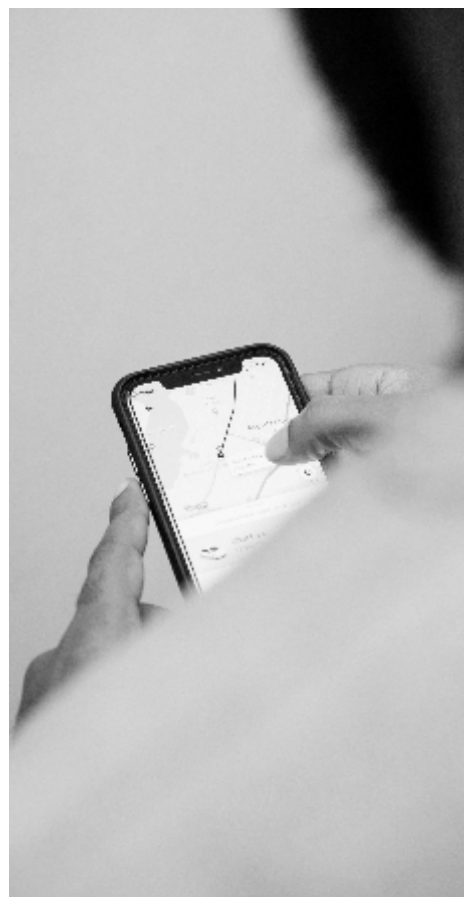


IN THE SEARCH OF NEW STRATEGIES COVID-19 AND NEW (NON)MOBILITY PATTERNS

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EXECUTIVE SUMMARY

- This policy paper indicates, that instead of using the pandemic as a way how to support the micro-mobility solutions to travel safely on short distances, the car-dominated paradigm still prevails. Instead of prioritizing non-motorized transport and making space for the so much needed infrastructure for them, as is happening in cities like Bogota, London, Berlin or Mexico City¹, city representatives and bike-sharing companies in Poland had to follow governmental restrictions. Restrictions which were worsening the situation not only for those, who nowadays (might) commute on bikes but also for pedestrians who might rather walk through a green park, then next to the main road. Only Kraków has recently announced plans to open 7 km of new temporary bike-lines in the city centres to ease the cycling, commuting especially.
- Our analysis until this time did not show some strategic cooperation between the public and private sphere in the field of mobility. Public transport providers and operators should now, instead of being in the defensive line, react quickly not to lose the train and follow the call for the integration of the mobility services.
- Sharing knowledge and data should be mutual for the private and public sector, which will provide them with better orientation within the mobility patterns and help to address upcoming challenges effectively.
- If we want our future mobility system to be resilient to such an unprecedented situation, it is likely going to happen by providing only defensive measurements. If our goal is to move safely from one point to another, regardless of the transport mode, mobility integration into MaaS and support of multimodality might be the way to go.
- Shared-mobility service providers quickly adapted to new situations resulting in **suspending the service** (6 out of 39) due to safety standards or **reorienting their business to fit into a new situation** (17 out of 39) focusing on:
 1. **on-demand help** to provide their service for free for hospitals, volunteers and similar like to solve actual ad-hoc problems;
 2. implementing **system-wide solutions** in creating conditions and structures, which could be beneficial for the whole society or the providers itself in the long-term horizon (e.g. call to the integration of all mobility providers into MaaS platforms) or are connected with the partial re-structuralization of the business itself (e.g. grocery delivering, discounted rental for restaurants to food delivery).

¹ <https://bit.ly/coronavirus-city-street-public-transit-bike-lanes-covid-19> [30.04.2020].

- Government **restricted operation of bike-sharing services** from 1st of April till the 6th of May.
- Public transport providers are adopting defending mechanism to **increase safety** on board and **reduce financial loss** due to decrease in ridership (off-peak schedule).
- **Łódź** and **Gorzów Wielkopolski** have opened two additional bus lines to provide a necessary connection to main industrial areas, and **Kraków** has opened bus lines dedicated only to the medical staff commuting to the hospitals.
- **Kraków** has recently announced plans to open **7 km of new temporary bike-lines** in the city centre to ease the cycling, commuting especially.
- **Wodzislaw county** and **Brzesko** have launched the **fare-free public transport** due to COVID-19.

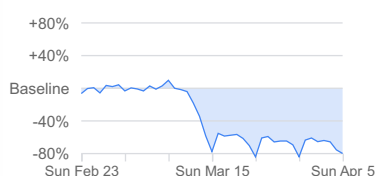
IN THE SEARCH OF NEW STRATEGIES. COVID-19 AND NEW (NON)MOBILITY PATTERNS

Travel behaviour has dramatically changed over the last few weeks due to COVID-19 safety measures. Stay healthy, stay safe and stay home is the new mantra and mobility reports confirm that. COVID-19 Community Mobility Reports² made by Google shows, according to voivodeship, how the activity has changed compared to the previous state before the significant lockdowns. We could, for example, see, that in places like retail and recreations, transit stations, parks, groceries and pharmacies, the activity drops off dramatically. In contrast, in residential areas, we could notice a moderate increase. Even though the results are based only on aggregated data and are not allowing us more profound insight into how

Lesser Poland Voivodeship

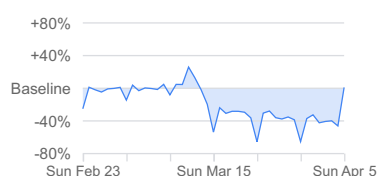
Retail & recreation

-80% compared to baseline



Grocery & pharmacy

+1% compared to baseline



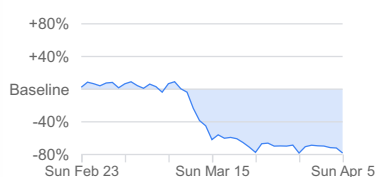
Parks

-76% compared to baseline



Transit stations

-78% compared to baseline



Workplace

-34% compared to baseline



Residential

+14% compared to baseline



Fig. 1. Mobility trends - Małopolskie Voivodeship.

Source: COVID-19 Community Mobility Reports.

How the visit and length of stay at various places have changed compared to baseline is based on aggregated, and anonymized data Google uses to calculate the popular times for locations in Google maps, as is written in the reports. The previous state is, as Google continues the explanation, is represented by the median value, for the corresponding day of the week, during the 5 weeks Jan 3–Feb 6, 2020.

² <https://www.google.com/covid19/mobility/> [30.04.2020].

mobility has changed in specific localities, it confirms what we see through the window. The decrease in traffic activity also confirms official statistics of the Polish police. Comparing the 14 days of 1.3.-14.03.2020 with 1.4.-14.04.2020, the road accidents fell off from 880 to 417. This is based on the “daily info”, available at policja.pl. How to accommodate new mobility strategies and provide safe transport services is now the core question of the policy planning authorities, mobility services providers or urbanists. In this policy paper, we have decided to explore how different towns and shared-mobility providers have already responded to the new situation due to the coronavirus epidemic.

METHODOLOGY

This paper provides quick insight how selected towns and the shared-mobility market in Poland have responded to the new situation. In doing so, the analyses of 39 shared-mobility companies and 21 Polish towns were carried out. The shared-mobility companies represent the major player in the field. Most of the towns are the voivodship capitals.

TOWNS:

Białystok, Bydgoszcz, Dąbrowa Górnicza, Gdańsk, Gorzów Wielkopolski, Katowice, Kielce, Kraków, Łódź, Lublin, Olsztyn, Opole, Poznań, Rzeszów, Sopot, Szczecin, Toruń, Warszawa, Wrocław, Zakopane, Zielona Góra.

SHARED-MOBILITY SERVICE:

S4mobility, Uto-Hop, Bird, Blinke.city, Bolt, Catch-Me, CityBee, Click2go, Conaga, Dott, EasyShare, eCar Tauron, EcoShare, Eroller, Free Now, Geobuzz, GreenGoo, Hive, Hop.city, Hulaj, Innogy go!, iTaxi, Lime, Logosharing, MiiMoove, Mobilne Miasto, Naminuty.pl, Panek, QuickApp, Scroot, SlideScooters, Take&Drive, Trafficar, Uber, Voltscooters, Voom, Voozilla, Wheelmee, Yumi.eco.

SHARED-MOBILITY ANALYSIS

Analysis of shared-mobility services in Poland was carried out. Totally, we mapped 39 key-actors of Polish share-mobility field, consisting of:

- 1 representative unite (Mobilne Miasto)
- 3 mobility-services aggregators
- 11 car-sharing providers
- 6 ride-hailing providers
- 2 emopeds-sharing providers
- 16 scooters-sharing providers

All the bike-sharing companies were excluded from the analysis due to government restriction of applied on 1st of April till 6th of May. Such a step have resulted in counteraction in which bike-sharing company Next Bike, Unia Metropoli or ZDM in Warsaw appeal on the government to terminate such a restriction. According to them, the government have made a quick decision in which they didn't fully recognize all the functions of bike-sharing, which is not only for recreation but also pro-active and environment-friendly means of transport for commuting. Restriction on the bike-sharing system of Polish government thus stays in contrast to Germany, Milan in Italy, Bogota in Columbia, Boston, Minneapolis and Oakland (USA), where new cycling infrastructure have popped-up to ease the transfer on bikes and reduce person-to-person contact. Soon, Kraków is likely to join the mentioned examples.

In general, the responses from the shared-mobility market are swift and dynamic. As is represented in the following fig.1, **29** companies out of **39** are still in operation. **4** companies were terminated (one postponed its launch) before the significant restrictions connected with the lockdown were put into order. **6** companies were terminated explicitly due to the coronavirus epidemic.

TERMINATED DUE TO COVID-19

- Hive (scooters-sharing)
- Geobuzz (scooters-sharing)
- EcoShare (scooters-sharing)
- eCar Tauron (car-sharing)
- Auto-hop (ride-hailing)
- Lime (scooters-sharing)

The primary reasons why those companies have to freeze the service operation is via decreasing ridership or to not contribute to the spread of the virus and exposing users to increase risks. Lime, one of the companies which pause it's operation once the COVID-19 had appeared in Poland, has already started with the limited operation (22.04.2020).

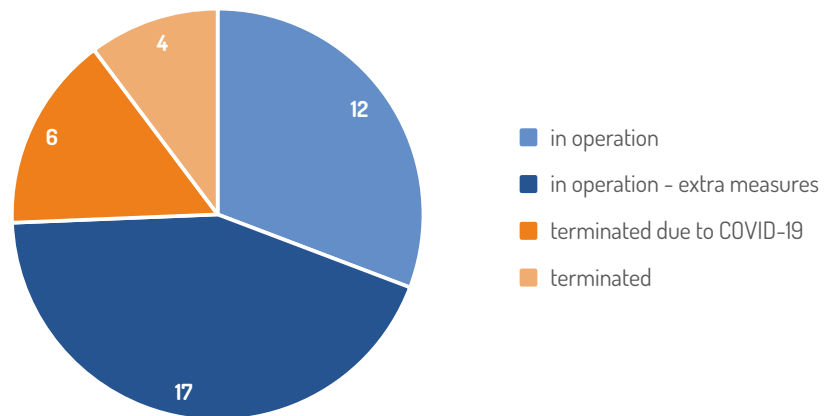


Fig. 2. Share-mobility providers, May 2020.

Source: Own elaboration.

We could see from the fig. 1, that **29** companies (30 with Lime) are still in operation with being the way of the COVID-19 response the dividing element. All the companies, which are now still offering their services, have started with adopting extra safety measures to limit the spread of the virus. Increased cleaning of the fleet and disinfection, installing shields in a car to separate drivers from riders and new safety instructions for drivers and users is currently the new standard.

Besides extra safety measures, **17** out of 30 providers of shared-mobility services have done some additional steps to keep their service running and at the same time also to provide help. Such extra measures could be divided into **1) on-demand help** and **2) system-wide solutions**.

1. **On-demand help** to support groups of people and institutions beind at the forefront in tackling pandemic and increase their mobility.

2. **System-wide solutions** are based on creating conditions/structures, which could benefit the whole society or the providers itself in the long-term horizon and are connected with the partial restructuring of the business itself.

Benefits for society means providing free or discounted passes for those who need private means of transport in helping initiatives (e.g. integrated help via #sharingiscaring initiative - Wheelmee³), continue to run business (e.g. restaurant), commute to work (e.g. medics). The main difference of those steps from on-demand help is the fact that in the case of system-wide solutions the shared-mobility services offer new “product” with targetting those, who are in need not only at the very moment but throughout the whole coronavirus epidemic. Such as restaurants, which now only depend on the delivery.

³ <http://sharingiscaring.pl> [30.04.2020].

Table 1. Shared-mobility providers, reactions.

IN OPERATION	SYSTEM-WIDE SOLUTION	ON-DEMAND SOLUTION	WITHOUT RESPONSE
Wheelmee (mobility agregator)	- Free integration of mobility-service providers - #sharingiscaring initiative (aim is to connect the volunteers with companies which offer help)		
Voom (mobility agregator)	- Free integration of mobility service-providers.		
Take&Drive (mobility agregator)			x
Mobilne Miasto	- Manifest for integration		
Panek (car-sharing)	- Helpsharing - bonus on carsharing account (up to 70zl) in case of volunteering - Enlarging the network - Discounted weekly rental packages		
Trafficar (car-sharing)	- Discounted rental for 24 h - Free transport for help (Kraków, Tri-city) - Shopping delivery (Warsaw) - traffishop		
MiiMoove (car-sharing)		providing free carsharing in Tri-city for charity, hospitals, volunteers	
Innogy go! (car-sharing)	- 14 days subscription for 3,40zl per day (like 20 minutes billet) for first 15 minutes of the use		
EasyShare (car-sharing)	- Free car-sharing for help initiatives - Discounts on long-term rent		
4mobility (car-sharing)	- Discounted weekly packet for rent	Help to volunteers	
GreenGoo (car-sharing)			x
CityBee (car-sharing)			x
Hop.city (empodes)	- Empodes for restaurants - Map in app with restaurant offering deliveries and pick-ups - To encourage users to order in restaurant by having 10 min of free ride after		
Blinke.city (escooters/empodes)	- Free pass for volunteers - Free pass for medics - Discounts for restaurant fo food delivery increasing amount of escooters in Warsaw - Not more than 49zl/day		
Lime	- 30 min. Free pass for medics and police		
Eroller (escooter)	- Enlarging the sharing zone (only Szczecin)		
naminuty.pl	- Offical parking spaces close to PT stops		
Bird (escooter)			x
Conaga (escooters)			x
Yumi.eco (escooters)			x
Voltscooters (escooters)			x
SlideScooters (escooters)			x
QuickApp (escooters)			x
Logosharing (escooters)			x
Hulaj (escooters)			x
Uber (ride-hailing)	- Paid break for drivers who has to be self-isolated		
Free Now (ride-hailing)	- Free pass for medics and workers form hospitals		
Bolt (ride-hailing + escooters)	- Free pass for hospital workers (escooters)		
iTaxi (ride-hailing)			x
Catch-me (ride-hailing)			x

Source: Own elaboration.

Benefits for the shared-mobility providers in terms of system-wide solutions results from the possible integration of the shared-mobility services (not only! – also public transport) into one platform. This is trying to do Voom and Wheelmee by providing the integration at their costs. Mobilne Miasto supports it with its manifest.

Other benefits are connected with possible increased visibility of the shared-mobility services and potentially also by attracting new passengers via discounts which many shared-mobility services are currently offering. This could, in the long-term perspective, create new mobility strategies of those, who have started to use the shared-mobility services due to COVID-19 consequences. To the system-wide solution also belongs the diversification of the shared-mobility service, as has been done by Trafficar recently. Trafficar, which operates in the field of car-sharing, has launched a new service – shopping delivery. This service is at the moment available in Warsaw.

MUNICIPALITIES ANALYSIS

In 21 municipalities, transport-related responses to COVID-19 situation were analysed. The measurement which municipalities have implemented is at the first place trying to limit the spread of the coronavirus and at the same time trying to provide at least basic transport service to accommodate the mobility needs of those, who can't stay at home. Also, the drastic cut-offs in public transport operation is a response to limited income from ticket revenue due to ridership decline. Municipalities are thus trying to find a compromise between keeping the town connected, but for a reasonable price.

In that order, during the last two weeks of March, all of the analysed cities except Olsztyn, switched to off-peak schedule (e.g. holidays, Saturday). Additionally, 13 towns (**Warszawa, Kraków, Katowice, Gdańsk, Poznań, Szczecin, Kielce, Toruń, Gorzów Wielkopolski, Zielona Góra, Rzeszów, Białystok, Lublin**) also reduced the number of line in operation.

Such a limitation of public transport operation resulted in increased risk of crowdedness during the peak hours, which is increasing the risk of spreading the coronavirus. As a reaction to that, public transport authorities have decided to put into operation high-capacity fleet (**Łódź, Katowice, Gdańsk, Szczecin, Toruń, Zielona Góra, Rzeszów, Białystok, Lublin**) or to increase the number or courses during the peak hours (**Warszawa, Kraków, Łódź, Katowice, Gdańsk, Wrocław, Szczecin, Kielce, Toruń, Gorzów Wielkopolski, Zielona Góra, Białystok**) to lower the risk of spreading the virus. Only in Łódź and Gorzów Wielkopolski, two additional lines were open to provide basic connection to main industrial areas. Kraków has opened public transport lines dedicated only to the medical stuff commuting to the hospitals.

Other measures which have been implemented are connected with a possibility to suspend or return pre-paid seasonal ticket to public transport. This is the case of **Warszawa, Kraków, Łódź, Katowice, Gdańsk, Poznań, Wrocław, Szczecin, Olsztyn, Kielce, Toruń, Rzeszów, Lublin**. The reasoning behind this step lies in the significantly limited operation of public transport.

In Wodzislaw is all the public transport from 30th of March, which is also working according to off-peak schedule, fare-free. This is also the case of town Brzesko, which have implemented the fare-free scheme due to COVID-19 on 17th of March.

As the government recommends to stay and work from home, if possible, or to use private transport to commute to work, parking fees in the paid zones are being terminated (**Kraków, Opole, Toruń, Zielona Góra, Rzeszów, Zakopane**). In the case of **Warsaw**, the free-parking is applied only to medical personnel.

Górnośląsko-Zagłębiowska Metropolia together in cooperation with Zarząd Transportu Metropolitalnego have created a mobile application for public transport. The app should help people to ease the orientation in current time-schedule and also to buy online the public transport ticket to lower the risk of spreading the coronavirus. Similarly, ZTM in Warsaw has started placing QR codes to display actual timetables for a given stop. **Kraków** is preparing to open new temporary bicycle lines (7 km) in the city centre. It is now the first town in Poland which is trying to address the problem of the limited width of pavements which makes it challenging to keep the safe distances and support cycling.

Table 2. Towns - reactions.

TOWN	REDUCING THE NUMBER OF COURSES (DATE IMPLEMENTATION)	SUSPENSION OF SELECTED LINES	INCREASE THE FREQUENCY OF SELECTED LINES/ MORE VEHICLES DURING PEAK HOURS	ADAPTING SCHEDULES TO LARGE COMPANIES	CONVERSION TO LARGER VEHICLES	POSSIBILITY TO SUSPEND/ RETURN A SEASON TICKET	RETURNS
Warszawa	x 23.03 (16.03 school buses)	x	x			x	
Kraków	x 16.03	x	x				x
Łódź	x 23.03		x	x	x	x	
Katowice	x 16.03	x	x		x		x
Gdańsk	x 15.03	x	x		x	x	
Poznań	x 12.03	x					x
Wrocław	x 16.03		x			x	x
Szczecin	x 16.03	x	x		x	x	
Opole	x 16.03						
Olsztyn						x	
Kielce	x 16.03	x	x				x
Bydgoszcz	x 16.03						
Toruń	x 20.03	x	x		x		x
Gorzów Wielkopolski	x 19.03	x	x	x			
Zielona Góra	x 16.03	x	x		x		
Rzeszów	x 23.03	x			x	x	
Białystok	x 16.03	x	x		x		
Lublin	x 18.03	x				x	
Zakopane	x 28.03						
Sopot	x 19.03						
Dąbrowa	x 23.03						

Source: Own elaboration.

CONCLUSIONS

The analysis has shown that users are not the only ones who are changing mobility strategies. The whole sector of mobility providers, such as various shared-mobility companies or traditional public transport, is now reshaping their business to respond to the current situation finding the right solution, how to accommodate new (non)mobility strategies.

Unfortunately, while public transport operators are providing only fundamental connections, shared-mobility services are quickly reorienting their business to fit into a new situation. Besides offering their fleet to solve ad-hoc problems, shared-mobility providers are implementing solutions, which in the long-term horizon might help the society to overcome struggles resulting from coronavirus epidemic and in the same time are also strategic for the development of the mobility-shared sector, for example the integration into MaaS (mobility as a Service). However at this place this paper has to mention, that even though there are attempts of public transport providers to address new trends in (non)mobility, such as a new app to buy a contactless ticket to public transport in case of Górnośląsko-Zagłębiowska Metropolia or placing QR codes to display an actual timetables for a given stop in Warsaw, those are likely to solve fundamental problems of public transport operators resulting from the ridership decrease.

We could see that the scale of immediate measures adopted as an ad-hoc or more advanced system-wide solutions covers only a limited part of the mobility sector. However, during the crisis, such measures might show us the trajectory of further development. It is a question, how and if the immediate actions addressing the safety, flexibility and real-time informational service will be transformed into the sustained effort and will accelerate the multimodal integration. Some steps pointing towards this direction has been already taken, but the transformation has just started.

What our analysis till this time did not show, is some strategic cooperation between public and private sphere in the field of mobility. Public transport providers and operators should now, instead of being in the defensive line, react quickly to not lose the train and follow the call for the integration of the mobility services.

What are we witnessing now, is the worsening situation of the accessibility and connectivity throughout our urbanities. The integrated system of mobility services could offer the users to get them every time from A to B, without focus what would be cheaper, or in today scenario, safer.

At this place, our analysis has to mention also the restriction of the bike-sharing services. It is not only an irrational step, but it also speaks of governments limited understanding of the bike-sharing service as a mean of recreation, not commuting. This supports the fact that the bike-sharing restriction was adopted together with restrictions to visit parks and waterfront promenades, which many bike lines go through. Anyway in the time of finishing this report,

the parks and riverside are already open, but bike-sharing systems remain closed. Instead of using the pandemic as a way how to support the micro-mobility solutions to travel safely on short distances, the car-dominated paradigm still prevails. Instead of prioritizing non-motorized transport and making space for the so much needed infrastructure for them, as is happening in cities like, Bogota, London, Berlin or Mexico City⁴, city representatives and bike-sharing companies in Poland have to follow governmental restrictions. Restrictions which are worsening the situation not only for those, who nowadays (might) commute on bikes but also for pedestrians who might rather walk through a green park, then next to the main road. Only Kraków has recently announced plans to open 7 km of new temporary bike-lines in the city centres to ease the cycling, commuting especially.

How the mobility patterns are going to look like in the future is not clear. Łukasz Franek, the director of the Zarządu Transportu Publicznego in Cracow, has said in the interview for smoglab.pl⁵, that he is not expecting a swift shift to the state before the lockdown. He has also expressed his concerns about future mobility preferences which might go in favour of cars. “We have to find a way how to ensure that people who have been using public transport so far do not switch to the car,” has Franek said at the end of the interview and suggests, the bike is the one possible solution.

If we want our future mobility system to be resilient to such an unprecedented situation, it is likely going to happen by providing only defensive measurements. If our goal is to move safely from one point to another, regardless of the transport mode, mobility integration into MaaS and support of multimodality might be the way to go.

The ongoing situation requires a coordinated response of private and public sector. Especially with shared-mobility service companies while they are using sophisticated systems to manage and quickly adjust their business to new situations. Sharing knowledge and data should be mutual for both the private and public sector. This will provide them with better orientation within the mobility patterns and thus might result in an innovative solution on how to provide essential mobility services in the future.

Will government and municipalities try to cooperate with private providers of mobility services differently, then in the form of regulations, as in the case of bike-sharing? This we don't know yet, but we will keep an eye on that.

⁴ <https://www.citylab.com/transportation/2020/04/coronavirus-city-street-public-transit-bike-lanes-covid-19/609190/> [30.04.2020].

⁵ <https://smoglab.pl/tramwaje-juz-nie-beda-jezdzic-co-5-minut-przez-pandemie-ciecia-w-komunikacji-i-wiekszy-smog> [30.04.2020].

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