Transform the objective of sustainable mobility into sustainable accessibility to create long-term *spatial* instead of short-term sector-based solutions

By Erik Ooms (May 2018)

On the 17th of May 2018, The Juncker Commission put forward the third, and final set of measures for the mobility policy of the European Union, known as 'Europe on the move'. The policy focusses three on key objectives, namely safer traffic, less polluting vehicles and more advanced technological solutions. At the same time the policy aims to support the competitiveness of the EU industry (European Commission, 2018). With this package of measures, the focus of the EC is on the **supply side** of the market, on the mobility itself. With this policy, the European Commission has shifted a bit in the Sustainable Development Goals, which were proposed. As the Pre-2017 SDGs indicator set still encompassed the objective of 'decoupling economic growth and the **demand for transport** with the aim of reducing environmental impacts' (European Commission, 2017), the Europe on the Move measures do not contribute to this objective. However, reducing the demand for transport is a key factor in achieving more sustainable growth in the European Union.

Therefore, this paper advocates for the **inclusion of the demand side of transport in EU policy as a necessary change for achieving the sustainable development goals.** After a brief historic overview of the evolution of mobility and related urban sprawl, the paper will elaborate on the current problems related to them. As becomes clear, the mobility problems are actually on a **spatial level,** related to urban development and not to sector oriented problems only (e.g. air pollution). This means that **solutions also should be spatial.** Therefore, solutions should focus on increasing the spatial efficiency of the transport system, connecting demand and supply. To explain this in easier terms, the focus should not only be how to get as efficient as possible from A to B (mobility), but also should include where A and B best should be, and making this route most efficient (accessibility). This also implies a change of EU policy. Instead of using the concept of sustainable mobility, leaving the demand side alone, EU policy should use the concept of **sustainable accessibility, connecting both demand and supply side** from a spatial point of view.

Relation between mobility and urban sprawl and their negative effects

After the Second World War, the Western-European economy grew strongly, with average percentages of 5% increase of GDP per year (Craft, 1995). This also included a need for more and better housing. Although European cities had stayed quite compact for a long time

(Stutz, 2009), an urban development boom started in the 1960s. Based on the principles of modernism, new building block were developed in the 1960's and 1970'. In the 1980's suburbanisation started, displacing persons from the 'run-down' city centres to newly build housing on former rural ground. This process can be described as 'urban sprawl' (see glossary). Also after the 1980's this trend continued. "From the period of 1980 to 2000, the extent of built-up area in Europe has increased at a rate 3 times higher than that of population increase and urban sprawl is now recognized as a major challenge" (Aurambout, Barranco, & Lavalle, 2018). There is a close link between urban sprawl and mobility. The two reinforce each other. More new suburbs being build further away from city centres increases the need for mobility. Increase of better (or cheaper) transport links increases urban sprawl. While the design of urban sprawled areas is fragmented, private car ownership is seen as the only efficient mobility option to for connecting these areas with other areas.

The negative effects of urban sprawl for sustainable development are enormous. A lot of research is currently being done in several fields to determine these effects. First of all, the costs (maintaining roads, but also railways), are enormous. Estimates differ per country, but for example in the US it costs about 1 trillion Dollar per year (Litman, 2015). Figure 1 provides an overview of all the variables used to calculate this. Besides this economic negative effect, there are various negative environmental and social effects. Environmental effects are for example the destruction of nature areas for urban development; construction and maintenance of roads in these areas, the air pollution coming from transport; the increase used of water resources; increase use of energy/heating/cooling for housing, intensified floods, decreasing biodiversity etc. Negative social effects are for example a decreased liveability of the urban areas; diseases caused by air pollution, less body movements leading to overweight, less social interaction (e.g. even leading to more suicides, see Jaffe (2013)), stress due to noise pollution, and increased segregation of poorer inhabitants to the outskirts of the city and many more.

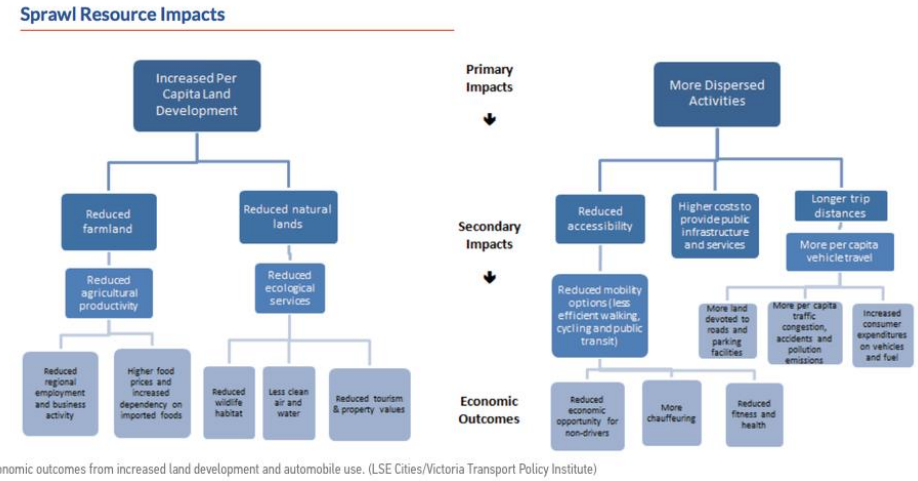

Figure 1: Sprawl resources impacts (Litman, 2015)

Therefore, when combatting all these negative effects the focus should be on policy which combats urban sprawl. Because urban sprawl and mobility are closely related, this last policy field is of upmost importance. So, as a first conclusion of this paper it can be stated that while urban sprawl, as a main influencer for mobility, is an **'spatial issue',** the mobility related problems should be combatted using a **'spatial perspective'.**

EU Policy focussing on supply

Urban sprawl is not only caused by a lack of adequate regional or national transport and spatial policy, also the **EU policy has been a major contributor**. While the EU has invested much in the supply side of transport, for example in regional development supporting improved transport links and highways designed to accommodate traffic, this automatically led to new intercity corridors with residential, industrial and commercial developments. The consequences are car-oriented suburbs with low-density housing, as well as shopping malls at the edge of cities, demanding even more mobility (Stutz, 2009). This happened everywhere in the EU, but mainly in Mediterranean and Eastern European countries, such as Spain and Romania. Besides regional development policy also the other EU policy (Transport Policy (TEN-t, CEF), Interreg, Horizon) etc, contributed to increasing the supply side of transport, without sufficiently incorporating the negative consequences.

As described in the introduction, this focus on the supply side of mobility is still there, increasing the negative effects in the coming years. Exact reasons for an emphasis on this are unclear, but it can be suggested that policy is highly influenced by the principle of competitiveness instead of sustainability. This implies that growth of the current dominating industries (for example the car industry in Germany, Italy and France) has a higher priority than sustainability, improving the economic, environmental and social conditions at once. The growth of the car industry can only continue if EU policy does not contribute to reducing the demand for transport. Therefore, when the EU policy speaks about sustainable mobility, it mainly refers to a small part of the environmental sustainability only, such as decreasing the CO2 emissions of vehicles, or so-called 'smart solutions', such as shared car ownership. However, these concepts might even further increase urban sprawl, thereby having more negative than positive environmental and social effects (Walker & Bösehans, 2016).

Besides competitiveness of the car industries. urban sprawl is a short-term money generator for other organisations. Real estate developers see the opportunity for more land to develop housing. By convincing the population of chasing their dream of a suburban house, with a private garden and quietness, the demand for these kinds of housing is rising. The housing developments are also a short-term money generator for municipalities, selling their rural land for higher prices. Also, distribution and logistical companies, as well as major

retailers prefer to develop large amount of land for their uses, instead of looking at spatial efficiency in urban areas.

This does not mean that there is no awareness and understanding of the need to work on the demand side at the European institutions, but possibly that the support from stakeholders is too small for this. The EU Knowledge Centre for Territorial Policies conducts research on the topic of transport and accessibility (European Commission, 2018). However, this research focusses on accessibility in a European perspective, for example how fast the number of other cities can be reached by the transport modalities. Research on urban sprawl in for example done on analysing the current status and creating a common definition (Aurambout, Barranco, & Lavalle, 2018), instead of research actively providing policy recommendations.

Need for an EU policy shift from 'sustainable mobility' to 'sustainable accessibility'

A way of including the supply side of transport into EU policy and thereby also combatting urban sprawl, is a major shift of the policy concept from 'sustainable mobility' to 'sustainable accessibility'. Mobility focusses on the movement of persons and goods, it assumes that any increase of movement or the increase of speed always benefits society (Litman, 2011). The discourse of sustainable mobility therefore mainly entails reducing the environmental impact of mobility, while still increasing movements of persons and goods. Accessibility however focusses on a much broader concept. It "refers to the ability to reach desired goods, services, activities and destinations (collectively called opportunities) (Litman, 2011)". Not only the supply side, but also the demand side is taken into account. In this concept there is more consideration for accessible land use patterns and preventing urban sprawl. This means optimization of "multi-modal transportation and more compact, mixed-use, walkable communities, which reduces the amount of travel required to reach destinations" (Litman, 2011). Besides walking in many European cities also cycling is an important mode in multi-modal transport.

Sustainable accessibility does not work without incorporating a spatial perspective. A focus should therefore also be on land-use planning in relation with mobility. "The integration of transport and land use planning is widely recognized as essential to the achievement of sustainable development" (Bertolini, Le Clercq, & Kapoen, 2005). There are already a few examples of research done on how to implement "sustainable accessibility" on a local level. (Curtis, 2008). However, by only changing the discourse on a local level, activities might change here and there a bit, but the EU policy will still have its negative effects on a pan-European level.

A shift of EU policy to sustainable accessibility will greatly benefit reaching the sustainable development goals. The European Union already has a 'Territorial Agenda 2020' (European Union, 2011), with the goal to influence EU policies to integrate spatial concepts. Accessibility is mentioned several times in this agenda. However, this concept of accessibility often still refers to increasing mobility for all, instead of decreasing the demand for mobility. An updated Territorial Agenda, including the transport demand, with a stronger focus on concrete EU policies it intends to influence could be beneficial. This also includes a clear understanding and agreement of what sustainable accessibility actually means.

Using this concept could mean a drastic change of the priorities of the Juncker Commission package 'Europe on the Move'. Included will be the decrease of the need for mobility, by integrating the reduction of the demand side as an objective. Practically, this could mean that European funding for projects on alternative fuels (CEF, Interreg, ERDF) and driver-less cars needs to be changed, while they could have a further negative effect on the urban sprawl and will increase the demand (Hottgets, 2017). The different regional innovation strategies, which often form the basis for European projects, could incorporate ideas how to increase accessibility, by reducing the demand for mobility. There will be less need to provide European funding for constructing highways and major rail routes, and if they are constructed, it should be clear that the do not contribute to further sprawl. Also, regions should discuss how to increase for example the supply of regional products for use in the nearby cities instead of connecting themselves to the global markets. However, all of this also means that the main beneficiaries of the current short-term sectoral policy (car industry, logistics, real estate developers) should be forced to change their business models.

Conclusion

While the current mobility policy of the EU partly contributes to urban sprawl, it will have a negative impact on sustainable development. A change of EU policy concepts towards sustainable accessibility, incorporating the demand side and a spatial dimension will have very positive social, economic and environmental effects. This discourse has to be agreed by the European institutions and has to influence several EU policies. While this paper suggests a more normative framework, reality might offer difficulties. Because of the major influence of several lobby organisations, such as the car industry, on the European institutions, this much needed change of policy is not expected within a short period of time.

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Glossary

Accessibility: Accessibility refers to the ability to reach desired goods, services, activities and destinations (collectively called opportunities). This perspective assumes that there may be many ways of improving transportation, including improved mobility, improved land use accessibility (which reduce the distance between destinations), or improved mobility substitutes such as telecommunications or delivery services. (Litman, 2011)

Mobility: Mobility refers to the movement of people or goods. It assumes that “travel” means person- or ton-miles, “trip” means person- or freight-vehicle trip. It assumes that any increase in travel mileage or speed benefits society. (Litman, 2011)

Traffic: Traffic refers to vehicle movement. This perspective assumes that “travel” means vehicle ravel and “trip” means vehicle-trip. It assumes that the primary way to improve transportation system quality is to increased vehicle mileage and speed (Litman, 2011)

Urban sprawl: The expansion of human populations away from central urban areas into low-density, monofunctional and usually car-dependent communities, in a process called suburbanization. (Wikipedia, 2018) Urban sprawl is defined as low density residential and commercial development on undeveloped land.