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**Re-enacting the mobility versus accessibility debate: Moving towards collaborative synergies among experts**

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Re-enacting the mobility versus accessibility debate: Moving towards collaborative synergies among experts

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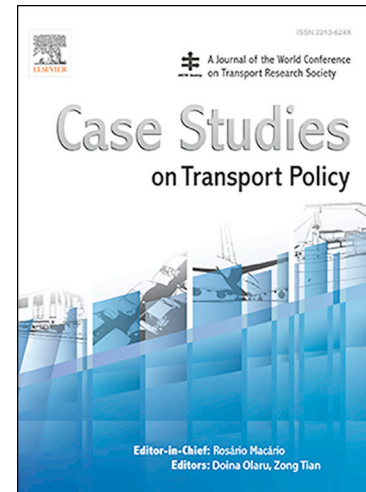
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# 1 Re-enacting the mobility versus accessibility debate: Moving 2 towards collaborative synergies among experts

## 3 Abstract

4 The benefits of the accessibility approach in transport planning are well-known and widely  
5 documented in the literature. However, in practice, most transport planning processes are focused on  
6 improving mobility and not on improving accessibility. Recent research has made it clear that what is  
7 blocking the accessibility approach are not the technological dimensions of transport planning, or the  
8 lack of knowledge about how to perform accessibility planning in practice. This approach is being  
9 blocked instead by institutional barriers. This article critically identifies some of these barriers.  
10 Adopting a cross-disciplinary and international perspective, two rounds of in-depth interviews with  
11 accessibility experts were conducted. This allowed gathering insights not only about the institutional  
12 barriers to the adoption of the accessibility approach in transport planning practice, but also about  
13 possible pathways to make accessibility a more central concept in decision-making.

14 **Keywords:** accessibility; institutions; barriers

## 15 1. Introduction

16 This article informs the *accessibility approach* to transport policy, planning, and investment (Cervero,  
17 1996, Bertolini et al., 2005, Handy, 2002, Lucas et al., 2016, Gutman and Tomer, 2016) by means of  
18 critically analysing some of its institutional implementation barriers and how to overcome them. This  
19 approach will be referred to either as the 'accessibility approach' or as 'accessibility planning'.  
20 Planning practices based on this approach are concerned with improving the extent to which places,  
21 events, activities and social contacts are within range for as much people as possible. In line with this  
22 understanding, accessibility is defined as the capacity to reach a place, event, opportunity or social  
23 contact *in a way that fulfils what people need*. For insights see Capron (2002), Ferreira and Batey  
24 (2007, 2010), and S.E.U. (2003).

25 Conversely, practices based on the 'mobility approach' primarily focus on the extent to which  
26 individuals move and how they do it. In our view, there is nothing logically flawed about adopting this  
27 approach (as sometimes implied by some authors), if the assumption that more mobility means more  
28 accessibility is not made. In many instances it is assumed that if there is more travel mobility, there is  
29 more accessibility, and so mobility can be seen as a proxy variable for access. Research shows that this  
30 assumption is misleading, as these two concepts are not interchangeable and can lead to different  
31 consequences when put into practice (Levine et al., 2010, Grengs et al., 2010). Placing emphasis on  
32 mobility instead of on accessibility can lead to the paradox of people spending more time, money and  
33 energy travelling while experiencing decreasing accessibility levels (Ferreira and Batey, 2007, Handy,  
34 2002, Litman, 2003).

35 The potential benefits of accessibility as a guiding concept for planning are significant (Litman, 2003,  
36 Straatemeier and Bertolini, 2008, Bertolini et al., 2005). Implementing accessibility-based  
37 performance measures can allow decision-makers to pursue more coordinated objectives around  
38 economic development and environmental justice, social equity and urban form (Lucas, 2004, Lucas,  
39 2012, Lucas et al., 2016, Lucas, 2006). It can play a key role in supporting job markets as well (Zhao  
40 and Lu, 2010, Levine, 1998).

41 Even though the accessibility approach is acknowledged as fundamental for planning, practitioners  
42 still struggle to implement it. As we will see, several implementation barriers exist. As a result,

43 mobility-oriented transport planning tends to be more dominant than accessibility-oriented planning  
44 in local authorities, government agencies, and consultancies. This has been depicted as a global  
45 phenomenon (Levine et al., 2017, Boisjoly and El-Geneidy, 2017a, Proffitt et al., 2015).

46 This article proposes that mainstreaming accessibility planning is possible and can lead to significant  
47 benefits. To achieve this, the adoption of evolutionary principles is recommended: the accessibility  
48 approach should not be seen as an alternative to the mobility approach, but as a step forward based  
49 on it. The accessibility approach includes all the merits of the mobility approach while building  
50 strength on new theoretical understandings and technologies that have been emerging in the recent  
51 past. The classical battle between pro-mobility and pro-accessibility experts would benefit from being  
52 replaced by a cooperative interaction between them, as these two approaches are in fact synergistic.  
53 To achieve this cooperative interaction, we propose that it is necessary to consider the institutional  
54 barriers that prevent the implementation of the accessibility approach.

55 We define institutions as the formal and informal rules and organisational structures that guide both  
56 collective and individual actions within a given professional and political environment. As such,  
57 institutions are key to understand how transport planners understand their roles, how they act, and  
58 how decisions are made by them (Williamson, 1994). These rules and structures also influence the  
59 nature of transport systems in place and how they are managed (Rietveld and Stough, 2005, Levinson  
60 and King, 2019).

61 The article is structured as follows. Section 2 discusses the relevance of the research in view of the  
62 literature on accessibility planning and its barriers. Section 3 briefly describes the methodology used.  
63 Section 4 identifies the institutional barriers to the implementation of the accessibility approach in  
64 planning practice and section 5 discusses pathways to mainstream accessibility planning. Both  
65 sections 4 and 5 are based on the empirical work explained in section 3. Concluding remarks are drawn  
66 in section 6.

## 67 **2. Theoretical background: the accessibility approach and its institutional barriers**

68 The mobility and the accessibility approach differ in very important and even critical ways. In practical  
69 terms, the traditional mobility approach is primarily aimed at promoting physical travelling. It places  
70 its focus on the enhancement of transport infrastructures, services and technologies. Increased  
71 transport network speed and capacity are a common result of its initiatives. Conversely, the  
72 accessibility approach is aimed at increasing the ability of people to engage with social contacts,  
73 participate in activities, and reach services; as well as increasing the ability of organisations to engage  
74 with institutional and business partners, markets, and resources. An increase in accessibility can be  
75 achieved by means of enhanced *mobility* conditions, but also by means of *proximity* by reducing the  
76 physical distances between where people and organisation are located and what they might need or  
77 want (Bertolini, 2017). As a result, accessibility planning tends to encourage mixed land uses and other  
78 strategies capable of reducing both travel distances and the frequency of trips (Ferreira and Batey,  
79 2007, Handy, 2002).

80 The second key distinction to be made between the two approaches concerns the logic behind their  
81 respective measures of success. The mobility approach is focused on determining the extent to which  
82 people travel and the impedance associated with travelling. For this, it uses indicators such as number  
83 of travellers, travel time, travel length, speed and cost of travelling. As a result, the success of transport  
84 schemes is likely to be measured in terms of increased number of travellers, reductions of travel time  
85 and travel-related monetary costs, among other possibilities. Conversely, accessibility is an attribute  
86 of people or places. The accessibility approach measures the effective ability of people to reach what

87 is needed or desired by them or, conversely, the extent to which important places, organisations and  
88 service providers (e.g. hospitals, schools) are sufficiently easy to reach by the people who need them.  
89 In this sense, the accessibility approach is more directly focused on promoting and measuring the  
90 effective satisfaction of needs and aspirations. In contrast to this, the mobility approach is essentially  
91 focused on promoting mobility per se.

92 Due to these two major differences, the accessibility approach is widely recognised as being  
93 particularly suitable to facilitate sustainable integrated transport and land use policies (Preston and  
94 Rajé, 2007, Handy, 2008, Geurs et al., 2012, Ingram, 1971, Hansen, 1959, Pirie, 1979, Pirie, 1981,  
95 Wachs and Kumagai, 1973). Nevertheless, many studies demonstrate that the accessibility approach  
96 still plays a rather secondary role in transport and land use planning practice and that the so-called  
97 'implementation gap' remains significant (Halden, 2011, Levinson and Gillen, 2005, Proffitt et al., 2015,  
98 Straatemeier, 2008, Curl et al., 2011). A relatively large body of literature has been produced with a  
99 specific focus on barriers to the implementation of sustainable transport (Banister, 2005, Curtis and  
100 Low, 2012), land use and transport policy integration (Hull, 2008, Curtis and James, 2004), and Transit  
101 Oriented Development (Thomas and Bertolini, 2015). However, only a limited number of studies  
102 explicitly address accessibility planning barriers. Their main insights are presented below:

- 103 • Accessibility is a concept that can be defined in several ways and measured using a range of  
104 different indicators. These indicators can display significantly diverse levels of complexity. This  
105 can lead to some confusion and potentially to lack of understanding, and even conflicts,  
106 among stakeholders;
- 107 • There is a mismatch between the skills that transport planners typically have (as they tend to  
108 be focused on models, technologies, and physical developments) and those necessary for  
109 conducting accessibility planning processes (particularly understanding people and their  
110 needs). It is therefore likely that some technically-oriented transport professionals develop at  
111 least some resistance to the accessibility approach;
- 112 • Promoting certain urban developments (consider for example profitable enterprises in  
113 peripheral locations) might conflict with enhancing accessibility levels and therefore invite  
114 dismissing the accessibility approach;
- 115 • Promoting accessibility might conflict with promoting economic growth because there is no  
116 contribution to economic growth when people walk while there is when people use motorised  
117 means of transport;
- 118 • The accessibility approach is better aligned with redistributive economics while the dominant  
119 economic tradition in (transport) planning is typically more focused on facilitating economic  
120 growth than on facilitating redistributive justice (Halden, 2014, 2011, 2009);
- 121 • A disconnection exists between the accessibility tools that developers tend to create and the  
122 tools that users tend to want (te Brömmelstroet et al., 2014, Hull et al., 2012, te  
123 Brömmelstroet et al., 2016b, Silva et al., 2017, Papa et al., 2017). Final users are asking for  
124 transparent and user-friendly tools, instead of complex black-box tools (te Brömmelstroet et  
125 al., 2016a, te Brömmelstroet and Bertolini, 2008, te Brömmelstroet and Bertolini, 2011, Papa  
126 and Coppola, 2019);
- 127 • There is a lack of the required datasets to assess and monitor accessibility levels, without  
128 which conducting accessibility planning processes becomes difficult (Boisjoly and El-Geneidy  
129 (2017b);
- 130 • The separation of urban and transport planning organisations is a common feature and  
131 constitutes a major barrier for the implementation of the accessibility approach, which

132 requires coordination among these entities (Gutman et al., 2017, Papa et al., 2016, Levine et  
133 al., 2019);

- 134 • A large disconnect between capital intensive transport infrastructures and high-level urban  
135 planning affects governmental capacity to pursue accessibility policies at the local level (Rode  
136 and da Cruz, 2018).

137 These insights offered by previous studies about why the accessibility approach is struggling to  
138 become more established are highly valuable. However, they have some limitations as they are based  
139 on specific national perspectives and contexts. Additionally, most of them are not specifically focused  
140 on mapping out, critically analysing, and exploring how to overcome the barriers to the accessibility  
141 planning approach specifically resulting from institutional issues. Their focus was typically broader and  
142 not exactly focused on this aspect. The present study aims at partially filling this knowledge gap and  
143 stimulating debate on the topic, and for that it adopts an international and cross-disciplinary  
144 perspective.

145

### 146 **3. Brief notes on methodology**

147 As explained, the aim of this study was twofold. First, to map out the major institutional barriers to  
148 the implementation of the accessibility planning approach. Second, to identify possible strategies  
149 potentially capable of (at least partially) removing these barriers. As a result, the present study was  
150 not aimed at generating some form of consensus. It was, instead, a study of a more exploratory nature  
151 where gathering a rich and stimulating body of creative opinions was the desired outcome. After  
152 critically analysing possible methodological options, the authors adopted a qualitative method loosely  
153 inspired on the Policy Delphi protocol (Turoff, 1970, Linstone and Turoff, 2011). The method adopted  
154 required the participation of highly qualified experts with deep understanding about the subject area  
155 in successive rounds of in-depth interviews. This method is explained below.

156 Following recommendations from the Policy Delphi literature, we selected a limited number of  
157 interviewees. A mix of professional profiles was targeted. In total, eighteen interviewees were  
158 included in the final sample. These were people with strong expertise in substantially different  
159 national and planning-related organisational contexts: six of the respondents were from North  
160 America, two from the Netherlands, two from Australia, three from the UK, one from Germany, one  
161 from Italy, one from France, and two from South America. The interviewees work at different planning  
162 scales (local, regional and national), sectors (land use, transport and finance), and organisations  
163 (private and public). We included academics working in leading universities, and professionals working  
164 in consultancies with international experience, but also in local authorities, in research centres, and in  
165 non-profit advocacy groups. Importantly, we included budget professionals and transport economists  
166 because those professionals are rarely involved in accessibility planning studies. All interviewees  
167 currently work in the field of accessibility planning and have an average work experience of fifteen  
168 years. The individuals approached were selected from three groups of potential participants. These  
169 were, first, highly cited academic authors who were previously identified during the literature review.  
170 Second, participants in international research projects on the topic of accessibility planning. Third,  
171 noteworthy individuals suggested by the experts already interviewed (snowball technique).

172 The method used to gather data entailed two rounds of in-depth interviews. The first round focused  
173 – and mirroring the research objectives – on identifying institutional barriers to the accessibility  
174 planning approach and on exploring possibilities to overcome such barriers. An extensive review of  
175 the literature about accessibility planning and its barriers was conducted in preparation for this first



176 round of interviews. Note that, prior to the interviews, a demographic survey was e-mailed to the  
177 experts who agreed to be interviewed. The survey requested information about their academic  
178 experience, employer organisation characteristics, and experiences on accessibility planning. This  
179 made sure that we were recruiting individuals with detailed knowledge about and experience with  
180 accessibility planning. We then analysed the qualitative data obtained through this process, while  
181 gathering data about the participants' specific experience and involvement in accessibility planning.  
182 This analysis focused on systematising the data so that it could be coherently and effectively used in  
183 the second round of interviews.

184 The second round of interviews adopted the following general structure. The interviewees were  
185 presented to the overall insights gathered during the first round. This allowed them to react and build  
186 upon those insights. In a limited number of cases, and when considered relevant, the same  
187 interviewees were approached a third time so that they could inform and react upon new insights  
188 obtained during round two itself. The purpose of this second round of interviews, therefore, was to  
189 provide panellists with the opportunity to reflect and build upon their original answers while reacting  
190 to new information. The interviews were critically analysed once more when round two was  
191 completed. This analysis aimed at converting the body of information gathered in a structured set of  
192 ideas organised around a limited number of sub-themes. These sub-themes resulted from a process  
193 of grouping ideas by content similarity. The sub-themes were: *i)* linguistic issues; *ii)* the costs of the  
194 accessibility-planning shift; *iii)* fragmented administrative and governmental frameworks; *iv)* pro-  
195 mobility established powers and traditions; and *v)* the influence of mainstream economics on  
196 transport planning. These will be used in the next section to present the results.

197

#### 198 **4. Barriers to the accessibility approach: An institutional perspective**

199 This section presents the results of the expert interviews. The results were clustered into five sub-  
200 themes, as explained in the section above. Note that, in some cases, the inputs offered by the  
201 interviewees are supported by academic references to better connect the gathered insights with (and  
202 to better build upon) the existing body of knowledge on the topic.

##### 203 **4.1 The linguistic problem**

204 As clearly pointed out by several interviewees, one of the key problems associated with the  
205 accessibility approach derives from the meaning of the term *accessibility* itself not being necessarily  
206 consensual. First, because there is a diversity of manners through which accessibility can be defined  
207 and measured and this is prone to create substantial confusion among planners. Second, because the  
208 term accessibility is strongly associated with the ability of disabled people to enter given venues and  
209 move about. This is an important concern in the accessibility planning field, but there is much more  
210 to it. Previous academic work by Halden (2011) generally supports and gives strength to these findings.

##### 211 **4.2 The costs of the accessibility-planning shift**

212 Most interviewees argued that the benefits of the accessibility approach are well accepted by planners  
213 and their employing organisations. However, they were also of the opinion that practitioners  
214 understand as easier both in technical and economic terms to adopt the mobility approach. They  
215 explained why that occurs: the accessibility approach typically requires more sophisticated skills and  
216 more comprehensive and expensive datasets. Indeed, datasets required in traditional mobility-based  
217 modelling processes are just focused on relatively simple information about origins, destinations,  
218 travel demand, flows, and impedances. Accessibility datasets tend to include not only that

219 information, but also extra information that is harder to handle, for example (based on Ferreira and  
220 Batey, 2007):

- 221 • relationship between supply and demand (e.g. whether venues are under excessive demand  
222 pressure to accept new clients);
- 223 • nature and quality of the services provided (e.g. whether a health centre offers just a few or  
224 multiple health care services; or whether restaurants provide poor or good quality meals);
- 225 • time-related issues (e.g. opening times of a given shop; or the waiting time associated with a  
226 desired delivery service);
- 227 • perceptions held by the population or certain social groups of relevance (e.g. whether a given  
228 venue or area is considered safe by women);

229 According to experts working in local authorities, the extra costs of the accessibility approach  
230 constitute an important implementation barrier in public organisations (but also in small transport  
231 consultancies). Many of these organisations struggle with lack of funding for upgrades on planning  
232 tools and for acquisition of comprehensive datasets. In the case of public bodies, any change that  
233 requires increasing costs must be legitimated and this can require difficult and time-consuming  
234 bidding and political bargaining processes. In the case of small private companies, upgrades of this  
235 nature can be even more challenging due to their limited economies of scale.

236 Availability of financial resources is therefore likely to determine which local and national authorities  
237 can adopt accessibility planning tools. In other words, accessibility planning can easily become (or  
238 perhaps is becoming already) the privilege of wealthy organisations. Confirming this, transport for  
239 London has a powerful online accessibility tool platform and runs an accessibility based decision-  
240 making process (TfL, 2015), but this is an exception. Poorer authorities or small companies might have  
241 to stick to traditional transport planning approaches exclusively based on mobility metrics. According  
242 to experts working in South America, the financial strains experienced by many local authorities and  
243 small consultancies located in the Global South make this a significant barrier for them as well.

244 This was perceived by interviewees as an unfortunate situation because accessibility planning, even  
245 though typically more expensive and complex in terms of process than mobility-oriented planning, is  
246 likely to lead to the development of policies that are not only cheaper both in the short- and long-  
247 term, but also more cost-effective. This perception is confirmed by academic research (Yusuf, 2016).

#### 248 **4.3 Fragmented institutional frameworks**

249 The interviewees with expertise on finance-related and governance subjects raised an insightful point  
250 about why accessibility planning is frequently underfunded. The accessibility approach requires  
251 coordinated actions across departments and units concerned with land use planning, housing policy,  
252 transportation planning and regulation, financing of investment and operations, and pricing and cost  
253 recovery (Rode and da Cruz, 2018). This is difficult to achieve as it corresponds to a high level of  
254 institutional interaction and organisational complexity. As local authorities are unlikely to provide  
255 financial support for schemes that are not aligned with policy priorities shared among them (Banister,  
256 2008), organisational fragmentation can therefore constitute an important barrier for accessibility  
257 planning (Rode, 2018).

258 The experts working in consultancies and private companies outlined a similar issue. Small  
259 consultancies tend to focus only on specific markets (e.g. traffic analysis). In the case of larger  
260 companies, their departmental organisation logic does not tend to allow large-scale cross-sectorial  
261 interactions. Often there is no requirement for different departments to collaborate closely on  
262 projects concerning transportation, land use, social equity, and budgeting. While transportation



263 departments tend to focus more on vehicles and traffic flows than on individuals and their accessibility  
264 needs, urban management professionals tend to neglect how residential, commercial, and industrial  
265 land use policies may impact upon individuals' travel decisions.

266

#### 267 **4.4 Pro-mobility powers and traditions**

268 Several interviewees pointed out that pro-mobility powers and corresponding traditions constitute a  
269 crucial barrier to mainstream accessibility planning. Indeed, contemporary transport planning evolved  
270 from a technical tradition based on civil engineering, mechanical engineering, and economics. As a  
271 result, important amounts of public funds have been and continue to be allocated to organisations  
272 responsible for building transport infrastructures and technologies. These organisations have gained  
273 significant wealth, social and political recognition and power to influence public investment decisions.  
274 Examples of these organisations are road, railway and airport construction and management firms;  
275 and car, trains, ships and airplane manufacturers. Importantly, the success of these organisations is  
276 not measured in terms of accessibility, but in terms of mobility. For example, for an airport  
277 management firm, a relevant metric is the number of passengers per year passing through their  
278 airport facilities – a clear example of a mobility metrics.

279

#### 280 **4.5 The influence of mainstream economic science in transport planning**

281 Experts in transport appraisal observed that traditional economic analyses of transport investments,  
282 such as the Cost-Benefit Analysis method (henceforth CBA), primarily use mobility indicators such as  
283 travel time savings to estimate the economic value of alternative transport schemes. This situation  
284 might change, as research shows that it is possible to numerically measure accessibility gains and that  
285 these can be equated to economic benefits (Geurs and van Wee, 2004). However, there are still  
286 unsolved difficulties associated with determining the monetary value of accessibility in ways that can  
287 inform CBAs. Once again, adopting the accessibility approach corresponds to a higher level of  
288 complexity than using standard mobility indicators. As already mentioned, the calculation of  
289 accessibility indicators requires the use of mobility indicators plus a number of extra calculations that  
290 have to be added up consistently. In any case, while transport-related CBAs continue to use mobility  
291 indicators and travel time savings as their inputs, it is only natural that CBAs continue to be considered  
292 by some authors as problematic for accessibility planning (Ferreira et al., 2012, Naess, 2006, Metz,  
293 2008).

294 The use of travel time savings in transport CBAs is considered problematic because it is based on two  
295 potentially problematic assumptions. The first is that time has monetary value (a common assumption  
296 in contemporary mainstream economics). Converting time into money is not necessarily positive  
297 though as it can contribute to the increasing acceleration of social practices for the sake of economic  
298 growth. The resulting *social acceleration* has a large range of negative impacts – an overall issue  
299 discussed at length by Rosa (2018, 2015, 2003). The second assumption, which derives from the first,  
300 is that travel time savings can be equated to monetary gains. This assumption is also not necessarily  
301 constructive because individuals sometimes perceive travelling time as a utility and as a desired  
302 feature of mobility (Jain and Lyons, 2008, Lyons et al., 2007). Despite these important shortcomings,  
303 equating travel time savings to a monetary benefit somehow continues to be widely accepted in most  
304 transport planning circles. As expressed by one expert from the USA:

305 *'The economic language used by transport planners has a universal appeal. Accessibility planning does*  
 306 *not speak in terms of economic values or prosperity, while everyone wants to be prosperous.'* [...] *[...]*  
 307 *'[First], accessibility is not always a form of quantifiable consumption while mobility typically is.*  
 308 *Second, willingness to pay is not a suitable concept for accessibility planning where accessibility is*  
 309 *typically seen more as a human right than as an economic service'.*

310 There is consequently a difficult alignment between the accessibility approach and transport  
 311 economics that has so willingly adopted travel time savings as a key assessment indicator. This  
 312 misalignment was emphasised in several interviews. The accessibility logic poses with this a number  
 313 of questions to transport economists that remain without consensual answers.

## 314 **5. Establishing pathways to mainstream accessibility planning**

315 This section reports the answers to the second issue discussed in the interviews, which was focused  
 316 on identifying pathways to promote a shift from mobility- to accessibility-centred planning. In line with  
 317 this, the section aims to inspire stakeholders wanting to promote the accessibility approach.

### 318 **5.1 To make accessibility part of the common sense language**

319 One of the interviewees noted that accessibility tools for daily and corporate use are already available  
 320 and being widely adopted. Many real estate companies, food delivery services, transit systems  
 321 companies, and public facilities management organisations have launched their accessibility-based  
 322 tools. These tools include mobility metrics (e.g. food delivery distance and times), but include as well  
 323 more comprehensive metrics such as the extent to which previous clients were satisfied with the  
 324 overall experience provided by the company (e.g. quality of the food, overall satisfaction with the  
 325 delivery). As a result, people are getting used to base a growing number of daily decisions on metrics  
 326 that depict their effective ability to have access to what they need. For some of the interviewees,  
 327 these applications are paving the way to make the accessibility logic more mainstream. Some  
 328 interviewees added that – precisely due to linguistic issues – it is crucial to develop a well-articulated  
 329 understanding about what the word accessibility is supposed to mean and to somehow make it clearer  
 330 for the broad public what is the difference between mobility-based and accessibility-based policy  
 331 choices (a point also explored by Gutman and Tomer, 2016).

### 332 **5.2 To increase the economic appeal of the accessibility approach**

333 One of the strong points of the mobility approach is that it is associated with a clear economic logic,  
 334 as stated in the previous section. This logic is alluring to many stakeholders. Considering this point,  
 335 some of the interviewees argued that the same needs to happen to accessibility if this approach wants  
 336 to succeed. They recommended increasing the 'accessibility planning appeal', by making evident the  
 337 financial gains resulting from it and who benefits from them. One of the interviewees from the UK  
 338 working for a private consultancy stated that:

339 *'If the accessibility approach wants to succeed in economic-oriented policy making circles, it must be*  
 340 *able to propose a reasonable way to convert accessibility gains and losses into financial gains and*  
 341 *losses. We (practitioners) need an equivalent of the 'saving time' thing. We need an appealing way of*  
 342 *selling our accessibility projects, dealing with influential people and politicians.'*

343 There is work done that is paving the way towards this goal, as already mentioned (Geurs et al., 2006,  
 344 Geurs et al., 2010), but more of this would be needed so that the accessibility approach can rival the  
 345 mobility approach when it comes to econometric project assessment. This raises some disagreements  
 346 though, as we will see on sub-section 5.5.

**347 5.3 To develop and disseminate open access software and data for accessibility planning**

348 Several interviewees affirmed that – in order to reduce the high costs of accessibility planning – it  
349 necessary to fund at an international level the development and dissemination of open access  
350 software and data. They added that this will obviously have costs, however these might not be as high  
351 as it seems in the first place. The confluence of open data, data standardisation, and mobile  
352 computing, sensing and communication technologies has driven numerous technical innovations for  
353 measuring, modelling and representing accessibility at low prices. User communities of open access  
354 software could provide technical support, guidance, and updates, and help accessibility pioneers to  
355 develop or apply accessibility tools. The relative ease of access to new software and datasets means  
356 they have the potential to be a standard tool used by both professional planners and community  
357 groups.

358 According to these interviewees, such initiative could potentially have significant implications in terms  
359 of communication between people and planners. Online collaboration tools, open source mapping  
360 projects, GIS and other data visualisation devices are leading to the fusion of the data collection,  
361 analysis, and representation steps of project planning. This represents a considerable reduction in  
362 costs. Nevertheless, one of the interviewees pointed out that open-source tools can meet some  
363 resistance in governmental settings, due to a combination of established procurement procedures,  
364 perceived security concerns, and low reliability (a point explored by Stewart and Zegras, 2016,  
365 Stewart, 2014, but see also the alert against "cybernetic urbanism" by Krivý, 2016). To effectively  
366 address these concerns might represent a major step forward, she argued. In any case, these  
367 interviewees argued that investing funds in the development of open access accessibility tools could  
368 be very promising. One of them highlighted that such initiative would fit particularly well the  
369 philosophical perspective of accessibility planning (as linguistically expressed by the term "open access  
370 accessibility tool").

**371 5.4 To identify and mobilise implementation niches**

372 Experts based in the Netherlands argued that, when considering the implementation of accessibility  
373 policies, it is important to identify the right organisational, geographical, and community niches. Some  
374 of these niches will have stronger motivation and will be much more open to the accessibility approach  
375 than others. In principle, those already willing to be engaged should be approached first. However,  
376 two nuances are relevant to mention. First, some agents might not be able to invest considerable sums  
377 of money (or none at all). Nevertheless, they should not be dismissed because of this as they might  
378 have strong capacity to mobilise overall public support and media attention. Second, in public  
379 organisations some sub-divisions and sub-agencies might manifest the tendency for divergent  
380 thinking. These sub-units might be very interested in accessibility even though the umbrella  
381 organisation to which they belong is not. In such situations, there is the possibility that they can  
382 operate as niches for the development of future accessibility-oriented policies. Even though the  
383 importance of niches should not be underestimated (Geels, 2010, Geels and Schot, 2007), accepting  
384 their strategic value without critical analysis can in some cases be counterproductive. It is not desirable  
385 that accessibility becomes a marginalised concept negatively associated with rogue sub-agencies. So,  
386 these dynamics need to be carefully considered and judgments have to be made to assess the extent  
387 to which a given niche is indeed fertile ground to facilitate a transition towards accessibility planning.

**388 5.5 To develop a holistic understand of accessibility**

389 Some interviewees mentioned that it is crucial to develop a common framework to account for the  
390 diverse institutional dynamics needed to put into action the accessibility agenda. This requires a

391 holistic understanding of what accessibility is and what promotes or reduces it. Mirroring Cresswell's  
392 proposal that mobility should be seen holistically (Cresswell, 2008, Cresswell and Uteng, 2008), that  
393 is, taking into account its plurality of intertwined dimensions, these interviewees felt that accessibility  
394 needs to be seen in that way as well. Land use and transport interaction, the temporal dimension,  
395 awareness of opportunities, mobility skills, cultural constraints and perceptions, severance effects  
396 caused by transport infrastructures, health and mobility impairments caused by disability, are just  
397 some examples of aspects that should be taken into consideration when thinking in operational terms  
398 which projects are likely to promote accessibility and which ones are likely to reduce it, how, where,  
399 and for whom.

400 Second, and more specifically, some interviewees pointed out that economic considerations are  
401 starting to become rather central in narratives about accessibility planning. Only through this, they  
402 argued, accessibility planning can become holistic. However – and this is a point of contention to be  
403 highlighted – other interviewees expressed resentment against the econometricism that has become  
404 so deeply rooted in transport planning. Nevertheless, they agreed that the accessibility approach  
405 needs to entail budgetary considerations. It would be problematic if accessibility planning would  
406 become unable to determine with at least some precision the financial cost of the alternatives under  
407 consideration. In any case, it is clear that there is a tension between more econometric-oriented  
408 stakeholders and those who consider that an excessive focus on econometricism is already present and  
409 is problematic. The authors of this piece consider that to solve this tension is an important step  
410 towards making accessibility planning more mainstream. Further research and debate on this topic is  
411 clearly needed.

#### 412 ***5.6 To adopt an evolutionary understanding of the mobility-accessibility debate***

413 Some interviewees argued that those engaged with the accessibility approach have sometimes the  
414 tendency to present it as an alternative to the mobility approach following a binary logic of either one  
415 or the other. This is counterproductive and not necessarily correct, they emphasised. In their view, it  
416 is better to consider that the accessibility approach is one that transcends some of the limitations and  
417 includes most of the strengths of the mobility approach – basically as an evolution of transport  
418 planning from simpler and less comprehensive approaches to more complex and comprehensive ones.  
419 This means that the former should not be seen as an alternative to the later, but as a development or as  
420 an evolution of transport planning towards greater sophistication. As the previous sub-sections have  
421 shown, the accessibility approach adds more aspects and dimensions than those exclusively  
422 concerned with mobility; it does not, and it cannot, exclude mobility as a concept or as a socio-  
423 economic value.

424 In line with this evolutionary viewpoint, some experts noted that accessibility initiatives do not  
425 intrinsically require the support given or the information provided by a purpose-built accessibility tool.  
426 Planners can combine the outputs of mobility tools with other forms of analysis to successfully run an  
427 accessibility planning process. An interviewee consistently reminded us that several accessibility  
428 digital tools are in fact mobility tools that were expanded so that they could perform extra functions.

429 We believe that this insight is important, as it paves the way for a cooperative and synergistic  
430 perspective on the duality mobility versus accessibility. Instead of seeing them as contestants in a  
431 battle for organisational dominance, it conceptualises them as intertwined and synergistic approaches  
432 that build upon each other.

#### 433 **6. Concluding remarks**

434 This article provided an analysis of the institutional barriers to the implementation of accessibility  
435 planning and presented some pathways to potentially overcome them. The adopted method to gather  
436 qualitative data included two series of in-depth interviews with experts in the field. The main  
437 innovation of the study was its international and cross-disciplinary perspective, as well as its focus on  
438 barriers of a specifically institutional nature. One of its strong points is the diverse nature of the  
439 interviewees selected, which included – among other disciplines – some financial experts. These are  
440 not usually included in accessibility planning studies. Yet another is related to its exploratory features,  
441 aimed at triggering curiosity and debate. It delivers a conclusion that offers hope for those wanting to  
442 see the long tension between mobility- and accessibility-oriented experts dissolved: the accessibility  
443 approach is here seen as a natural expansion of, and not an alternative against, the mobility approach.  
444 In terms of limitations, the method used provided broad conclusions without focusing on specifying  
445 barriers and actions to implement accessibility planning at the local level. It also offers no guarantees  
446 of success to those willing to put into practice the suggestions made; instead, it simply offers possible  
447 pathways for future developments in transport planning theory and practice. Further research is  
448 therefore needed to clarify the efficacy and conditions of applicability of the suggestions made.

449 Some of the main results of this study confirm and build upon findings of previous research. For  
450 example, Halden (2011) noted before us that one of the main barriers against the accessibility  
451 approach becoming more established is of a linguistic nature, and derive from the ambiguous meaning  
452 of the word *accessibility* itself. Also, the additional costs for planning organisations of implementing  
453 the accessibility approach, and the fragmented institutional frameworks that are frequently found in  
454 these organisations, were equally presented as major barriers to accessibility planning by previous  
455 teams of authors (Papa et al. 2016; El Genenidy and Boisjoly, 2017; Rode and de Cruz, 2019). What  
456 emerged from this research that was not sufficiently discussed in previous publications concerns the  
457 major influence of mainstream economic science in transport planning and the obstacle that such  
458 condition represents for accessibility planning. The present research also highlights pro-mobility  
459 powers and respective traditions as major barriers to this approach.

460 The study provides insights on how to facilitate a transition from the mobility to the accessibility  
461 approach. These include: establishing accessibility as part of daily-life language; increasing the  
462 economic appeal of accessibility planning; developing open-access software and data to reduce the  
463 costs of accessibility planning processes; identifying and motivating suitable implementation niches  
464 for accessibility planning initiatives; developing a holistic understanding of accessibility that promotes  
465 harmonious collective action among stakeholders; and to adopt an evolutionary perspective that  
466 ceases to depict accessibility planning as a rival of mobility planning. Instead, these two approaches  
467 can constructively be seen as synergistic ones – we will return to this point before concluding. Besides  
468 that, one of the main insights of this research concerns the costs and benefits of accessibility planning.  
469 To make accessibility planning more mainstream, those promoting it would benefit from making more  
470 evident the cost-ratios of accessibility-oriented initiatives and who in fact benefits and loses from  
471 them in economic terms. Otherwise, they will need to convince policy-makers that assessing  
472 transport-related initiatives based on economic principles is a practice needing a radical alternative.  
473 In any case, it is relevant to highlight as well that – while, at least in theory, transport and land use  
474 professionals clearly recognize the need for engaging each other in collaborative work for achieving  
475 accessibility enhancements – both the fiscal and finance professionals generally ignore the  
476 implications of their instruments regarding accessibility planning. This gap between professional fields  
477 must be resolved (see also Tomer and Gutman, 2017).

478 As a concluding remark we would like to add that all the suggestions and points made above should  
479 be seen under a quite specific light: this research proposes understanding accessibility planning as an



480 approach based on mobility planning while adding to it extra dimensions. We would like to highlight  
 481 that there is no benefit in conceptualizing these two approaches as competing rivals or as antagonists.  
 482 They are better understood as a sign that transport planning is a disciplinary and professional area in  
 483 constant development and where lively dialogues are taking place for the benefit of all involved. As a  
 484 result, the time is ripe to establish more cooperative interactions among accessibility, mobility and  
 485 finance experts as these three professional groups might have more in common than sometimes  
 486 depicted. We therefore propose to those who want to promote the accessibility approach to stop  
 487 presenting it as a disruption from the allegedly outdated, monolithic and econometric mobility  
 488 approach – as sometimes done. Instead, we suggest that the advocacy of the accessibility approach is  
 489 made by means of simply performing gradual improvements to the existing mobility approach.  
 490 Through this, transport planning will be more capable of considering the non-linear relationships  
 491 between physical travel and the effective ability to reach social contacts, places, goods, and  
 492 opportunities. That is already a move towards the so-called accessibility approach – and one not likely  
 493 to encounter barriers as significant as those encountered in the past.

494

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643

## 644 **Re-enacting the mobility versus accessibility debate: Moving** 645 **towards collaborative synergies among experts**

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### Highlights

- 648 • Transport planning comprises the accessibility approach and the mobility approach
- 649 • The mobility approach continues dominant but is frequently criticised
- 650 • Institutional barriers blocking the accessibility approach are critically identified

- 651       • Strategies to overcome these barriers are proposed  
652       • Collaboration between accessibility and mobility experts is strongly recommended

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654       **Re-enacting the mobility versus accessibility debate: Moving**  
655       **towards collaborative synergies among experts**

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657       **Keywords:** accessibility; institutions; barriers

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