

Post-Car World: Why Laugh at Change?

Definitions of the Car and Potential Changes

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Abstract

Far from the sirens of Modernism and the models founded on a standard vision of humanity, the scope of the Post-Car World research project is pluralistic. This project, funded by the *Fonds National* (Synergia), aims to create urban planning scenarios, focusing on the role of the car. Originally based on our investigation of people's relationship with the car, the plurality of practices and their possible (and desired) alternatives will likewise enhance these scenarios. This plurality of views will be the gauge of the pragmatism of the scenarios proposed, along with the fact that they tend to exhaust the practices and expectations to come. Neither utopian nor imaginary, these scenarios will come from inhabitants themselves, who we will interview regarding their expectations via surveys that will be conducted throughout Switzerland. In addition to the qualitative portion, we will also introduce a participatory process wherein respondents – originating from a variety of socio-spatial categories (different levels of urbanity, lifestyles, age groups, etc.) will be interviewed in two phases. In the first, they will describe their relationship to the car and their expectations in terms of mobility. This group of interviews will provide avenues for the construction of new scenarios, indicating the specific needs of users in their domains. We will then return to the field for a second phase, now armed with the already developed scenarios, in order to collect feedback from the respondents. The methods to be used will include: commentated itineraries, where users' behaviors in their mobility context will provide us with non-verbal information; images and photos of real and projected situations to stimulate the imagination and encourage commentary and critique by respondents; and collective interviews, which will allow us to evaluate the scenarios via discussions during the second interview.

In our communication, we will present the findings from the pre-survey of experts regarding the opportunities and constraints linked to the place of the automobile in participants' lifestyles.

Keywords

Post-Car World – Car – Mobility Experts – Expectations – Change

Introduction: The Car in Switzerland Today

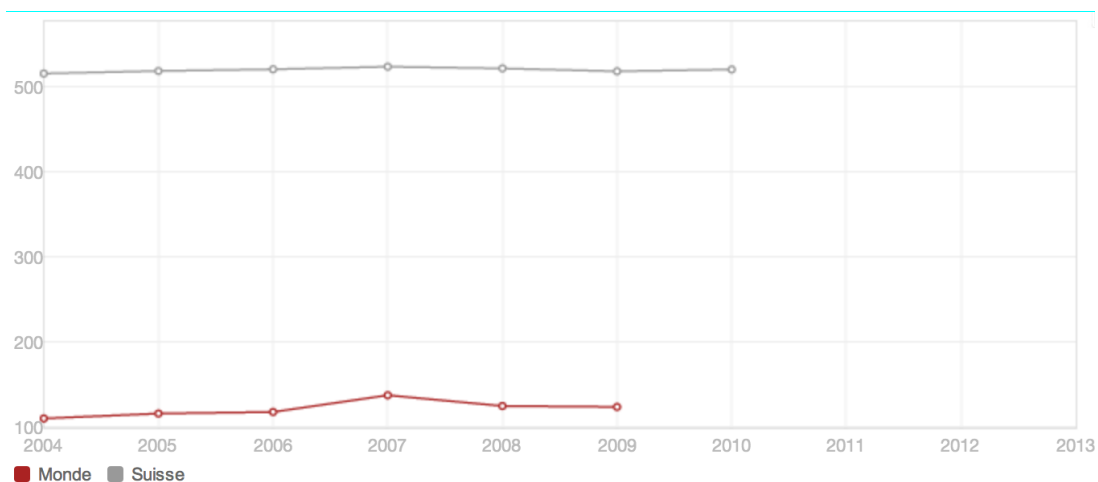
This presentation is one ingredient of a vaster research project associated with the Sinergia Post-Car World project. Through this initial presentation, which includes a section on the state-of-the-art, we will begin a larger investigation into the expectations of the users of the Swiss territory in terms of mobility and their willingness to accept a world without cars or not.

“I’m far from supposing that the general tendency is to make do without cars.” (DC)

“It would be better not to ban cars, because they are a reality.” (MS)

The tone is set. Mobility experts¹ questioned during exploratory interviews have shared their remarks, opinions, and intuitions as to the place of the car in Swiss society and it still seems to be an obvious one. Their collected talks allow us to affirm the quasi-omnipresence of the object ‘car’ in Switzerland.

Figure 1 Number of individual cars per 1,000 people, in the World and in Switzerland



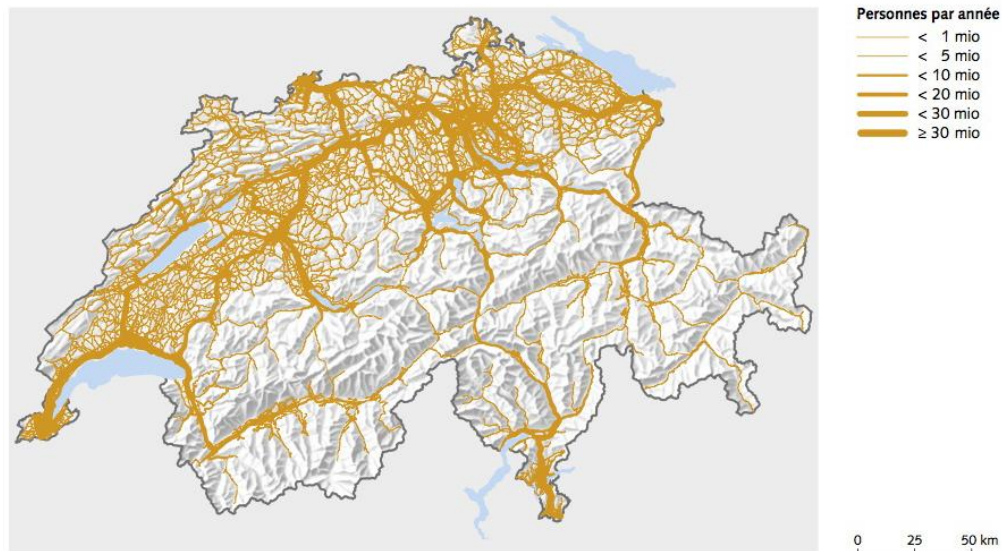
Source: [World Bank](#)

1 See the annexed table for the professions exercised by the experts.

Figure 2 In 2011, the traffic volume for tourists was higher by individual motorised transport than by public transport.

Flux du trafic voyageurs: transport individuel motorisé (voitures de tourisme), en 2011

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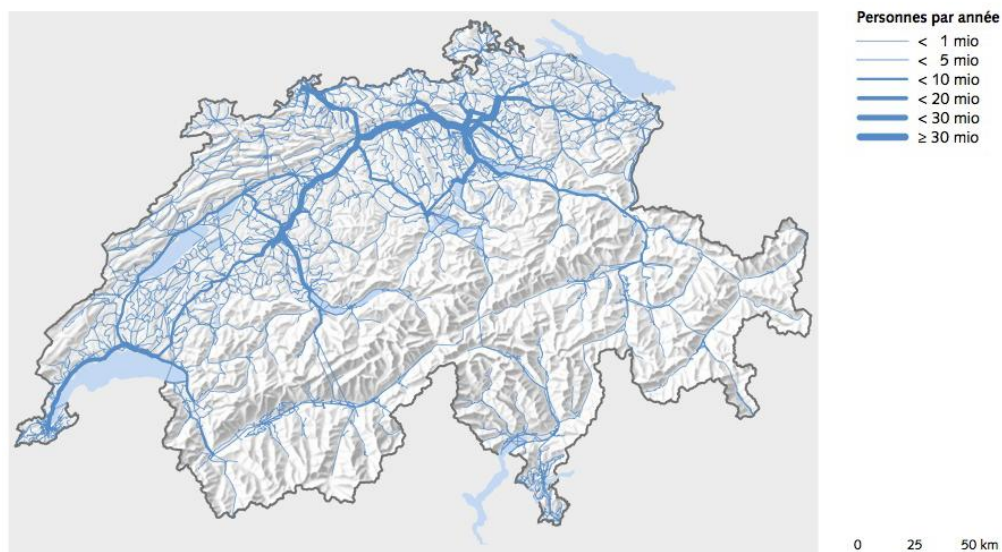


Sources: OFS – GEOSTAT; ARE – INFOPLAN; DETEC – Modélisation des transports (ARE); swisstopo

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Flux du trafic voyageurs: transports publics sur rail et route, en 2011

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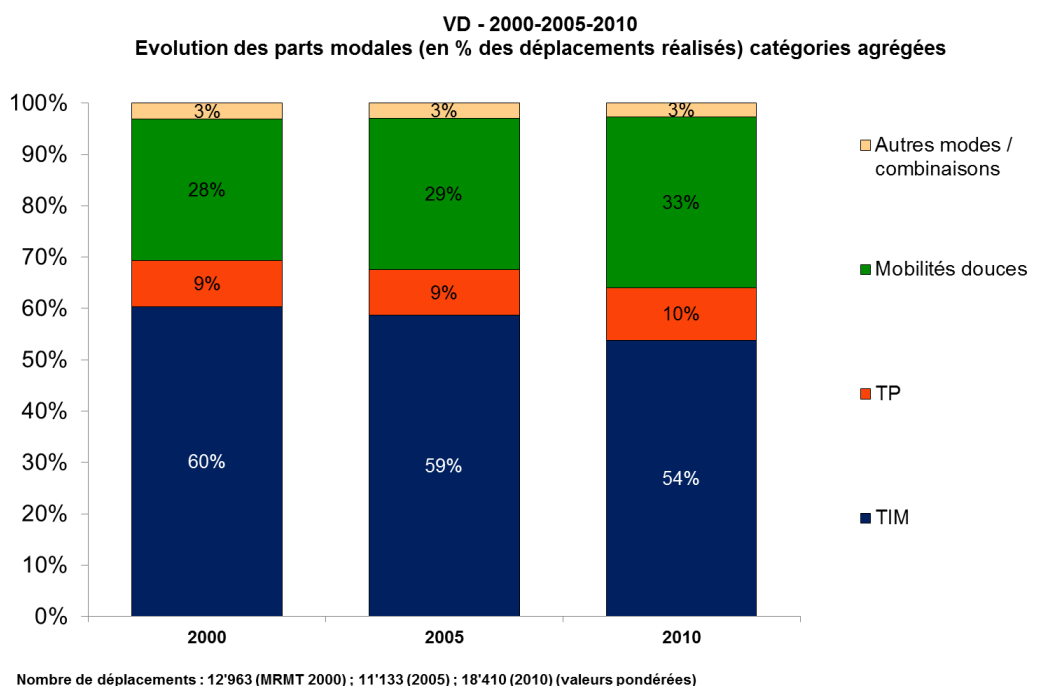
Sources: OFS – GEOSTAT; ARE – INFOPLAN; DETEC – Modélisation des transports (ARE); swisstopo

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Source: Mobilité et transports 2013, OFS

As Gabriel Dupuy² argues, territory in Western countries is organised to facilitate automobile access. This gradually increases the necessity of having a car as well as increasing inequalities between those with access to a car and those without. In Switzerland and in other developed countries, however, a slight decline in car ownership and use can be observed over the past five years.

Figure 3 In 2011, the traffic volume for tourists was higher by individual motorised transport than by public transport.



Source: La mobilité des Genevois et des Vaudois, Microrecensement Mobilité et Transports (MRMT), 2010

Yet according to some of the experts interviewed, neither the role nor the place of the car are fundamentally questioned today. Nevertheless, different mobility problems were addressed during each interview and the individual car was revealed to have some weaknesses. Congestion, pollution, noise, accidents... "We already have all of those problems even though

2 Dupuy, G. "L'auto et la ville : un exposé pour comprendre, un essai pour réfléchir", Volume 71 of Dominos, Paris, Flammarion, 1995.

not everyone uses cars.” (DC). Nuisances bear witness to the saturation of a road network which is not growing as fast as the number of its users, especially in urbanised areas (OF).

The occupation of road-space by cars engenders another unfortunate consequence: an unequal division of public space once again excluding users of non-motorised modes (PB). When the question of whether there is a possibility of dispensing with cars altogether is raised, the reactions are unanimous: the car is not going to disappear. This idea is “nice but impossible” for some, when it is not hippy or corny altogether.

From Today's World to a World Without Cars...

Why laugh at change? Why is it so difficult to imagine such a change?

To answer these questions we will begin with the object ‘car’, by first of all making a list of the different definitions of this object, which will allow us to understand what defines it today, according to the statements of the experts questioned. Later, during the elaboration of the qualitative investigation, a characterisation of each interviewee’s different relationships to the car will be made, which will serve as the starting point for an analysis of people's willingness to change.

As a second step, the identified categories of definitions will help decipher the expectations which the experts shared with us, their conception of changes to come for mobility, and the population’s willingness to change.

Thirdly, we will address the drivers for change brought up during the interviews. They offer us an idea as to imaginable solutions or those tested by professionals to move towards a more efficient and sustainable mobility.

The transcription of the various exploratory interviews give us the key to understanding, which will in the fourth part allow us to propose an answer to the issue by making a distinction between the possible and impossible, and the real and virtual.

Presentation of the Investigation

As mentioned at the beginning of the presentation, we shall share here the premises of a research project which has lasted for three years, is part of the multi-disciplinary Post-Car World project, and in which engineers, geographers, economists, sociologists, and urban planners have worked together to simulate a world without cars through a case study of the Swiss territory. Here, we will especially deal with the social science dimension of the Post-Car World project by summarising the exploratory interviews in regards to an issue, which had been carried out prior to a qualitative survey. The survey aims at detecting the expectations of Swiss residents in terms of mobility, exploring individuals’ willingness and ability to change, understanding their relationship to the car, and emerging needs in territorial use. **The exploratory interviews, carried out with experts on mobility practicing in France and Switzerland, offers an initial approach to the subject.** The number of people

interviewed were nine in total. All of them are practitioners, either as a political representatives, the head of a management consulting company on mobility, the strategy director in prospective marketing at a car manufacturer, the director of automobile innovation and ergonomic design at the same manufacturer's, an associated anti-car activist, an engineer and urban planner (specialised in territorial planning, transportation, and urban design) or the contract manager liaising with enterprises for a car-sharing company, or yet the assistant of a political representative for a mobility club.

These experts helped us to identify current and emerging trends in mobility practices thus preparing us for the hundred comprehensive interviews to come. Through their experience, they have given us an initial idea as to the ability and willingness of the users of the Swiss territory to change.

The interviews followed a fairly free progression, of which the following generally indicates the broad outline:

Today, what is the place of the car in Swiss society according to you?

What changes can be expected in transportation? What are the emerging needs and expectations in terms of mobility?

Is a world without cars imaginable? Why? How?

Starting with a characterisation of the current situations, the experts were thus able to share with us their expectations, and then reactions to the idea of thinking about a world without cars.

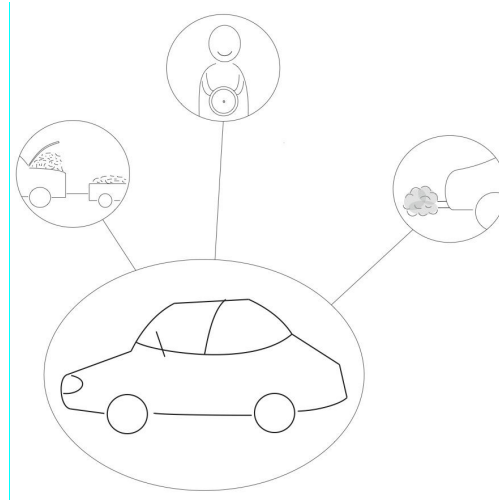
1. The Car: Expert Definitions.

A Constellation of Superimposed and Interconnected Definitions

During the different interviews, the object 'car' was addressed from various angles, which we will call "definitions". Each one represents for us a distinct definition of the object, which is more-or-less compatible with each of the other definitions in practice. Identified by the experts, these definitions correspond to different points-of-view and different relationships to the automobile. A multitude exists and therefore as many definitions exist relative to the potential of the object 'car'. The exploratory interviews allowed us to identify several definitions, which constitute an indication for future interviews with automobile users.

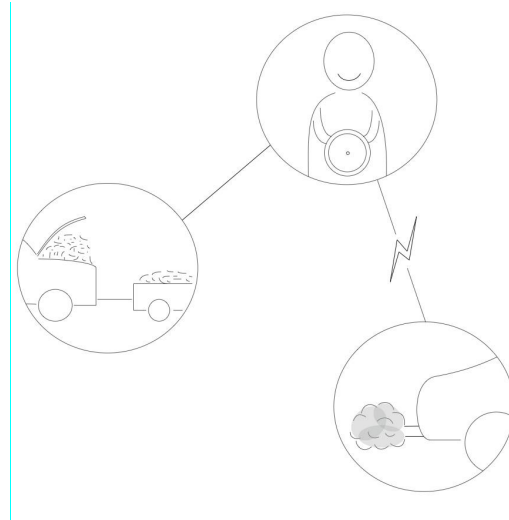
It is considered that for each individual, the car is experienced as the co-existence of several definitions. Therefore profiles appropriate to each individual can be detected. The experts have helped us to identify certain combinations of definitions, or certain profiles, which will perhaps stand out by their frequency among the people interviewed later on.

Figure 4 Diagram of a possible, simplified profile of relationships to the car:



Everyone tries to make their actions and representations consistent. A person's mobility practices correspond to a compromise between the different definitions which they have assimilated. Certain definitions co-exist, for example someone could be emotionally attached to their vehicle and use it to go to work, and these two definitions co-exist without conflicting. Sometimes, two definitions can even be interconnected, for example in the case of "storage space" and "means of transport" when someone leaves on vacation by car.

Figure 5 Diagram of links between definitions. Certain co-exist harmoniously, while others create a contradiction.



The definitions collected during the exploratory interviews have been assembled into three distinct categories. On the one hand, the car is seen as a functional, utilitarian object. On the other, it reflects values or feelings. A third part seemed to emerge with the appearance of a relationship to use, where the car becomes a service.

The following list is not exhaustive³ and will be expanded by the qualitative survey to come. The items in the list are the initial elements for an inventory of relationships to the object ‘car’ which will help in better understanding and deciphering the mobility practices of the users of the Swiss territory. These definitions of the car will then allow us to plan and anticipate changes related to them.

1.1 The Car as a Utilitarian Object

3 “Things act, respond, but are also impenetrable, resist, and cannot be reduced to the ensemble of approaches which we have.” L. Mondada, M. Akrich, A. Hennion, and V. Rabeharisoa. “*Des objets aux interactions, et retour.*” CSI Working Papers Series, N°7, 2007.

For many, the car assumes the status of an indispensable object. For these people, it constitutes a functional object and a tool for transport. The expert definitions classified into this first category are the following:

- *Storage space*, which refers to the argument of using a car for its boot, thus making possible or facilitating tasks such as grocery shopping, moving house, transporting baggage, etc.
- *A means of transport* for going to work, accompanying a non-motorised person, for example driving children to school, daycare, and leisure activities, or yet to go on vacation. Cars thus allow the choice of an ex-centred place of residence and generates particular lifestyles.
- *Availability*, for it offers flexible schedules and the variety of trips are nearly endless, with a car parked at home and always ready to go. When you own a car, “you can improvise on mobility.” (VC) “It is the most accessible form of transport.” (OF)
- *Trip continuity* or mono-modality, in contrast to public transport which is often accompanied by one or several other modes of transport (walking, etc.) during a drip.
- *Management of the unexpected* by being able to personally take action during occasional or emergency situations. “People buy something like that (gestures to show something big), ‘in case I have to maybe, one time, buy a sofa,’ and then go around all year with it.” (DC) “People choose a vehicle’s dimensions based on exceptional situations, such as vacations, moving house, or ‘just in case’.” (SD)
- *Routine*. “People always find a reason to use the car: if it’s cold, if you’re feeling tired, if it’s evening; there are lots of reasons.” (DC) Taking the car is an, “easy habit, arranged through the strategies for the commercialisation of cars.” (MS)

Several experts have noticed that, “in Switzerland, it is objectively possible to not use a car.” (MS) According to the expert just quoted, “the car is only indispensable because of the publicity which creates the need.” If it remains nevertheless the most popular and common means of transportation, it is maybe because “it plays more than just a role as a means of transport,” (MS) and thus it could be “imagined differently inasmuch as an object of mobility.” (EC)

1.2. The Car as an Object of Desire and Individualism

The object ‘car’ is not neutral and its status goes far beyond that of merely a utilitarian function. Several definitions revealed to us have been of an irrational and sentimental order. They have been brought together into a second category:

- *A “prestigious” car*, which manifests social status through the vehicle (brand, cylinders, options). A certain universality of desire, among all cultures, can be observed, and “delusions of grandeur” (MS) which seem to be spreading everywhere.

-
- *Reassurance*. “What I think, but it’s really an intuition, is that buying bigger cars than necessary means that something is going on at the psychological level where we need to be reassured, which is answering a unformulated anxiety. I’m just saying that; I have no proof. I think that people need to be reassured.” (DC)
 - *Mastery*, the feeling of controlling a powerful vehicle, of maintaining control, and enjoying driving. “There will always be drivers because there will always be people who want to stay in control.” (EC)
 - *Independence*, both for the great accessibility offered by the car over a territory organised for it, and for the image of autonomy which the possession of a car portrays, especially among aged populations: “we aren’t ‘little old people’.” (EC)
 - *Freedom*, for it allows “you to go where you want, when you want. The primary purpose of a car is to be a vector of freedom, the most efficient means to go everywhere; you’re free, and you can do what you want.” (EC)
 - *An extension of living space*, a habitation being a private space where people can either be brought together or remain isolated. The car is a mobile place but a place nonetheless, and not just a means of transport. “People live more and more in large metropolitan areas or in suburbs, and spend more and more time in transportation.” (EC) Feeling “at home” makes long journeys more pleasant by extending one’s lifestyle while driving.

Like the first category, the second family of definitions describes a private and individual object. Yet, “a change in values can be seen to be emerging, such as relocation, proximity, and green districts,” (MS) which are now part of the popular vernacular. A “steady increase in the willingness to share” (L-MG) creates new definitions for the car which we shall now address.

1.3. The Car as a Service

The general conclusion among the experts interviewed is the following: attitudes are changing and the status of the car has changed, especially among the young, to whom accessibility is more important than ownership (PB). Having access to a car and being able to use it have become more important than the fact of owning it. From that standpoint, relationships to the car appear or are transmitted, which have up until now been non-existent or given little consideration.

- *Car pooling*, or sharing private space with strangers. Often motivated by its economical and practical aspects, it encourages contact with others.
- *Car sharing*, when “the car becomes a public good.” (MS) “You go from having one car for everything, to using modes of transportation and cars for doing many different things.” (L-

MG), that is to say that the car can be adapted to each specific need. This service is offered to everyone, even to those who do not own a car, and allows them to respond to specific needs (EC), thus “people without a car will perhaps use it anyway from time to time.” (DC) About car sharing: “The car is principally used for its practical side, and those practicing car sharing do not see them as objects for showing-off.” (L-MG) This trend for preferring service to the ownership of an object can also be observed in the professional environment: “More and more, companies are looking for ready-made services which save them from managing their fleet of vehicles and allow them to free themselves from the charges connected with automobiles, especially parking and space.” (L-MG) They are looking for a high level of mobility while also looking for little requirements for ownership.

Why Define the Car?

This is a first overview of the definitions of the car which were provided to us during the exploratory interviews carried out with mobility experts. To these general definitions will be added by and by those given by the people interviewed about their own practices regarding the car. They will certainly be components of the profiles which we will establish based on the qualitative survey. These will now allow us to address the expectations of change as seen by the experts.

2. Expectations of Change by Car-Related Experts.

The expectations proposed by the experts can be organised according to the valuable definitions of the car. The definitions seem to intersect with the experts’ expectations to provide innovative perspectives and intersected redefinitions of the object ‘car’.

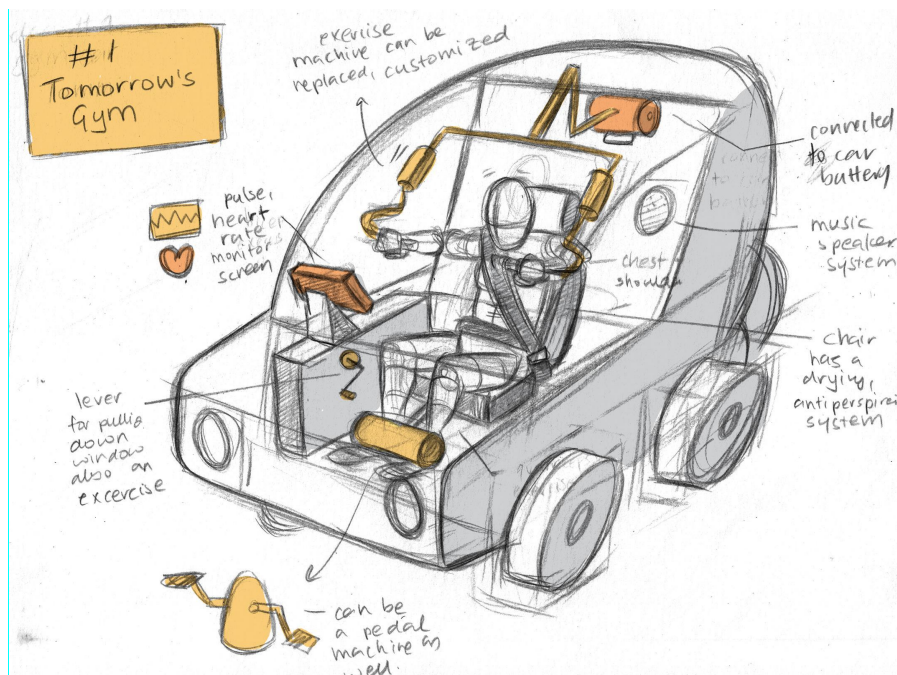
- The Utilitarian Car is Becoming Automatised

As a utilitarian object, the car can change to become more automatised (EC): “the driver-less car is close.” (EC) Yet for technical as well as legal reasons, it would be difficult to “have a car which would be completely autonomous all the time.” (EC) An autonomous car is thus a car which would reduce mobility effects and the constraints of transportation to a minimum, while still carrying out a transportation. Then, the driver who is not driving gains time which they can use otherwise. For passengers, a car’s “primary role will always be filled (...) but they would like to do other things in their car.” (EC) Busying oneself during journeys would constitute an improvement in connectivity to optimise the time spent in a car, with or without traffic jams.

- *Individual Cars, Beyond Just Transportation, Will Have Uses for Everyone.*

In brief, “the object will necessarily change. It will no longer be merely an object of mobility.” (EC) This will especially be one of the advantages of the car over the train, that it will allow videoconferencing and phone calls without bothering neighbours, while still remaining an individual object. To reinforce the place given to each passenger, builders especially plan to modify seat design, creating “sonic showers” (EC), sorts of sonic bubbles for each passenger. The car is imagined as a mobile place, which will allow a diversity of activities which are now available in other places. Each person’s comfort will be increased the easier the transportation is made. In this individualist vein, steering-wheel controls and the vehicle’s adaptation to meet each person’s needs should continue to develop. The car is answering more and more expectations, while losing that which strongly characterised it as an object, the driving.

Figure 6



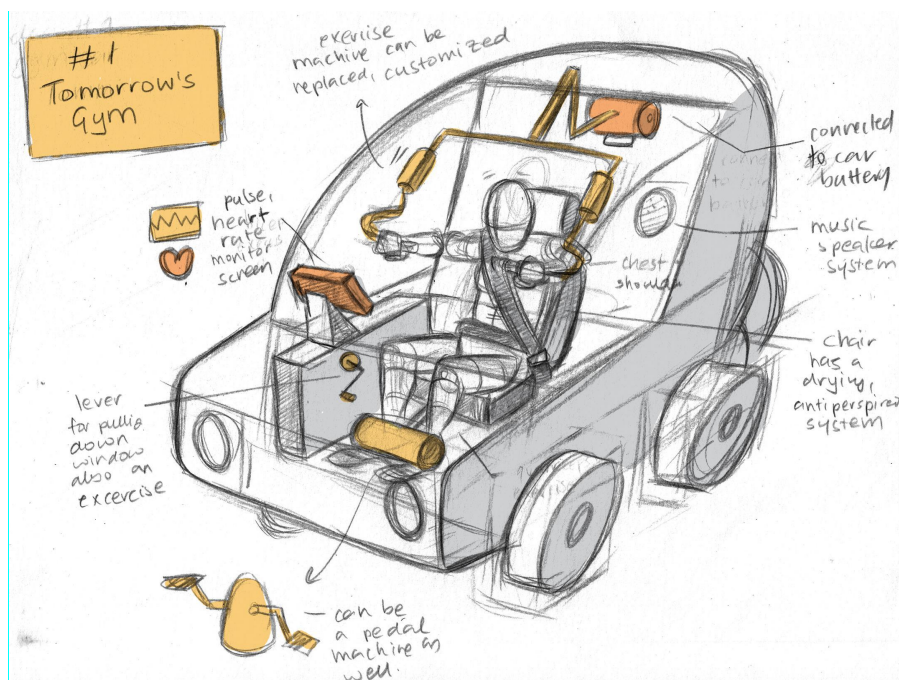
Source: Fusebox 2013, EPFL

- *Cars Connected to Each Other and for Passengers.*

The increased connection also reinforces the connectivity between the vehicles themselves and allows traffic management and optimisation in real time. Builders are gradually

developing these systems. The connected car thus is part of a system attaching it to other vehicles, through the information it transmits, or yet from another point of view. Imagine trains of individual cars which can attach and detach. This is in-line with sharing, information, and the object 'car' itself. In this sense, car sharing seems to be experiencing a great surge. (OG)

Figure 7



Source: Fusebox 2013, EPFL

- Encouraging and Giving an Example

According to JS, all that is sometimes needed is to give people the idea by showing them an example. In certain cases, the establishment of a competition with monetary gains has provided proof.

- Supporting Change

Tests, focus groups, or other participative techniques allow the situation to become well-known and to think about alternative solutions with participants (JS).

- Increase in Services Make Life without Cars Easier

Experts highlighted the emergence of services aimed at decreasing automobile traffic in the city without requiring the efforts of those benefitting from the service.

These expectations portray an image of the car which is both diversified in the individual practices it makes possible within its interior, and de-individualised in its primary function as a form of transportation which is automatised, connected, and praised. "...the future is about imagining my individual journey within a transport system." (EC) In brief, "people's mobility is a system." (VC+SD) The car is thus being redefined, it is no longer synonymous with entering into mobility (VC), and it is in decline as a simple objet not connected to others. It will remain, nevertheless, an object for driving and pleasure (DC).

3. How Will Change Happen?

Despite their ease in proposing future scenarios, the experts interviewed differed in their opinions regarding the difficulty in imagining ways in which current practices could be changed, and a willingness to imagine solutions for facilitating daily mobility practices associated cars. Nonetheless, based on the interviews and direct questions on the means put in place to change car practices, the main thrust could be determined.

- Constraints Linked to Car Practices

The first point to come up repeatedly was that of constraints. Constraints seemed to be of two kinds according to the interviews. Firstly, they come from an increase in the number of vehicles causing excess traffic and congestion, difficulty parking, and high car costs. It is thus an inherent constraint to car practices which are excessive and insufficient in terms of use per vehicle, and which generate negative effects.

- Constraints on Car Practices

A second kind of constraint is more direct: they consist in restrictive measures. They are constraints imposed by an actor endowed with certain powers, such as a municipality, discouraging car practices, for example by reducing parking possibilities downtown. According to the experts, the constraint is double-faceted: practices are not very optimal for cars, and the power exercised by a third party over drivers to discourage their practices is also a constraint.

- Improving the Public Transport System

Another advantageous alternative would be improving the public transport system so that it could become competitive with car practices. For the experts, it was about imagining new services, since “needs depend on supply” (EC). Even if the transport system present in the Swiss territory seems excellent in comparison, it “is still largely insufficient” (DC) to counter car practices. “If we’re talking about Post-Car World, we have to stop saying that Switzerland is fantastic. If we want to replace cars, we have to do 1,000 times better than we are doing now.” (DC) In other words, in order to arrive at change, the richness of car practices has to be taken into account, as well as to which point the object ‘car’ is a means of mobility suitable to a whole series of practices. One of the interviewees recalled how multi-modality could be a delicate point for a newcomer, and even more so if the transport network was not unified with a plan, a subscription, and a single signalling system (MS). Over the short term, combined mobility nevertheless seems to be a solution for most in that it gradually modifies practices. For example, by leaving the car at the park-and-ride and continuing the journey by train. It is made easier by smartphones (MS). Moreover, improvements in mobilities and transport systems are often caused by “lots of ‘plan D’s” (JS), especially for changes in programme due to the organisation of carpooling, for example.

- Telecommuting

To this is added telecommuting, which has partial potential: several days a week, for several professions. It is an improvement in mobility at another level, for telecommuting deeply changes lifestyles and ways of imagining daily life. To the contrary, the first paths for improvement start off from what is existing with a view of prolonging it. Just as cars have corrected many of their initial failings, public transport must doubtlessly do the same (DC). Housing would be deeply affected in that if it is already multifunctional, it would gain a function which would change the generally familial nature of the place. The classical separation of functions by urban planning would find itself mistreated.

- Changing Mentalities

Values associated with mobility would also be changing, at least in part, for relocation, proximity, and sustainable development are being more and more encouraged. Certain experts even speak of a “change in values” witnessed over the last twenty years (PB). Among others, colleagues’ examples can motivate someone to change their moral take on cars and mobility (JS). From another standpoint, values supporting car practices such as independence and freedom may be decreasing, in that “mobility causes more and more suffering,” (JS) and frustrations suffered by drivers lead to “realisation.” This context of rising distrust towards the car could encourage action and the implementation of new behaviour by certain drivers. Politically and ethically, each person seems to be more and more committed to thinking about these questions, even if the contradictions are sometimes great. For example, the colloquium on sustainable development to which everyone travelled by car, recalled the urban planner. (MS) The car’s definitions within these same people’s minds can be contradictory, according

to roles and times. From that point, changes to the definition of car practices emerge, and this emergence should be followed up according to some of our experts (politician, entrepreneur).

Deeply changing urban planning seems very ambitious, since that would mean, “saying how to plan without cars,” (MS) which is simply not part of the repertoire of regular practices and would demand a more complex vision within the planning domains. One solution proposed by an urban designer who was interviewed was that of having trip continuity. One of the advantages of the car is to concentrate the ability to plan a great number of trips into a single object thanks to the development of a dense road network. “To really replace the car, you would have to offer origin-destination trips without interruption.” (DC) This statement indicates a certain pessimism by placing the bar for change high in terms of fundamental change and not partial alterations. What is more, there is a difficult problem according to him: that of work-home location. Changing this distribution over the Swiss territory would mean a radical change. Moreover, cars have evolved quickly to answer the needs of drivers with airbags to improve security or GPS to answer drivers’ needs as to the loss of orientation. According to the urban planner (MS), it might be possible to compete with the car by gradually enriching public transport. Notably, companies are becoming increasingly involved in improving employee trips once they arrive at their workplace or in what concerns the trip to work itself.

4. Thinking About Change

These summaries of the visions for change suggested by the experts lead us to question their ways of thinking about change, and ways of thinking about change in general. The two principle ways were identified: what could be called alterations, or improvements on what already exists with or without an effect on mobility practices, a change in one of the elements of a practice; and greater changes in the redefinition and re-planning of territories and mobility modes, in more creative and comprehensive ways, and fundamental changes to a practice. The first type of change appears as an innovation, a change in path taken. The second type of change causes a redefinition in mobility practices, such as relocating jobs closer to homes, or yet seeing the car as a danger or corny.

Figure 8



Source: Four Aerofiats in the Spring, Alain Bublex, 2002

It is the second type of change which, when it is imagined, produces such reactions as: “the need for owning a car cannot disappear. Same goes for the pleasure associated with driving it. The car will always have its place; it will always fulfil other roles than just mobility.” (EC) Or, “it’s better not to ban the car because it’s a reality.” (MS) Or, to the contrary, “There are great, fundamental changes occurring, such as urbanisation, going from contagious to non-contagious diseases, the ageing of the population, and globalisation itself,” (DC) and they must be taken into account. In both cases, the actor is considered to be powerless and the situation to be rigid, full of suffering, and change seems incongruous. Most of the time, the pessimism which follows statements such as, “you’ve got to be realistic,” “be practical,” “it’s impossible not to,” “you can’t,” “you must,” “you can’t go backwards,” does not make change seem very credible. Change seems even less credible when it is framed in terms of

possible/impossible, in other words, in terms of completely new alternatives and the credibility of these alternatives. Yet, even a profound change such as relocating jobs closer to places of residence, for example, is based on elements yet to be determined; they are not creations springing from nothing. **The difficulty in identifying and imagining elements which will become key elements in changing the general organisation of mobility practices causes pessimism about change in general.** To the contrary, small changes, or alterations are appreciated in that they are imaginable and visible. However their amount is invisible, and made impossible and unpredictable, just like the redefinition of the object ‘car’ and its practices. In brief, to make things change, to bring about a change, it is not enough to ask *what* is going to happen, but *how* it is going to happen must be asked, as one of the car-sharing experts mentioned: “The more urban a space is, the more car-sharing goes on.” (L-MG) In the same vein, and against change but in a practical manner, “Most people drive, even if it is not a great majority,” (DC) which makes changing mobility practices difficult by way of an electoral path.

Figure 9 First Renault, 1898



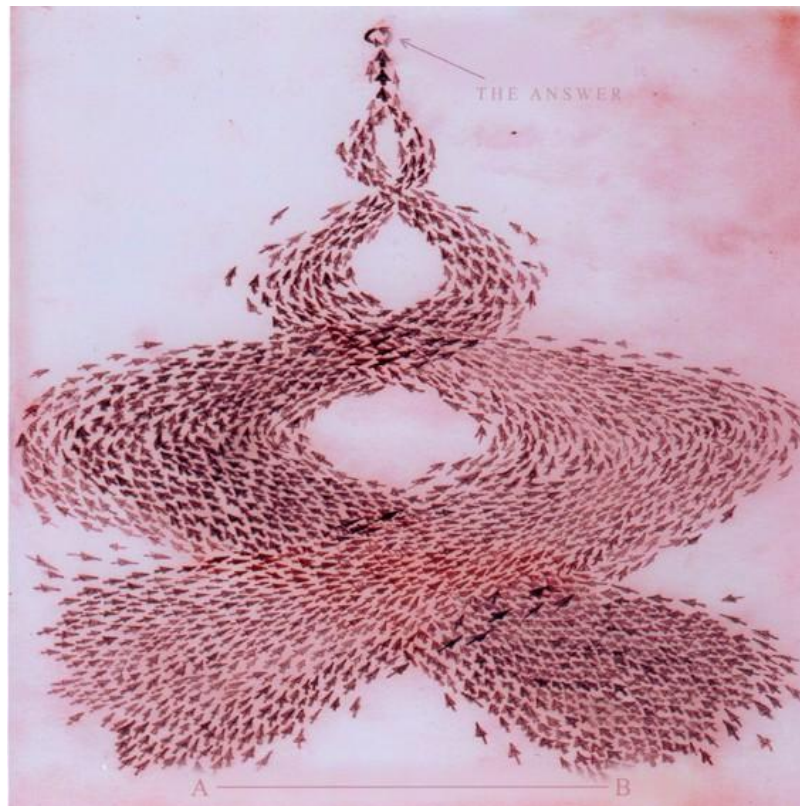
This poses a problem from a theoretical point-of-view, and allows for a contrast based on the already-mentioned visions of the pair *possible/impossible*, proper to the most pessimistic of our experts, with the pair *virtual/real*. The possible/impossible pair keeps us from thinking

about the genesis of a new element and a new creation of practices and space, in that it does not inquire into the potential of the objects (whoever could have imagined a century ago that the car would become a place for watching videos?), but over-invests into the definitions of the car that are already known. Thus, the engineer who sees in the car a technical object with a motor, if he remains blind, will forget that the car can also evoke, for example, the scent of the road along the way to the vacation-spot, or a place in which he was sick.

Let us now move to the second pair which will allow us to imagine change not as an unforeseeable rupture, but as an assembly of more-or-less extensive and intense connections which can cause a change more-or-less strongly. Virtual is defined as, “A potential reality which has not (yet) been actualised.”² A virtuality is an opportunity, an opening into which a novelty can be slipped. Change is thus more-or-less latent in each one of our objects, in each one of our persons, and in every situation of daily life. The sequences and connections leading to its concretisation, its actualisation must be identified and understood.

Afterwards, the vision of time superimposed over the vision of change is modified. The possible/impossible assumes that time has a linear direction, and recognises only one world, that which exists with its past and future following an ever-tightening path of dependency.

Figure 10



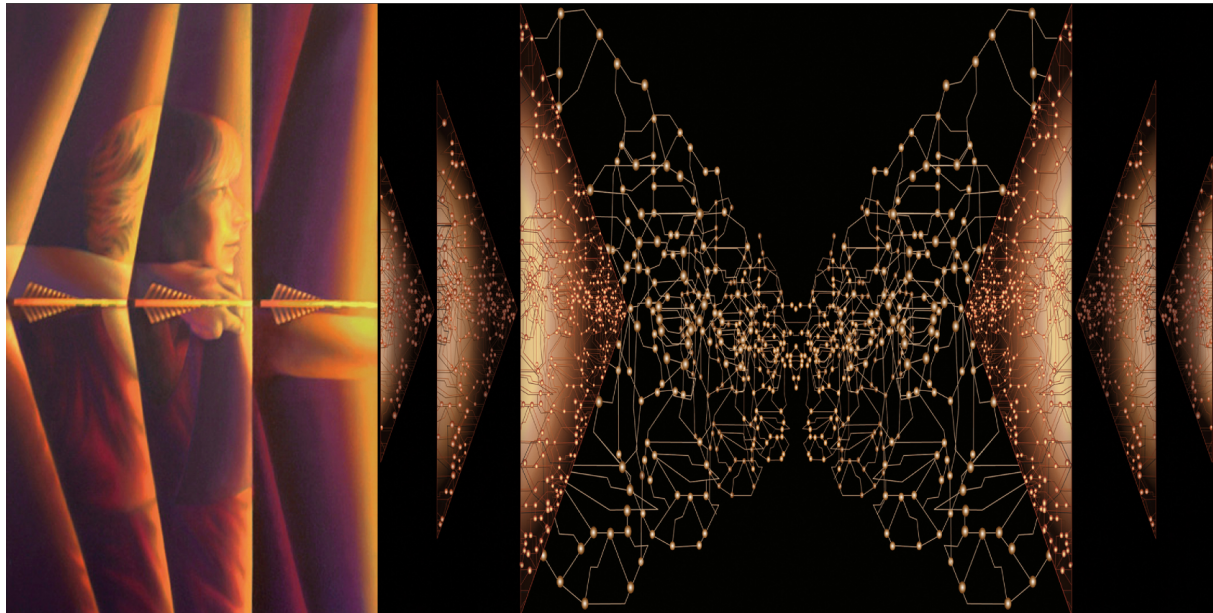
Source: Hegel's Dialectic, Jenna Cartwright, 2014

To the contrary, working with virtualities leads to the understanding that the world could have been very different, that it holds no necessity, and that within every world can be found the seed of other potential worlds. Within this intertwining of virtualities, the pathways and maps which certain experts have proposed through their more-or-less probable expectations must be found. Actualising such-and-such virtuality would have very different effects, for example improving the quality of seating in public transport seems to have nothing in common with the more-or-less common definition of the car as polluting. If potential sequences can be imagined, it would seem that two different changes would not have the same consequences based on the world in which we live, yet both changes seem imaginable if the means can be found to put them into effect. To conclude, we perhaps ought to recall the modesty implied in any reflection on virtualities, that we could always be taken by surprise.

Worlds without cars, which are probably numerous and have already been so in the past, are already seeded in our world of today. According to our course of actions, changing

practices and definitions of the car, some seeds have been frozen, others have disappeared, and others may finally appear.

Figure 11



Source: “La flèche du temps” (Time’s Arrow), Hybride 2010, Jean-Claude Meynard, 2010

The growing diversity of urban spaces reinforces the richness of possible worlds, all the while reinforcing the number of those ceaselessly disappearing. That is also why so many contradictions between individual and collective car practices can be found, even though individual and collective practices are relatively compatible. As a mobility expert said, there will be a change in our relationship with the car, and yet usage statistics to do with the car are generally contradictory, for example with more and more cars and more kilometres travelled, except for the last five years (JS). This could lead to the belief that there is no change at all, or a total change, without letting the plurality of worlds appear, or current ways of organising mobility.

Cars and car practices are not immutable; they are the fruit of changes and will be so unless they disappear completely. Mapping out definitions and practices may be a way of partially understanding the worlds possible without a car. If cars and their practices are so rich and have continued to exist since their appearance, it is because the object ‘car’ and its definitions have been renewed, enriched, and improved, and that certain car practices have disappeared, as well as certain cars depending on various more-or-less predictable

determinations. According to the possible/impossible pair and its advocates, the car is changing through time and resisting its effects, and according to the real/virtual pair, the car and its practices have undergone a whole series of transformations which their richness and malleability have allowed³.

Conclusion: Taking Change Seriously!

Figure 12



Source: Sorry! Etienne Krähenbühl, Lausanne 2014

Certain points did not interest the experts interviewed. Among others could be mentioned parking constraints for the car when it takes part in mobility circuits including public transport. They doubtlessly failed to mention various innovations to come or imaginable innovations. This project was as much about making different superimposed, interconnected visions about the car and its system understandable, as it was about succinctly questioning our ways of thinking about it. The Post-Car World project team is both working on understanding compatibilities between a world without cars and current reality, and on producing scenarios, innovations, and more prospective projects. These interviews allowed us to forge the first links between the project of surveying mobility users who will define their uses and expectations about the car and its territories, and car-free transport system models, which will have to replace cars and all of their uses, and find alternatives. It also allowed us to stimulate the imagination of our innovative engineers and architects who will have to rethink our territories according to changes in the transport system. These few leads, as yet too few,

constitute all the same a starting point for tracing out continuities between our world with cars and a world without cars, so that it is not merely the result of several laboratory researchers' reflections, nor a utopia, but truly a scenario for changing the organisation of our daily reality, taking into account each person's uses of the car while trying to conserve and enrich them.

Thanks to expert statements and to our interpretation, we have attempted to explore the world which we inhabit in its diversity, as well as all of the virtuality which it contains, becoming explorers of worlds yet to come. If the car is everywhere, the object covers a variety of practices and definitions which are important to identify, and based on them, to be able to anticipate and follow its changes. We have attempted to dismantle the idea of all-or-nothing, of possible/impossible. It is this pessimism which evoked the mocking laughter at our mentioning a change in the definitions of the car and its practices. If the definitions and practices of certain people, certain companies and administrations are taken seriously, then the malleability of the object and the territory of the car become clear. The play dough, malleable within certain limits, which is the car can bring forth a smile, and doubtlessly no less a laugh, especially if it is about showing that it can take on various forms and that it already has numerous alternatives. Through this exploration calling forth others, we hope that from now on you will take this change seriously.

1 Watzlawick, Paul, *Le langage du changement, éléments de communication thérapeutique*. Seuil, 184 pgs. 1980, p. 23.

2 "Virtuel", p. 996, Jacques Lévy in Jacques Lévy and Michel Lussault, *Dictionnaire de la géographie et de l'espace des sociétés*. Belin, Paris, 2003

3 "It is in this way that we could say that time is in the object which is extending, rather than the object in time. It is what we mean to say by contrasting a time-fabric inseparable with the interconnection of things to a time-frame." Durrillo, Elie, "Occuper le temps." *Revue de métaphysique et de morale*. 2011/4, n. 72, pp. 451-468, pp. 466-467.

Initials of the experts cited in the text	Professions in relation to mobility
MS	Engineer and Urban Designer
EC	Engineer and Ergonomist at a large automobile manufactory
SD	Innovation Director at a large automobile manufactory
VC	Director of Strategy and Prospective Marketing at a large automobile manufactory
PB	Former Member of Parliament, Green Party
DC	ATE Activist
L-MG	Responsible for Company Contracts for a car-sharing company
JS	Director of a consulting company in mobility management
OF	Assistant Political Manager for a mobility club

