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**Conference Sub-theme** - **2.1 Urban, regional & rural transport**

***Investigate the rural***

***mobility and accessibility***

***challenges of Seniors.***

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# ABSTRACT

This paper investigates the rural mobility and accessibility challenges of a specific target group - Seniors. The target group is those over 66 years of age entitled to use the Public Transport Free Travel Scheme in rural Ireland. The paper explores at a high level some of the projected rural Public Transport challenges and requirements over the next twenty years, noting that statistical predictions show that there will be a significant population demographic shift. Ireland will experience a population demographic shift over the next twenty-five years.

In 2023, the Central Statistics Office (CSO, 2023) census confirmed that 806,300 people were aged 65 or over in the Republic of Ireland. The CSO forecasts there will be an astonishing 98% increase within the Senior's age profile, with this demographic projected to be 1.6 million by 2051 (CSO, 2023). Using the Political, Economic, Social, Technological, Environmental, and Legal factors (PESTEL) framework, the literature review explored existing research concerning mobility and accessibility challenges faced by Seniors. Twenty-seven qualitative, in-depth interviews with stakeholders within the ecosystem were undertaken. The stakeholders included rural Public Transport customers, Local-Link managers, National Transport Authority senior management, a Minister of State, and a European parliament policymaker.

To address the breadth and range of the research, the interviewees were subdivided into two stakeholder groupings, Tier 1 and Tier 2 Figure 1. Tier 1 interviewee feedback spotlights that the Public Transport network system does not exist for rural patients to access hospital facilities. There was no evidence from the Tier 2 research findings to show that health policymakers and transport planners are working to deliver a national transport solution to support Senior patients getting to and from hospital appointments. Several research interviewees discussed the theme of isolation and the perceived stigma of senior males utilising Public Transport. The findings indicated that Mobility as a Service (MaaS) is potentially revolutionary in the Public Transport arena to help address transport poverty in rural locations.

Finally, this paper suggests several short-, medium- and long-term recommendations based on the research findings. These recommendations are a potential springboard to ensure that rural PT is suitable for future Irish generations.

# INTRODUCTION

## **Introduction background**

Growing up and living in rural Ireland, surrounded by green fields, small villages, and working on the land, is viewed as having a very idyllic lifestyle. Seniors in rural Ireland depend on being very mobile in order to complete the basic daily chores. If access is reduced or removed, the daily tasks become very complicated, if not impossible, resulting in limited personal mobility. Walker defined 'personal mobility' as a 'degree of freedom,' this freedom results in 'ease of moving about' (Walker, J., 2012). Demographically, a fundamental change is taking place in society. The maturing sector of the population is statistically growing at a faster annual rate than ever before. This sector is dynamic, independent, and living longer; they are 'evolving as a major source of consumption, with extended periods of free time and a desire to travel' (Banister, D. & Bowling, A., 2004: 105-115).

## **Ageing population**

The Seniors demographic in Ireland will significantly increase over the next twenty years. There were 806,300 [Male 379,900 Female 426,400] over 65's in Ireland in 2023; by 2026, it will be 871,000, and by 2051, it will have reached 1.6 million people (CSO, 2023). The dramatic increase in the over 65’s in the Republic of Ireland will have short-, medium- and long-term implications for state and local authorities. The Central Statistics Office (CSO) figures help highlight the ageing profile demographic of the republic’s population. The over 65’s age group are the only demographic group to gain population share since 2016. The CSO has projected that the over 65’s population will ‘increase very significantly,’ using 2016 census figures of 630,000 as a baseline, the CSO estimates the over 65’s demographic to have a projected population of ‘1.6 million by 2051’ (CSO, 2023). It has been estimated that by 2026, 1.15 million people in Ireland will be aged 60 or over, as per Figure 1; this will represent ‘almost one out of every four people’ (Age Friendly Ireland, 2021).

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Figure 1: Life expectancy over the next 30 years (Age Friendly Ireland, 2021).

No other European country has ‘experienced a more unique, more traumatic population trajectory than Ireland’ (Burke-Kennedy, E. Irish Times, 2021). The Senior population increase can be attributed to ‘several factors, such as increased life expectancy and advances in health systems, public hygiene and sanitation’ (Serrano et al., 2014: 733). With the projected demographic shift in Irish Seniors over the medium term, rural public transport must be innovative to address the additional demand requirements. Those working and living in rural Ireland are more car-dependent than those in urban areas.

## **Seniors in rural Ireland**

The picture is very different for Seniors in rural Ireland without access to a car or PT. The practical impact of poor or no access can result in not having the independence to get to the local shop, collect the pension, get to the doctor for a general check-up, or collect a prescription on time (Maynooth University, 2008). This research will review the impact of rural transport on Seniors who live in rural areas. Preliminary interviews indicated that accessibility to the community is critical. If Seniors are not mobile or do not have access to PT options, the long-term impact can be very detrimental, potentially resulting in isolation and loneliness. 'Mobility does not always generate movement, but it does generate happiness' (Walker, J., 2012). In practical terms, poor accessibility can result in sections of the rural countryside not meeting or speaking to neighbours from one week to the next.

## **Free Travel Scheme**

This research paper will explore the mobility challenges and requirements of rural PT Free Travel Scheme users. Those entitled to the Free Travel Scheme card can avail of 'bus, rail and Dublin's LUAS with some exceptions' in the 28 counties free of charge (Citizens Information, 2023). For this research paper, it is proposed to refer to any person over sixty-six as a 'Senior.' Sixty-six is the legal age at which Irish residents qualify for the Free Travel Scheme. The Department of Social Protection manages the Free Travel Scheme. Everyone aged 66 and over, legally living permanently in the state, care assistants and spouses of cardholders are entitled to free travel (Citizens Information, 2023).

## **Research paper objectives**

This research paper explores whether the current system can cope with the increased demand and pending challenges. The primary objective was to investigate and address the accessibility issues experienced by Seniors looking to access the PT Free Travel Scheme in rural Ireland. The research paper explores actual and perceived PT mobility challenges among Seniors and solutions that might bridge any gaps. Those who live in rural areas need access to ‘health care, social activities and personal business to sustain their lives and community’ (Maynooth University, 2008: 19). The research will look at multiple factors which restrict or prevent Seniors from accessing the PT Free Travel Scheme. It will explore the dangers and risks to the well-being of Seniors when they become immobilised. The research paper will explore if a change needs to occur to address any potential accessibility challenges of rural users and explore technology opportunities to include 'user' technology supports and demand response transport options.

The five steps identified to deliver the research project's objectives are the following:

1. Carry out a literature review;

2. Define methodology;

3. Implement/carry out research;

4. Assess findings and provide discussion;

5. Provide conclusions.

# LITERATURE REVIEW

## **Goals of the literature review**

A key objective of this section was to investigate existing literature concerning rural mobility and accessibility challenges in the context of Seniors using PT. Related topics, up-to-date papers, peer-reviewed articles, and published transport-related journals were reviewed. The European Union and government-published reports also form part of the research literature review.

* 1. **Exploring existing research**

The literature review aims to explore existing research concerning accessibility challenges and opportunities faced by Seniors in rural Ireland, particularly regarding their use of PT.

The literature review explores:

1. The value and benefits of PT accessibility within a rural locality.
2. International best practice papers and journals highlighting and addressing rural PT accessibility issues.
3. Behavioural changes are required to address environmental challenges.
4. International technology solutions that support the needs and wants of PT rural users and the benefits of independent mobility to support active ageing.
5. The impact of the demographic shift on rural communities.

## **The motivation behind the research**

The motivation behind the research - a significant population shift will occur in Ireland over the next twenty years. The transport industry is evolving, and new technologies challenge how customers access and use PT in rural regions. The research investigated how other regions utilise technology solutions to address and solve mobility issues for older people. The investigated areas included Demand Responsive Transport (DRT) solutions and trip-sharing services. A review of published literature was undertaken. The researcher explored what is known about the topic area and determined other researchers' approaches. A literature review determined whether this research was 'exploratory' and could help 'advance what is already known about the topic' (Teherani et al., 2015: 669).

1. The literature review research findings were presented using the PESTEL framework.
2. This framework helped present the extensive literature review in a formalised way.
3. Topics reviewed included active ageing both in Ireland and mainland Europe. An extensive literature review was undertaken on transport economics, social change, and behavioural change interventions. Independent and global mobility for Seniors was also an area that was researched. Several international rural transport case studies were reviewed.
4. Extensive online research was done regarding technology. MaaS and the Internet of Things (IoT) were researched. A review of how these technologies could be leveraged to utilise existing state-owned assets was undertaken.
5. This research paper explored the National Transport Authority and the Local Link program. It reviewed the Green Deal 2050 and the impact of environmental change on PT.

## **Gaps found during the research literature review process**

When compiling the literature review, the researcher found three areas where gaps were identified were limited, or no information was available on the topic:

1. Transport-related papers found limited resources when addressing social problems like transport poverty and isolation.
2. There was little evidence to support the value and benefits of collaboration between different state organisations, such as transport access to hospitals and day-care centres.
3. The researcher found limited literature on the use of MaaS in rural locations.

## **Structure and approach - PESTEL analysis**

Using the PESTEL framework to structure literature review research, the researcher investigated the Political, Economic, Social, Technological, Environmental, and Legal factors (PESTEL) (Francis J. Aguilar, 1967) that influence Seniors accessing rural PT. The PESTEL framework process provides a practical approach to exploring the context of accessibility for Seniors in rural Ireland, areas of potential change such as population and technology. The literature review also looked at external and internal variables that could influence the research question. The literature review was strategically analysed and evaluated using the PESTEL framework in Figure 2.

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Figure 2: PESTEL framework (Corporate Finance Institute, 2021).

# METHODOLOGY

***3.1 Research methodology***

Strategy/research design - Qualitative research methods explored the barriers experienced by users of PT services in rural areas. Time has been spent analysing target audiences and reviewing population demographic shifts over the next twenty years. The methodology chosen for this research was based on using the funnelling process. The funnelling process helped 'frame' the research paper question (Burns, N., & Grove, S., 2007). Work experience and background reading have shown the researcher the importance of awareness of the needs and wants of end-users.

The researcher identified the following areas as primary areas to be investigated:

1. For this research paper, the researcher undertook primary qualitative interview research.
2. Due to the scale and complexity of stakeholders in the eco-system, the researcher created two interview stakeholder groups:
   1. **Tier 1**: Stakeholder collective group one was defined as Tier 1 Senior rural Local Link customers/users, rural accessibility wheelchair users, rural Local Link drivers and rural Local Link regional transport managers. People who need and use the services, people who need but can access services, drivers of vehicles who provide rural transport services and finally, rural transport office-based service providers. The demographic makeup of this Tier 1 group was two females and eight males.
   2. **Tier 2**: Stakeholder group two was defined as Tier 2. This research stakeholder group was focused on the creation and delivery of rural transport policy, international policy perspective, policymakers in the arena of the target group seniors and national and European rural transport policymakers. The demographic makeup of this Tier 2 group was two females and ten males.
3. Recorded interviews were completed with at least one member from each stakeholder subset Tier 1 and Tier 2. The interviewee subsets included PT rural Seniors, drivers, transport operators, rural transport policy stakeholders, non-transport stakeholders, an international transport advisor, national PT policy stakeholders - Minister of State, and European transport policy decision-makers - European Members of the European Parliament (MEP) policymaker.
4. From the primary qualitative research, PT users and drivers viewed isolation as a critical concern. The research did not find many published transport-related articles that addressed the impact of isolation on Seniors.
5. The findings indicated that MaaS was viewed as a potential transport influencer. However, many of the published articles on MasS were focused on urban areas. The findings show evidence that there is potential for further research to be undertaken and published to address the knowledge deficit to address demand-responsive trips and Rural Mobility as a Service (Rural-MaaS). These technology platform concepts show the potential to address rural PT requirements for Seniors in Ireland over the next twenty years.
6. The research process found limited published literature to address the topic of interconnecting state-run services. The research findings indicate that benefits and synergies can be gained by collaboration between different government departments.
7. The findings indicate a fantastic opportunity to do in-depth quantitative research on the Seniors demographic shift, population density, and national census trends. This quantitative research could help create primary data to support a much-needed overarching strategy for the next 20 years.

***3.2 Research philosophy – data collection***

Qualitative research was the primary research tool used to collect data when investigating this paper. Qualitative research ‘is a systematic inquiry into social phenomena' in naturalised settings (Neubauer et al., 2021). Qualitative research focuses on 'human experience through systematic and interactive approaches' (Neubauer et al., 2019). Qualitative research methods are used when 'little is known about the topic' and 'allows the researcher to explore meanings and interpretations of constructs rarely observed in quantitative research' (Neubauer et al., 2021). The preferred approach was that all interviews would have been face-to-face 'in natural settings' to help 'provide a context to observed phenomena' (Scharalda G. & Leonard J, 2010). Due to 2020 COVID-19 restrictions, research interviews were unable to be conducted face-to-face. The PT rural users' interviews focused on users' experience and the process undertaken to make a trip using PT. Interview responses were general and 'not specifically about facts and figures' (Greenhalgh, T, 1997). Qualitative research approaches are 'phenomenology, ethnography, and grounded theory' (Scharalda G. & Leonard J, 2010). The first stage of the qualitative research study identified a problem in the PT arena. The identified problem areas were then refined into a research question. 'Additional research questions' emerged from the researcher's literature review and stakeholder feedback (Scharalda G. & Leonard J, 2010). In the article 'Assessing the methodological quality of published papers', it was stated that 'qualitative research studies do not begin with a hypothesis'; however, 'some studies may result in the formation of hypotheses' which during the research process are 'tested using quantitative methods' (Greenhalgh, T, 1997). The research paper explored 'how individuals and groups behave, how organisations function, and how interactions shape users' experience of PT in a rural setting (Neubauer et al., 2021). The researcher was the 'primary data collector and used a qualitative research approach' (Roberts et al., 2019). The researcher used interviews to examine why certain actions occur when they happen and then interpret the impact, positive or negative when those events occur as planned. Qualitative interview research tools were used to investigate and explore the research question. Interviews focused on the elements and events that supported rural PT 'from the perspectives of those involved' in the process (Neubauer et al., 2021).

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Figure 3: Tier 1 and Tier 2 research interview stakeholders.

The researcher undertook interviews at each stakeholder level, as highlighted in Figure 3. By creating a user-first approach the stakeholder eco-system has been invert. By doing so, the inverted pyramid looks to place the rural transport user as the key stakeholder in the eco-system. The interview numbers may not be an exhaustive sample; however, the researcher believes that no stakeholder sub-set (users and influencers) in this eco-system was omitted from the interview process, as per Figure 4. A significant limiting challenge was affording time to find interviewees and transcribing recorded interviews.



Figure 4: Tier 1 & Tier 2 inverted stakeholder organisational eco-structure pyramid.

# RESULTS / FINDINGS

## **Interview research themes**

The research findings have been segmented into multiple themes. Each interview was transcribed and reviewed. Common themes were distilled and coded for the Tier 1 and Tier 2 stakeholders. The following Venn diagram Figure 5 highlights the most important research themes found during the thematical analysis phase. The findings explored first-hand interview references to support the primary research interview themes in greater detail.

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Figure 5: Venn diagram of research thematical findings.

The following section explores the thematical findings and looks to investigate the impact on key stakeholders.

## **Tier 1 interview research themes - Social isolation**

A recurring word that all Tier 1 interviewees repeated was the word isolation. The word isolation was not used in any of the interview questions. The researcher did not actively or purposely use the word to lead interviewees.

## **Tier 1 & Tier 2 Common theme**

The topic or theme common to Tier 1 and Tier 2 stakeholders was the lack of synergies, interaction and cooperation between state agencies. Local Link customers, Local Link drivers/managers, rural stakeholders, and politicians all referenced the need for greater organisational integration between state providers and policymakers at every level in the rural transport environment. They also referenced the need for better communications between hospitals and transport operators and the need to fix the gaps in the current system to make it work more efficiently. Tier 1 and Tier 2 interviewees frequently referenced the lack of integration between state organisations delivering the following services in rural Ireland: Health, Education and Transport.

## **Lack of synergies - Connecting state-run services**

Linking up different state-run systems could potentially bridge the current gaps, and a degree of retrofitting may be required to resolve these physical issues 'the services are not necessarily built in the locations with the thought of older people accessing them' (Graham, 2021). O'Mahoney discussed the potential of linking up hospital appointments and transport offerings. The concept is that if you opted into a medical appointment, then transport to the hospital could be offered. This collaborative thinking could potentially help bridge GDPR compliance. When accepting your hospital appointment, you could also be 'automatically offered a public transport trip' (O’Mahoney, 2021). This offering could reduce/limit the current problems faced by rural outpatient customers.

Cuffe felt that 'traditionally' local authorities viewed themselves as 'road providers'. However, in the future, he felt that there would be a 'big shift from the provision of infrastructure' for local authorities in rural Ireland (Cuffe, 2021). Concerning rural Ireland, he felt that local authorities would like to be responsible for the 'provision and management of certain collective transport solutions' (Cuffe, 2021). With collective interagency co-operation, solutions can be worked out, 'we can use GDPR as an excuse for lots of things, it needs people just to sit down in a room and come up with a process to make it work' (O’Mahoney, 2021).

Clark discussed the idea of leveraging the transport fleet. He felt that a system where the reasons for travel with the method and mode of travel could be combined. He felt that it could maximise and make the 'best use of the capacity’ in the transport system (Clark, 2021). This approach could potentially 'expand across health services, school transport' and 'special educational needs' (Clark, 2021). McWeeney spoke about linking up interagency services and a need to ‘bridge the gap’ (McWeeney, 2021).

Sheehan spoke about 'co-operation' and 'collaboration with other government departments to provide a much better service' for society and not just focused on transport services (Sheehan, 2021). A stark comment from one of the stakeholders in the transport industry stated that rural public transport 'is missing part of the spider's web, it is all the small little connections,' - 'it is joined-up thinking, linking all the state investments' (O’Mahoney, 2021).

## **The current PT system is failing rural Tier 1 users**

Access to transport for hospital appointments impacts Seniors. When looking to get access to a hospital appointment, Evie X claimed that there was ‘no joined-up thinking to get them there on time (for) their appointments’ (Evie-X., 2021). Dan X spoke strongly and in a cross tone that transport issues do not seem to be addressed, ‘I went for six months of chemo, that is 22 (appointments) - the hospital sent a volunteer driver’(Dan-X., 2021). He claimed that he could not afford private transport and that there was no public transport available to the hospital. Cuffe discussed inter-agency coordination, and he felt that it is 'very difficult to deliver (we need) joined-up thinking because typically, it is three different government departments, education, health, and transport' (Cuffe, 2021). He felt that 'there must be synergies' that need to be looked at to help sort the 'big picture' regarding addressing and solving rural needs in the future (Cuffe, 2021). ‘Public transport is the only option they have to get to a hospital’ (Donohoe, 2021).

Integration was a strong recurring theme from Tier 1 and Tier 2 stakeholder groups. Many small things need to improve to provide the framework which 'provides a system that works' for those living in rural 'communities' (Graham, 2021). Any new rural transport network needs to get people to the places they want to go to, and all this needs to be done in a reasonable period of time.

Independent mobility was viewed as a critical component of a strong, vibrant rural community. The value of the transport services to move around the community was viewed as very important to the quality of life of Seniors as they ‘need to be able to interact’(Creegan, 2021)**.** Working to solve and resolve the many gaps in the system is an ongoing, long-term project. To address the requirements of rural Seniors will take time and collaboration by many state organisations. A focus on health and health-related transport services for Seniors was highlighted. Access for Seniors ‘to hospitals is key, to day-care centres, access to those kinds of services, dental, GP, all those kind of supports and service on the health side is probably really key’ (Graham, 2021). A very honest comment from one public transport user was, ‘we kind of need to go with fixing a lot of the accessibility issues; there is really no joined-up thinking’ (Evie-X., 2021).

## **Discussion of research findings**

The research findings indicate that health policy creates urban centres of excellence, staffed to provide a best-in-class medical system. However, the Tier 1 interviewee feedback spotlights that the PT network system does not exist for rural patients to access these urban-based hospitals. There was no evidence from the Tier 2 research findings to show that health policymakers and transport planners are working to deliver a national transport solution to support patients getting access to hospital appointments. Major strategic decisions need to be made regarding building a sustainable rural PT network to address access for Seniors to hospitals, day-care centres, and even step-down nursing homes.

The research findings uncovered the real and perceived barriers that Seniors in rural Ireland experience when accessing PT. Several research interviewees discussed the phenomenon of resistance and the perceived stigma of senior males using rural PT. Seniors living in rural Ireland have become car-dependent. Access to PT is critical for those without a car or for those who can no longer drive due to medical reasons.

The findings confirmed the potential value that can be gained to a rural population by creating a rural transport network linking every small village and rural community.

1. A key research finding was that behavioural change and lifestyle initiatives are needed to help inform and educate Seniors to help reduce short-car trip dependency.
2. A key finding was the requirement to deliver new transport products and services for Seniors in rural areas. Examples are services to regional hospitals and day-care centres.
3. The research indicated the importance of delivering the mobility services and trip destinations that Seniors need and want when using the Free Travel Scheme.

There were some boundary restraints. The researcher would have liked to have completed focus groups. However, due to 2020/1 Covid-19 restrictions, this was not possible.

## **The new old - who are they and what they want and need – Seniors**

Several stakeholders had interesting views on the new-old and those entering this demographic. Tier 2 stakeholders spoke about the new old - who they are and what they want and need. When discussing the growth in the Seniors demographic, O’Mahoney felt that ‘our (Bus Éireann) newer customer database will be much more tech-savvy’ (O’Mahoney, 2021). He felt that ‘the rural over 65’s will be an evolving market.’ ‘The way things will be delivered will be different,’ and the type of products delivered by rural transport services will need to change (O’Mahoney, 2021). How Seniors use transport will possibly also change. ‘Their use of public transport would be to get them from point A to point B, rather than being a social interaction’ (O’Mahoney, 2021). To deliver the products and services to Seniors, he felt that the system needed to ‘adapt’ due to ‘changing patterns or changing travel needs’ (O’Mahoney, 2021). Due to external factors, it is possible that the current system needs to be re-planned, re-designed and changed for the better to meet the needs of rural Seniors ‘life has changed completely’ (Creegan, 2021).

## **Recommendations fall into three-time frame categories**

The recommendations fall into three-time frame categories: short, medium, and long-term. All concepts in the recommendations section are distilled ideas that have been evidence-driven. These ideas have been informed during the literature review, primary qualitative research, and reflection during the research process. The recommendations are the researcher’s ideas to address current, medium and potentially long-term deficits. These recommendations look to address the explosion of numbers of seniors in rural Ireland looking to access free public transport over the next twenty years.

## **Short-term recommendations**

***Recommendation 1***

To deploy a national rural real-time passenger information (RTPI) system for all Local Link services. A rural RTPI Global Positioning System (GPS) offering for all Local Link public services would improve confidence in arrival and departing times for Senior users. This national rural RTPI product offering would build peace of mind for all Seniors looking to use Local Link services.

***Recommendation 2***

To pilot a range of people-carriers or small accessible vehicles within the Local Link fleet. The findings indicated accessibility issues and concerns about the size of the Mercedes Sprinter. The pilot should only be run using electric vehicles. The pilot Electrical Vehicles (EV) fleet should be tested for its suitability to address the first and last five kilometres' challenges and trialling access points to the new Connecting Ireland network. This pilot project would strive to deliver pockets of sustainability to the Local Link national service.

***Recommendation 3***

To create a year-round advertising promotional campaign. Design local-based campaigns which could leverage local radio and regional press. A promotional campaign should highlight how to access the Local Link service and where and when they run. Seasonal campaigns should promote the runtimes of Local Link services in each local area.

***Recommendation 4***

To create branded marketing material to promote pickup and drop-off zones for Local Link service locations. This physical bus stop infrastructure Local Link branding should be rolled out across the country. The Local Link branding needs to be visually identifiable throughout the country. This identity project will help promote confidence and build brand awareness across the marketplace.

***Recommendation 5***

To review entry criteria to access the Free Travel System for those who need free transport but are under 66. It is evident that some people fall between the cracks and may need the Travel Pass before 66 in certain circumstances to address transport poverty.

***Recommendation 6***

The final short-term recommendation would be to engage with the Citizen's Assembly network. This process would review how people live in rural Ireland, what they do, where they go and how they use rural PT to access services. The main objective should be to unearth the primary reasons that block the delivery of independent mobility in rural Ireland. This public process could potentially unlock and be transformative across many interlocking state organisations, not just the transport arena. The solutions-based process should look to roll out pilot test projects. Each solution needs to be scalable.

## **Medium-term recommendations**

***Recommendation 7***

The first medium-term recommendation looks at how the NTA could research and build a procurement tender to deliver a centralised national Local Link booking system. The centralised national booking system should be managed and financed by the NTA. A centralised system should manage each Local Link booking. A back-office prediction generator would potentially decide the most suitable vehicle type for each group or individual booking.

***Recommendation 8***

Pilot options of a new Local Link vehicle type similar to the BRUCK (hmdb.org, 2024). This multi-service vehicle would blend seat types for children and Seniors. The service could potentially support trips for schoolchildren in the morning and afternoon, trips for Seniors and the delivery of small medical prescriptions throughout the day and finally, general trips for locals after dark.

***Recommendation 9***

Recommends a Business Intelligence (BI) gathering process that looks to collect quantitative research data. The research needs to track the travel patterns of Seniors who are independently mobile and support a healthy lifestyle. The data needs to map the active ageing population of the state. This data must inform and support the NTA strategy to deliver evidence-driven solutions for the next 10-15 years.

## **Long term recommendations**

***Recommendation 10***

A flexible and dynamic public-private model will build a long-term public-private procurement strategy. The blended model would strive to deliver defined outputs in a commercial platform partnership in rural areas.

Two key deliverables would include the following:

* Options to address a private hackney solution for hard-to-reach first-and-last One2Five KM rural trips.
* Build a centralised customer experience entry point system. This system could operate the following platforms - contact centre, multi-platform Smartphone App and web-based platform.

***Recommendation 11***

Significant changes will need to occur to the Local Link transport fleet. These changes need to deliver a good quality, sustainable fit for purpose transport fleet. The NTA needs to set up a programme to migrate from the diesel-powered Mercedes Sprinter vehicle to a more environmentally friendly solution of mixed-use EVs.

***Recommendation 12***

It is advised that the option to create a Rural-MaaS platform technical ecosystem should be looked at in the long term. Rural-MaaS could potentially deliver information to customers to help them access rural PT services.

In conjunction with the Rural-MasS project, autonomous EVs should also be piloted in remote locations. This project could help promote accessibility and remove car dependency for Seniors in hard-to-reach locations.

***Recommendation 13***

The final long-term recommendation looks to a far more long-reaching subject of sustainable living. A national review needs to integrate more accessible services into rural villages by fostering public participation.

This environmentally sustainable research project needs to look at ways to promote how Seniors live independently in age-friendly villages and rural settlements. The project would need to investigate options to restructure our state services. Investigate systems that could deliver mobile services to rural villages and towns.

The final objective would restructure institutional systems to reduce or limit the number of trips required to access hospitals and day-care centres.

# CONCLUSION

In conclusion, this research paper investigates Seniors' rural mobility and accessibility challenges using the Free Travel Scheme. The research objectives are to explore the rural PT system and how it delivers services to Seniors living in rural Ireland. The findings and recommendations looked to PT interventions to address transport poverty and isolation in rural Ireland. The research findings show a lack of communication between those in state offices setting health policy and those setting and implementing transport policy for rural Ireland. The research paper reviews how the rural transport system might manage and address the demographic shift of Seniors living in Ireland over the next two decades.

***Parting glass, a quote from the wise…***

'In a world where we can expect to see more and more people leading significantly longer lives, innovative and creative thought around the ageing process will become increasingly important' (President Higgins-TILDA, 2016).

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**Declarations** - Author's declaration

*'*Declaration of Ownership: I declare that the attached work is entirely my own and that all sources have been acknowledged' (TU Dublin, 2021):

Signed

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