



# Building an Age-Friendly Public Transportation System in a Smart City

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## Abstract:

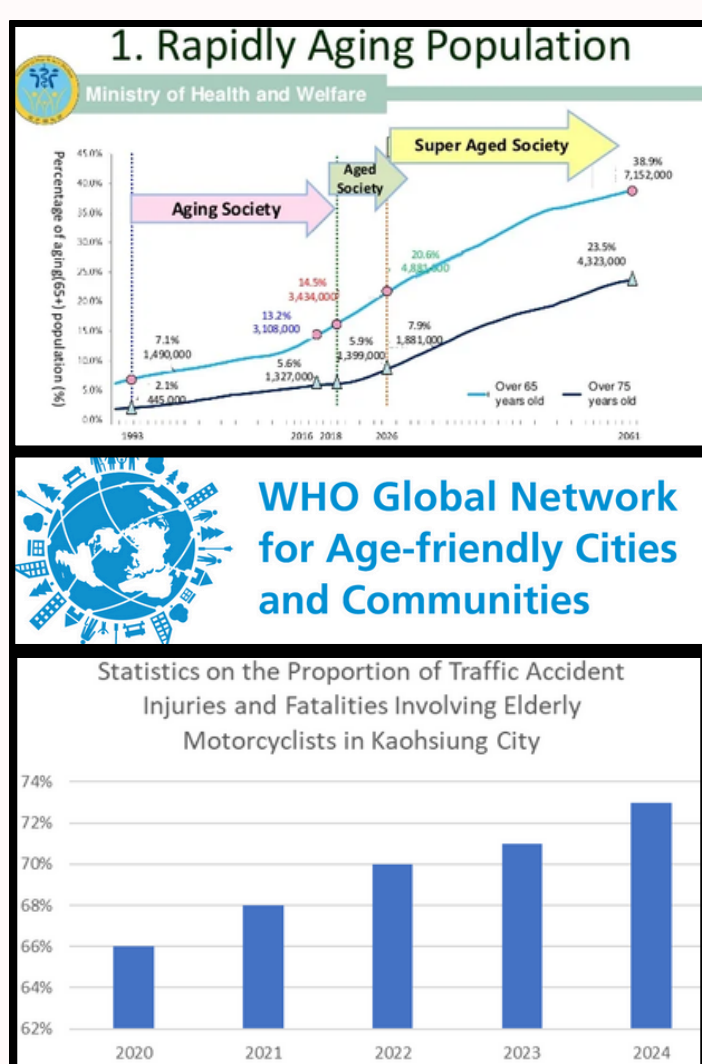
As Taiwan's aging population continues to grow at a rate exceeding the global average, it's crucial to foster inclusivity and ensure that the elderly can actively participate in society. While public transportation plays a key role in enabling this participation, the current system may not be fully accessible for older adults. Through fieldwork, including interviews and observations of elderly bus users, we identified areas for improvement. Our aim is to integrate "smart city" concepts into public transportation solutions, making the system more inclusive and better suited to the needs of the aging population.

## 1. Motivation

1).Statistic trend suggests that Taiwan will enter a super-aged society in 2025.

2).Transportation facilitates the social participation of elderly people.

3).The top two ways of transportation for the elderly are cars and public transportation.

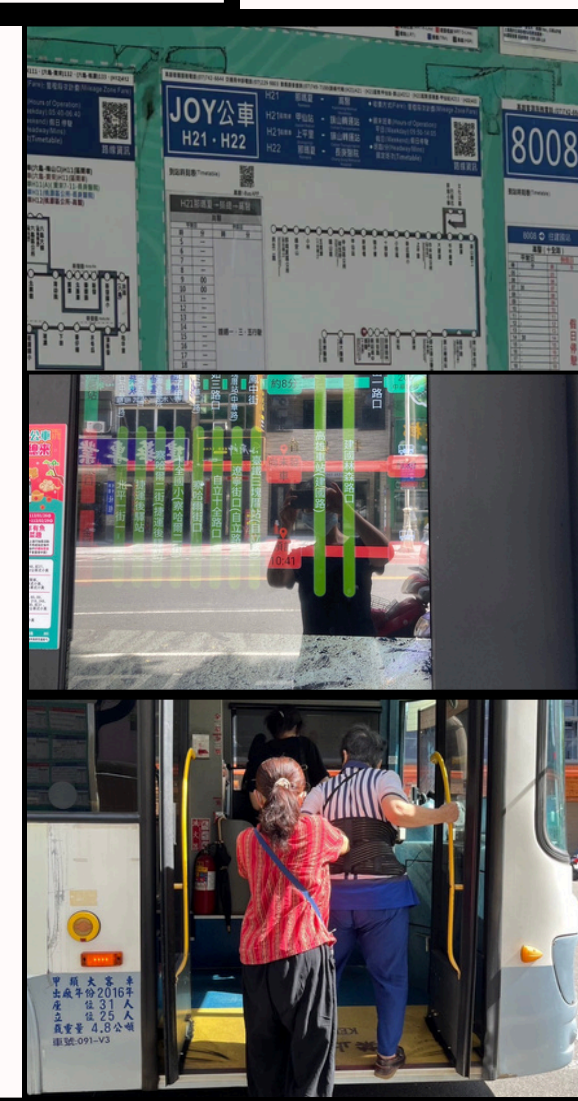


## 4.Result

1).Complex bus routes leads to lackluster information on upcoming buses.

2).Low accessibility environments and high reliance of on-site information a problem.

3).Access to services is heavily impacted by elders' health, causing inequality.



## 2.Purpose

1).Recognize the challenges that the elderly face.



2).Solving the problems with smart city concepts.

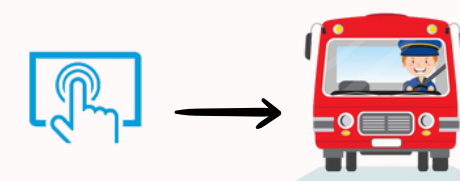


## 5.Solution

1).A smart wearable device with a built-in senior citizen card.



2).Install touch screen panel at bus stops.



3).Sensors at the bus stop detect a high traffic volume, the broadcast volume is automatically increased.



4).Integrate AI with the Internet of Vehicles (IoV) and human-car-road networks.



## 3.Method&Process

Research Background

Field Interview

Result Discussion

Solution Proposal

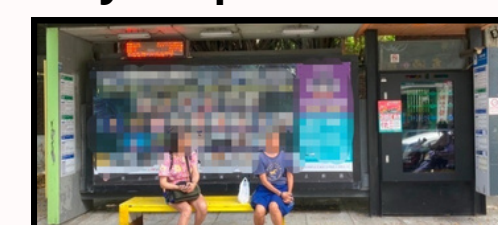
Interviewee Information  
Ages : 57~81  
Number of People : 8  
In-depth Interviews & Participant Observation



## 6.Conclusion

Public Transportation for Elderly People

- Safe
- Sustainable
- Efficient
- Accessible



## 7.References

Hounsell, N.B., Shrestha, B.P., McDonald, M., & Wong, A. (2016). Open data and the needs of older people for public transport information. *Transportation Research Procedia*, 14, 4334-4343

Mifsud, D., Attard, M., & Ison, S. (2017). To drive or to use the bus? An exploratory study of older people in Malta. *Journal of Transport Geography*, 64, 23-32.

Chen, S.-M. (2024, September). A legal analysis of public transportation services under the aging society. Wang, M.-H. (2020, March). New opportunities for elderly transportation services in a super-aged society: Current status and future of intelligent transportation systems. Rate of aging studied by R.O.C. Ministry of Health and Welfare <https://www.hpa.gov.tw/Pages/List.aspx?nodeid=108>

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<https://aliga.sk/en/what-the-heck-is-a-smart-city/>  
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