

Zero-Car Growth and the Challenge of Auto Dependence

David A. King
Arizona State University
david.a.king@asu.edu

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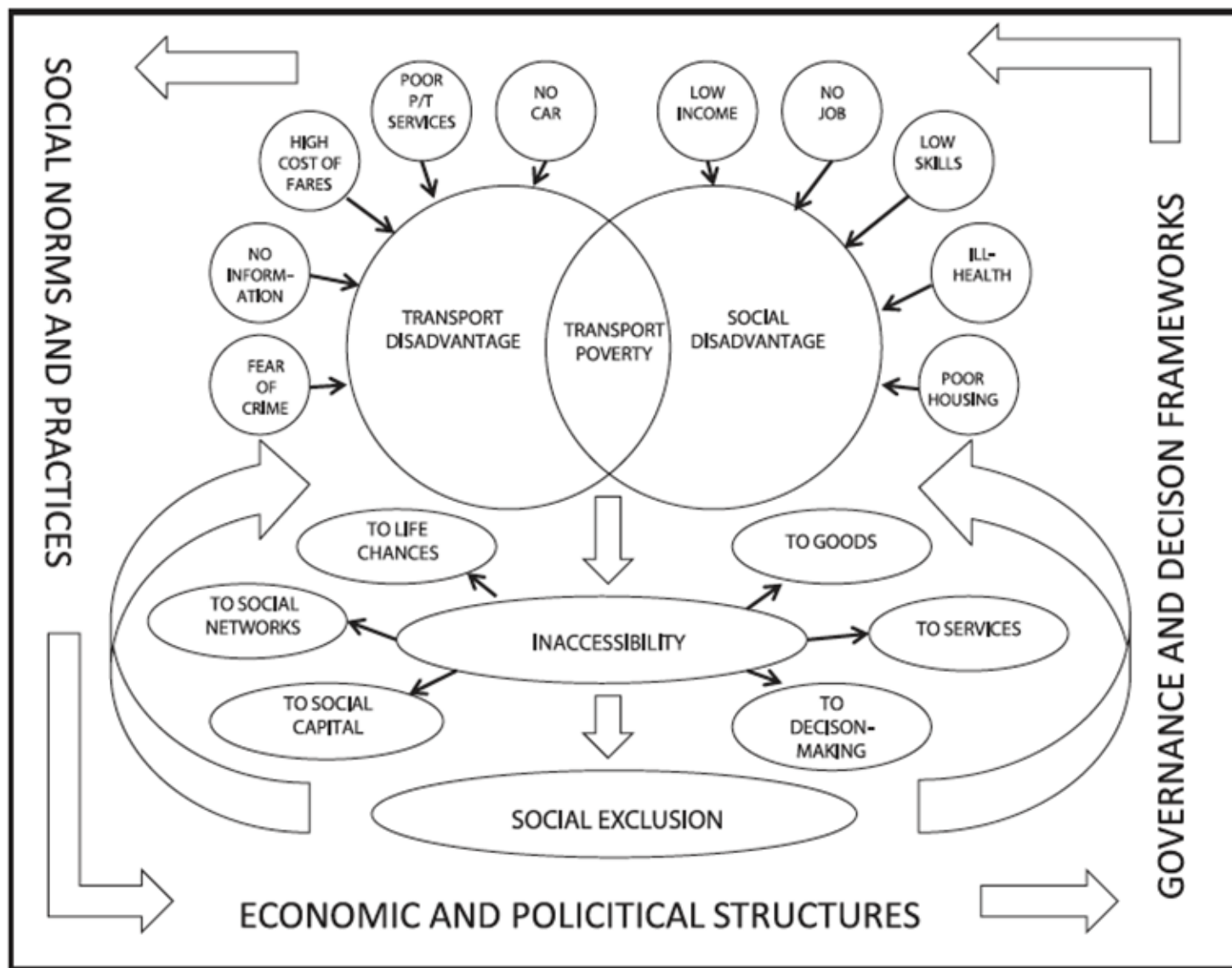
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Reducing Driving is Critical

- Ubiquitous automobility is a crisis:
 - Climate (must act quickly)
 - Public Health (nearly 40 000 Americans die in traffic crashes yearly, roughly equivalent of all US WWII losses every 15 years)
 - Public Finance (paying for infrastructure)
 - Fairness (mass motorization is a civil rights concern)

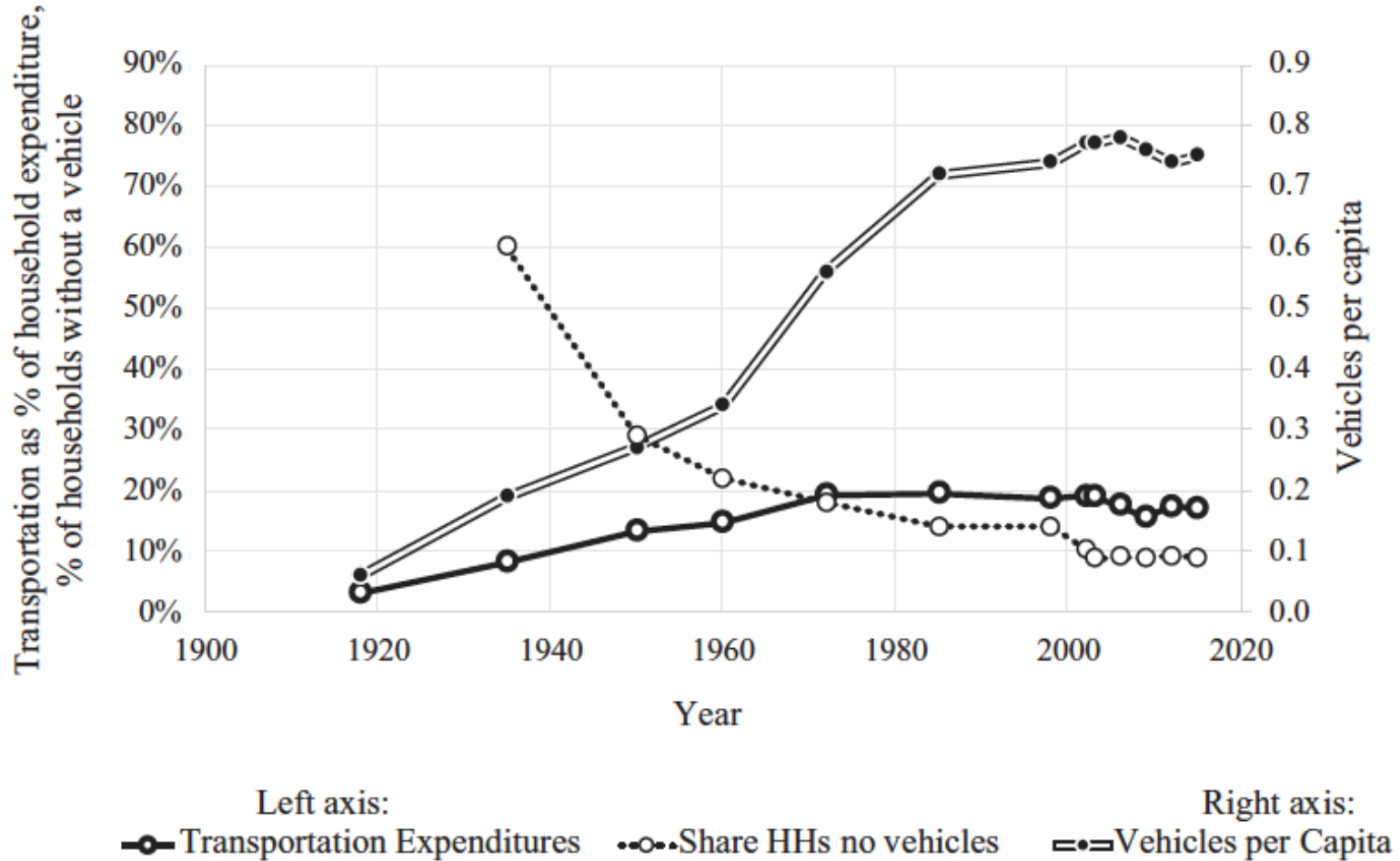
However: Auto Dependence

- US cities are auto-dependent
 - Dependence suggests that autos are not a choice
 - Dependence also suggests that curing the disease “cold turkey” may cause pain in the near term
- For many US cities and suburbs, future of transport will include personal vehicles
 - These need not be ICE, SUVs, or oversized
- For rural areas, the transition will be more difficult

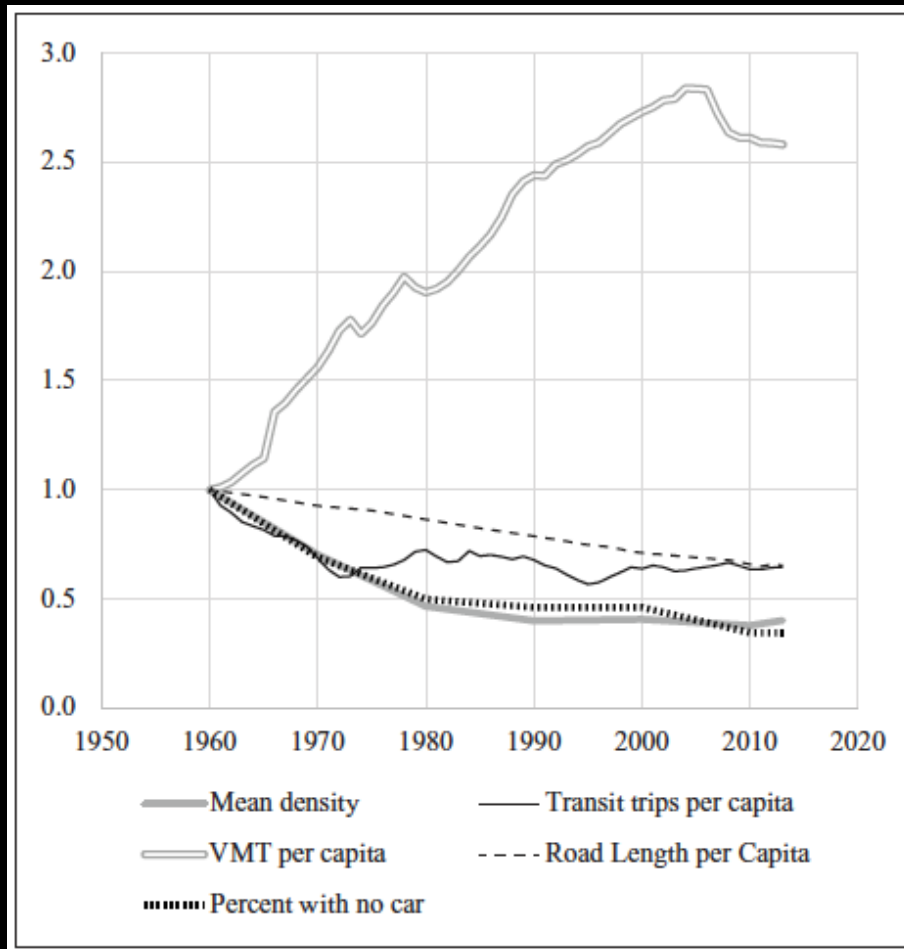


Lucas, Karen. "Transport and social exclusion: Where are we now?." *Transport policy* 20 (2012): 105-113.

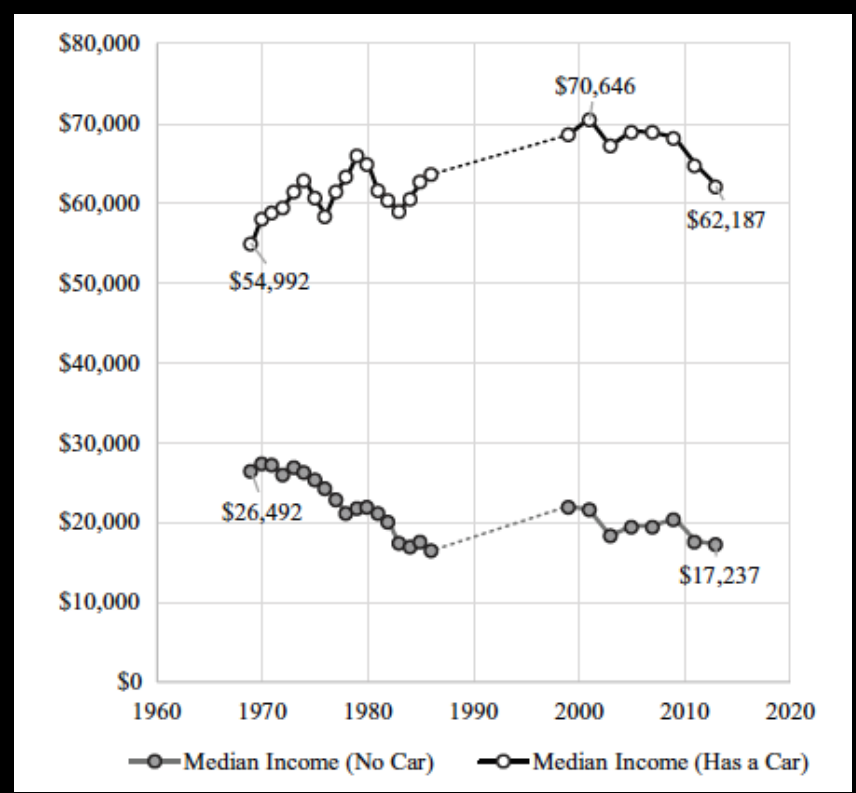
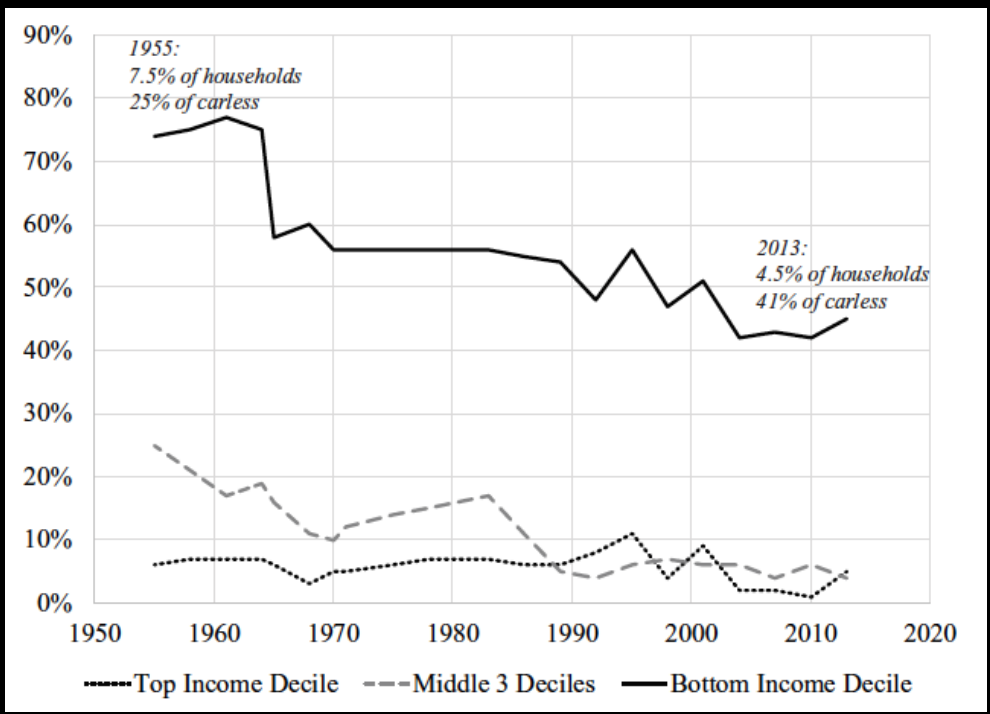
The Poverty of the Carless

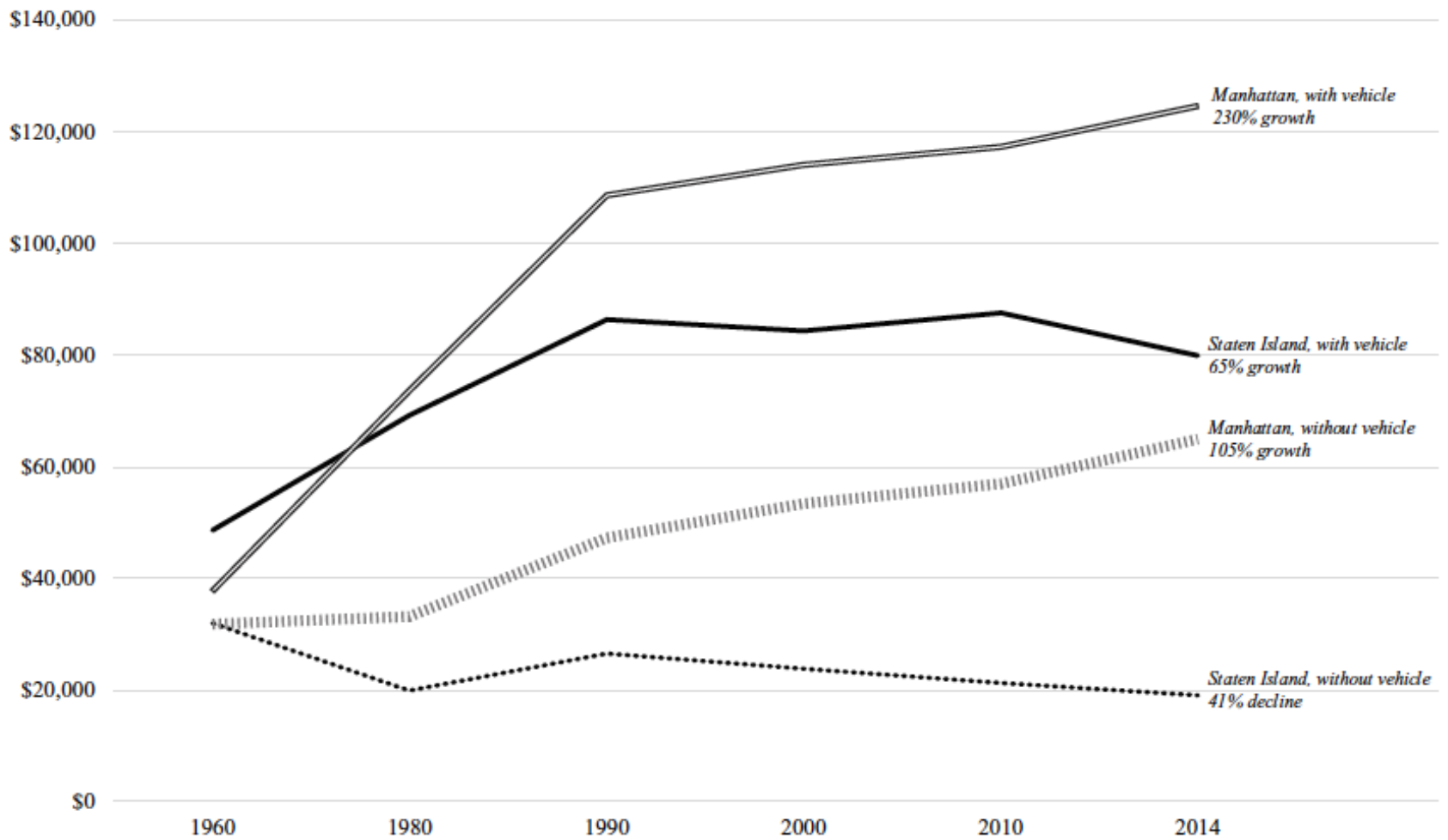


Long Time Coming



- Auto dependence has been developing for decades
- Little meaningful change since the 1980s
- Increased travel distances make substitutes harder





Manhattan	Staten Island	
—	—	households with vehicles
.....	households without vehicles

Table 1. Probability of Household Poverty, by Vehicle Access.

	All years		1960		2014	
	With vehicle	No vehicle	With vehicle	No vehicle	With vehicle	No vehicle
Manhattan	.08	.16	.08	.19	.10	.15
New York	.09	.20	.05	.12	.13	.22
Staten Island	.08	.21	.04	.08	.12	.29
Los Angeles	.18	.35	.10	.25	.22	.42
The United States	.15	.28	.18	.21	.20	.34

Note: Estimated from logit regressions using IPUMS samples from 1960, 1970, 1980, 1990, 2000, 2010, and 2014. Only regressions examining the United States include 1970 data. Regression controls include number of adults, number of children, tenure, living in a detached single-family home, year fixed effects, and the fraction of household members that are male, black, Hispanic, aged 65 years or above, aged 18 to 35 years, college-educated, and employed. Predicted probabilities assume that the household rents, does not live in a detached single-family home, and has one child. All other variables are held at their means. IPUMS = Integrated Public Use Microdata Series.

Jobs, Housing and Transport Mismatch

- Planning for jobs near housing can increase commuting options
 - Commuting is less than 20% of trips
 - Gender differences in commuting and household activities affect mode choice
 - Jobs and housing continue to disperse
 - Some occupations concentrate while other spread

Transport Mismatch

- Better definition is transport mismatch
 - People don't have reasonable transport options for how they get to places they need to go
 - Transport mismatch is most directly solved through increased auto access
 - This is not always desirable

Carless and Car Deficit

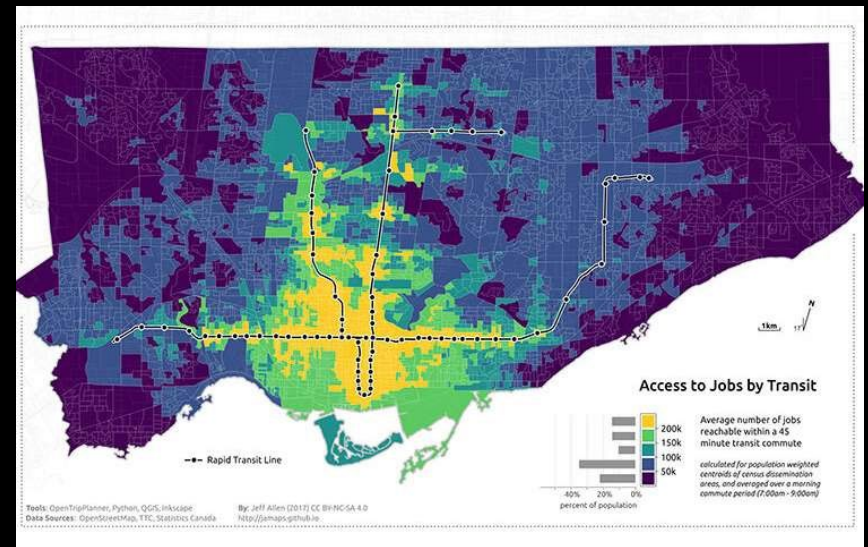
- Carless households have different travel characteristics than car deficit households
- Some reliance car access has positive effects on employment, schooling, general welfare
- Policy implication: carless may not be best goal for many households
 - Car-light may be more achievable and confer benefits

Welfare, Poverty and Transportation

- Transportation is rarely considered within the context of poverty (at least in US)
- Auto ownership is view as a luxury
- Reliable transport is highly correlated with steady employment, higher wages and better economic outcomes

What Happens When Transport Vulnerable Lose a Car

- Loss of a vehicle for transport vulnerable is associated with loss of job, more unpredictable wages, worse quality of life outcomes



Evacuation and Special Needs Planning

- Carless households are less likely to evacuate in times of need
- We can expect times of need to increase as the planet warms
- Low or no car growth strategies must account for occasional, high value instances where cars can benefit



Conclusions

- Reducing auto dependence is desirable
- Yet auto dependence means that some will be harmed
- Amount of harm depends on community
 - Sprawl of jobs and housing is problematic
 - Demographic differences in travel is problematic
 - Rural areas hardest hit
- We should be open to some expansion of auto access on equity and economic grounds

