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Efficiency and digital divide within online public services: The smart mobility case

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Il contributo ha ad oggetto l'impatto dell'evoluzione tecnologica sulla gestione e sulla erogazione dei servizi pubblici. Il focus dell'analisi riguarda specificamente la mobilità urbana, evidenziando come le nuove tecnologie introducono un nuovo concetto di mobilità, la cui compatibilità deve essere verificata alla luce dei principi dei servizi pubblici.

This essay deals with the impact of new technologies in the provision of public service. The analysis focuses specifically on urban mobility, stressing out the new mobility concept that technologies has brought and its compatibility with public service principles.

1. Online public service: a multi-faced definition

According to the European E-government Action Plan 2010-2016^[1], the online delivery of public services represents one of the most important steps to accelerate the digital transformation of government. As stated specifically in the document aforementioned, digital public services will manage to «reduce administrative burden on businesses and citizens by making their interactions with public administrations faster and efficient, more convenient and transparent, and less costly».

This ambitious target has been taken into account in our legal system as well^[2]: section 7 of Legislative Decree n. 82/2005 (Italian Digital Administration Code), recently amended by the Legislative Decrees n. 179/2016 and n. 217/2017^[3], provides the right to everybody to benefit from public services in a digital and

integrated way. To make it possible, public administration need to redesign the delivered services digitally by default^[4].

Though, what has to be intended as online public service is not very clear; the definition offered by the law is quite tautological, since it just provides that an online service is every kind of public service accessible from remote electronically^[5].

According to the literature's opinion^[6], the notion of online public service is very wide and it includes all the traditional public function, i.e. the digital conduct of administrative procedure, the specific provision of public service, and the general activity of information and communication.

In these three identified forms of administrative activity, the conformation of online public service is different: so, in the explication of administrative authoritative function through administrative procedure, the specific object of public service is not the function itself, but it consists in the provision of all the enabling service which allow the online conduction of administrative procedure.

Regarding the specific delivery of public service, we could have either a service which is itself online delivered, such as distance learning service and the so known telemedicine, either some services, such as public transport or electricity delivery, which could not be dematerialized and delivered online. Thus, in the latter case, the digitization could involve the delivery of information related to the service and other fundamental aspects, such as, in the transport sector, online ticket purchase or online monitoring of transportation's track.

With specific regard to the duty of information and communication, the ICT has contributed to make the administration more transparent, according to the open data paradigm^[7]. So now administrations need to provide very specific information in their websites, which could be intended as a new kind of online service they have to provide.

Bearing in mind this extensive notion of online public service, in this paper we will limit our analysis to the classic notion of public service^[8], trying to define the impact of new technologies in their provision.

In particular, since the research is focused on the mobility sector, we will analyse the public service of general economic interest^[9], to which the sector of transport belongs.

2. The impact of new technologies in public service delivery

The delivery of service of general economic interest^[10], should respect four different principles: the continuity principle, the principle of non-discrimination, the obligation to adjustment to public needs and the universality of the provision, which means that the service has to be delivered at affordable prices to everybody, in every geographical areas, even the most disadvantage ones. The service provision also needs to satisfy efficiency and quality standard, stated in specific Service Charters^[11].

If these are the core principles of public services delivery, it is interesting to sketch out the main changes that technologies' development has brought in the provision of public service, verifying their compatibility with these fundamental principles.

First, the development of technologies makes the provision of services simpler and faster: simpler because with the new SPID system^[12] the private user can benefit from a unique digital identity to access to different services provided by different administrations: from service user's point of view, the fragmentation that characterized our administration is eliminated, with a great simplification in the relationship between private and administration.

Secondly, service delivery becomes much faster, taking advantages of the space-time contraction made possible by new technologies. In the transport sector, specific object of this paper, people can easily purchase train or bus ticket with their smartphone in one minute or less without the necessity to physically buy it in the ticket-office.

This leads not only to more efficiency in public service provision, but it has a strong influence on the principle of continuity. According to it, public service providers must guarantee a regular service provision without any unjustified interruption, which does not mean that it has to be provided at any time, but only that it has to be ensured during office time^[13]. Thanks to ICT technologies, there are no more spatial and temporal limits for service which could be online delivered, so the service is deliverable at any time in any place; continuity principles in a digital administration means that administration must assure a constant delivering of online service, when it's delivering is possible without human contribution.

The online dimension promotes a more intensive collaboration between users and providers, implementing user's participation in this sector^[14], which consists in a collaborative contribution of people who have used a specific service in order to improve it^[15]. This changes the way to intend the principle of adjustment to public needs, since the adaptation follows not more the new needs identified by political power, but the service reshapes itself constantly according to the specific user's needs which has emerged in the interaction with the administration.

This is one aspect of another trend emerged in online public sector: the personification of the service^[16], which is not more provided with the same characteristics to all users, but it is shaped according to the single user's specific preferences and needs, thanks to big data analysis^[17].

According to this brief description, public service digitization brings several advantages: online service will be simpler, high performing, user-centred and user-shaped. However, this transformation has its costs, both evident both hidden.

Regarding the material cost of this transformation, they are considered more as investment, because, according to legislative's expectations, online public service delivery will guarantee a significant public spending saving.

But, if it is generally true that with the digital transformation of public service administrations will gain in efficiency and in costs saving, it is not so obvious and automatic that the digitization is always the best solution, considering the real user's needs: for instance, it could be discussed the opportunity and the real benefits gained with the online delivery of services which, in the most cases are addressed to elderly people, which generally have no or few digital skills^[18].

In addition, digitization has its hidden costs: the big data processing and the re-use by one administration of data collected by another^[19], fundamental to ensure digital service delivery, affects massively users 'data confidentiality'^[20]. The storage of such amount citizen's data raises important security concerns, since it is less easy to guarantee high security standards in the digital dimension^[21].

Even if, in spite of all these costs, public service digitization represents the best choice, there are others obstacles, not so easy to remove.

The biggest concerns regard the non-discrimination principle which implies that the access to public service should be guaranteed to everybody. To respect it in the digital dimension, it should be assured that everybody has the proper tools

and enough digital skills to really take advantages of online public service. However, this necessary precondition, especially in Italy, is still far from being real. Digital divide^[22], which affects a great part of our population, and, in particular the weakest one, which more benefit from public services, represents a great obstacle to complete public service digitization process. Actually, if public service provision is a social justice mean able to overcome social inequalities, the risk is that with the digitization of public service inequalities just exacerbate^[23]. Even if, in the respect of multichannel principle^[24], services are both provided in digital and in analogical way, people who can profit from the advantages related to digital service analysed so far, are, according to statistic, people with high instruction level, while elderly people, immigrants, people with low instruction level or who live in depressed areas, have to be satisfied with the traditional ones. In this sense digitization raises inequality, because the advantages related to digital service can be enjoyed only by the part of population with sufficient digital skills; with the exclusion of the weakest part of the population which more needs public intervention.

To better understand the impact of digitization in the provision of public service, we will be focusing on local public transport service.

In particular, we would like to analyse how ICT technologies have affected this specific sector and if the new urban mobility scenario is consistent with the principles cited above which regulates, in general, public services provision, with specific regard to the non-discrimination principle.

3. The impact of new technologies in urban mobility: the new concept of mobility as a service (MaaS)

The decision to focus on the impact of new technologies in urban mobility is based on different reasons. First, the urban transport organization represents one of the sectors most affected by digital transformation^[25].

Secondly, mobility issue is related to the other big challenge of our age, the environmental one, since technologies development could help to build a more sustainable mobility, with good effects on the environment^[26].

Third, the city has represented, in the last period, the ideal lab to elaborate smart solutions, which combine technology and sustainability. Finally, smart mobility

plays a key role^[27] in smart city construction^[28].

Traditionally, urban mobility was regulated by local institutions with several planning instruments, which identified, for example, traffic limit zone, park place and regulated traffic flows^[29]. In addition, local institutions had to provide local public transport, as a relevant part of city mobility.

The use of technologies in urban mobility has considerably changed this panorama: on one hand, it has improved traditional administrative function, such as traffic flows regulation, which, thanks to intelligent system, can now optimise traffic performance^[30], and it has enriched public local transport service with smart tools, such as electronic tickets, or applications which allow a real time monitoring of bus tracks.

On the other hand, it has created new kind of services, such as car, bike and taxi sharing, car-pooling or private car transport that operates through an aggregation and payment platform, with intensive big data processing to match provision to demand in real time.

As already noted^[31], the companies, normally starts up, which offer this new service, do not only provide transport service, but they offer innovative complementary service, such as financial service that allows the electronic payment of the ride, the geolocation both of the vehicle both of the users, the possibility to know in advance the ride fare and the driver rating, also providing legal assistance in case of problems.

The last step made in this sector is the development of a new mobility concept, which intends globally mobility as a service^[32] (MaaS).

At its core, MaaS relies on a digital platform that integrates end-to-end trip planning, booking, electronic ticketing, and payment services across all modes of transportation, public or private. Rather than having to locate, book, and pay for each mode of transportation separately, MaaS platforms let users plan and book door-to-door trips using a single app. By answering the question of how best to get individual users where they're going based on real-time conditions throughout the network, taking account of all the possible options and each user's own preferences (for example, time and convenience vs. cost), and facilitating seamless mobile payment, MaaS starts to move us toward a more user-centered mobility paradigm.

With this revolutionary mobility concept, the classical distinction between

public and private transportation system becomes more undefined, since they are combined to offer to the users the best solution. To make it possible, it is required, apart from specific infrastructural and technological tools, a deep collaboration between public and private transportation providers.

This new way to provide transports solutions meets perfectly the new transport demand: integrated, flexible, and environment friendly. On the other hand, it raises big concerns, regarding the role of the public in this new urban mobility scenario.

4. The new urban mobility scenario and its compatibility with public service principles

The attitude of public institutions towards smart mobility in Italy is ambivalent: on one hand, the innovation brought by new transportations system has been stopped, in order to protect the existing asset, as it happened with Uber service^[33]. On the other hand, new urban mobility system is encouraged, in order to build a more sustainable mobility to improve people's life. This is particularly evident in the new mobility plan, significantly called Sustainable Urban Mobility Plan (SUMP)^[34], which has to be adopted by local institutions.

In the guidelines provided by the Ministry of Transport for the redaction of this new planning tool^[35], sharing mobility is specifically tackled as a new kind of mobility which has to be improved. Some of the SUMP^s which has already been adopted^[36] put sharing mobility in a key position in the new mobility building process.

In light of the increasingly important role played by new transport systems in the mobility supply, stressed out even by local institutions, it is not so easy to understand if they have to be intended and regulated as public service or not.

Some local authorities have entrusted the management of this services to the same TPL company^[37] or outsourced the service according to the possibilities given by the law^[38], including the new mobility services in the management of local public transport.

In case law, a recent ruling of the Regional Administrative Court of Milan^[39] has stated that the new sharing mobility service, in particular by hoverboard, segway and monowheel, has not to be intended as public service because the

municipality did not undertake it to meet a specific public need, which could be properly satisfied by market's rules.

Anyway, even if the consideration as public service of this new kind of mobility services is controversial, it is clear that, to make sharing mobility service part of the whole mobility supply in a city, important steps have to be undertaken^[40]. For example, Local Authorities and Mobility Agencies should be able to rely on national guidelines for the assignment of shared mobility services to easier identify service minimum content having regard to: minimum quality standards to protect the customer, minimum monitoring and reporting obligations to the Granting Body, minimum requirements for interoperability and legal framework applicable for service management.

However, in light of the developing "Mobility as a service" concept (and reality), we should not more intended the provision of one transport service as isolated from one other, but we have to imagine an integrated system: the user will receive an unique offer, which combines in real time all the different transport supply, to guarantee him the faster, cheaper and more environmental friendly option.

So, in this new contest, it is more indicated to investigate if this new way to provide public service in the crucial sector of mobility respects the principles that always has ruled this subject, namely if we are in front to a service provided with continuity, efficiency, to everybody with the same conditions at a reasonable price.

As already noted, concerning the general provision of public service, the biggest concerns regard the respect of equality principle.

First, some research has pointed out that most innovative mobility supply is allocated in central areas or in particular dense node in biggest city, with a visible discrimination of the less attractive areas^[41].

Secondly, this new way to provide mobility, and its most innovative components such as sharing mobility, operates with a less or more sophisticated application downloaded in users' own smartphone. It is obvious that people with no confidence with these tools are completely cut off from them and will not benefit from the new possibilities provided by technologies innovation.

The exacerbation of inequality that the widespread of technologies has brought, due to the lack of real fighting policies against digital divide, is particularly dangerous in mobility sector: on one hand, the areas most difficult to reach,

typically, rural and mountain areas or peripheral areas in urban contexts, underserved by public transport, host population with lower income levels and few digital skills compared with more accessible areas; on the other hand, they cannot rely on a broad supply of digital and telematics infrastructures, at least in their more advanced versions^[42].

5. Some final suggestions

Smart mobility, in its different concrete manifestations, relies strongly on ICT technologies and their ongoing development. However, it is important to underline that the use of technology represents only one of the ingredients necessary to redesign in a more “smart” and sustainable way citizens transport habits. Attention should be paid also to the urban space planning, with the predisposition of special line for auto-alternative transports, bicycle paths and pedestrian zones.

Others concrete measures have to be adopted, such as reserve parking spaces for vehicles used for sharing mobility services, possibly close to the large poles of attraction for urban mobility, with a specific space reserve for electric vehicles; allocate spaces for stopping and collecting passengers for ridesharing services; allow transit in the lanes reserved for the circulation of vehicles used for public transport services transport and access to limited traffic or toll areas, with reduced rates, if compatible with existing traffic flows.

In addition, in order to avoid inequality exacerbation between the centre and the peripheral part of the cities and, in larger scale, between cities and rural zone, it is fundamental that public institutions promote innovative mobility projects in these more depressed areas.

Finally, it is important to bear in mind that the digital revolution has to be and remain human-oriented, as a toll to ameliorate people life.

This could be possible if people are provided with the instruments to take advantages from it, especially if digitization involved public services provision, which, as already stressed out, has to be guaranteed to everybody.

Therefore, governments have to put computer literacy at the first step in their digital agenda^[43], especially in our country where digital skills are not homogeneously widespread, with large digital divide^[44].

Without proper measures in this direction, the digitization of public administration risks to become a self-referential process, not more focused on its final goal: the wellbeing of the community they have to serve.

1. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions “A Digital Agenda for Europe” COM/2010/0245
2. About the central influence played by European Union in the construction of e-government see V. Sarcone, *La Società dell'informazione come strumento di «integrazione» e «amministrazione» nell'Unione europea*, in www.amministrazioneincammino.it, 11; C. Leone, *Il ruolo del diritto europeo nella costruzione dell'amministrazione digitale*, in Riv. it. dir. pubbl. com., 2014, 867.
3. On the reform see G. Pesce, *Digital first. Amministrazione digitale: genesi, sviluppi, prospettive*, Napoli, 2018; G. De Maio, *Semplificazione e digitalizzazione: un nuovo modello burocratico*, Napoli, 2016, in particular from p. 121; M.L. Maddalena, *La digitalizzazione della vita dell'amministrazione e del processo*, in Foro. amm., 2016, in particular pages. 2555-2562; B. Carotti, *L'amministrazione digitale: le sfide culturali e politiche del nuovo Codice*, in Giorn. dir. amm., 1/2017, 7; Id., *Il correttivo al Codice dell'Amministrazione Digitale: una meta-riforma*, in Giorn. dir. amm., 2/2018, 131.
4. According to the definition given by the European E-government Action Plan 2010-2016, the “Digital by Default” principle means that public administrations should deliver services digitally (including machine readable information) as the preferred option (while still keeping other channels open for those who are disconnected by choice or necessity).
5. See Art. 1, para. 1, subpar. n- quarter of the Italian Digital Administrative Code (IDAC).
6. G. Cammarota, *Servizi pubblici online e partecipazione migliorativa*, in (a cura di) S. Civitaresse Matteucci – L. Torchia, *La tecnificazione. A 150 dall'unificazione amministrativa italiana*, vol. IV, Firenze, 2016, 113-114; D. De Grazia, *Informatizzazione e semplificazione dell'attività amministrativa nel 'nuovo' codice dell'amministrazione digitale*, in Dir. pubbl. 2/2011, 616 and ff. Contrarily, A. Masucci, *Digitalizzazione dell'amministrazione e servizi pubblici on line. Lineamenti del disegno normativo*, in Dir. pubbl. 1/2019, 122, which includes in the concept of online public service only the non- authoritative activity of public administration headed to provide a utility to the public.
7. In Italy the open data regime was introduced by art. 9 of the legislative decree 179/2012, which amended art. 52 of the IDAC. According to the current notion contained in the law aforementioned, for open data we mean «data that have the following characteristics: 1) they are available according to the terms of a license or a regulatory provision which allow its use by anyone, even for commercial purposes, in a disaggregated format; 2) are accessible through information and communication technologies, including public and private telematics networks, in open formats pursuant to letter l-bis), are suitable for automatic use

by computer programs and are provided with the related metadata; 3) are made available free of charge through information and communication technologies, including public and private telematics networks, or are made available at the marginal costs incurred for their reproduction and disclosure except as provided for in article 7 of legislative decree 24 January 2006, n. 36». In literature see E. Carloni, *L'amministrazione aperta. Regole strumenti e limiti dell'open government*, Santarcangelo di Romagna, 2014, in particular from p. 196; D.U. Galetta, *Open Government, Open Data e azione amministrativa*, in Ist. Fed. 3/2019, 663; B. Ponti, "Open-data" and Trasparenza: a Paradigm Shift, in D. Tiscornia (curated by), "Open-data" e riuso dei dati pubblici, special number of Informatica e diritto, 1-2, 2011, 312.

8. The literature on this thema is huge: here we just mention S. Cassese (edited by), *La nuova costituzione economica*, Bari, 2012; G. Caia, *La disciplina dei servizi pubblici*, in *Diritto amministrativo*, (edited by) G. Pericu, A. Romano, F. Roversi Monaco, F.G. Scoca, Bologna, 2005, 131.
9. The concept of SGEI appears in Articles 14 and 106(2) TFEU and in Protocol No 26 to the TFEU, but it is not defined in the TFEU or in secondary legislation. The Commission has clarified in its Quality Framework that SGEIs are economic activities which deliver outcomes in the overall public good that would not be supplied (or would be supplied under different conditions in terms of objective quality, safety, affordability, equal treatment or universal access) by the market without public intervention. A Public Service Obligation is imposed on the provider by way of an entrustment and on the basis of a general interest. SGEI includes traditionally postal service, telecommunication and transport sector.
10. According to N. Rangone, *I servizi pubblici*, Bologna, 1999, 21, the service of general economic interest includes the universal service notion, which implies a minimum quality standard which has to be accessible to everybody at a reasonable price.
11. M. Calabrò, *Carta dei servizi, rapporto di utenza e qualità della vita*, in *Dir. amm.*, 2014, 373; F. Giglioni, *Le carte di pubblico servizio e il diritto alla qualità delle prestazioni dei pubblici servizi*, in *Pol. dir.*, 2003, 405; S. Battini, *La tutela dell'utente e la carta dei servizi pubblici*, in *Riv. trim. dir. pubbl.*, 1998, 185.
12. The Italian Digital Agency has developed the Public Digital Identity System SPID, which allows citizens to access the online services of Public Administrations with a single Digital Identity. Currently the number of Service Providers, or public administrations that allow you to access your services with SPID, is approximately 4,000. To facilitate adherence to the SPID system, conventions have been defined that provide for the accession of the so-called "aggregator subjects", intended as subjects that offer aggregate administrations the possibility of making their online services accessible through SPID. On the demand-side, the SPID has been required by more than 5 million of the entitled. All the information is available on IDA website <https://avanzamentodigitale.italia.it/it>.
13. G. Cartei, *Il servizio universale*, Milano, 2008, 281.
14. Actually, in the Directive of the President of the Council of Ministers January 27th, 1994

“Principles on the provision of public services”, one of the key principles that must always be guaranteed is «citizen participation in the provision of the public service» in order «both to protect the right to guarantee the provision of the service, and to encourage collaboration with the providers». The widespread of technologies has enhanced it, since it makes more immediate the feedback on the observation and suggestions made and the consequent service quality improvement.

15. G. Cammarota, *Servizi pubblici online*, cit., 113.
16. A. Masucci, *Digitalizzazione*, cit., 145.
17. M. Maciejewski, *To do more, better, faster and more cheaply: using big data in public administration*, in *International Review of Administrative Sciences*, 2017, Vol. 83(1S), 128. The Author points out that in public service delivery big data allows the «analysis of customer behaviour to better understand needs and deliver public services better suited to those needs (this also includes the creation of new services)».
18. According to the Istat Report “*Internet@Italia 2018 Domanda e offerta di servizi online e scenari di digitalizzazione*”, available at <https://www.istat.it/it/files/2018/06/Internet@Italia-2018.pdf>, the use of internet is deeply connected to the age of users: after 34 years, internet use begins constantly to decrease till 55 years, when it dramatically sinks. The age based digital divide comes before all the other socio-economic variables which affect internet use.
19. Data Exchange between administrations is regulated at a European level by GDPR: specifically, it is stressed out the necessity to allow data transfer «in certain circumstances where the data subject has given his or her explicit consent, where the transfer is occasional and necessary in relation to a contract or a legal claim, regardless of whether in a judicial procedure or whether in an administrative or any out-of-court procedure, including procedures before regulatory bodies and also «where important grounds of public interest laid down by Union or Member State law» (Consideration 111). Thus, according to consideration 31, «The requests for disclosure sent by the public authorities should always be in writing, reasoned and occasional and should not concern the entirety of a filing system or lead to the interconnection of filing systems». For the national regulatory status of this topic see art. 50 IDAC, which allows data reuse by different administration, with the respect of the rules on the protection of personal data and of the European legislation on the re-use of public sector information. On the national regulation limits in this sector derived from European legislations see G. Carullo, *Big data e pubblica amministrazione nell'era delle banche dati interconnesse*, in *Conc. e merc.*, 23/2016, 202-204.
20. M. Falcone, *Big data e pubbliche amministrazioni: nuove prospettive per la funzione conoscitiva pubblica*, in *Riv. trim. dir. pubbl.*, 3/2017, 614 and ff. About this topic sees also G. Finocchiaro, *Intelligenza Artificiale e protezione dei dati personali*, in *Giur. It.*, 2019, 1670.
21. P. Montessoro, *Cybersecurity: conoscenza e consapevolezza come prerequisiti per l'amministrazione digitale*, in *Ist. Federalismo*, 3/2019, 783.
22. On the configuration of digital divide as a new form of substantial inequality A. Papa, *Il*

principio di eguaglianza sostanziale nell'accesso alle tecnologie digitali, in *Federalismi.it*, 2008.

23. See M. Dugato, *La crisi del concetto di servizio pubblico locale tra apparenza e realtà*, in *Dir.amm.*, 3/2020, 527, which pointed out that during the pandemic, the uneven distribution of the internet meant that some students were unable to use online education, potentially increasing unacceptable inequalities.
24. G. De Maio, *Semplificazione*, cit., 133 and ff.
25. J. Auby, *Il diritto amministrativo di fronte alle sfide digitali*, in *Ist. del federalismo*, 3/2019, 625.
26. On the relationship between urban mobility and sustainability see O. Baccelli, R. Galdi, G. Grea, *La sostenibilità della mobilità in ambito urbano*, in G. Franco Ferrari (edited by), *La prossima città*, Milano-Udine, 2017, 329.
27. According to the policy paper “*Sustainable urban mobility and smart city*” drawn up by Polis (cities and region for transport innovation), where it is stressed out that «Europe is currently underexploiting the potential of urban transport in its Smart Cities policies. Urban transport can contribute substantially to quality of life, health, economic and urban development, competitiveness, energy efficiency and ‘smartness’ in cities. It is inefficient to put the urban transport sector in a subsidiary role».
28. For recognition on the several definitions of smart cities see A. Cocchia, *Smart and Digital City: A Systematic Literature Review*, in R.P. Dameri and C. Rosenthal-Sabroux (eds.), *Smart City. How to Create Public and Economic Value with High Technology in Urban Space*, Switzerland, 2014; T. Pardo, n. Taewoo, *Conceptualizing smart city with dimensions of technology, people, and institutions. Proceedings of the 12th Annual International Conference on Digital Government Research*, New York, ACM, 2011, p. 282 ff. On smart city see G. Franco Ferrari (edited by), *La prossima città*, Milano-Udine, 2017; the several contributions collected in the monographic number of the *Istituzioni del Federalismo*, 4, 2015; F. Ferrero, *Le smart cities nell'ordinamento giuridico*, in *Foro amm.*, 2015, 1267; R. Ferrara, *The smart city and green economy in Europe: a critical approach*, in *Diritto e processo amministrativo*, 2015, 635.
29. At municipal level we could have Urban Mobility Plan, Urban Traffic Plan and Urban Parking Program. On the mobility regulatory system see L. Marfoli, *Trasporti, ambiente e mobilità sostenibile in Italia*, in *Riv. giur. ambiente*, 3-4, 305.
30. Intelligent Transport Systems (ITS) apply Information and Communication Technologies (ICT) to transport. ITS allows local and regional authorities to manage more efficiently and safely the transport network and to influence travel behaviour through the provision of static and real-time information services and integrated payment schemes.
31. Cons. Stato, Sez. I, 25 novembre 2015, n. 757, in www.giustiziaamministrativa.it.
32. See, for example, the case of Helsinki where residents have been able to use an app called Whim to plan and pay for all modes of public and private transportation within the city—be it by train, taxi, bus, car share, or bike share. Similar projects are taking place in Paris, Eindhoven, Gothenburg, Montpellier, Vienna, Hanover, Las Vegas, Los Angeles,

Denver, Singapore, and Barcelona. This data come from W. Goodall, T. Dovey Fishman, J. Bornstein, B. Bonthron, “*The rise of mobility as a service: Reshaping how urbanites get around*”, *Deloitte Review* 20, 23 January 2017 available at <https://www2.deloitte.com/us/en/insights/deloitte-review/issue-20/smart-transportation-technology-mobility-as-a-service.html>

33. After conflicting decision on the admissibility of this new service in Italy, the recently approved Decree 29 December 2018, n. 143, which amended the law 15 January 1992, n. 21 “*Framework law for the transport of people by non-scheduled public bus services*”, has imposed strict conditions to the car rental service with driver, for example, the obligation to start and end the rental service always at the car park, which make the service less attractive both for providers both for users. About the problems arisen with the entrance of Uber in Italy see M. Midiri, *Nuove tecnologie e regolazione: il caso di Uber*, in Riv. Trim. Dir. Pubbl., 3/2018, 1017; E. Raffiotta, *Trasporti pubblici locali non di linea e nuove tecnologie: il caso di Uber nel diritto comparato*, in Munus, 1/2016, 75; O. Pollicino, V. Lubello, *Un monito complesso ed una apertura al dibattito europeo rilevante: Uber tra giudici e legislatori*, in Giur. cost., 6/2016, 2479.
34. Sustainable Urban Mobility Planning (SUMP) is urban transport planning concept adopted by European Union with the Urban Mobility Package at the end of 2013, where the European Commission defined in an Annex the concept of Sustainable Urban Mobility Plans. According to the ELTIS Guidelines for developing and implementing a Sustainable Urban Mobility the Sustainable Urban Mobility Plan as to be intended as «strategic plan designed to satisfy the mobility needs of people and businesses in cities and their surroundings for a better quality of life. It builds on existing planning practices and takes due consideration of integration, participation, and evaluation principles». In the Italian contest, SUMP is a strategic planning tool which, in a medium-long term time horizon (10 years), develops a system view of urban mobility (preferably referred to the metropolitan city area, where defined), proposing the achievement of environmental, social and economic sustainability target. This new tool is put at the higher level in urban mobility planning.
35. Decree of the Ministry of Infrastructure and Transport of 4 August 2017 n. 397, recently amended by the decree 28 August 2018, n. 396.
36. See the SUMPs adopted by the cities of Milan and Padua, as example of big and medium size city. For an updated landscape about SUMP adoption see <https://www.osservatoriopums.it/>.
37. In Padua, for example, car sharing is provided by APS Holding. In Milan ATM provides a bike sharing service.
38. The methods for entrusting the local public transport service were defined at European level by Regulation (EC) no. 1370/2007, as amended by regulation 2016/2338, relating to public passenger transport services by road and rail, which also establishes the conditions under which the competent authorities, if they impose or stipulate public service obligations, compensate the operators of public service for the costs incurred and / or

confer on them exclusive rights in exchange for the fulfillment of public service obligations.

39. T.A.R. Milano, Sez. III, 03/07/2020, n. 1274 available at www.giustiziaamministrativa.it.
40. As noted in the third national report on sharing mobility, available at <http://osservatoriosharingmobility.it/>
41. R. Dowling, J. Kent, *Practice and public private partnerships in sustainable transport governance: the case of car sharing in Sydney*, Australia, in *Transport Policy*, 2015, 58
42. L. Staricco, *Smart mobility: opportunità e condizioni*, in *Journal of Land Use Mobility and Environment* 3/2013, 347.
43. Art. 8 of IDAC tackles expressively the problem of computer literacy; according to it, public administrations have to support initiatives aimed to promote the spread of digital culture among citizens with particular regard to minors and categories at risk of exclusion, also in order to encourage the development of legal IT skills and the use of digital services of public administrations with specific and concrete actions, using a set of different means, among which the radio and television service.
44. In order to combat the digital divide, Italy has put in place the Operational Plan of the National Strategy for Digital Competences. In particular, in the context of the strategy “Italy 2025”, the Plan aims to reduce digital illiteracy and to increase the percentage of ICT specialists in emerging technologies, ensuring a high level of digital literacy, and ensuring that young people and the entire working population have the key digital skills for the new job requirements. The Plan is available at <https://repubblicadigitale.innovazione.gov.it/assets/docs/Piano-Operativo-Strategia-Nazionale-per-le-competenze-digitali.pdf>.