IMPACTS OF COVID19 TRANSPORT AND HEALTH

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A partnership of:

"la Caixa" Foundation

ISGlobal Barcelona Institute for Global Health
The New Coronavirus: Some Answers and Management Questions
Each year worldwide there are:

- 4.2 million deaths due to ambient air pollution
- 3.2 million deaths due to lack of physical activity
- 1.2 million deaths due to traffic fatalities

WHO, GBD

- Climate crisis
- Population growth and ageing
- Urbanization (70% live in cities soon)
TRANSMISSION REDUCTION MEASURES

- Hygiene/hand washing
- Physical distancing (1.5 meters)
- Self isolation when ill
- Light to severe lockdown measures
<table>
<thead>
<tr>
<th>Impact</th>
<th>Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced physical activity</td>
<td>-40%</td>
</tr>
<tr>
<td>Increase in poor mental health</td>
<td>+20%</td>
</tr>
<tr>
<td>Domestic violence</td>
<td>+20%</td>
</tr>
<tr>
<td>Reduced traffic</td>
<td>70-80%</td>
</tr>
<tr>
<td>Reduced air pollution (NO2)</td>
<td>70-90%</td>
</tr>
<tr>
<td>Reduced noise</td>
<td>-9Db(a)</td>
</tr>
<tr>
<td>Green space visits</td>
<td>-90%</td>
</tr>
</tbody>
</table>
1.5 meters distance society

Impact on transport and use of public space

<table>
<thead>
<tr>
<th>Mode</th>
<th>CR</th>
<th>Public space</th>
<th>Health benefits</th>
<th>Environ. impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>L</td>
<td>H</td>
<td>L</td>
<td>H</td>
</tr>
<tr>
<td>Public transport</td>
<td>H</td>
<td>M</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>Walking</td>
<td>L</td>
<td>L</td>
<td>H</td>
<td>L</td>
</tr>
<tr>
<td>Cycling</td>
<td>L</td>
<td>L</td>
<td>H</td>
<td>L</td>
</tr>
<tr>
<td>Others</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
</tbody>
</table>

CR=contagion risk  
L=low, M=medium, H=high
The Guardian view on Covid-19 and transport: walk to the future

*Editorial*

The need for physical distancing means that space in our towns and cities must be shared in new ways

- Coronavirus - latest updates
- See all our coronavirus coverage
Paris Has a Plan to Keep Cars Out After Lockdown

FEARGS O’SULLIVAN  APRIL 29, 2020
London / Large areas of city to be made car-free as lockdown eased

Live
UK coronavirus: Welsh schools will not open until September; 'stay home' advice remains

London
TfL faces £3bn funding gap despite £1.6bn bailout

Education
Prolonged school closures risk damaging children's education, No 10 warns
Milan announces ambitious scheme to reduce car use after lockdown
1. Monitoring mobility

**Important changes**

- Severe activity reduction since 13/03/2020
- COVID scenario is an abnormal scenario

**Demand reduction**

- 80% traffic reductions
- 90% falls in public transport demand
- 85% falls in bicycle lanes demand

**Accident reduction in the same proportion as traffic falls**

**Increase of speeding offenses**

<table>
<thead>
<tr>
<th>before lockdown</th>
<th>after lockdown</th>
</tr>
</thead>
<tbody>
<tr>
<td>cars</td>
<td>26%</td>
</tr>
<tr>
<td>public transport</td>
<td>37.3%</td>
</tr>
</tbody>
</table>

**SUMP Objective**

- 19.9% for cars
- 40.8% for public transport
SOLUTIONS

- Land use changes
- Reduce car dependency
- Move towards public and active transportation
- Greening cities
Barcelona Superblock San Antoni

Before

After
BARCELONA SUPER BLOCKS

- 19.2% car reduction
- 11.5 ug/m3 (24.3%) NO2 reduction
- 2.9 dB noise reduction
- 3 fold increase green space (6.5% to 19.6%)
- 20% Surface temperature reduction

Mueller et al 2019, Env Int
Annual Premature Deaths that the "Superblocks" Model Could Avoid in Barcelona


Mueller et al 2019, Env Int
15 minute City
Paris
Benefits of physical activity well outweigh the risks of air pollution and accidents for cyclists.
Multisectorial approach

Multi-sectorial and systemic approaches are needed to address current problems and find solutions.
Seoul
Hamburg Plans to Become Car-Free By 2034
But should there really be zero cars?

By Rachel Nuwer
SMITHSONIANMAG.COM
FEBRUARY 17, 2014

Hamburg, Germany, recently announced plans to convert 40 percent of the city into car-free pedestrian zones within the next two decades. According to Inhabitat, existing green spaces...
Green cities, healthy people
Active cities, healthy people,
Clean cities, healthy people
Social cities, healthy people

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