Will we travel less after the pandemic?

Chapter in ESO-antologi: I en tid av pandemi
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Will we travel less after the pandemic?

- Transport reduction during the pandemic
- Has forced increased “digital maturity”
  - New and improved digital services; more have discovered them and learnt to use them
  - Individual and organizational levels
- Habits

- Will the transport reduction last?
- Contribution to solving e.g. climate, congestion, …?
Part 1: Transport during the pandemic
Vehicle movements
Freight transport

- Road and rail: minor changes
- Sea: 10-20% fewer arriving vessels
Passenger transport

• Overall: 10-15% fewer trips (variation over the year). School trips almost halved.
• Road:
  – 75-80% of passenger km:s, majority is shopping, service, leisure
  – ~15% less from November (more in spring 2020)
  – Smaller decrease on local roads and within cities, larger on national roads
• Regional public transport
  – 10-15% of passenger km:s; majority is commuting/school
  – ~50% decrease
• Commercial railway
  – 5% of passenger km:s, majority is bsn, leisure
  – >50% decrease
• Air
  – 3% of passenger km:s, majority is bsn, leisure
  – >90% decrease
Part 2: Travel after the pandemic?
Will we travel less?

Recurring expectations:

• Improved (non-physical) communication will reduce total travel time and distance
  – Telegraph, telephone, radio, tv, mainframe computers, telefax, internet, smartphones, …

• Faster transport will reduce total travel time
  – Steam engines, railways, bicycles, cars, airplanes, high-speed trains, …

• Urbanization will reduce total travel times and distances
Total travel distance per person 1800-1990

\[ \log \text{mobility} = -32.286 + 0.01702 \text{ year} \]
\[ (t\text{-value}) = 129.28 \]
\[ R^2 = 0.992 \quad n = 140 \]
Total travel distance per person, Sweden 1950-2019
Urbanization in Sweden 1950-2020

<table>
<thead>
<tr>
<th>Year</th>
<th>Metropol. areas</th>
<th>Large cities</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>30%</td>
<td>35%</td>
<td>40%</td>
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<tr>
<td>1960</td>
<td>32%</td>
<td>34%</td>
<td>38%</td>
</tr>
<tr>
<td>1970</td>
<td>34%</td>
<td>33%</td>
<td>36%</td>
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<td>1980</td>
<td>36%</td>
<td>32%</td>
<td>34%</td>
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<tr>
<td>1990</td>
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<td>31%</td>
<td>32%</td>
</tr>
<tr>
<td>2000</td>
<td>40%</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>2010</td>
<td>42%</td>
<td>29%</td>
<td>28%</td>
</tr>
<tr>
<td>2020</td>
<td>44%</td>
<td>28%</td>
<td>26%</td>
</tr>
</tbody>
</table>
Differences in total trip lengths

- Average total trip length 40 km per person per day in most municipality types
- Exception 1: metropolitan cores 32 km
- Exception 2: Satellite municipalities 47 km
- Rural residents travel ~50% longer than city/town residents
“Constant travel time budget” (UK 1970-2020)
Sweden 1978-2019
Why do we travel more and more?

• Potential time savings (from higher speeds and improved communication) have been entirely traded for more access
  – Potential time savings are not “wasted” or “pointless”

• Enables specialization of labour, lifestyles and production
  – Hallmark of modern societies
  – Increases economic growth, productivity, employment, subjective quality of life, innovation etc.
  – Organizations are more dispersed – access to specialized competence

• Increased access through longer trip distances or denser locations
  – Latter drives urbanization

• Increased speed traded for “more space” (dispersed location), and hence indirectly for longer total trip distance
Changed habits?

• While *individuals* are often habit-driven, *transport flows* are less so.

• Transport flows vary little day by day and year by year (few percent) – but consist of different travellers.
  – E.g. less than 25% of traffic across Stockholm are "habitual drivers"
  – Each year 15% move, 20% change jobs.

• Constancy of transport flows seem to be caused by *structural* factors, not (primarily) habits.

• Exceptions:
  – Trial transit cars; Stockholm charges; hysteresis in fuel price effects; …
Conclusions

- Increased “digital maturity” will likely lead to higher use of digital services
  - New and improved services; more have discovered them; more have learnt to use them
  - Individual and organizational maturity

- Most likely we’ll exchange “saved time” for more access – same total travel time, and possibly more km’s

- Likely that we will both use digital services more and travel around 1 hour/day and increase total trip distance

- Things might be different – but we tend to think ”this time is different” too often

- Prudent not to plan our climate, environment or transport policy conditional on hope of “spontaneous” traffic reduction