RESEARCH ARTICLE

E-Road Network and Urbanization: A Reinterpretation of the Trans-European Petroleumscape

Wei Hou
School of Civil and Hydraulic Engineering, Dalian University of Technology, Dalian, China

Abstract: This article looks at the job of engineering and metropolitan preparation in forming associations between European land-based versatility, urban communities and scenes. It examines the advancement of spaces intending to interface automobility to the ordinary experience of European residents. The preparation and subsidizing of the E-street network is connected with the promotion of trans-European versatility for items and people. This endeavor to interface the distinctive European countries and to defeat their different plans has reshaped the metropolitan scene and the region. The article expects to show how metropolitan preparation and engineering assume a vital part in carrying out new sorts of mobilities advancing environmental manageability. Considering that the EU expects to conquer systems of petrol based portability and related designs, it means to show how the land-based transportation of the two people and wares in the E-Road network capacities as an entertainer of planetary urbanization. It explores three sorts of hubs inside the E-Road organization – the hubs experienced on the E-Roads, those to be found at the entryways to urban communities and the new constructions planning to impersonate the metropolitan aspect yet proposing an original enunciation of person on foot and auto course – and relates them to overall methodologies in the plan of portability.

Keywords: E-road network; Infrastructural Europeanism; Planetary urbanization; Mobility; Automobile vision; Petroleumscape; Sustainability; Trans-European highway system


Copyright: E-Road Network and Urbanization: A Reinterpretation of the Trans-European Petroleumscape. © 2018 Wei Hou. This is an Open Access article published by Urban Development Scientific Publishing Company. It is distributed under the terms of the Creative Commons Attribution-Noncommercial 4.0 International License, permitting all non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited and acknowledged.

1. Introduction

This article intends to analyze the pretended by the trans-European organization in the development of new plan devices and hypothetical systems for conceptualizing the job of interstates for the explanation of the downtown areas with their peripheries. It additionally endeavors to investigate how the development of a transnational parkway framework in Europe changed origins of the preparation and plan of urban areas and locales. The E-street organization, which was shaped on 16 September 1950, is a numbering framework for streets in Europe created by the United Nations Economic Commission for Europe. This organization is the European simple of the alleged Pan-American Highway. As Frank Schipper highlights, in Driving Europe: Building Europe on Roads in the Twentieth Century, ‘on an European level the 1950 Declaration on the Construction of Main International Traffic Arteries made what we today call “E-streets”’. (Schipper, 2008, 16). Schipper has likewise featured that ‘the E-streets easily associated Europe from north to south and from west to east’, underlining the way that they ‘filled in as a strong illustration and visual image for worldwide participation and European personality’ (Schipper, 2008, 190). Notwithstanding the way that on a worldwide scale the Route 66 is more eminent in our aggregate memory, there are sure parkways inside Europe that have assumed a huge part in the advancement of the peculiarity of suburbanization. The article expands on recharged interest in automobility and parkways inside the sociologies and adds to studies from different disciplines that have zeroed in on the job of the E-Road network in the construction of Europe. It considers the way that the origination of auto vision contrasts when moving from one neighborhood, metropolitan and public setting to the next. It means to research what metropolitan preparation and engineering mean for the associations between mobilities, urban communities and scenes, thinking about
various scales and distinctive public settings, and putting specific accentuation on the associations among rural areas and the downtown areas. At the focal point of the article lie the imaginaries delivered by draftsmen and metropolitan organizers, and their vision for interstates in various public settings and for their associations with arranged new towns. The Declaration on the Construction of Main International Traffic Arteries in 1950 portrayed a framework that would associate Europe from Scandinavia to Sicily. The development of a parkway framework for Europe was at that point expected in 1968.

To understand the complex strategies characterising the role of the E-Road network for the construction of a vision of Europe, one should take into account two layers: a layer concerning the comparison of the conception of highways within different national contexts, including the comparison of designs for the German Autobahn (Zeller, 2010), the Italian autostrada (Moraglio, 2017), the French autoroutes à péage (Hornsby & Jones, 2013), etc., and a layer discussing the designs and spatial imaginaries of the E-Road network. Analysing these layers will allow a better understanding of the tensions between national visions and trans-European urbanization, combining the local with the trans-European dimension, and contributing to a new understanding of the history of Europeanization. An aspect that should be taken into account is the impact of highways on the relation between urban and rural areas. Enlightening regarding this issue is Henri Lefebvre’s categorical statement that ‘motorways the countryside and the land, slicing through space like a great knife’ (Lefebvre, 1991, 165)While Autobahn and autostrada systems are interpreted in conjunction with the military purposes they aimed to serve, highways, in general, are understood in relation to the development of modern capitalism.

The principle objective of the article is to deliver unequivocal that there is a strain between public dreams the extent that the connection between land-based versatility and engineering and metropolitan arranging is worried, from one viewpoint, and some dish European vision persuading the E-street framework, on the other. To do as such, it expands upon the current writing on parkway culture inside various public settings to analyze, inside a trans-European organization, how the imaginaries concerning design’s auto- portable vision developed inside various public settings, and how these imaginaries were communicated through the rise of new engineering typologies and new originations of the thruways. One more perspective that ought to likewise be considered is Schipper’s comment that ‘overcoming the East-West separation was a focal objective for the ECE and its

secretary-general Gunnar Myrdal’ (Schipper, 2008, 189).

The system of lorries transporting containers from ships in order to enter cities and serve shopping centres is based on the existence of the E-Road Network. The land-based trans-European transport network, and the architectural typologies encountered on it, are part of the port cityscape and the “petroleumscape” supporting it (Hein, 2018). My analysis focuses on three typologies, which correspond to three kinds of nodes within the E-Road network, and are expressed within various national contexts that correspond to different European spatial planning systems (Nadin & Stead, 2008): a first category of nodes (N1) that corresponds to the nodes encountered on the E-Roads, including service stations, hotels, motels, gas oil stations, and café-restaurants, a second category of nodes (N2) that concerns the nodes encountered at the gates to cities, such as business centres and shopping malls, and a fifth category of nodes (N3) that includes the new structures aiming to imitate the urban dimension through a renewed mode of articulation between pedestrian and automobile circulation, such as the villes nouvelles in France and the New Towns in the UK, the Netherlands, and Sweden.

2. Infrastructural Europeanism and the E-Road Network as an Actor of Co-construction of Europe

A central notion for better grasping the E-Road network as an actor of shaping visions concerning the co-construction of Europe is that of ‘infrastructural Europeanism’, developed by Frank Schipper and Johan Schot, in their article entitled ‘Infrastructural Europeanism, or the project of building Europe on infrastructures: an introduction’ (Schipper & Schot, 2011). Schipper and Schot drew upon Paul Edwards’ ‘infrastructural globalism’, and its emphasis on the integrationist potential of infrastructures, to refer to the co-construction of Europe and its infrastructures. According to Edwards, ‘infrastructural globalism is about creating sociotechnical systems that produce knowledge about the whole world. it is a project: a structured, goal-directed long-term practice to build a world-spanning network’. (Edwards, 2010, 25) Useful for under-standing the integrationist potential of infrastructures is the fact that ‘historians have for decades now appreciated the integrationist potential of infrastructures, studying the processes of nation-state formation and how infrastructures have shaped and are shaping globalization’ (Schipper & Schot, 2011, 248). Among the first countries that were connected via the E-Road network were Belgium, the Netherlands, Luxembourg, Denmark, France, Germany, Italy, Sweden and Switzerland. The United Kingdom and the Nordic
countries were reluctant towards the E-Road network. The UK, despite being among the most motorized countries in Europe in terms of car ownership, had the least E-roads per square kilometre, in contrast with Benelux, the Alpine countries and Germany, which had a high density (22–35 m/km²), coherent with their status as important transit countries.

Frank Schipper’s Driving Europe: Building Europe on Roads in the Twentieth Century, Gijs Mom’s ‘Roads without raise: European highway network building and the desire for a long-range motorized mobility’ (Mom, 2005), and Pär Blonkvist’s ‘Roads for flow – Roads for peace: Lobbying for a European highway system’ (Blonkvist, 2006) are just some of the studies that can help us better the role of the E-Roads in the construction of Europe. The E-Roads serve as a powerful metaphor and visual symbol for international cooperation and European identity (Schot, 2010). Some important episodes in the endeavour to co-ordinate mobility on a pan-European scale are the Declaration on the Construction of Main International Traffic Arteries, signed in Geneva on 16 September 1950, which stated that it had become ‘essential, in order to establish closer relations between European countries, to lay down a coordinated plan for the construction or reconstruction of roads suitable for international traffic’,1 the ‘Declaration on the construction of main international traffic arteries’ (1951) by Edouard Bonnefous – the president of the Committee on Foreign Affairs of the French National Assembly who was a strong advocate of greater European integration – and the foundation of the European Conference of Ministers of Transport (ECMT) in 1953. Already in 1950, Bonnefous had maintained that ‘[t]he co-ordination of transport systems is probably one of the fields in which, in the opinion of all those who have studied the rationalisation of the European economy, it is easiest to advance rapidly and obtain tangible results’.2 (Henrich-Franke, 2012). On 16 August 1950, the French parliamentarian had used these words to launch a plan for the foundation of a supranational European transport organisation.

3. The Tensions between National Visions and Trans-European Urbanization

To better grasp the tensions between national visions and trans-European urbanization, one should try to compare the different national contexts, focusing on the following parameters: firstly, the increase or abatement of social seclusion as an effect of highway infrastructure design; secondly, the ways in which architects and urban planners could contribute to promoting eco-logy-oriented strategies of regional planning, through their practice; thirdly, the use of different categories of roads for different types of mobility; finally, the extent to which highways cross the more central areas of the cities under study. Useful for understanding the planning of roads in France in relation to social seclusion is the fact that ‘in the context of the isolation of the suburban working classes, autoroutes à péage, or toll roads exclude the poorest’ (Hornsby & Jones, 2013, 107). Regarding the use of different categories of roads corresponding to different types of mobility, I could refer to the case of the plan of the Great Aarhus Area in Denmark of the committee that was formed in 1961 and was chaired by the Social Democrat Bernhardt Jensen who was then the mayor of Aarhus. This plan, which was published in 1966, was focused on the urban development until 1980. It included the following five categories structuring the road network: ‘boligveje’ (housing roads), ‘stamveje’ (regular roads), ‘fordelingsveje’ (distribution roads), ‘primerveje’ (primary roads) and ‘motor- veje’ (motorways) (Møller, 1966). In the 1966 plan, special attention was paid to envisioning the mobility patterns of the future inhabitants. For this reason, particular emphasis was placed on reflecting upon how road infrastructure could handle the expansion of the region, on the one hand, and the increase in private car ownership, on the other. The everyday commuting of citizens was taken seriously into account. More specifically, the design of the road network was based on the idea that the urban dwellers should mon commute more than 30 minutes. Moreover, special attention was paid to providing a balance between workplaces, housing and recreational areas. The organisa- tion of the road network in the aforementioned five categories aimed to provide this balance. What is noteworthy regarding this plan is the concern of the planners about promoting different types of mobilities on different levels. (Højhøj, 2020)

Constantinos Doxiadis aimed to incorporate a concept of mobility into his architectural and urban planning strategies. He employed different concepts to refer to different understandings of mobility corresponding to different historical eras. For the city of the twentieth century, he used the concept of ‘megapolis’, arguing that its main characteristic was the perpetual intensification of mobility flows, which would break the limits of the cities, altering not only their structure but also most importantly their very meaning. Doxiadis was convinced that the age of automobile demanded the founding of new urban types, which would be organized like beehives around multiple centres. (Doxiadis, 1962) Another concept of Doxiadis that is useful for analysing the relationship between mobility and urban planning is that
of ‘Ecumenopolis’ and its relation to his understanding of highway networks. ‘Ecumenopolis’ started off with the hypothesis that urbanization, population growth and the development of means of transport and human networks would lead to a fusion of urban areas, leading to megalopoles forming a single continuous planetwide city.

Within the Italian context, the intensification of the concern about the notions of ‘città territorio’ and ‘nuova dimensione’ is closely connected to the shift from the interest in the historical city to the concern about territory (Charitonidou 2018). During the 1950s and 1960s, this reorientation was expressed through the emergence of a variety of competi- tions for Centri Direzionali, which was mediating mechanisms between city and territory, and were home to the new oil headquarters. Luigi Piccinato’s work played an important role in the emergence of the typology of the Centri Direzionali.

The concept of ‘città territorio’ appeared in a workshop organized in 1962 by Carlo Aymonino and entitled ‘La città territorio. Un esperimento didattico sul Centro direzionale di Centocelle in Roma’ (Aymonino et al, 1964). In the framework of this workshop, a panel on ‘città territorio’ was held with participants Alberto Samonà, Ludovico Quaroni, Carlo Aymonino and Vieri Quilici. The concept of the ‘città territorio’ is more Italian than that of the ‘città regio- ne’, which was more influenced by the American context given that Regions in Italy were officially established in 1970. However, the Regions were included in the Constitution in 1948, and the issues related to regional planning had already been dealt with in the Planning Law in 1942. The intensification of the concerns about the notions of ‘città territorio’ and ‘nuova dimensione’ is closely connected to the shift from the interest in the historical city to the concern about the concept of territory. This reorientation, which took place in the 1950s and 1960s, was expressed through the emergence of a variety of competitions for Centri Direzionali. Centri Direzionali as programs were perceived as mediating mechanisms between city and territory. An important event for understanding how the suburbanization of the post-war Italian cities was conceptualized is the meeting of the Istituto Nazionale Urbanistica of 1959, during which the debate unfolded around the notion of ‘la nuova dimensione’ with main participants Giancarlo De Carlo and Ludovico Quaroni. The emerging and intensified interest in the concept of the ‘nuova dimensione’ was linked to the acknowledgement of the fact that the urban system was in a state of permanent transition. The question of the ‘nuova dimensione’ was also addressed at a conference entitled ‘La nuova dimensione della città’ (‘The New Dimension of the City’) organized in January 1962 by Giancarlo De Carlo in the framework of the Istituto Lombardo per gli Studi Economici e Sociali (ILSES) in the town of Stresa on Lago Maggiore (Istituto lombardo per gli studi economici sociali, 1962). De Carlo defined the new city as a ‘whole of dynamic relationships a territorial galaxy of specialized settlements’ (Tafuri, 1986, 98).

Within the German context, special attention should be paid to the impact of shop- ping centres on suburbanization. Within the Dutch context, the Dutch Randstad had an important impact on the perception of the city from the car, and on the special character of the post- war suburban living culture in Dutch New Towns (Hein, 2020).

Within the French context, particular emphasis should be placed on the analysis of the relationship between the French villes nouvelles project and the new highway network. Despite the fact that the villes nouvelles were conceived in relation to the new regional express network, their connection with the new highway network, which was also being constructed during the same period, was an important component of the project. The villes nouvelles project, which drew upon the lessons of the British and Scandinavian New Towns, was launched in 1965 in order to respond to the French government’s effort to decentralise Paris (Cuipers, 2014; Merlin, 1991). The emergence of an ensemble of new architectural typologies in the villes nouvelles proposals is related to the promotion of the dissociation between pedestrian and automobile circulation, which is very present in the proposal for Toulouse-le-Mirail by Candilis-Jossic-Woods, which started in 1961 and constitutes one of the most iconic projects of the aforementioned team’s experimentation with mass housing in France, and was developed around two core concepts: that of ‘stem’ (trame) and that of ‘cluster’ (grappe).

The dissociation between pedestrian and automobile circulation became possible due to the design of the so-called dalle – a continuous ‘linear street’ connecting Bellefontaine, Reynerie and Mirail, offering ‘a zone of highly concentrated activities and density of collective life’. The design of the dalle was based on the intention to free the pedestrians ‘from the bondage of the automobile’, thereby ‘giving the “street” a new prestige – the street regarded as the primordial function in urban life’. As has been noted by Inderbir Singh Riar, cars arrived ‘only at the perimeter of housing blocks or [headed] directly to parking underneath the dalle, a resident simply never had to cross the road to engage the new city’ (Riar, 2018, 82). Georges Candilis developed his thoughts about the
reinvention of the notion of the street in the case in ‘A la recherche d’une structure urbaine’, which was published in L’Architecture d’aujourd’hui in 1962 (Candilis, 1962).

In a collage by Candilis-Josic-Woods representing the role of the ‘stem’ in their proposal for Toulouse-le-Mirail, we can see that they repeatedly used illustrations of cars. What is noteworthy here is Candilis-Josic-Woods’s understanding of the street ‘as a morphological structure and a social space of everyday life’, which implies a re-articulation of the relationship between the highways network and urban planning strategies. The fact that Candilis-Josic-Woods treated the street as ‘the structuring device for the urban plan of the whole development, a massive new town for 100,000 inhabitants’ (Cupers, 2010, 109) is symptomatic of their endeavour to reshape the connection between urban planning and mobility patterns. Toulouse-le-Mirail was the very first Zone à Urbaniser en Priorité (ZUP) – an administrative formula established in 1960 with the goal to ‘set priorities for government financing and execution of urban infrastructure, as well as for the selection of sites’ (Riar, 2018, 77).

An aspect that is useful for understanding the specificity of the automobile vision within the Swedish context is the relationship between architecture and corporatism. The automobile, as a physical and perceptual presence, has influenced the relationship between welfare landscapes and social housing in Sweden. During the 1950s and 1960s, when the Swedish social model achieved full employment, promoted consistent growth and maintained price stability, an innovative urban planning model known as the ‘ABC’ model3 was developed, aiming to imitate the variety and animation of city life in newly created large-scale suburban towns. Special attention should be paid to the analysis of Vällingby, the first city designed according to this model, and to the transition from the ‘ABC’ model, which was based on a limited use of automobile transport, to a recent tendency towards a renewed role for motorways and their connection to housing design, exemplified in Järvafyllet (Mattsson, 2015).

Useful for analysing the specificity of the relationship between highway culture and urban planning is Simon Gunn and Susan C. Townsend’s Automobile and the City in Twentieth-Century Britain and Japan (Gunn & Townsend, 2019). Within the British context, the London County Council (LCC), and its Architects’ Department, was responsible for the construction of several projects that changed the image of British cities. Alison and Peter Smithson, who designed Robin Hood Gardens built by the Greater London Council (GLC), which replaced LCC in 1965, addressed the contrast between the new post-war tendencies and traditional society, reinventing the role of architecture within a context where the civic aspect became primordial. They conceived the car as an important means in this endeavour of architecture to respond to the welfare values of post-war society, proving that the emergence of a new understanding of citizens’ sensibilities due to the generalised use of the car in the post-war society should be interpreted in relation to the welfare state (Smithson, 1983; Charitonidou, 2021). The link between the different architectural typologies under study is the fact that all of them are closely connected to the highway network. The question of suburbanization and its relation to automobile transport differs from one national context to the other: for instance, within some contexts, such as northern Italy, the existence of medieval and other urban patterns makes it necessary to conceive the network of automobile circulation in a way that extends or contradicts the existing layers of cities, since it is conceived as a new layer superimposed on top of existing networks. In Italy, suburbanization takes place over the existing pattern, extending or contradicting the latter. On the contrary, in other countries such as Sweden, suburbanization takes place in a more tabula-rasa way. Another aspect that should also be taken into account is the fact that shopping centres in France and Germany are more planned than in the case of Italy.

4. Global Palimpsestic Petroleumscape or Planetary Urbanization?

The automobile is one of the key actors in the transformation of urban form and planning, significantly affecting the political, environmental, and economic spheres as well as their interactions, but there have been no studies that have examined this impact in a complex and holistic way, placing particular emphasis on the role of urban planning, architecture, and spatial imaginaries. The automobile vision plays a primordial role within the process of suburbanization. To refine the concept of suburbanization, we could develop an understanding of the trans-European network, which is based on a polycentric understanding of the urban and suburban realities challenging the dichotomies between the centre and the periphery. The concept of ‘planetary urbanization’ suggests an epistemological shift in the field of urban studies, promoting an understanding of urban constellations beyond the polarities characterising the field of urban studies in the early 20th century: it is useful for treating the connections between different national contexts and the relationship between the centres and peripheries and the urban and rural landscapes (Brenner & Schmid, 2012). Within such a perspective, the E-Road Network is understood as an actor of planetary urbanization (Brenner...
& Schmid 2012), because it is the spine of planetary land-based transportation of both citizens and commodities.

The automobile vision plays an important role in promoting particular agendas related to the financial benefits of the use of highways for the circulation of commodities within a trans-European network. The role that oil companies play for the construction of spatial imaginaries of automobility and (sub)urban living should also be taken into account since they had an important impact on the historical transformations of the architects and urban planners’ automobile vision during the post-war period. The idea of ‘global palimpsestic petroleumscape’ employed by Carola Hein to examine how ‘petroleumscape shapes spatial practices and mindsets’ (Hein, 2020, 101) tying ‘commodity and energy flows to diverse spaces’ (Hein & Sedighi, 2016, 352). This concept is useful for comprehending the symbolic dimension of the modernisation of roads and the imaginaries of fast mobility, on the one hand, the relationship between architecture, urban planning and logistics concerning the circulation of commodities via the E-Road network, on the other. The logistics of the land-based transport of commodities relate to the endeavours of the countries under study to use architecture and urban planning as agents for constructing imaginaries related to car travel. They also play an important role in shaping imaginaries related to the use of the automobile. Apart from analysing the changing role of automobile transport in processes of suburbanization, one should also try to relate historical perspective to contemporary conditions.

5. Infrastructure and Transformation of Citizenship and Selfhood

Important for realising how geopolitics and infrastructure interact is the relationship between European integration history, the history of European highway infrastructure and the history of automobile imaginaries in Europe. Kenny Cupers and Prita Meier’s remark, in ‘Infrastructure between Statehood and Selfhood: The Trans-African Highway’, that ‘because of its scale, cost, and ambition, infrastructure is often thought of as a story of geopolitics, state building, and “big men”’ (Cupers & Meier, 2020, 63) is useful for understanding the impact of highway infra-structure and of buildings erected nearby on the relationship between citizenship and consumership. In order to reveal the interconnections between infrastructure and transforma-tion of citizenship and selfhood, one should place particular emphasis on demonstrating the relation of highway infrastructure to social issues and identity politics. To do so, concepts drawn from the cultural history of infrastructure, and anthropology could be creatively instrumenta-ised. For such a purpose one could draw upon an ensemble of recent anthropological studies focusing on the role of infrastructure, such as Dimitris Dalakoglou’s The Road: An Ethnography of (Im)mobility, Space, and Cross-border Infrastructures in the Balkans (2017), and Penny Harvey and Hannah Knox’s Roads: An Anthropology of Infrastructure and Expertise (2015).

The aim of this article is to contribute to the studies that aim to investigate the relationship between the evolution of land-based mobility and logistics, and urban and suburban transfor-mations, while adopting an interdisciplinary approach focusing on the interactions between networks of actors. Within the international context, there is an ensemble of professional organizations that explore these issues such as the Congress for the New Urbanism (Swift, 2011; Talen, 2013). In parallel, researchers such as American urban planner, sociologist Clarence Arthur Perry (1872–1944), who was a staff member of the New York Regional Plan and the City Recreation Committee, started investigating the impact of the advent of the automobile on the shaping of urban fabric in response since the late twenties (Perry, 1929, 1939; Southworth & Ben-Joseph, 2003; Stein, 1969). The article is based on the intention to help shaping new interdisciplinary methods to address the role of automobile vision as a tool for the promotion of particular agendas relating to the financial benefits of the use of highways for the circulation of commodities within a trans-European network, and the role of architecture for the construction of imaginaries of the built environment that support automobile vision. These methods should take into account the fact that the E-Road network concerns both individuals and commodities, and that the land-based transportation functions as an actor of planetary urbanization (Brenner & Schmid, 2012), focusing on the organization of the land-based trans-European transport network (TEN-T). Special attention should also be paid to the Rhine–Alpine corridor of the TEN-T since it crosses Switzerland.

6. Around the Political Agendas behind the Pre-eminence of Land-based Transport

The emergence of new architectural typologies, such as shopping centres and directional centres among others, is related to the political agendas aiming to legitimise the pre-eminence of land-based transport. An analysis of the different architectural typologies at the intersection of automobile and built environments and the variations in architectural typologies encountered on certain important routes of the E-road network could help us shape a
new methodology for understanding the infrastructural histories concerning the highways from a trans-European urban perspective and to establish methods permitting going beyond disciplinary studies of mobility and logistics in order to explore the nodes between mobility and locality. The comparisons of the imaginaries implemented in the architectural typologies of nodes within different national contexts give insight about how different types of highways cater to national identities, and how architects and urban planners accommodate them. The replacement of other modes of circulation of commodities by their transportation on tracks is connected to the construction of imaginaries regarding the fetish of speed. As Claire Pelgrims has highlighted, ‘fetish allows a transversal approach, interrelating with different interpretations of automobility infrastructure in mobilities studies’ (Pelgrims, 2020, 94). Fetish is understood here as dependent ‘on a particular order of social relations, which it in turn reinforces’ (Pietz, 1987, 23, 1985). During the postwar years, citizens sought to supplant traditional development patterns with new visions centred on the role of the automobile in daily life. Buildings, roads, nature, policy-makers, urban planners and architects should be understood as actors within a network in continuous becoming. The concept of ‘evolutionary resilience’, which has been examined by Carola Hein and Dirk Schubert, is useful for understanding the dynamic relationship between buildings, roads and nature (Hein & Schubert. 2021a; Hein & Schubert, 2021b), taking into consideration the fact that ‘[r]esilience has become a buzzword used to describe the capacity of cities to bounce back after disasters’ (Hein & Schubert, 2021b, 235).

7. The Spatial Embodiment of Global Economic Flows

Vincent Kaufmann, in Re-thinking Mobility: Contemporary Sociology, argues that ‘the speed potentials procured by technological systems of transport and telecommunications [can be considered vectors of social change’ (Kaufmann 2016, 99). He employs the term ‘motility’ to refer to the operation of transforming speed potentials into mobility potentials, arguing that ‘[t]he notion of motility allows to distinguish social fluidity, from spatial mobility’ (Kaufmann 2016, 99). The social fluidity approach, currently present in debates in the social sciences, takes into account the role of ‘transport and communication systems as actants or manipulators of time and space’ (2016, 4), placing particular emphasis on the fact that ‘the automobile associates speed and freedom in space and time’. (Kaufmann 2016, 101) Particular emphasis should also be placed on the role of mobility in the formation of social positions. In parallel, the shift from the model related to contiguity to that related to connexity is pivotal for understanding the role of the E-Road network within this process of enhancing ‘the interaction of actors by cancelling spatial distance’ (Kaufmann 2016, 22).

Actor Network Theory (ANT), path dependence theory and the concept of planetary urbanization are useful for better understanding the relationship between the spatial embodiment of global economic flows and the effects of networks of trade and transport, and the relationship between global networks and local transformations. The main characteristic of ANT, originally developed by Bruno Latour, Michel Callon and John Law, is the symmetrical treatment of human, social and technical elements within a system (Latour, 2005). The elaboration of methods related to ANT to tackle questions concerning urban studies has already been addressed in Urban Assemblages: How Actor- Network Theory Changes Urban Studies (Cvetinovica et al, 2017; Farias, 2010; Rydin & Tate, 2016). An understanding of highway infrastructure based on ANT implies that highways and architectural typologies encountered in them are understood as active elements of a dynamic urban system. ANT focuses on the interaction between the different actors of the network and is a convenient theoretical framework for studying the intersection of car and built environment, and for interpreting highways, automobiles and architectural and urban assemblages as actors of a dynamic network. ANT is also useful for interpreting mobility policies based on the supremacy of the associations between them, treating highway infrastructure mostly as infrastructure process, and as being in a dynamic state of continuous transformation.

ANT is based on the idea that ‘objects, tools, technologies, texts, formulae, institutions and humans are not understood as pertains to different and incommensurable (semiotic) realms, but as mutually constituting each other’ (Farias, 2010, 3; Farias & Bender, 2010). ANT can serve to treat space as one of the agents of the network under study, and path dependence is useful for analysing the transformation of the institutional and epistemological approaches concerning urban planning related to the generalised use of cars and the promotion of highway transport of commodities within a trans-European network (Sorensen, 2015). Departing from Carola Hein and Dirk Schubert’s claim that ‘path dependence provides an important way to look at port cities’ (Hein & Schubert, 2021b, 390), what I claim here is that path dependence is equally convenient for examining the evolution of highway infrastructure and mobility policies. Taking into account that ‘[u]sing the transformation of the form,
function, and location of port infrastructure as the lens for understanding resilience [within a] comparative framework can provide new insight into the complex intersection between institutional decision-making and spatial development’ (Hein & Schubert, 2021b, 391), what I argue is that studying the mutations regarding the form and function of highway networks within a trans-European perspective can contribute to a sharper understanding of the intersections between institutional decision-making processes and spatial development concerning mobility policies within Europe.

Vincent Kaufmann, in Rethinking Mobility: Contemporary Sociology (2016), draws a distinction between the areolar model, the network model, the liquid model, and the rhizo-matic model. Taking into account the fact that the E-Road network can be understood as adopting a perspective that combines different aspects of the aforementioned models, the aim is to examine its shaping approach based on the intention to transform motility into mobility. To understand the different functions of the architectural typologies encountered on the E-Road network in the process of planetary urbanization and in the production of flows of commodities and individuals within Europe, one could compare the different forms taken in different national contexts by the three kinds of nodes. The latter are as follows: the architectural typologies of intermediary stops on highways (service stations, hotels, motels, gas oil stations, café-restaurants), the architectural typologies encountered at the gates to cities (business centres, shopping malls) and the new urban formations that enhanced suburbanization, contributing to the creation of polycentric entities, such as the New Towns of the welfare states. This categorization of the typologies according to their function within the network of transport of commodities and individuals is useful for understanding the different approaches within each national context vis-à-vis the relationship between the automobile infrastructure and architecture and urban planning. ‘Transnational history’ and its intention to treat

9. Conclusions

The article presented an ensemble of key insights concerning a multi-layered analysis of the E-Road network and its relation to architecture and urban planning. Its main objective was to make explicit that it is necessary to shape methods aiming at a simultaneous investigation of the architecture of the automobile threshold spaces, the urban planning strategies and the variations of the imaginaries concerning European post-war welfare societies. In order to shape multi-layered methods, one should take seriously into consideration intertwinement of different scales, such as the architectural scale, the scale of urban planning and the territorial scale. In parallel, it is indispensable to take into account how the connection
between the suburbs or the periphery and the city centre was treated within different national contexts.

A question that is dominant within the current debates concerning migrant flows is that of whether the term mobility of migration is more relevant. As Sandra Ponzanesi highlights in her article entitled ‘Migration and Mobility in a Digital Age: (Re)Mapping Connectivity and Belonging’, ‘[m]obility studies is an emergent interdisciplinary field that focuses on social issues of inequality, power, and hierarchies in relation to spatial concerns, such as territory, borders, and scales’ (Ponzanesi, 2019, 548). Mobility studies are understood as more socially sustainable in the sense that they are considered to relate to a more holistic approach than migration studies. A term that was recently coined by Mimi Sheller to respond to the dilemma of whether the term migration or mobility is more socially equitable is the term ‘mobility justice’ (Sheller, 2018). The main idea behind the use of this term is the intention to render explicit that while mobility is a fundamental right for everyone, it is experienced unequally along the lines of gender, class, ethnicity, race, religion and age.

The fictions related to automobility significantly transformed not only the relationship between the city centre and its territory but also the relationships between the different national contexts within Europe. The emergence of new models of daily life related to the model of working and living within a trans-European network contributed significantly to the perception of Europe as an expanding polycentric and dynamic entity. To address the question of the impact of the car on ‘planetary urbanization’ (Brenner & Schmid, 2012) in a trans-European perspective, one should examine the role of the E-Road network in suburbanization and its impact on the shift towards the model of the polycentric city. Another question that emerges and is also topical as far as the debates around the relationship between sustainability and mobility patterns are that concerning the mutations in spatial practices and mindsets that will emerge due to the shift from traditional petroleum fuels towards electric cars. Insightful for understanding the shifts concerning the sociocultural dimensions of mobility of the reorientation towards the decarbonization of cities is the recently published issue of Sustainability: Science, Practice and Policy (Sonnberger & Graf, 2021). Special attention was paid, in the aforementioned issue, to the analysis of the importance of taking seriously the close connection of society, technology, movement and culture.

The article intended to explain why architects and urban planners as visionaries function as agents of the dominant economic and social systems. The design and promotion of road maps handed out at gas oil stations function as agents within this process of constructing imaginaries around the experience of highways and automobile transport. The distribution of free road maps and brochures by oil companies and the creation of networks of gas oil stations played an important role in suburbanization. Relevant for the investigation of the relationship between the generalised use of the automobile and the phenomenon of suburbanization is the fact that oil companies have actively promoted the expansion of transportation systems [distributing, on the one hand] road maps designed to entice car users to destinations that were ever farther away’ (Hein, 2009), and expanding further the existing networks of gas oil stations, on the other.

References


[9] Cupers, K., & Meier, P. (2020). Infrastructure be-


