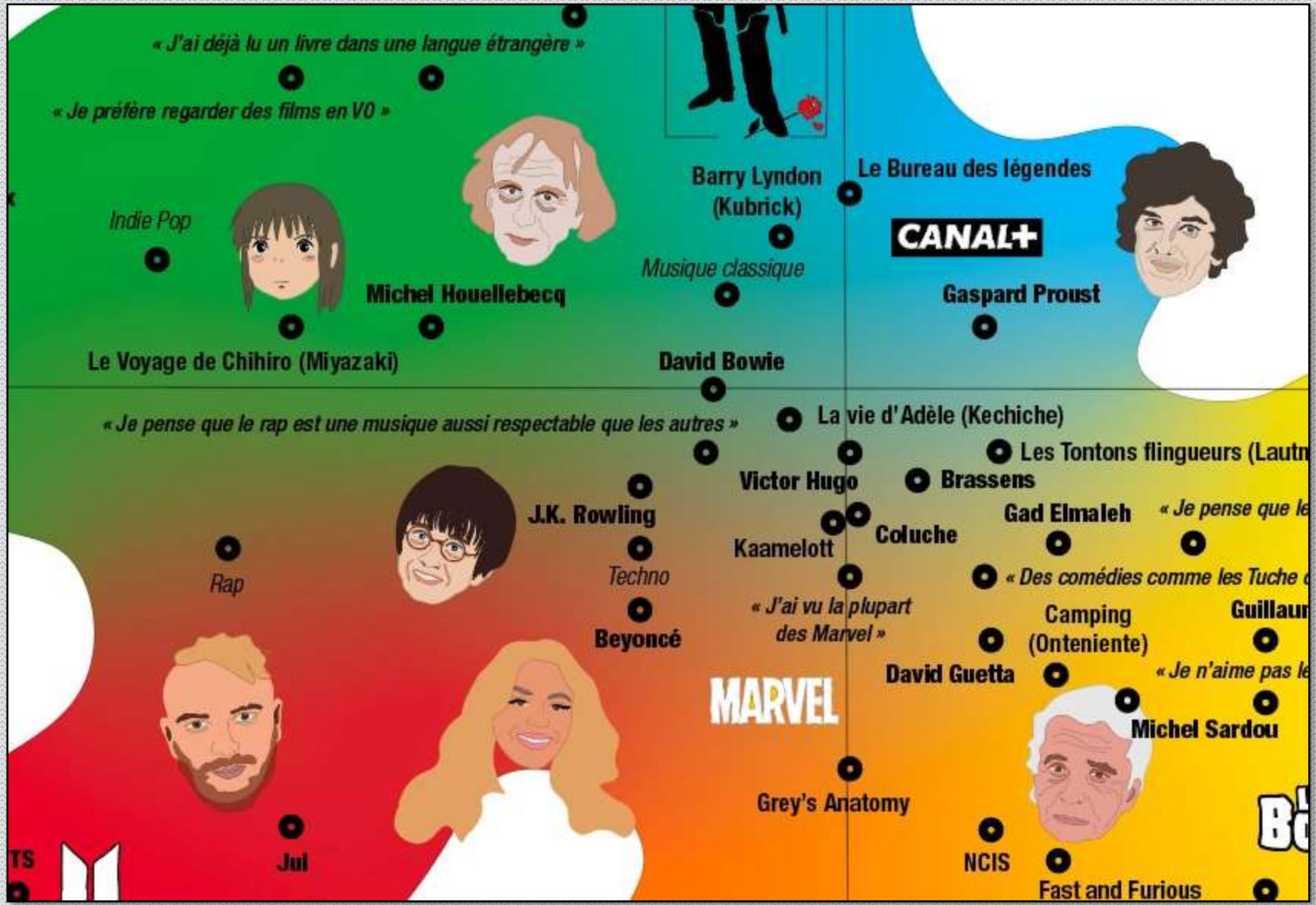
- Economic.
- Cultural.
- Social.



réf.: El Blog de Jose ↑



Economic & cultural +



Cultural +

Economic +

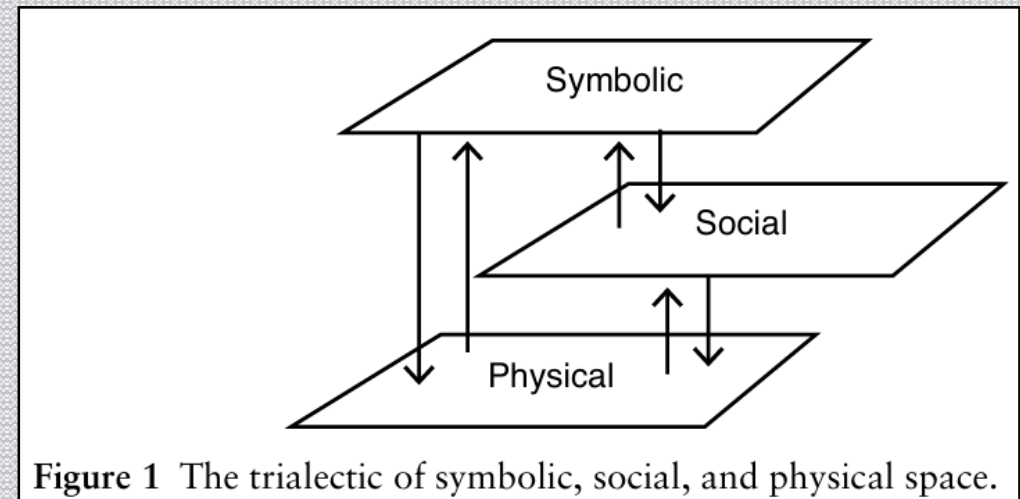
↑ réf.: Marianne

Economic & cultural -

1 : Topological urban studies

- **The trialectic of space**

- *Social space* = mother category, how individuals are distributed depending on their capital.
- *Symbolic space* = how we classify people, places, objects and activities (mental grids).
- *Physical space* = built environment.
- Urbanization is a *driving force* of social and symbolic transformation.
 - Mental and social hierarchies ~ spatial divisions.
- Can we identify the replications, distortions, gaps or disarticulations because of the struggles within and across each of these spaces?



réf.: Wacquant (2022) ↑

1 : Topological urban studies

- The trialectic of space

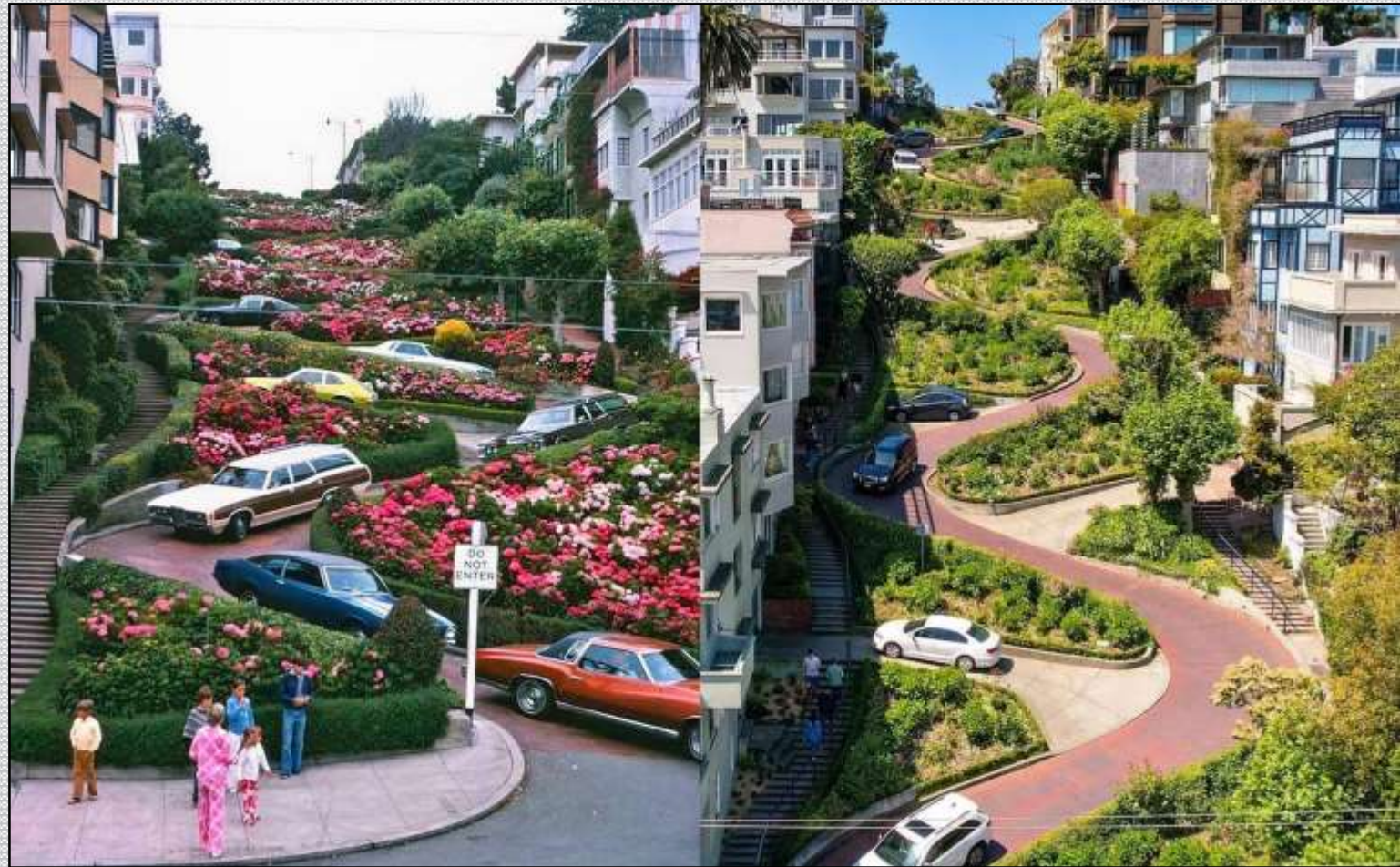


← *réf.*: Reddit



1 : Topological urban studies

- **Applied to urban and transportation planning...**
 - Movement in (physical) space is not just going from point A to point B.
 - Transport infrastructures are embedded in social and symbolic meanings.
 - Automobility as a *topological question*.



réf.: [SF Travel](#) / reddit ↑



2 : Automobility as a topological question

- **The *system of automobility* (John Urry)**

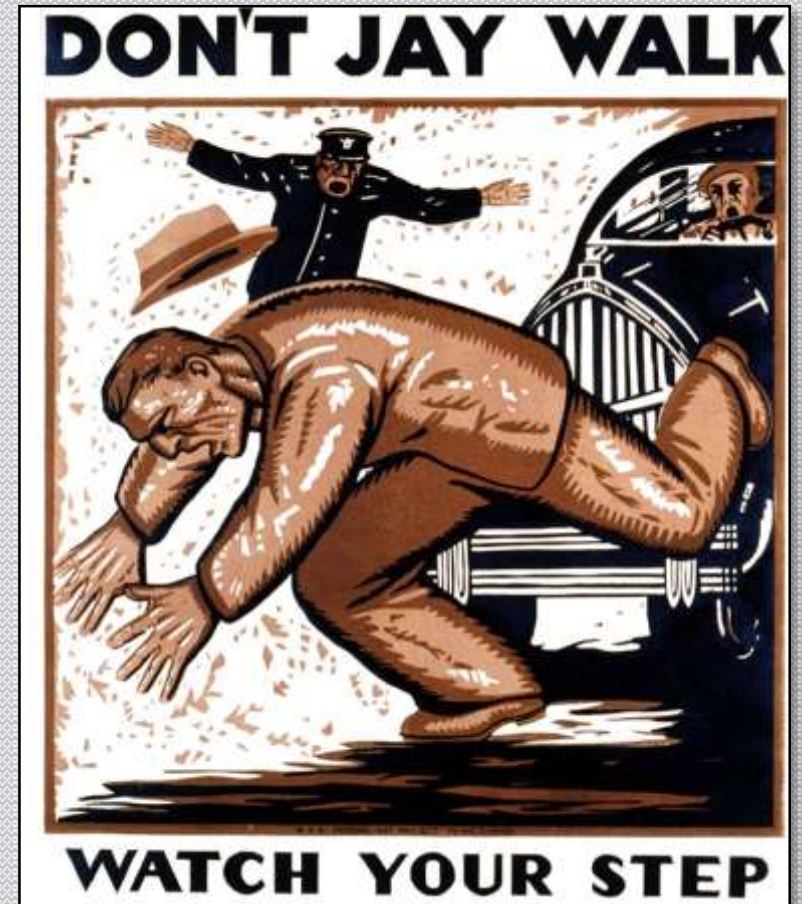
- Automobility as a red thread in the history of globalization and capitalism.
- Automobility has alienated human beings.
- “Car-only” environment = space of flows > space of places.
- The automobile was not deemed “worthy” of sociological inquiry... Give it to the engineers!

“Automobility is a Frankenstein-created monster, extending the individual into realms of freedom and flexibility whereby one’s time in the car can be positively viewed, but also structuring and constraining the ‘users’ of cars to live their lives in particular spatially stretched and time-compressed ways.” (Sheller & Urry, 2000).



2 : Automobility as a topological question

- **Automobility: the emergence (1900 – 1930), urban norms and social classes.**
 - Birth of automobility = transformation of the social order.
 - The place of the pedestrian in public space.
 - From Taylorism to Fordism: engineers vs. working class, distinction vs. saturation vs. ... distinction?



réf.: National Safety Council ↑



2 : Automobility as a topological question

réf.: *Le Monde* ↓

- **Automobility: the democratization as a matter of social progress (1930 – 1950).**
 - There is a need to motorize the population.
 - *Social* dimension (eugenic).
 - *Moral* dimension (work – family balance).
 - *Political* dimension (support the working class).
 - *Economic* dimension (enhance growth).
 - *Urban* dimension (stabilize the urban – periphery division).



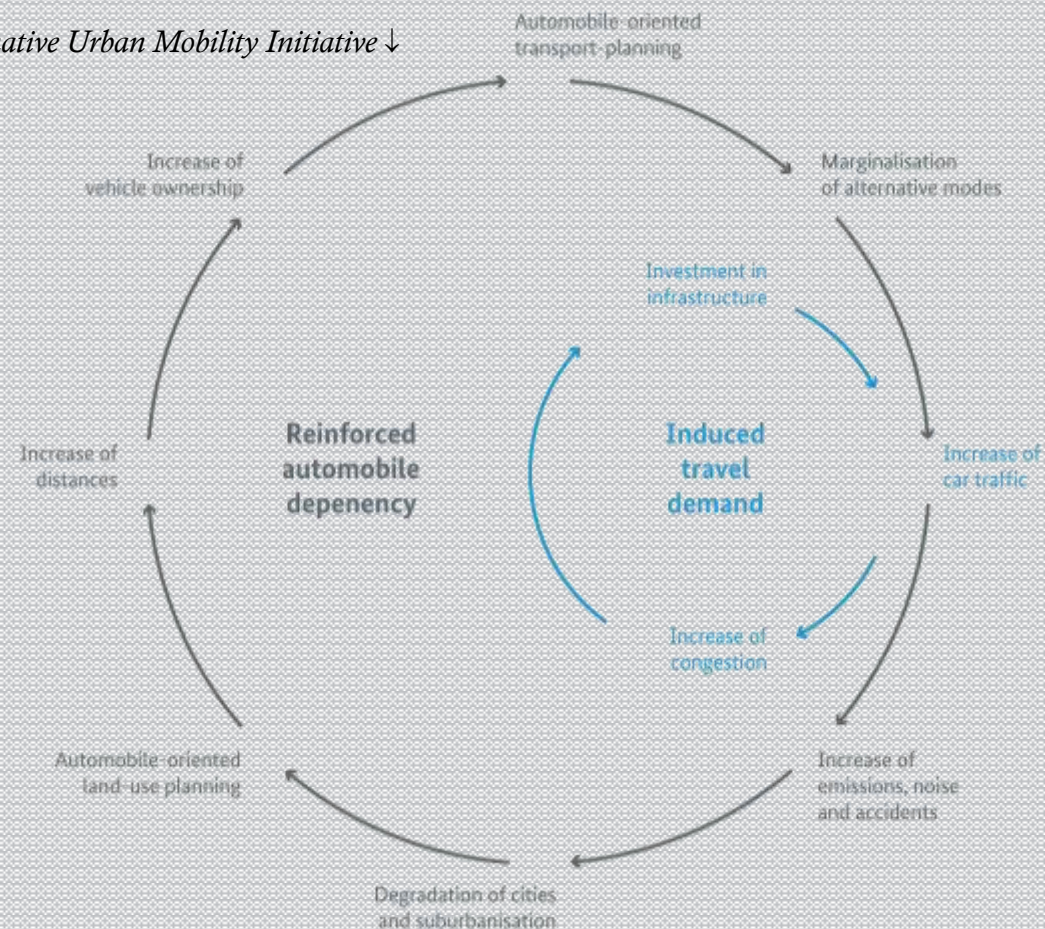
réf.: *Wikipédia* →



2 : Automobility as a topological question

réf.: Transformative Urban Mobility Initiative ↓

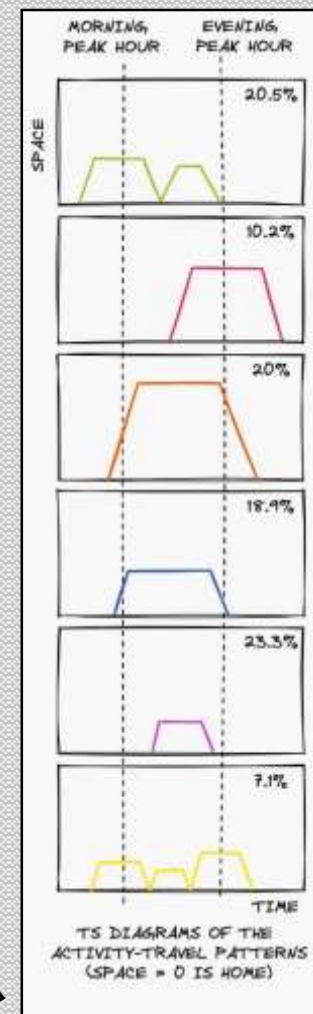
- **Automobility: when it became a dependence (1950 – 1980).**
 - From a luxury to a (visceral) need that must be addressed and delivered.
 - Alienation – the *radical monopoly* (Illich).
 - Enslavement – *car dependence* (feedback loops).



2 : Automobility as a topological question

- **Automobility: when it became a dependence (1950 – 1980) ... and especially for some of us?**
 - Emancipation from or reproduction of gendered roles?
 - Democratization has been slower for women.
 - Automobility expanded the domestic space by allowing more/faster care activities.

réf.: *The Conversation* ↓



réf.: *Schultheiss & Gummy (2020)* →



2 : Automobility as a topological question

- **Automobility: back to individualization (1980 – today?) through sociocultural marketing.**
 - Destandardization of vehicles (SUVs, electric cars, etc.).
 - Cars and car practices play with social roles and symbolic meanings (lifestyle).

réf.: Albuquerque City Council ↓



réf.: Jean-Guy Python →



2 : Automobility as a topological question

- **Automobility: road safety and making sense of non-accidental accidents (1900 – 2100).**
 - There's a competition for (limited) space on the road.
 - In the 1970s, the increase in crashes > the rate of motorization.
 - Psychological explanations are not enough.
 - Car crashes – accidents – are not random.
 - There's a correlation between social positions and deaths on the road.
 - Going back to car dependency and driving in rural places...
 - Can technological innovation improve the situation?
 - Having access to new cars is not granted.
 - Increased security can also transform the perception of risk.



2 : Automobility as a topological question

PCS BAACC	Conducteur		Passager	Piéton	Piéton en roller ou en trottinette	Total	Nombre de tués	Population de 15 ans ou plus (INSEE 1999)	
	Total	Effectifs							
Non renseigné	0,1	3	100	0,2		17,8	824		
Agriculteur	0,6	18		0,2		0,4	19	1,09	642 167
Artisan, commerçant, profession indépendante	4,1	133		0,7		3	137	2,83	1 659 052
Cadre supérieur, profession libérale, chef d'entreprise	2,9	93		1,5		2,2	101	5,41	3 165 335
Cadre moyen, Employé (+ profession intermédiaire)	17,3	560		2,9		12,5	576	13,34/ 9,85	7 809 091/ 5 762 885
Conducteur professionnel	2,2	70		0,9		1,6	75		
Ouvrier	22,1	717		7,4		16,4	758	12,07	7 061 742
Retraité	15,4	500		51,4	40	17	787	18,18	10 634 443
Chômeur	4,3	138		4,5	10	3,5	164		
Étudiant	7,4	239		8,7	10	6,2	288	37,23	21 778 985
Autre	23,7	768		21,6	40	19,3	891		
Total	100	3 239	100	100	100	100	4 620	100	58 513 700
Part des morts selon la catégorie d'utilisateur		70,1	17,7	11,9	0,2	100			
Nombre de tués		3 239	820	551	10	4 620			

Source : Tableau construit d'après les BAACC fournis par l'ONISR.

← *réf.: Grossetête (2010)*

2 : Automobility as a topological question

- **Automobility: road safety and making sense of non-accidental accidents (1900 – 2100).**

→ Social (re)construction of car crashes in the media and the cultural industry to espouse the contours of involved people.



← réf.: Bettman Archive



réf.: New York Post →

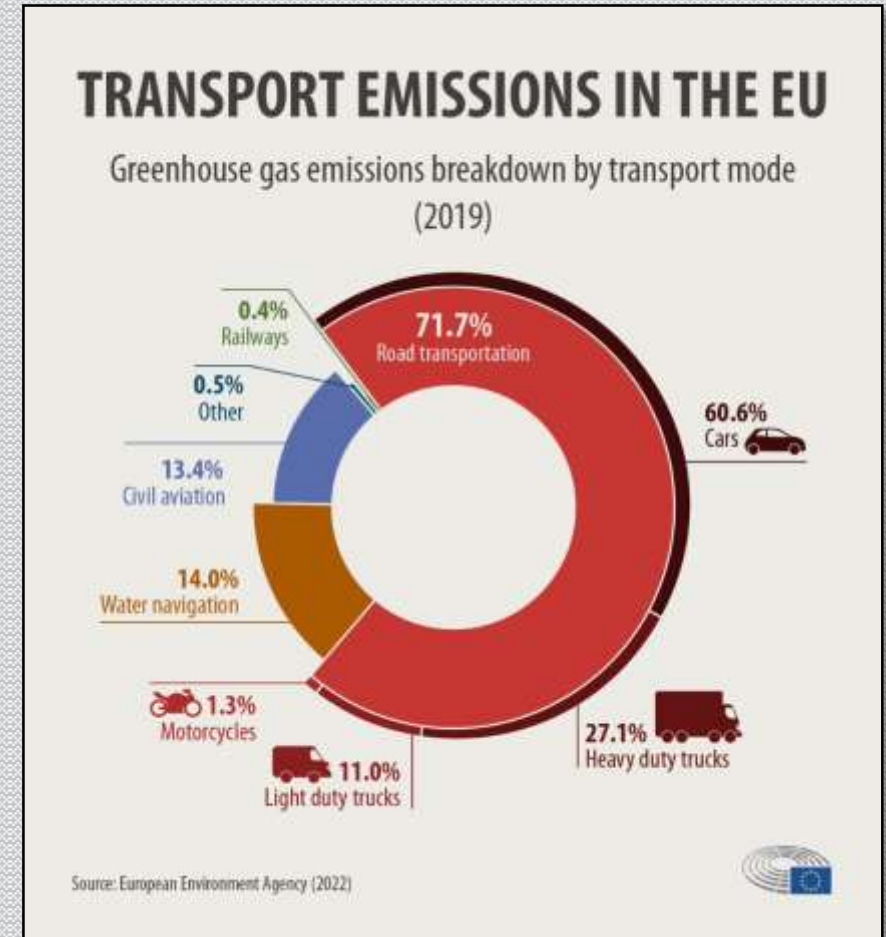
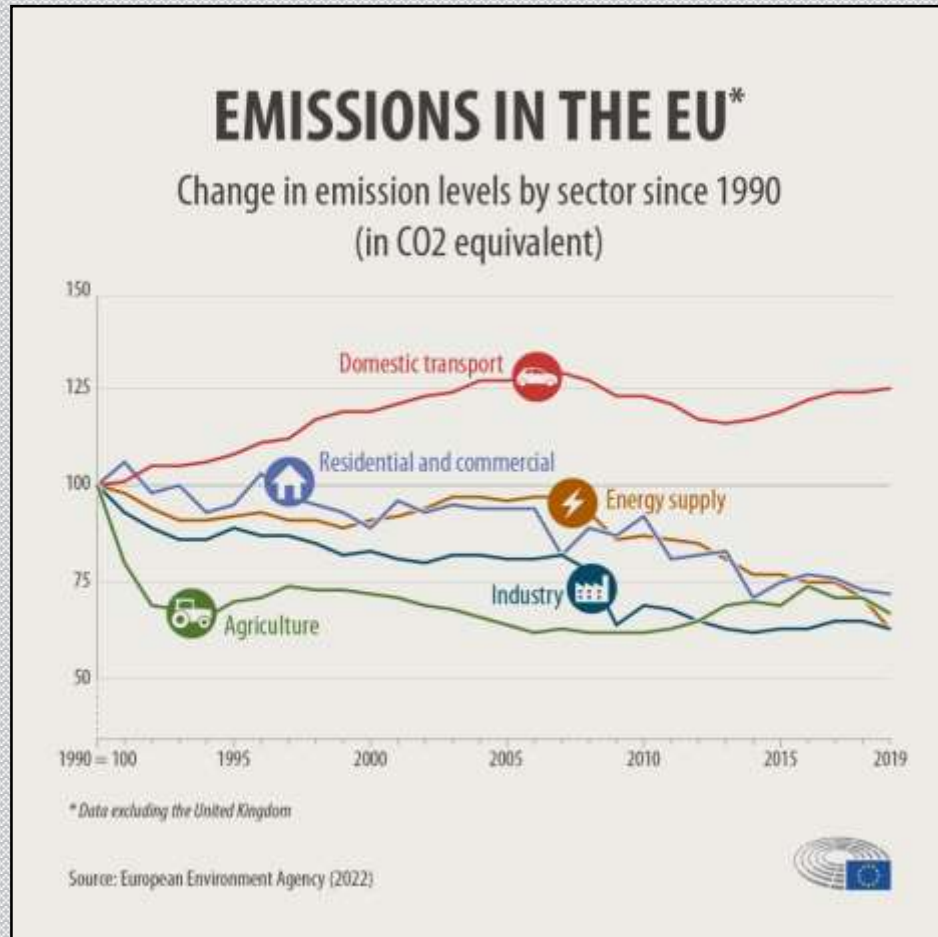


2 : Automobility as a topological question

- **Car practices within the physical, social & symbolic spaces.**
 - Exercising topological thinking using the system of automobility.
 - Social inequalities & relations of power are diffused through the built environment.
 - What about sustainability? Policies focusing on the built environment should also consider the consequences within the social and symbolic spaces.
 - Electric cars ... for whom and with what meanings?
 - The framings of current sustainable policies matter – what lifestyles are targeted? How?



3 : Sustainable transport and social inequalities



← *réf.: EU Parliament* →

3 : Sustainable transport and social inequalities



↑ *réf.: Azimuts*



réf.: Women's Wear Daily ↓



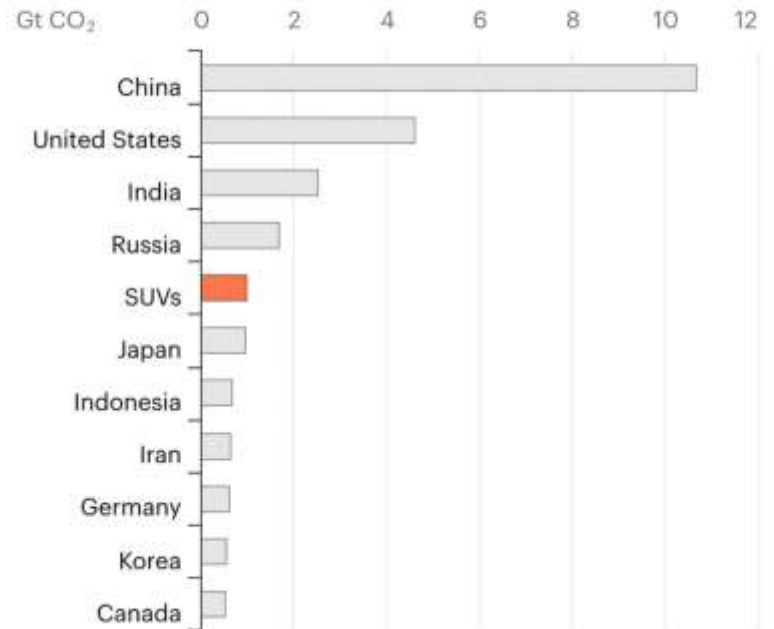
3 : Sustainable transport and social inequalities

réf.: [International Energy Agency](#) ↓

- **Who is polluting?**
 - If SUVs were a country...
 - In 2007, a share of 97 – 98% of the population does not participate in international air travel in a given year.
 - Those who pollute the most are often not those who suffer the most from pollution.
 - We need to fix social inequalities associated with the transport sector if we are to achieve climate goals.

If SUVs were a country, they would be the world's fifth largest emitter of CO₂

Combustion-related CO₂ emissions from SUVs and the 10 highest-emitting countries, 2023



International Energy Agency

3 : Sustainable transport and social inequalities

- **The unsustainable framings of sustainable goals...**
 - A (neo)capitalist framing:
 - technical innovation (techno-solutionism/optimism);
 - financialization of (environmental/negative) externalities;
 - militarization of natural resources;
 - *individualization* of environmental stakes.
 - Individualization leads to normative, moral and uneven prescriptions (depoliticization).
 - There are transport taboos because of industrial/political interests (moral outrage).
 - Research (in transportation) promotes individual responsibility and rationality.
 - Particularism and decontextualization through media coverage.



3 : Sustainable transport and social inequalities

“Environmental Citizenship” is defined as the responsible pro-environmental behavior of citizens who act and participate in society as agents of change in the private and public sphere, on a local, national, and global scale, through individual and collective actions, in the direction of solving contemporary environmental problems, preventing the creation of new environmental problems, achieving sustainability as well as developing a healthy relationship with nature.” (European Cooperation in Science and Technology, 2022)



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3 : Sustainable transport and social inequalities

- **Eco-citizenship and green distinction**

- Mobility used to be an enabler of social status; now “good” or “green” mobility does the same.
- A way to distance lower-income (or less-educated) groups at distance from environmental concerns.
- Celebration of “good practices” and criminalization of “misconducts”.

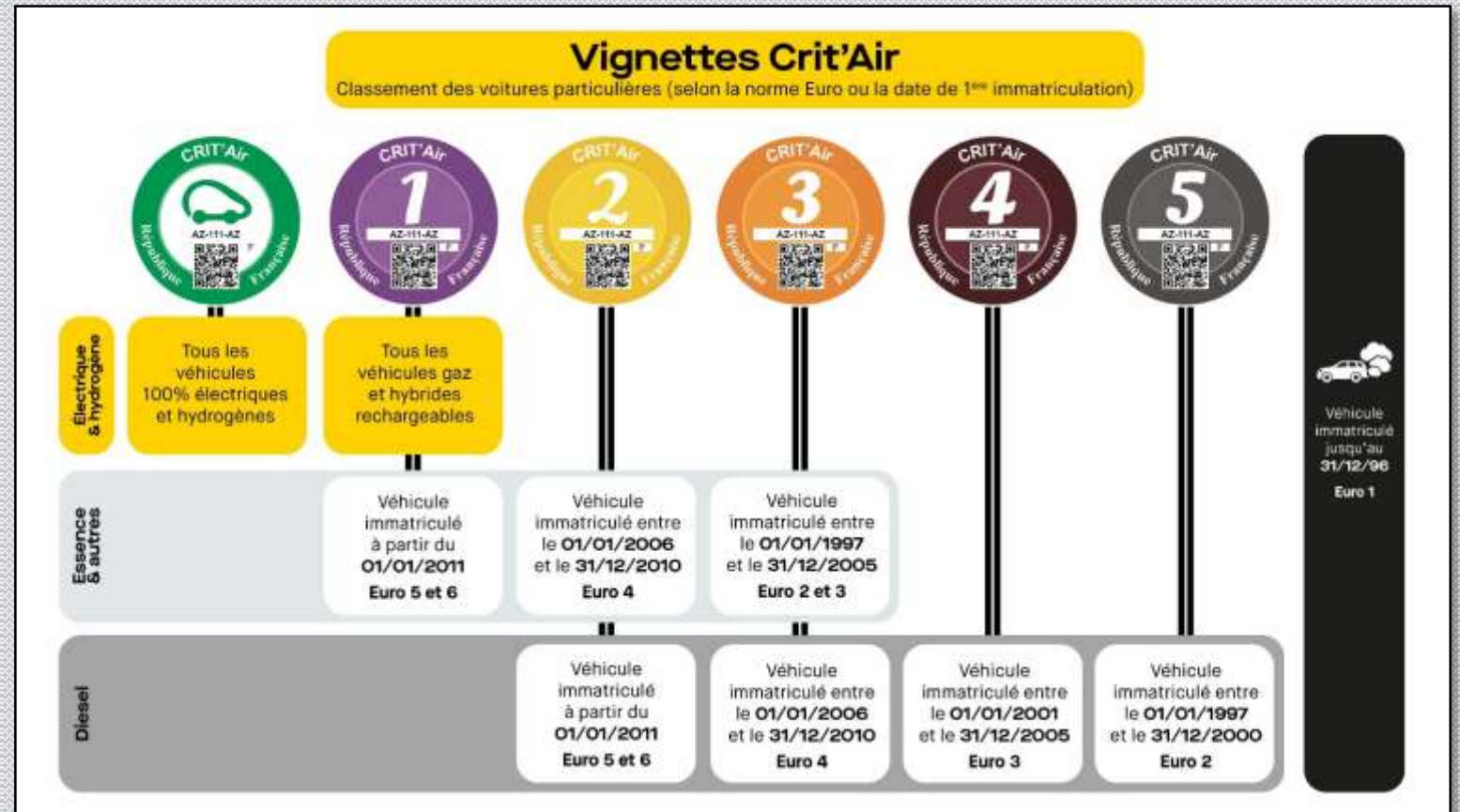


3 : Sustainable transport and social inequalities

- Crit'air example



↑ *réf.:* lowemissionzones.scot



réf.: Ministère de la transition écologique et de la cohésion des territoires ↑

Conclusion

- **Social inequalities and (un)sustainable behaviors are enmeshed and need to be tackled together**
 - Responsibility for and exposition to pollution are not distributed evenly across the social hierarchy.
 - Individuals from the working class may feel left behind during the transition to sustainable planning.
 - Need tailored and inclusive solutions that avoid (re)producing social inequalities ...
 - ... by understanding the relationship between individuals *(un)sustainable practices* and positions in the social space or *lifestyle*.

