Safety and Climate Change as a Game Changer for Urban Mobility

**Potential for COALITION**
An integrated Approach is necessary to Decarbonize the Transport Sector

**Co-Benefits and Synergies**

**Barriers and Opportunities**

**MITIGATION Potential**
Decarbonising the transport sector requires Integrated Packages

**Shift to more energy efficient modes**

**Compact cities and mixed use**

**Political continuity and stability**

**Fuel switch and intensity**
Decarbonizing the transport sector and improving road safety require **Integrated Packages**

**Safety and Climate Change can be strong allies**

- Compact cities and mixed use
- Shift to more energy efficient modes
- Fuel switch and intensity

**Climate Change and Road Safety require Transformational Change**
Safety and Climate Change as a Game Changer for Urban Mobility

Potential for COALITION
An integrated approach is necessary to decarbonize the transport sector

Co-Benefits and Synergies

Barriers and Opportunities

Political continuity and stability

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Shift to more energy efficient modes

Compact cities and mixed use

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Co-Benefits and Synergies

Compact cities and mixed use
Safety and Climate Change can be strong allies

**POTENTIAL IMPACT**
Potential to reduce energy consumption by 10–30%

**POTENTIAL CO-BENEFIT**
- Reduced travel times
- Public Health
- Safety and more equitable access

**MITIGATION**
Potential Decarbonising the transport sector requires Integrated Packages
- Shift to more energy efficient modes
- Fuel switch and intensity

Compact cities and mixed use
Safety and Climate Change can be strong allies

Compact cities and mixed use

Shift to more energy efficient modes

Fuel switch and intensity

MITIGATION Potential
Decarbonising the transport sector requires Integrated Packages

Decarbonising the transport sector requires Integrated Packages

Atlanta and Barcelona have similar populations but very different carbon productivity

<table>
<thead>
<tr>
<th></th>
<th>Atlanta</th>
<th></th>
<th>Barcelona</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>5.25</td>
<td>5.33</td>
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<tr>
<td>Urban area</td>
<td>4,280</td>
<td>162</td>
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<tr>
<td>Transport carbon emissions</td>
<td>7.5 (tonne CO₂/km) (public + private transport)</td>
<td>0.7 (tonne CO₂/km) (public + private transport)</td>
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</table>

Source: Travel and Society, Atlanta and Urban Areas and Sectoral Energy, Transportation and Mobility.
Safety and Climate Change can be strong allies

POTENTIAL IMPACT
Potential for energy efficiency varies greatly, 10 – 30%

POTENTIAL CO-BENEFIT
Reduced urban congestion and more equitable access
Reduced maintenance costs for roads

MITIGATION
Potential
Decarbonising the transport sector requires Integrated Packages

Compact cities and mixed use
Shift to more energy efficient modes
Fuel switch and intensity

Safety and Climate Change can be strong allies
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MITIGATION Potential
Decarbonising the transport sector requires Integrated Packages

Shift to more energy efficient modes
Compact cities and mixed use

Fuel switch and intensity

Bongart et al. 2012
Safety and Climate Change can be strong allies

POTENTIAL IMPACT

Efficiency: 40-60% by 2030 feasible at low costs

Electrification: of up to 100% depending on the energy source

POTENTIAL CO-BENEFIT

Diversification of the fuels used contributes to climate, air quality and/or energy security objectives

MITIGATION

Potential

Decarbonising the transport sector requires Integrated Packages

- Fuel switch and intensity
- Compact cities and mixed use
- Shift to more energy efficient modes
- Zooming in to Project level
Safety and Climate Change can be strong allies

<table>
<thead>
<tr>
<th>Mode</th>
<th>System overhead</th>
<th>Driver</th>
<th>Fuel purchase</th>
<th>Vehicle O&amp;M</th>
<th>Vehicle purchase</th>
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<td>Private car ICE</td>
<td>$0.00</td>
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<tr>
<td>Small bus ICE</td>
<td>$0.00</td>
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<td>E-bike</td>
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</tbody>
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References:

Lah et al. 2017

MITIGATION Potential
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Fuel switch and intensity
Potential for COALITION

An integrated approach is necessary to decarbonize the transport sector.

Political continuity and stability

Co-Benefits and Synergies

Multi-level policy approach, including all veto-players

Safety and Climate Change can be strong allies

Integrated Approach

Policy approach
Integrated policies, incl. planning, modal shifts, technology and fuels

Coalitions

Integrated Packages

National measures
Fuel tax
Vehicle fuel efficiency regulation

Mitigations

Barriers and Opportunities
Potential for COALITION
An integrated Approach is necessary to Decarbonize the Transport Sector

Co-Benefits and Synergies

Political continuity and stability

Barriers and Opportunities

Direct Benefits
USD 50-100 trillion in savings
Reduced vehicle purchase
Fuel costs

Indirect Benefits
Synergies with key policy objectives
Air Quality
Safety
Travel time
Health improvements

Co-Benefits can help forming coalitions

Safety and Climate Change can be strong allies
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Potential for COALITION
An integrated Approach is necessary to Decarbonize the Transport Sector

Political continuity and stability
Co-Benefits and Synergies

FUNDING
Blended funding concepts

Institutions and politics
Coalition building and participation

Lack of knowledge and capacities
Capacity building

Barriers and Opportunities

Safety and Climate Change can be strong allies
Potential for Coalition
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Co-Benefits and Synergies
Barriers and Opportunities

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Wuppertal Institute
Thanks for your attention!

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