Mobility impairments among the elderly in rural areas of Germany
Flemming Giesel
Institute of Transport Research
German Aerospace Center (DLR)

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Outline

1. Demographic change in Germany
2. Mobility of the elderly in rural areas
3. Methods
4. Results
5. Conclusion
1. Demographic change in Germany

Decreasing population
82m in 2008 $\rightarrow$ 70m in 2060

Ageing society
65 years and older:
20% (16m) in 2008 $\rightarrow$ 34% (24m) in 2060

80 years and older:
5% (4m) in 2008 $\rightarrow$ 14% (10m) in 2060

Source: Destatis 2009
1. Demographic change in Germany

- Especially rural areas are affected by ageing populations and population decrease.

Source: BBR 2006
2. Mobility of the elderly in rural areas

• Mobility is central to quality of life, subjective well-being and maintaining independence in particular for elderly people (Banister & Bowling 2004; Lehr 2008)

• Due to the higher distances and smaller range of transport options compared to urban areas, it is also more difficult to alleviate mobility impairments in rural areas

• But within German transport research little is known about the travel behaviour of elderly people in rural areas (infas & DLR 2010; BMVBS 2012)
3. Methods

Main research questions

1. To what extent are elderly people mobile in rural areas?

2. How does travel behaviour differ according to age, gender and mobility impairments?

3. Which sociodemographic and spatial-structure factors can be seen to influence mobility?
3. Methods

Data background „Mobility in Germany 2008“ (MID 2008)

• Nation-wide survey; funded by the Federal Ministry of Transport, Building and Urban Affairs

• Daily mobility patterns of 60,000 people on 25,000 German households

• Spatial focus: rural areas with a density under 150 inhabitants/km²
3. Main Findings
Mobility rate in rural areas (Source: MiD 2008)

- Men, Age 65-74: 79%
- Women, Age 65-74: 91%
- Men, Age 75+: 83%
- Women, Age 75+: 85%
3. Main Findings
Car availability rate in rural areas (Source: MiD 2008)

<table>
<thead>
<tr>
<th>Group</th>
<th>Mobility Impaired</th>
<th>Not Mobility Impaired</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>83</td>
<td>95</td>
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<tr>
<td>Women</td>
<td>63</td>
<td>80</td>
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<tr>
<td>Men</td>
<td>80</td>
<td>85</td>
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<tr>
<td>Women</td>
<td>37</td>
<td>53</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Men</th>
<th>Women</th>
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</thead>
<tbody>
<tr>
<td>Age 65-74</td>
<td>151</td>
<td>706</td>
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<tr>
<td>Age 75+</td>
<td>89</td>
<td>176</td>
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<tr>
<td></td>
<td>99</td>
<td>159</td>
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</tbody>
</table>
3. Main Findings
Modal split in rural areas (Source: MiD 2008)

![Bar chart showing modal split in rural areas]
3. Main Findings
Factors influencing the mobility rate of older women (65+) in rural areas (Source: MiD 2008)

<table>
<thead>
<tr>
<th>Reference category</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
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</thead>
<tbody>
<tr>
<td>Age (65+)</td>
<td>-.041</td>
<td>.013</td>
<td>10.112</td>
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<td>.001</td>
<td>.960</td>
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<td>Access to car (yes/no)</td>
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<tr>
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<td>.363</td>
<td>8.714</td>
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<td>.003</td>
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<td>Weather (dry/wet)</td>
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<tr>
<td>wet</td>
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<td>.188</td>
<td>12.917</td>
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<td>.000</td>
<td>1.963</td>
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<tr>
<td>Shops reachable on foot (good/bad)</td>
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<tr>
<td>bad</td>
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<td>.181</td>
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<td>.000</td>
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<td>1.008</td>
<td>5.326</td>
<td>1</td>
<td>.021</td>
<td>10.247</td>
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</tbody>
</table>

B = logit-coefficient; S.E. = standard error; Wald = Wald-test statistic; df = degrees of freedom; Sig = significance level; Exp(B) = effect coefficient

n = 1,020; 0.146 McFadden’s pseudo R-squared
4. Conclusion

- The mobility of the elderly in rural areas differs according to age, gender and mobility impairments

- Woman in older age (75+) made a trip outside of the house and had access to a car less frequently than men; these parameters are also lower when mobility is physically impaired

- Elderly women’s mobility depends to a great extent on the availability of a car

- Socially disadvantaged elderly women in monofunctional residential environments are thus dependent on support in their mobility
4. Conclusion

• It’s essential to support the mobility of the elderly (in particular elderly woman) in rural areas as much as possible

• Possible measures:
  ➢ Health promotion
  ➢ Senior-friendly local public transport
  ➢ Introduction of alternative service concepts
  ➢ Measures of transport safety
Contact

Flemming Giesel
German Aerospace Center (DLR)
Institute of Transport Research
Rutherfordstraße 2
12489 Berlin

Tel.: +49-30-67055-238
Mail: flemming.giesel@dlr.de