Dear Andrea Araldo,

Thank you for your submission to the 11th hEART 2023 Symposium, scheduled to take place in Zürich, 6th to 8th September 2023. We have completed its review process, and below please find reviewers’ comments.

Based on the evaluations received, we are happy to inform you that your extended abstract entitled

“On the Computation of Accessibility Provided by Shared Mobility”

(Submission ID: 6772)

has been accepted to be presented at the conference!

We have received way more submissions than we can accommodate. This required us to be very selective, with only less than 50% of the short papers that can be presented, due to reasons of space and time allotted to each presentation.

So, congratulations, you made it!

Your next steps: please register to the conference by 01.07.2023 via

https://heart2023.org/ > registration

to be included in the program.

If you have any questions, please feel free to write to heart2023@ivt.baug.ethz.ch .

Kind regards,

Kay W. Axhausen, Francesco Corman, Michalis Makridis,

Institute for Transport Planning and systems, ETH Zürich

SUBMISSION: 6772

TITLE: On the Computation of Accessibility Provided by Shared Mobility

----------------------- REVIEW 1 ---------------------

SUBMISSION: 6772

TITLE: On the Computation of Accessibility Provided by Shared Mobility

AUTHORS: Severin Diepolder, Andrea Araldo, Tarek Chouaki, Santa Maiti, Sebastian Horl and Costantinos Antoniou

----------- Overall evaluation for Research Paper -----------

SCORE: 5 (strong accept)

----- TEXT:

The paper presents a novel approach to computing the accessibility provided by shared mobility services in combination with conventional public transport, based on observed trips. A rigorous methodology is presented. The topic is interesting, relevant and well within the scope of hEART.

The paper is overly long considering the hEART guidelines and contains many figures that are barely commented on in the text.

The proposed methodology first computes expected waiting and travel times for each zone centroid through spatial interpolation. Then the accessibility is computed for each centroid. It would be interesting to discuss this approach compared to computing the accessibility at the actual start location of each observed trip and then computing the accessibility at each centroid through interpolation.

----------------------- REVIEW 2 ---------------------

SUBMISSION: 6772

TITLE: On the Computation of Accessibility Provided by Shared Mobility

AUTHORS: Severin Diepolder, Andrea Araldo, Tarek Chouaki, Santa Maiti, Sebastian Horl and Costantinos Antoniou

----------- Overall evaluation for Research Paper -----------

SCORE: 5 (strong accept)

----- TEXT:

In this manuscript, the author present a method to assess how much shared mobility services (SMS) can improve access to public transportation. The topic is of great interest, and indeed the approach proposed by the authors can provide precise quantitative support to the general notion that SMS, can provide better access to PT though better first- and last-mile connectivity.

My only concern about the proposed methodology is perhaps one of semantics: it seems to me that the method can assess "access" to PT, rather than "accessibility". In other words, since the method relies on empirical data (either from real trips or simulation), the results are based on a realized instance of SMS trips. The "-ility" suffix makes me think more of, say, the maximum potential for improved access. Indeed, the authors use terms like "sociality score improvement" in describing the results.

Other than this, I think this is a very well written paper, on an important topic, and with a very solid technical contribution.

The fact that the proposed methodology is implemented on open-source code further enhances the potential impact of the work.

----------------------- REVIEW 3 ---------------------

SUBMISSION: 6772

TITLE: On the Computation of Accessibility Provided by Shared Mobility

AUTHORS: Severin Diepolder, Andrea Araldo, Tarek Chouaki, Santa Maiti, Sebastian Horl and Costantinos Antoniou

----------- Overall evaluation for Research Paper -----------

SCORE: 3 (accept)

----- TEXT:

This is an interesting paper and quite apt in the present time. The authors look at how shared mobility services (SMS) impact accessibility. Here are some comments.

Generally, the written structure of the paper is good. However, it was not quickly clear that the focus of the work was on building a network representation of SMS for intermodal PT in order to calculate PT accessibility when SMS acts as a feeder. Stating this early makes it easier to understand the methodology quickly.

A brief description of the MATSim simulation output would be useful.

It is not clear what informed the choice of a hexagonal grid size of 1 km, even though the authors referenced Badeanlou et. al. 2022. This is critical as the grid size affects the number of observations captured, which also influences the variances.

What does 2.4.28 from Cascetta (2009) mean in the discussion about headways?

Fig. 3 brings confusion as it gives the assumption that both simulation output and real-world data are combined, although the authors highlight that either one should be used.

I do not know how Fig 7 has a similar correlation to Fig 6, as explained by the authors, that wait times are correlated with the distances the same as travel times. Intuitively there should be little correlation between wait times and the distances travelled, which is clearly shown in Fig. 7

The authors need to pay attention to missing words in sentences and typos that make some sentences confusing. E.g.: Nahmias-Biran... \*calculate based\* accessibility form Autonomous Mobility...; the measures DRT trips toward/from all hubs...; seminariances; shoes; etc.

The references are not well written according to the standards