

# **The effect of the pandemic on the mobility of persons with disabilities**

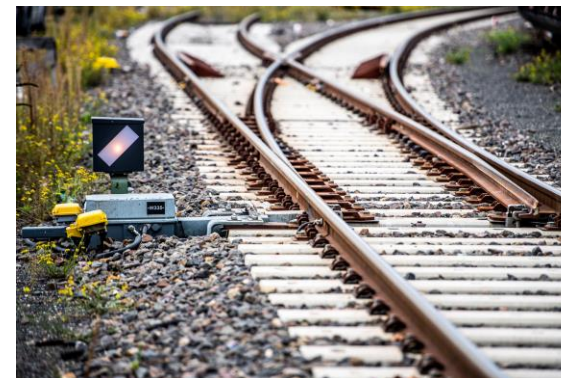
**Dr. Alexandra König**

**German Aerospace Center, Institute of Transport Systems**

# COVID-19 and the mobility of persons with disabilities

- As a cause of the COVID-19 pandemic, empirical studies revealed a substantial decline of mobility, in particular by means of public transport (Ref. 1-3)
- It is reasonable to argue that persons with disabilities experienced even more drastic consequences in their daily mobility.
- However, still little is known about the impact of the pandemic on the mobility of persons with disabilities (Ref. 4,5).

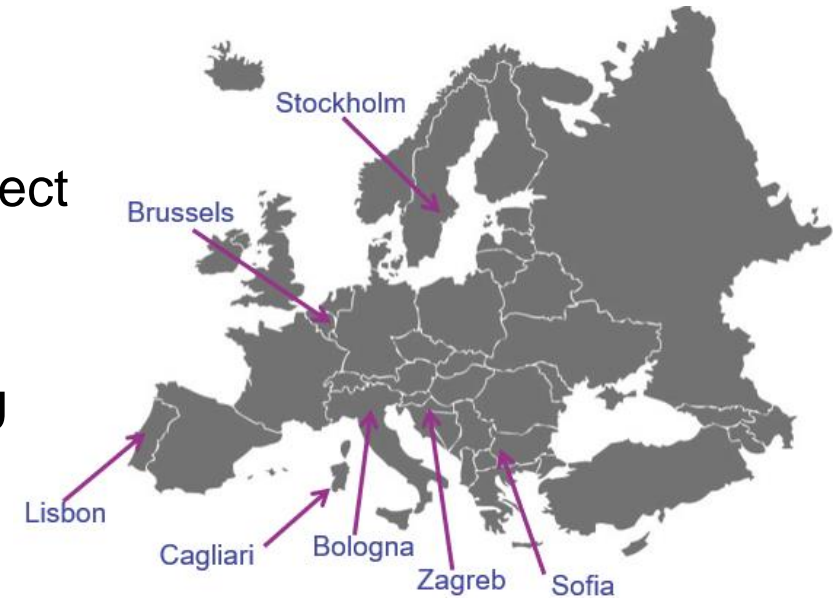
**How did persons with disabilities assess the effects of the pandemic on their travel behaviour?  
Are there any interpersonal differences of perceived effects?**



# The HORIZON2020 project *TRIPS*

- *TRIPS* stands for *TRansport Innovation for vulnerable-to-exclusion People needs Satisfaction*
- 10 partners and 7 European cities are engaged in the project
- Main objective: Engage disabled citizens and institutional actors in improving accessibility of transport
- The project was funded for 3 years (2020-2023) by the EU Horizon 2020

*TRIPS*



TU/e  
EINDHOVEN  
UNIVERSITY OF  
TECHNOLOGY



TRILATERAL  
RESEARCH



carris



TBRIDGE  
Management Consulting e ICT



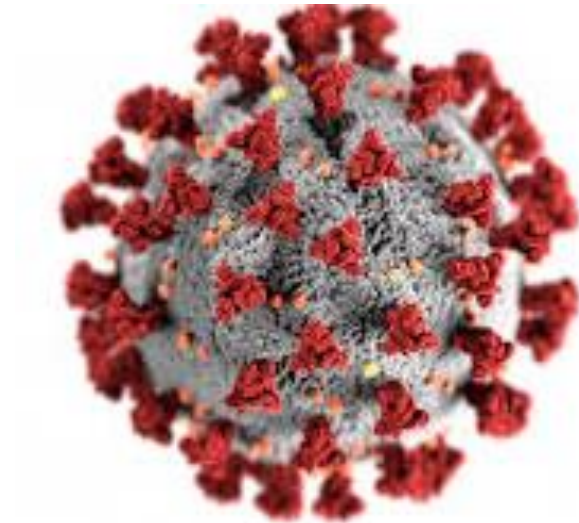
This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme Under Grant Agreement no. 875588

<https://trips-project.eu/>

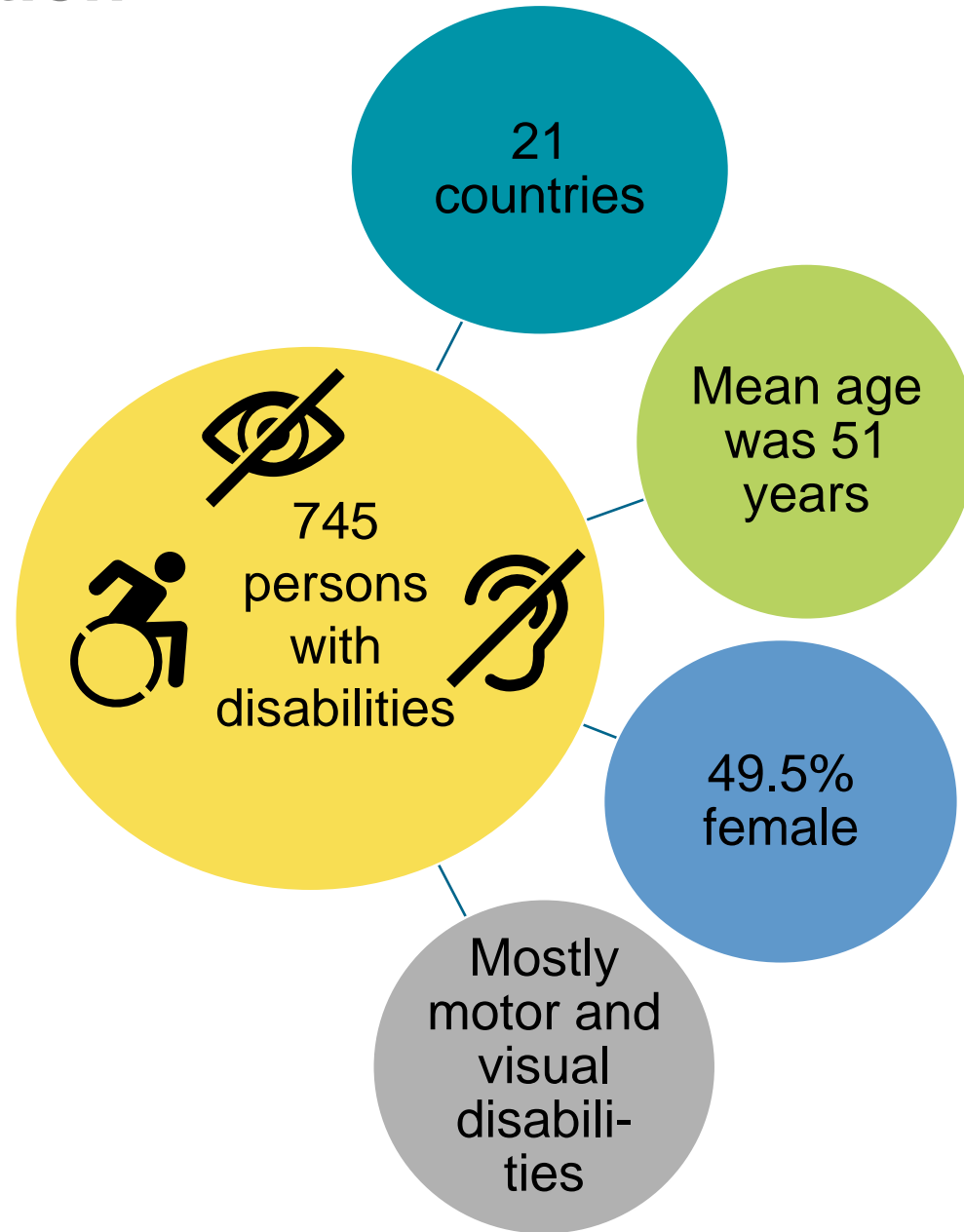
# Europe-wide survey

- Online survey among 745 persons with disabilities from 21 European countries at two points in time: winter of 2020/2021 and summer 2022

## Subjective effects of the pandemic



# Sample description



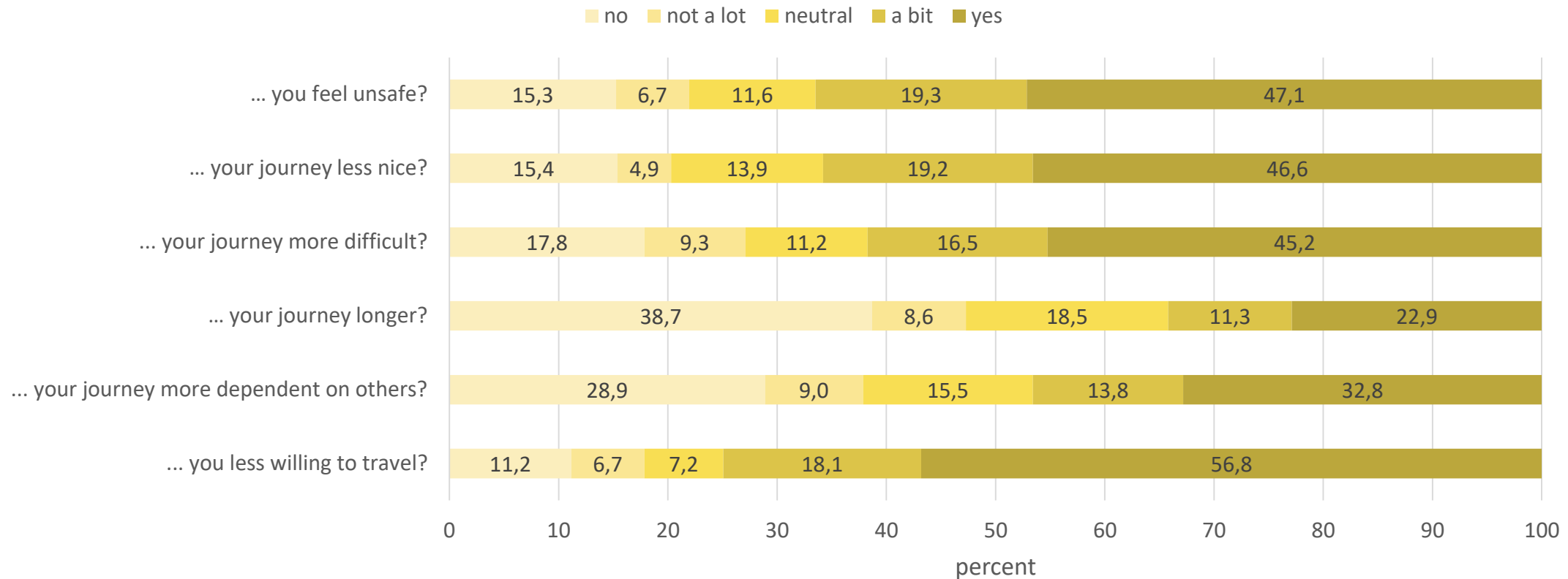
# Results

# Results

## Subjective effects of the pandemic on mobility behaviour



Perceived effects of the COVID-19 pandemic  
Did Corona make ...



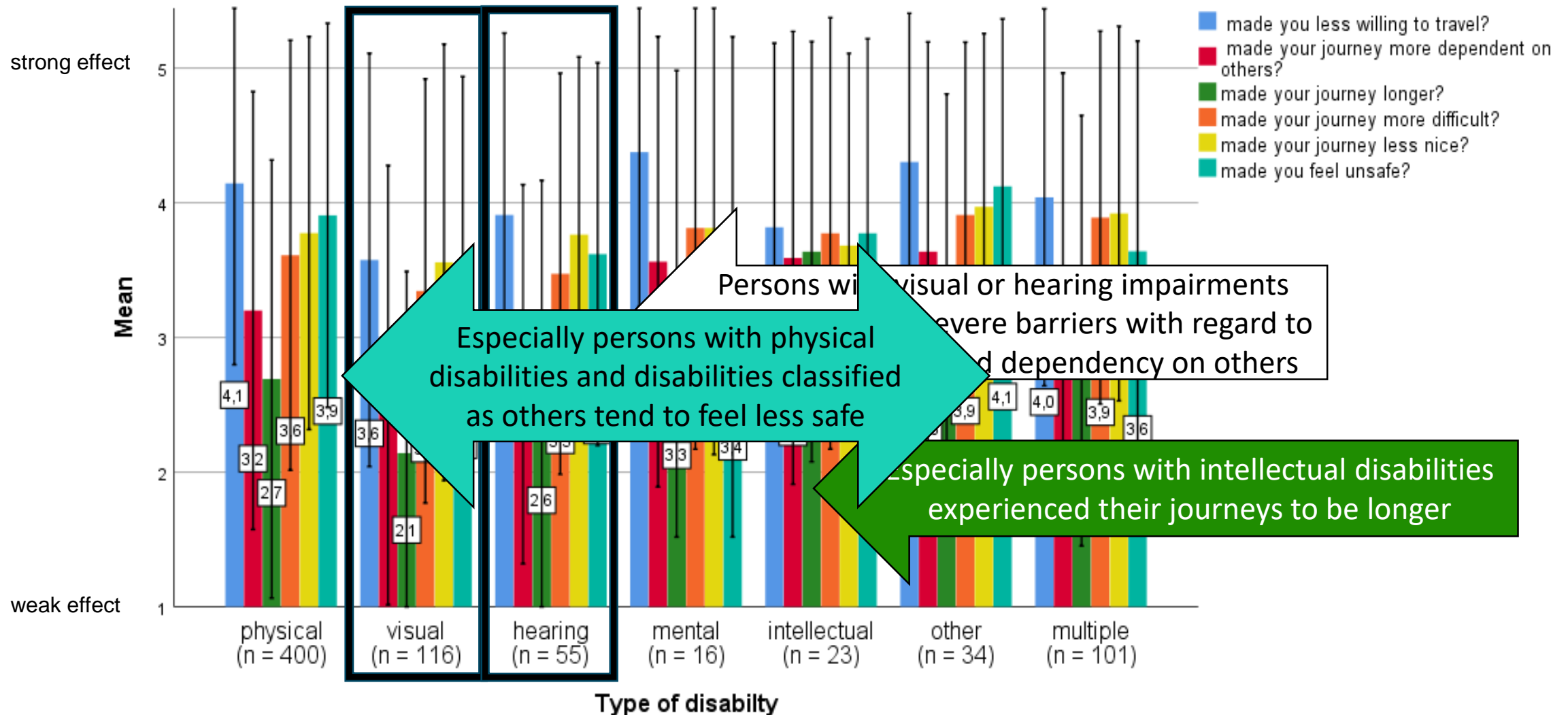
**Two out of three people declared that the pandemic made them feel unsafe and less willing to travel and their journeys less nice and more difficult**

# Results

## Inter-disability comparison



Perceived effects of the pandemic by type of disability





# Results

## Gender aspects



Aspects of Mobility Divide Index (MDI)	Male respondents (n = 359) Mean (SD)	Female respondents (n = 369) Mean (SD)	<i>T</i> (p)
Willingness to travel	3.92 (1.39)	4.13 (1.38)	2.022 (.044)*
Difficulty of traveling	3.61 (1.51)	3.64 (1.60)	.267 (.789)
Comfort	3.67 (1.48)	3.86 (1.47)	1.748 (.081)
Dependency on others	2.98 (1.61)	3.29 (1.66)	2.542 (.011)*
Length of journeys	2.67 (1.61)	2.78 (1.62)	.900 (.369)
Safety	3.59 (1.46)	3.94 (1.48)	3.163 (.002)*

**Female respondents tend to feel significantly less safe, more dependent on others and less willing to travel compared to men**

# Results

## Time-related effects



Aspects of Mobility	Winter 2020/2021 (n = 553)	Summer 2022 (n = 181)	<i>T</i> (p)
Willingness to travel	4.09 (1.34)	3.82 (1.49)	2.169 (.031)*
Difficulty of traveling	3.64 (1.56)	3.57 (1.53)	0.514 (.608)
Comfort	3.78 (1.47)	3.73 (1.44)	0.405 (.689)
Dependency on others	3.12 (1.63)	3.16 (1.66)	-0.314 (.754)
Length of journeys	2.65 (1.61)	2.91 (1.59)	-1.894 (.059)
Safety	3.78 (1.48)	3.72 (1.46)	0.428 (.669)

**People were significantly less willing to travel in winter 2020/2021 compared to summer 2022. People reported that the effect of the pandemic on the length of journey was stronger in summer 2022.**

# Discussion

# Learning from the pandemic and drawing conclusions



- It was shown that the pandemic made persons with disabilities less willing to travel and made their travelling more difficult, less safe and less comfortable. Thus the pandemic further aggravated inequalities in mobility.
- It needs to take extra effort to ensure that travelling for passengers with disabilities is not only accessible but also safe and comfortable even in the unexpected circumstances, such as a pandemic situation.
- Female gender was linked to the perception of stronger effects of the pandemic. Thus, the study findings suggest that pandemic-related supporting measures should address women in particular.
- Persons with mental health issues and or intellectual disabilities were underrepresented in this study. Further research should pay particular attention to these groups
- Policy and practitioners should develop measures to improve social inclusion and equity in transport by new service and vehicle concepts and social innovations.

# References



1. König, A., Dreßler, A. (2021). A mixed-methods analysis of mobility behavior changes in the COVID-19 era in a rural case study. *European Transport Research Review*, 13(1), 1-13.
2. Kolarova, V., Nobis, C., Nägele, S. (2022). Towards a resilient and attractive future public transport: Insights from a study on public transport usage patterns during the COVID-19 pandemic. *TRANSPORT RESEARCH ARENA (TRA) 2022*, 14.-17. Nov. 2022, Lisbon, Portugal.
3. Tiikkaja, H., Viri, R. (2021). The effects of COVID-19 epidemic on public transport ridership and frequencies. A case study from Tampere, Finland. *Transportation Research Interdisciplinary Perspectives*, 10, 100348
4. Palm, M., Allen, J., Liu, B., Zhang, Y., Widener, M., & Farber, S. Riders who avoided public transit during COVID-19: Personal burdens and implications for social equity. *Journal of the American Planning Association*, 87(4), 455-469 (2021).
5. Cochran, A. L. Impacts of COVID-19 on access to transportation for people with disabilities. *Transportation research interdisciplinary perspectives*, 8, 100263 (2020).

# Thank you for your interest.

Dr. Alexandra König

[alexandra.koenig@dlr.de](mailto:alexandra.koenig@dlr.de)



This project has received funding from the  
European Union's Horizon 2020 Research and Innovation Programme  
Under Grant Agreement no. 875588

<https://trips-project.eu/>

