



**SEVENTH REGIONAL EST FORUM  
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**MINISTRY OF INFORMATION & COMMUNICATIONS  
AND  
NATIONAL ENVIRONMENT COMMISSION  
Royal Government of Bhutan**



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# Presentation outline

- Brief country profile
- Motorization trend
- Vehicle crash data
- Implementation status of Bangkok Declaration
- Recommendations





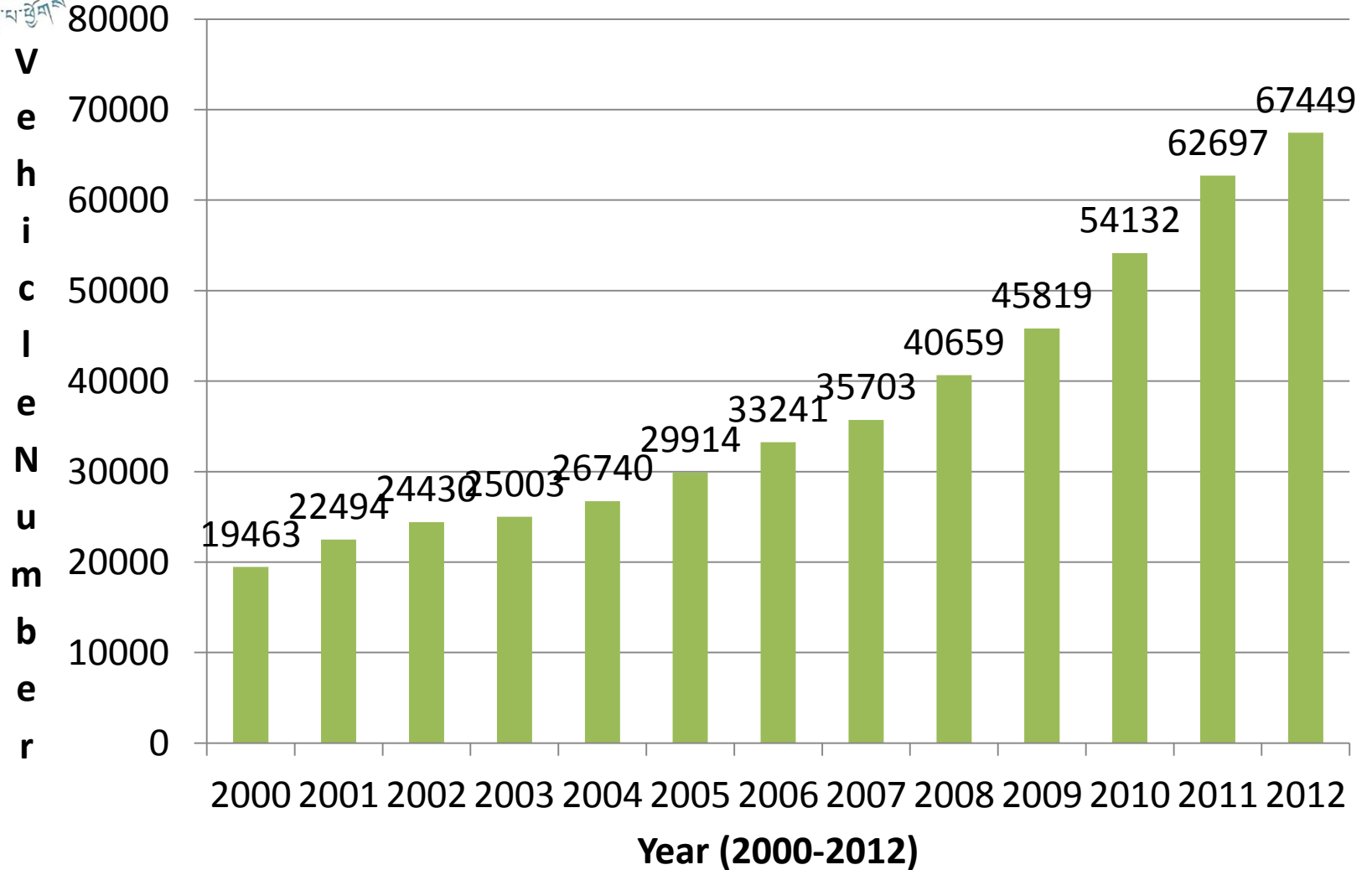


# Brief Country Profile

- ❖ **Area:** 38,394 sq km
- ❖ **Population:** 720,679 (of which 36.4% urban and 63.61% rural)
- ❖ **GDP per capita :** USD 2,986.4
- ❖ **Language:** Dzongkha
- ❖ **Terrain :** Mostly mountainous (591 ft to 24,770 ft)
- ❖ **Forest cover:** 72.5% approximately
- ❖ **Arable agricultural land:** About 8%
- ❖ **Transport System:** Land and Air Transport
- ❖ **Total Vehicle Number:** 67,449 (December 2012)
- ❖ **Road Length (all types):** 9,491.5 Km (Dec 2012)

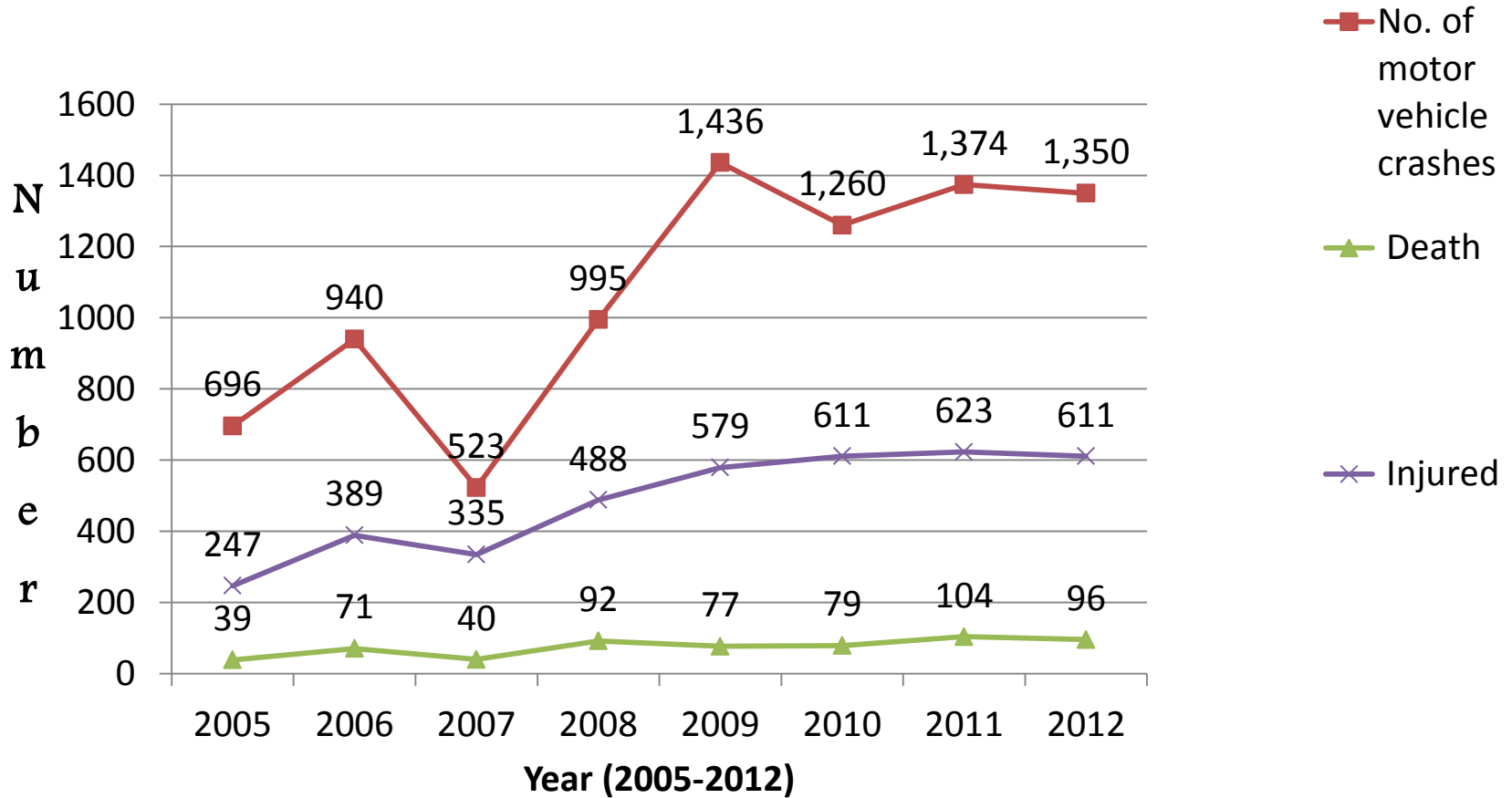


# Motorization trend





# Crash and fatalities data





# Progress/initiatives towards on Goals of Bangkok Declaration





# Strategies to **avoid** unnecessary travel and reduce distances

| Goals  | Progress/achievement  | Challenges  |
|--|---|---|
| <p><b>Goal 1:</b><br/>Integrated land-use transport planning</p> | <p>Most urban centers have land-use planning in place</p>   | <p>Implementation of the Structural Plan and Local Area Plans hampered by funding and human resources constraints</p>   |
| <p><b>Goal 2:</b><br/>Mixed-use development</p>                  | <p>Some in place</p>  |   |
| <p><b>Goal 3:</b><br/>Use of ICT to reduce travel demand</p>     | <p>Most of the remote villages are now connected by mobile telephone. For transport, Technology Needs Assessment identified Intelligent Transport Systems prioritized</p> | <ul style="list-style-type: none"> <li>• Practical issues (access to ICT facilities, affordability, difficulty in monitoring etc) need to be addressed</li> </ul> |





# Strategies to **Shift** towards more sustainable modes

| Goals   | Progress/achievement   | Challenges   |
|---|--|--|
| <p><b>Goal 4:</b><br/>Promote Non-Motorized Transport</p> | <p>Largely in place.<br/>“Pedestrian Day” being observed on 1<sup>st</sup> Sunday every month<br/><b>Activities planned for 2013:</b><br/>Improvement of pedestrian facilities is a continuous initiative in all urban centers</p> | <ul style="list-style-type: none"> <li>• Development of transport infrastructure is part of the urban development but requires more attention</li> <li>• Bicycle lanes are demarcated in some urban centers, terrain does not permit wide use of bicycles</li> </ul>     |
| <p><b>Goal 5:</b><br/>Improve public transport</p>        | <p>All the twenty districts and some Blocks are connected by public transport.<br/><br/>Number and frequency of city transport is increasing steadily.</p>   | <ul style="list-style-type: none"> <li>• Services are considered affordable but inadequate and not necessarily of good quality</li> <li>• Plans to introduce BRT deferred due to high cost</li> <li>• Need more frequency and comfortable transport services.</li> </ul> |



# Strategies to **Shift** towards more sustainable modes...

|   |  |  |
|---|--|--|
| <p><b>Goal 6:</b><br/>Transport Demand management<br/>(congestion pricing, tax)</p> | <p>Action taken so far: Parking fees in Thimphu and Phuntsholing introduced to reduce congestion.<br/>Interim measure imposed on import of vehicles since March 2012<br/>Activities planned for 2013:<br/>Comprehensive fiscal measures proposed (higher tax, road toll, CoE etc)</p>  | <p>Possible public criticism on making car ownership difficult<br/><br/>Private sector resistance.</p>   |
| <p><b>Goal 7:</b><br/>Inter-city passenger and goods transport</p>                  | <p><b>Action taken so far:</b> Inter-city passenger and goods transport available but not necessarily energy-efficient.<br/>People are increasingly using public transport services as opposed to personal cars.<br/><b>Activities planned for 2013:</b><br/>Feasibility study for inland water transport and railways<br/>Establishment of Dry Port</p> | <p>Modal shift to high-speed rail for passenger transport or train for freight/passenger does not appear viable, economically owing to terrain, high capital cost, and small population size</p> |



# Strategies to **improve** transport practices and technologies

| Goals   | Progress/achievement  | Challenges  |
|---|---|---|
| <p><b>Goal 8:</b><br/>Cleaner fuel and Technologies</p> | <p><b>Action taken so far:</b> some potential for bio-fuel, All imports from India<br/>Encouraging electric/hybrid vehicles (tax exemption on electric/hybrid vehicles)<br/>Intelligent transport systems (ITS) prioritized as a technology under TNA</p> | <p>Difficulties in getting high grade fuels due to low volume<br/>Electric vehicles expensive with limited choice</p> |
| <p><b>Goal 9:</b><br/>Fuel and emission standards</p>   | <p><b>Action taken so far:</b><br/>Vehicle Emission Standard in Place. Banned import of Second hand vehicles. In-use vehicles are subjected to periodical emission testing.<br/>Green tax has been introduced on import of vehicles since 2012.</p>       | <p>Emission testing not very efficient (man power and equipments)</p>   |



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# Strategies to improve transport practices and technologies .....

|   |  |   |
|---|--|---|
| <p><b>Goal 10:</b> Inspection and Maintenance standards</p> | <p><b>Action taken so far:</b><br/>Largely in place. Roadworthiness testing is mandatory and is conducted once annually for non-commercial vehicles and every six months for commercial vehicles (public transport buses, goods vehicles, taxis).</p>  | <ul style="list-style-type: none"> <li>• Quality testing facilities are not available</li> <li>• Phasing out older vehicles is a challenge</li> </ul> |
| <p><b>Goal 11 :</b> Intelligent Transport Systems</p>       | <p><b>Action taken so far:</b> Initiated with speed detectors in Thimphu. TNA identified intelligent transport systems (ITS) as the priority technology option<br/><b>Pilot project:</b> Installation of speed-detectors on 6km expressway section and CCTV<br/><b>Activities planned for 2013:</b> ITS identified in 11<sup>th</sup> FYP. Transport/traffic control center in Thimphu, and real-time vehicle (public transport buses) tracking system</p> | <p>Activities planned in 2013 are subject to fund availability and this may spill-over to subsequent years</p>  |



# Strategies in cross-cutting areas

| Goal #                                 | Progress/achievement   | Challenges   |
|--|--|--|
| <b>Goal 12:</b><br>Freight Transport   | <b>Action taken so far:</b><br>Policy in place. Within the country, done by local transporters using small trucks  | Containerized cargo difficult due to narrow and winding roads<br>Absence of Dry Port/Inland Container Depot  |
| <b>Goal 13:</b><br>Road safety         | <b>Action taken so far:</b><br>Mostly in place so far as road transport is concerned. Target to reduce deaths below 5 per 10,000 (against 17 currently)<br><b>Activities planned for 2013:</b><br>Various activities under the Road Safety Decade Action Plan      | Need intervention in terms of better and consistent enforcement, deployment of scientific gadgets (often expensive) and by promoting ITS (again expensive) |
| <b>Goal 14:</b><br>Emission and Health | <b>Action taken so far:</b> Vehicle Emission Standard in place. Impact on vehicle emission on human health proposal in place and planned under the Action Plan for the Road safety Decade<br><b>Activities planned for 2013:</b><br>Depending on fund availability | Funding support and expertise would be necessary   |



# Strategies in cross-cutting areas

| Goal #   | Progress/achievement  | Challenges   |
|--|---|--|
| <p><b>Goal 15:</b><br/>Air pollution and Noise</p> | <p><b>Action taken so far:</b><br/>Industrial Air pollution standard in place and VES in but not in case of Noise.<br/>Air quality Monitoring Station in Four locations<br/>Helicopter services banned<br/><b>Pilot project and/or policies, if any</b><br/>Four air quality stations in place.</p> <p><b>Activities planned for 2013:</b><br/>To increase the air quality parameters and also cover two more within one year and in all twenty districts by 2018</p> | <p>Equipments, technical experts, capacity and funding</p> |







## Strategies in cross-cutting areas.....

### Goal 16:

Climate  
Change and  
energy  
security

#### Action taken so far:

- Submitted Second National Communication and GHG Inventory (2011) - Transport sector accounts for highest energy related GHG emissions (44%) in Bhutan)
- Submitted second National Adaptation Programmes of Action (funding secured from LDC to implement NAPA)
- Completed Low Carbon Emission Strategy (LECS)
- Completed Technology Needs Assessment
- (Transport Sector second highest priority Sector)

#### Pilot project and/or policies:

- Action Plan for Clean Air and Sustainable Mobility: Thimphu, Bhutan (under proposal)
- Activities planned for 2013: Implement TNA Action Plan, LCES

For NAPA...from LDCF  
(but limited)

Require support in  
terms of technology,  
capacity and funding



## Strategies in cross-cutting areas.....

|   |  |  |
|---|--|--|
| <p><b>Goal 17:</b><br/>Public transport and Social equity</p> | <p><b>Action taken so far:</b></p> <ul style="list-style-type: none"> <li>• Some plans to provide special facilities to women, elderly and disadvantaged group of people using public transport services.</li> <li>• Pilot project and/or policies, if any</li> <li>• Reserve seats for elder citizens and disabled persons in public transport buses operating in cities, concession in fare</li> <li>• Activities planned for 2013:</li> <li>• Construction of wheel-chair ramps in bus terminals</li> </ul> | <p>Inadequate facilities for disabled</p>                                  |
| <p><b>Goal 18:</b><br/>Finance and Economics (PPPs)</p>       | <p><b>Action taken so far:</b> Parking fees in urban areas, tax on fuel already in place.<br/>Policy issued to plan and develop car-park in major towns<br/>Activities planned for 2013:<br/>Approved development of a multi-storied</p>   | <p>Viability may be an issue due to high capital cost and slow return.</p> |



## Strategies in cross-cutting areas.....

|   |   |   |
|---|---|---|
| <p><b>Goal 19:</b><br/>Information and awareness about EST</p>  | <p><b>Action taken so far:</b><br/>Continued media coverage</p>   | <p>Need to build sufficient capacity in EST systems for the Transport, Environment and Roads Sector</p> |
| <p><b>Goal 20:</b><br/>Institutions and Governance (agencies with dedicated funding and institutions for EST)</p> | <p><b>Action taken so far:</b> Not yet</p> <ul style="list-style-type: none"> <li>• <b>Activities planned for 2013:</b><br/>Mobilizing and coordination of LCES,</li> <li>• TNA Action Plans</li> <li>• Action Plan for Clean Air and Sustainable Mobility: Thimphu, Bhutan (pilot to start)</li> </ul> |   |



# Recommendations on promotion of EST

- Need to restructure transport governance
- Political will to be backed by adequate financial support for successful implementation of EST initiatives
- Need to build sufficient capacity in EST systems for the Transport, Environment and Roads Sector (ITS early implementation required)
- Investment through PPP is a challenge due to small domestic market size
- Support from bilateral and international development partners/donors for EST systems.







# Thank You

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