Initiatives and Approaches to Small-sized Mobility
Issues related to transportation

• Various issues need to be considered to promote transportation policy, in addition to traffic safety.

Traffic Safety

- Enhancing traffic safety
  (National Target: less than 2,500 fatalities in 2020)

In addition,

Climate Change

- Promoting low CO₂ emission cars

Depopulation

- Aging society
- Public transportation/urban planning policy

Lifestyle Shift

- User needs and preferences in “moving”
  etc.
User needs and preferences in small-sized mobility

- Research and experimental demonstrations have been done relating to safety requirements, as well as user needs and preferences in small-sized mobility (especially two-seater car).

### Business
- **Delivery**
- **Home daycare etc.**

### Tourism
- **Tour in islands and sightseeing spot**
- **Excursion around hot spring areas**

### Daily Use
- **Car-sharing in cities**
- **Rent-a-car in suburbs and islands**
### Amendment of domestic regulations for small-sized car (two-seaters)

- Any small-sized car (two-seaters) needed to comply with the safety requirements of M₁/N₁ before Sep. 2020 (except special cases).
- MLIT has amended/deregulated vehicle safety requirements, suitable for small-sized car (two-seater), effective from Sep. 2020*.
  * This safety regulation does not impose any additional restrictions or modifications on any existing cars in the market.

### Safety requirements applicable to small-sized car (two-seater)

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Maximum Vehicle Speed</strong></td>
<td><strong>60 km/h</strong></td>
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<td><strong>Rated Power</strong></td>
<td><strong>Over 0.6 kW</strong></td>
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<tr>
<td><strong>Maximum Dimensions</strong></td>
<td><strong>L ≤ 2.5m, W ≤ 1.3m, H ≤ 2.0m</strong></td>
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<tr>
<td><strong>Deregulated Requirements</strong></td>
<td>✓ Frontal crash test (R94, R137) speed: 40km/h</td>
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<td>✓ Pole side test (R135): Not required</td>
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<td></td>
<td>✓ ODD: Highways are not allowed</td>
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<td>✓ Body marking is required</td>
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<td>✓ Mass-production (type approval) only</td>
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*Comparison with M₁/N₁*
Frontal Crash Safety

- Average speed on city roads (non-highways)
- Experiments on usage of small-sized mobility
- Accidentology (small-sized mobility (one-seater) and M₁/N₁ (kei-car))
  - Almost the same possibilities in offset collisions and full-wrap collisions (around 40% for each)
  - Accident coverage: crash speed at 40km/h can cover most of the crash accidents.
  - Safety level: relatively equivalent (same safety level) with M₁ (kei-car), considering actual fatalities and severe injuries

Pole Side Impact

- Limiting maximum vehicle speed
- Mandating ESC
- No accidents reported (small-sized mobility (one-seater))

Other Crash Safety

- Side impact and Rear impact: required considering not dependent on own vehicle speed
- Pedestrian safety: required considering the importance of VRU protection
Other Safety Requirements

- **ODD**: Not allowed to run on highways (*Minimum speed limit is 50km/h)

- **External HMI**: Body marking on the backside of vehicle is required.

- **Type approval only**: Quality management (ex. completion inspections) is required for OEMs.