

**Summary Report of the Virtual Event entitled  
“Sustainable Mobility and Coronavirus:  
Crisis or Opportunity?”**

**Transport Systems Research Group**

**Aristotle University of Thessaloniki**



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## Report

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## Video

*The audiovisual material (video) of the event is accessible through the special page for the event entitled "Sustainable Mobility and Coronavirus: Crisis or Opportunity?" on [facebook](#). More information in Greek about the action "Citizens' Panel for Sustainable mobility" of the PE4Trans project in the Region of Central Macedonia, Greece, is available on the [special page](#) of the action on facebook.*

## Profile

*The Report was compiled after the realization of the Virtual Event entitled "Sustainable Mobility and Coronavirus: Crisis or Opportunity?" which was organized by the Transport Systems Research Group of AUTH on 18<sup>th</sup> of June 2020. The Event was implemented in the frame of the PE4Trans project "Public Engagement for Sustainable Public Transport", of the INTERREG EUROPE Programme, which is co-funded by the European Regional Development Fund.*

## Disclaimer

*In this report, the remarks of the members of the Transport Systems Research Group of AUTH are composed, in a creative and synthetic way, with the findings of the event that are based on views, opinions and information expressed by panelists, after being properly elaborated and processed. The Report doesn't reflect the views of the European Union, nor the European Regional Development Fund, nor the Management Authority of the INTERREG EUROPE Program, nor the Aristotle University of Thessaloniki.*

## Acknowledgements

*Thanks giving to all the participants, both the speakers and the attendants who actively participated by sending written comments, questions and responses to polls.*

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## Programme of the Virtual Event

### *SUSTAINABLE MOBILITY AND CORONAVIRUS*

#### *Crisis or Opportunity;*

**Virtual Event [in Greek], Thursday 18<sup>th</sup> of June 2020 at 18:30**

The Event is organized by the Transport Systems Research Group of the Aristotle University of Thessaloniki (AUTH), in the frame of the PE4TRANS project / Interreg Europe, which focuses on the promotion of sustainable mobility through the participatory processes and citizens engagement. The Event is coordinated by Aristotelis Naniopoulos, Professor on Transportation Systems of AUTH.

#### **Introduction: Brief presentation of PE4Trans project**

#### **1<sup>st</sup> session (18.30 – 19.00): *Practical recommendations and advices to citizens on using the public transport safely (5-minute presentations, 10' for Q&A)***

- **Emmanouil Roilides**, Professor of Pediatrics-Infectious Diseases, C Pediatric Clinic AUTH: Public Health Protection, Risks and Opportunities from the Behavioral Changes occurred.
- **Yiannis Chamalis**, Transport engineer specialized on biosafety: Recommendations on personal protection against coronavirus along the transport chain.
- **Simos Papadopoulos**, Transport engineer, Design Department of OASTH (Thessaloniki's Public Transport Operator): The recommendations of the Ministry to the passengers of public transport and how they are implemented.
- **Yiannis Toskas**, CEO of Thessaloniki's Public Transport Authority: Precautionary policy measures against the pandemic in the transport modes of Thessaloniki.

#### **2<sup>nd</sup> session (19.00 – 19.30): *The impact of pandemic, ways to respond and leverage emerged opportunities with the support of science and technology (5-minute presentations, 10' for Q&A)***

- **Dimitris Dimitriou**, Associate Professor of DUTH, President of Athens International Airport, former President & CEO of OASA (Athens Public Transport Operator): The pandemic as a cause of structural changes for transport service providers, and terminals.
- **Dr George Spanos**, Transport engineer: The role of Intelligent Transport Systems in tackling the pandemic on public transport.

- **Dr Ioannis Koliouis**, Associate Head, School of Strategy & Leadership, Coventry University (UK): Challenges for transport systems worldwide, experience from UK.
- **Ilias Trochidis**, Research and technology project manager: "Big" data and new technologies in the service of public health.

**3<sup>rd</sup> session (19.30 – 20.30): *The encouragement of sustainable mobility by Local Authorities/Governments and actors of Civil Society, in the age of the coronavirus (5-minute presentations, 10' for Q&A)***

- **Konstantinos Zervas**, Mayor of the City of Thessaloniki: Sustainable mobility in the Municipality of Thessaloniki after the pandemic.
- **Dimitra Alexiou**, Associate Professor of AUTH, (Authorized) Municipal Councilor of Thessaloniki: The sustainable mobility in Thessaloniki and the possibilities of synergies between the Municipality and the academia.
- **Pari Genitsari**, Deputy Mayor of the Municipality of Neapoli-Sykies (part of wider Thessaloniki's metropolitan agglomeration): The challenge of promoting mobility behavior change, at municipal level.
- **George Avgoustidis**, President of the Panhellenic Association of Paraplegics, Macedonia-Thrace Branch: Mobility Challenges for Wheelchair Users in the Coronavirus era.
- **Panagiotis Karakostas**, Organizational Secretary of the Panhellenic Association of the Blinds of Central Macedonia: The movement of people with visual impairments in Thessaloniki in the coronavirus era - difficulties, opportunities and solutions.
- **Giannis Angelidis**, City Planner, President of the Union for the Rights of Pedestrians: Moving by walking in the city of Thessaloniki and the pandemic as a catalyst for change.
- **Anthi Tsakiropoulou**, Transport planner, Development Agency of Thessaloniki Great Urban Area s.a.: Interventions for the development of cycling infrastructure, on the occasion of the coronavirus.
- **Paris Billias**, Deputy Governor of Infrastructure and Networks of the Region of Central Macedonia: Initiatives of the Region of Central Macedonia for sustainable mobility, today.

**10' closing, final remarks**

## 1. The nature of travelling and the pandemic

- The new coronavirus started spreading from Wuhan, China, in December 2019. In less than two months it caused a pandemic with more than 5 million confirmed cases until today (June 2020) and nearly half a million deaths with mostly influenced areas being Europe and the United States.
- Pandemics comprise an integral part of human history. Large pandemics have swept the world many times in the past, such as plague, cholera and flu. Globalization and changes in human behavior are increasing the likelihood of new pandemics occurring and spreading rapidly.
- Each infectious virus has certain characteristics that enable it to infect more people and cause higher morbidity and mortality, such as the ease of transmission of the virus and the severity of the infection it causes. Concerning the latter, the vulnerability of the individual, such as old age and the existence of an underlying disease, plays significant role.
- Dealing with the virus is based on two pillars: treatment and especially prevention. Currently, there isn't any drug that has been proved to be effective in treating the disease. Research is currently ongoing, but there is none effective treatment till today (June 2020). The prevention of any contagious disease is mainly associated with the avoidance of transmission, as the new coronavirus is transmitted through the inhalation and contact with infected droplets.
- The main ways to avoid transmission are: avoidance of overcrowded places, personal protective equipment, and proper and frequent hand washing (hygiene). These measures require a radical change in behavior. The distance of not less than 1.5 to 2 meters, the use of protective equipment and especially a mask, the avoidance of close physical socializing and the proper hand hygiene comprise the main measures to interrupt the spread of the virus.
- Certain public health policies based on the above basic principles were implemented since the very beginning in Greece, being very successful in dealing with the first wave of the pandemic.
- Dealing with epidemics and multidrug-resistant germs, which also cause a huge public health problem in hospitals and the community, requires behavioral changes to stop the transmission and create hostile environment for their development.

- The coronavirus pandemic comprises an opportunity to shape attitudes in people that will remain after the end of it, making more difficult the transmission of infectious diseases in the future. Besides, changing behaviour regarding the daily use of clean water in the past helped to drastically reduce certain infections.
- Constant social distancing and the use of a mask is difficult to be maintained forever. However, proper hand hygiene, simple habits of covering the mouth during coughing and sneezing as well as good ventilation of the premises are very important measures that can become citizens' routine and can remain. Oblivion and the success of dealing with the pandemic itself are the great dangers that can lead to complacency or lack of awareness of the role of protection measures to reduce the pandemic spreading.
- Coronavirus pandemic still exists, we must be careful, and we should not ignore its existence.
- Significant consequences are expected in the long run in various aspects of human activity.
- Since there is a continuous and dynamic development in our knowledge for the nature of the coronavirus and the evolution of the pandemic, precautionary measures throughout the mobility chain should be constantly monitored and, if necessary, adjusted.
- Mobility is not just a transition from point A to point B, but a complex process that can be completed by many means (walking, wheelchair, walking stick, bicycle, public transport, etc.) and has multiple aspects (environmental, aesthetic, cultural, social).
- In the era of the coronavirus, new challenges and requirements have been added, which differ depending on the group of users and the transport mode to which they are addressed.
- The behavioral aspects of transport and mobility are changing, and it seems that there is a shift towards more personalized means of transport.
- The protection against the pandemic includes, among other things, avoiding congestion and crowded places, usage of personal protection equipment, regular and proper hand washing and changing behaviour on an individual and social level.

## 2. Main measures recommended by the competent bodies and additional protection measures in the transport and mobility chain

- In the case of Public Transport, various rules and measures apply, which are imposed mainly by Ministerial Decisions, such as: maximum number of passengers per vehicle based on its maximum capacity in order to ensure the physical distancing, prohibition of getting on the vehicle through the front door (next to driver), non operation of air conditioning, personal hygiene, such as the mandatory use of a mask for employees and passengers (imposing fines for non usage).
- In parallel with the encouragement of the principles of personal hygiene, recommendations from the competent bodies were made, related to the reasonable use of Public Transport (PT), such as avoidance of PT use when there are suspicious symptoms of the disease and avoidance of PT use during peak hours when there is no serious trip purpose, except e.g. going to work.
- Fear of personal health generally leads to compliance with the rules.
- Given the high number of surfaces that the passenger may touch, washing hands thoroughly and using disinfectant gel becomes of great importance. If gloves are used, they should be used with caution as they may carry and transfer germs.
- In addition to the measures recommended by the competent bodies that must be obeyed, there are other measures that anyone should take for his/her protection throughout the entire transport chain.
  - ✓ Main general measures: avoidance of congested and crowded spaces, frequent and meticulous hand washing, use of personal protective equipment, such as masks and gloves, especially indoors. The use of mask by two people who are in contact at the same time, reduces significantly the risk of transmitting the virus in case that one of them is infected. In case of using a good quality fabric mask for multiple uses, it is necessary to wash it and iron it after every use.
  - ✓ Additional measures: avoidance of placing shoes and clothes in the house after their usage outdoors (they can be placed e.g. on the balcony, in the hallway), daily clothes to be stored in a special closet, frequent disinfection of the mobile phone and the bag (as they come in touch with many surfaces), at home and office (e.g. by using a spray can), where everyone spends many hours.
  - ✓ In case of any trip outside the house, everyone can define that with his/her right hand (if he/she is right-handed) he/she does not touch surfaces, while

with his/her left hand he/she touches. This way, everyone can follow a “code” to control his/her exposure to infectious surfaces.

- Both for the protection of others as well as our own, we should think and behave as if we may have been already infected.
- The pandemic is an opportunity to adopt behaviors that will help us in dealing with contagious viruses and germs in general, at different times and places, such as the various forms of the virus of seasonal flu.
- The pandemic was an unprecedented situation for public transport operators and authorities that had to be properly managed. The aim was to create such conditions to limit the spread of the virus and to maintain a minimum level of service ensuring health and safety. It comprises a test of the reflexes and adaptive abilities of the transport operators and authorities and of the resilience of the whole transport system.

### 3. Structural changes in the market and transport service providers

- Transport agencies face unique situations to which they must respond immediately, and these influence all levels: Management, Personnel, Passengers. The agencies have been called upon to adapt themselves and modify their operations to the extent that they have not done any time before.
- We went through the five "stages of denial", initial denial, anger, negotiation, depression and acceptance. We are now in the phase of "accepting" the crisis after its initial "denial".
- There is a huge uncertainty about the future as well as inability of doing predictions. The system is by definition multi-factorial. The crisis affects both supply and demand for services.
- Business models face many changes in terms of corporate governance and corporate structure. Corporate values are degraded. Problems regarding bank loans provision and financial liquidity arise.
- The operation of the market is affected. The market and the competition cannot operate freely, since the rules and restrictions are set by third parties, such as states' governments. The nature of the services itself is being questioned and the restructuring of the whole market's organization takes place. Thus, negative processes are in progress for the major parts of entrepreneurship, such as the need to reduce costs, financial liquidity problems for businesses, etc.
- The way services are organized is being completely restructured, and the importance of stocks is being revised. As business models change, businesses are interested in setting up and securing financial capital, drastically reducing their operating costs.
- Service problems and requirements in tourist accommodation limit their available capacity affecting the demand and pricing of transport services.
- The effects on the economy are very damaging, covering many business activities, and they are expected to be significant, as the changes seem to have a permanent affect.
- "Sharing economy" actors in the field of mobility (e.g. electric scooters) were significantly affected during the first phase of the pandemic in terms of services' demand.

- The pandemic enhanced the individual transportation means compared to those of public transportation.
- New challenges emerge in the field of research on new technologies and new ways of organizing transportation and logistics in order to reduce costs, time and overcrowding. Great challenges and opportunities are created in the field of research, innovation and the utilization of new possibilities that offer technological developments, such as: the Internet of Things (IOT), cloud computing, blockchain, Big Data, artificial intelligence, etc. The EU is called upon to accelerate the efforts towards restructuring entrepreneurship at European level guided by innovation.
- The required optimal new policy of organizing the supply chain, due to the pandemic, while reducing the time and cost of providing transport services, comprises a great challenge for the scientific community and every stakeholder involved.
- It is very important to forecast all the possible scenarios for the development of the pandemic and its effects, in order to develop the corresponding response strategies.
- Reviews and updates of regulatory frameworks are required to cover the aspects such as hygiene and safety in addition to mobility and transportation. Transport operators and distribution companies will need to change their operating model.

#### 4. Technological applications and safe transportation

- The technology has already offered useful solutions on the treatment and management of the pandemic, while there are great possibilities for the development or adoption of new applications.
- Pandemic is an opportunity for further promotion of intelligent transport systems (ITS). The e-ticketing systems, the automatic recording of the passengers getting on board (e.g. sensors at doors), and the provision of information via ITS systems are important technologies, useful for the transport operators during the management of the pandemic.
- The e-ticketing system allows, among others, the intact transaction (no need to touch and get into contact with potentially contaminated surfaces), as well as for the recording and management of the passengers and the travel demand (e.g. identification of passengers'/customers' groups, such as students, disabled, users of cards of multiple trips, etc.).
- Automatic passenger recording systems may: (a) enable the notification of a bus driver about reaching the defined allowed maximum occupancy, so that other passengers do not board. In addition, this information can (b) be forwarded to users, e.g. through a mobile phone application, so that they can plan their trip by seeking alternative travel options (transport mean, time of trip, etc.).
- "Big" and qualitative data already exist and are still being collected. Their use will contribute substantially to the better management of the impacts of the pandemic:
  - Data size is increasing daily and rapidly. 90% of the data worldwide has been generated during the last two years.
  - Data and artificial intelligence can be used in the field of health and for the control of the spread of the virus (e.g. cases in China, Taiwan).
  - Google provided data on mobility during the pandemic. These are aggregated, anonymous user data (per day, country, region) during the period of the pandemic, based on location history of any user of mobile phone that has activated it.
  - The data could help countries to evaluate public health policies that have been implemented, drawing conclusions about the planning of the response actions and the necessary plan for a future outbreak of pandemic.

- The data allows monitoring of the changes in the travel behavior.
- There is always the risk of the privacy violation and the misuse of the data.
- Utilization of data helped some countries to manage the epidemic.

## 5. People with disabilities and mobility in the era of coronavirus

- Any measure designed should firstly take into account the needs of people with disabilities, not adding more problems in their mobility.
- People with disabilities and pedestrians should be considered at the top of the priority setting concerning the mobility planning and the road safety measures.
- Whatever facilitates and makes easier the mobility of the people with disabilities, facilitates and enables ALL citizens as well.
- Pedestrian routes and ramps' design have many problems in the area of Thessaloniki. It is estimated that only 1% of the ramps are perfectly accessible adhering to the specifications and ensuring comfortable, smooth and safe movements.
- The placement of tables and seats by the restaurants and cafes in the public, pedestrian and open-air spaces of a city centre in order to enable them to maintain bigger physical distances among their customers should not be against the safe and smooth mobility of the wheelchair users, the people with other forms of disability, and the rest general population.
- The transport policy planning and the fleet management policies (e.g. municipal buses, transport providers, taxis, etc.) during the pandemic period should take into account the needs of people with disabilities as well. Appropriate protocols should be established and implemented by all parties who are running vehicles of public use.
- Visually impaired people face many difficulties in accessing vehicles mainly due to the overcrowding and their inability to communicate with the bus driver through the front door (since boarding from front door is prohibited during pandemic).
- The travel of people with vision problems by taxi during the coronavirus period was increased, as a result of an agreement between the Association of this population group with a Taxi company concerning service's attributes, pricing, allowing a companion dog or assistance dog in the vehicle, etc. These changes should also remain after the end of pandemic.

## 6. Mobility, pandemic and Local Authorities

- The role of Local Authorities, at various levels, in promoting the necessary adjustments caused by the pandemic conditions, is crucial:
  - in the provision of the appropriate required infrastructure to the disabled people, pedestrians, Public Transport users, and cyclists.
  - in the provision of adequate public space of high quality, properly redistributed among the various users.
  - in the provision of transport services to groups of citizens, such as the disabled, the elderly, the students, etc.
  - in the promotion of sustainable mobility, and the health & safety of citizens.
  - in the promotion of travel behavior change and the adoption of practices to stay safe and remain healthy.
- The Local Governments should take the opportunity now offered by the State and proceed with pilot applications of projects that enhance sustainable mobility.
- In order for any proposed planning measure to be acceptable and successful, a consultation process should take place by engaging all those involved stakeholders and interested parties, regardless of the final political decision on the matter under discussion.
- Nowadays, the target set by many European cities is instead of simply achieving sustainable mobility by promoting soft and active mobility, the fully "car-free cities", especially with regards to their historic urban centers.
- Greek cities are extremely compact. The model of "compact" cities is now in question, after the pandemic.
- Interventions, in order to be effective and last for long, they must be part of a broad holistic plan and not be fragmented. In addition, by ensuring their public acceptance, a long-term operation of the pilot applications due to coronavirus will be secured, avoiding potential setbacks.
- In the past, traffic studies were implemented for the municipalities of the wider urban area of Thessaloniki, in isolation to each other, without any comprehensive, integrated and holistic consideration of the entire metropolitan

complex. The danger of repeating this “strategic” false today in the case of SUMPs (Sustainable Urban Mobility Plans) implantation should be avoided.

- The double ‘helix’ of research collaboration between the Aristotle University of Thessaloniki and the Municipality of Thessaloniki can contribute to the transition of Thessaloniki into a modern Green City based on European environmental standards.
- Municipalities cooperate with various citizens’ networks (organizations of civil society) and have direct contact with services and structures/agencies, and face to face communication with citizens coming from local associations and specific population groups (e.g. municipal kindergartens, special facilities for elderly in Greece that are called KAPI, service for the support of independent living called “Help at Home”, schools, etc.). These groups include vulnerable individuals whose travel behavior can be influenced with the aim of adopting “safer” mobility practices.
- In the Operational Plan of the Region, it would be useful to include actions aiming at changing mobility behavior, such as information and awareness campaigns for sustainable mobility (or even more broadly for a more sustainable lifestyle), which could be implemented by the municipalities in cooperation with the relevant stakeholders.

## 7. Mobility and pandemic in the wider urban area of Thessaloniki

- The initial goal set for public transport in Thessaloniki was to maintain the ability to provide services. Planning for the management of the new situation included actions such as: (a) staff's protection and operational plans with certain restrictions, (b) procurement processes to secure necessary goods and stock, identification of crucial functions and operations of Public Transport system, plan for the replacement of personnel with other employees in case of need, stock control, etc., (c) protection of public transport users. The current inability of checking the passengers who are infected by the virus was pointed out.
- Regarding the management of the pandemic by the transport operators, instructions and recommendations provided by the Greek Government, Greek Organisation for Public Health (EODY), the EU and the UITP were used to shape the policy measures to be implemented in order to manage the pandemic threat in the public transport system of Thessaloniki.
  - Rules of personal hygiene were applied and the principle of keeping physical distances among people in waiting areas and on-board (inside the vehicle) was followed (maximum occupancy rate 65% today, while at the start of the pandemic was 50%).
  - The main actions, among others, were: to encourage the avoidance of travelling during peak hours, to keep the driver's door off (closed), to ask passengers getting off from the door at the back of the vehicle, to impose employees and passengers to use a mask, to disinfect premises and vehicles. In addition, buses are moving with open windows as long as weather conditions allow this.
  - The use of a mask is mandatory on buses and a fine is imposed in case of non-compliance of people with this rule.
  - The new rules set in Thessaloniki were generally accepted by employees / drivers and passengers due to their fear and concern for their personal health.
  - There are several scenarios concerning the management of a possible new pandemic outbreak.
  - It has been planned to increase the routes serving famous summer destinations, such as Epanomi, in the wider metropolitan area of Thessaloniki.

- A small video was created by the Thessaloniki Transport Authority for the promotion of active mobility (e.g. walking, cycling), instead of Public Transport usage in case active transport means comprise a reliable alternative option.
- The response of management/administration, employees and passengers to the new conditions was satisfactory. The evaluation of the measures is continuous so that they can be adjusted appropriately, if this is required.
- There is some difficulty in strictly applying the rule of maximum occupancy rate (up to 65% of maximum passengers' capacity of the vehicles).
- Regarding air conditioning on buses, it has been planned to maintain the air conditioning systems, install active carbon filters, and use it in accordance with EU regulations, at temperatures above 28 degrees Celsius. In addition, it is recommended to use it with open windows and without air recycling.
- There is a lack of alternative means of transport in Thessaloniki, which has been always a barrier for the formation of a holistic urban transport policy.
- The bicycle can be an alternative mobility option for the areas of the city agglomeration, where bicycle lanes can be developed. The pandemic comprises an opportunity for the acceleration of the development of the cycling network, whose length and safety level are relatively low, compared to other cities abroad, of a similar size of that of Thessaloniki.
- Walking can be promoted by providing more pedestrian lanes and setting a maximum car speed limit of 30 km per hour.
- It is necessary to promote and develop the metropolitan perspective in urban governance of Thessaloniki, especially with regard to transport and mobility. Today, it is being scattered among various policy-making bodies (e.g. Region, Transport Authority, Municipal Development Agency), without substantial institutionalization of the responsibilities of the metropolitan governance. For this reason, better coordination is needed, especially and not exclusively, with regard to SUMP's being prepared or being launched in the municipalities of the wider urban complex of Thessaloniki.
- The Sustainable Urban Development Observatory of the Region of Central Macedonia is expected to be a useful 'tool' for policy-making and urban mobility policies monitoring. It is the first observatory in a metropolitan area at national level and deals with all the parameters that compose urban life, collecting and gathering information for indicators, such as: economy (number and location of

start-ups, etc.), society (location of service structures, etc.), urban environment (lack of green urban areas, etc.), traffic (satisfaction rate of the users of Public Transport, etc.).