

**8th Regional EST Forum in Asia:
19-21 November 2014
Colombo, Sri Lanka**



**MINISTRY OF INFORMATION & COMMUNICATIONS
&
NATIONAL ENVIRONMENT COMMISSION
BHUTAN**

Presentation Outline



- (a) Country background
- (b) Motorization trend
- (c) Road crashes scenario
- (d) Achievements/new initiatives
- (e) Challenges faced
- (f) Plans



China

Nepal

Bhutan

India

Bangladesh

Brief Country Profile



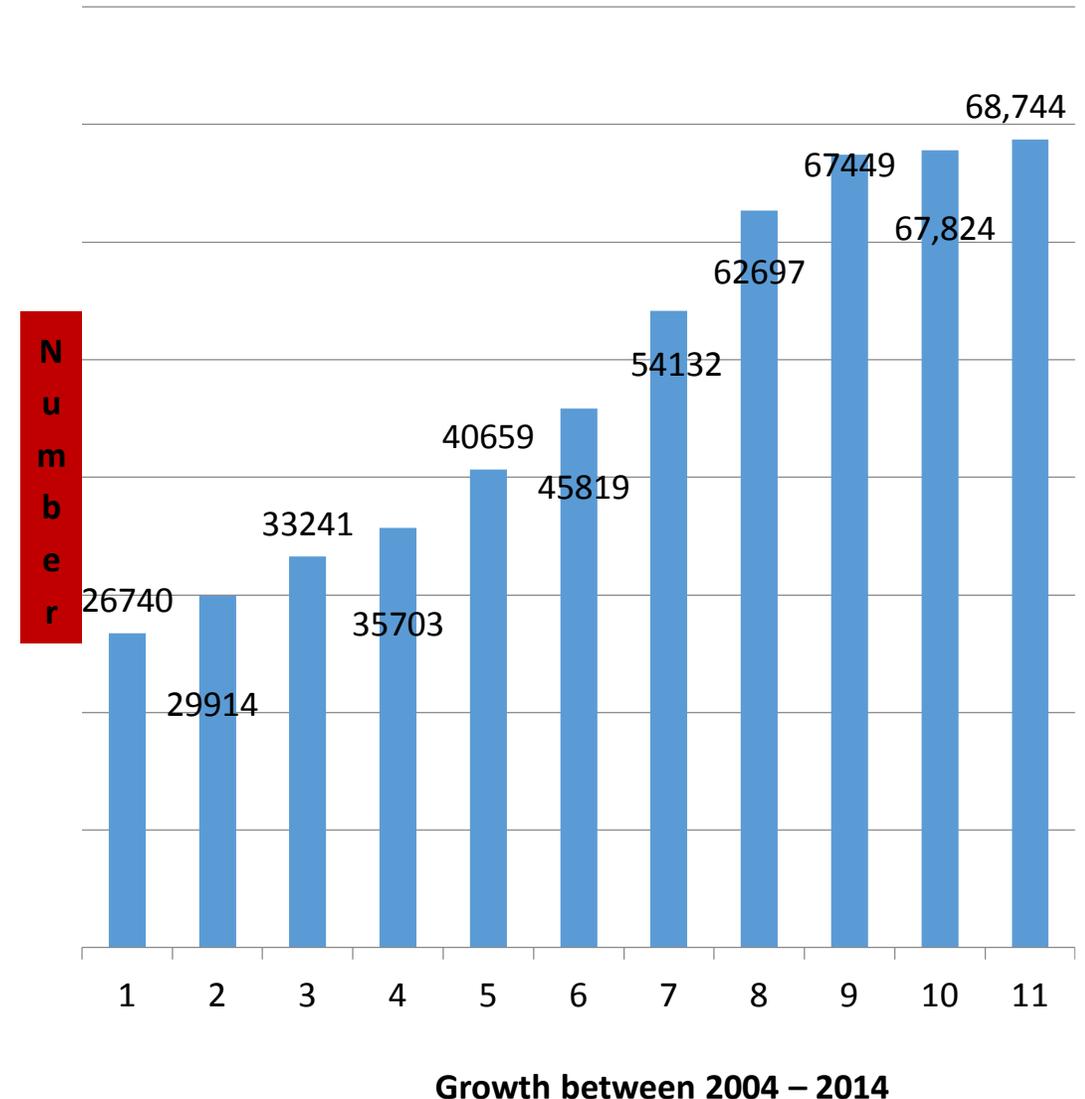
- ❖ **Area:** 38,394 sq km
- ❖ **Population:** 636,236 (of which 36.4% urban and 63.61% rural (2014 est.))
- ❖ **GDP at current price:** ~USD 1,740 m (2014)
- ❖ **GDP per capita:** USD 2,440.4 (2014)
- ❖ **Terrain :** Mostly mountainous (591' – 24,770')
- ❖ **Forest cover:** 70% approximately
- ❖ **Arable land:** About 8%
- ❖ **Transport System:** Land and Air Transport
- ❖ **Total Vehicle Number:** 68,744 (Sept 2014)
- ❖ **Road Length (all types):** 10,578 Km (2013)

Transport system in Bhutan

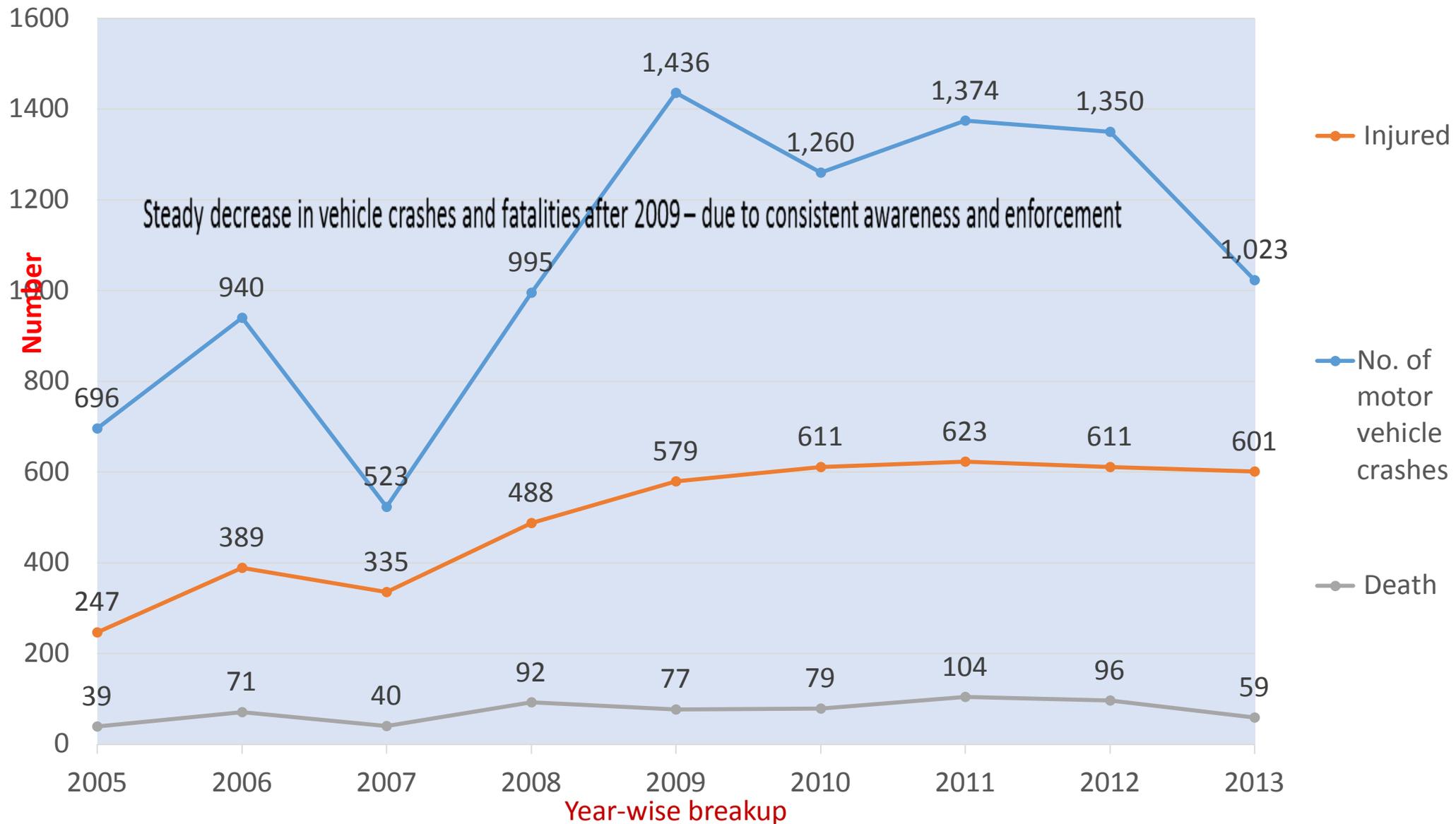


Motorization

- Like countries elsewhere, vehicle number in Bhutan is increasing every year.
- Transport sector accounts to about 45% of all energy-related emissions or 7.5% of national GHG emissions



Vehicle crash and fatality data



Major achievements/new initiatives based on 20 goals and four Strategies under Bangkok Declaration -1/3

(1) Avoid unnecessary travel and reduce distances (goals 1–3):

- ❖ Most urban centers now have integrated land use and transport plans
- ❖ Nationwide backbone fiber-optic network covering all 20 Districts and 187(out of 205) Administrative Blocks
- ❖ Achieved mobile penetration of about 77% and Internet penetration of ~41%
- ❖ ICT as a substitute for travel has been conceived but could take time due to rural/urban digital gap
- ❖ Transport identified as top sector in Technology Needs Assessment and its Action under UNFCCC
- ❖ National Appropriate Mitigation Actions (NAMAs) for Transport sector is being developed under Low Emission Capacity Building Project

Major achievements/new initiatives based on 20 goals and four Strategies under Bangkok Declaration - 2/3

(2) Shift towards sustainable modes (goals 4-7):

- ❖ June 5 (coinciding with the World Environment Day) declared as “no vehicles day” in urban centers
- ❖ Plan for BRT drawn but remains unimplemented due to high cost of related infrastructure and buses
- ❖ Parking fee system in place in some bigger towns
- ❖ Tax and duties increased on vehicle imports including green tax
- ❖ More comfortable and less polluting buses for inter-city travel

(3) Improve transport practices and technologies (goals 8-11)

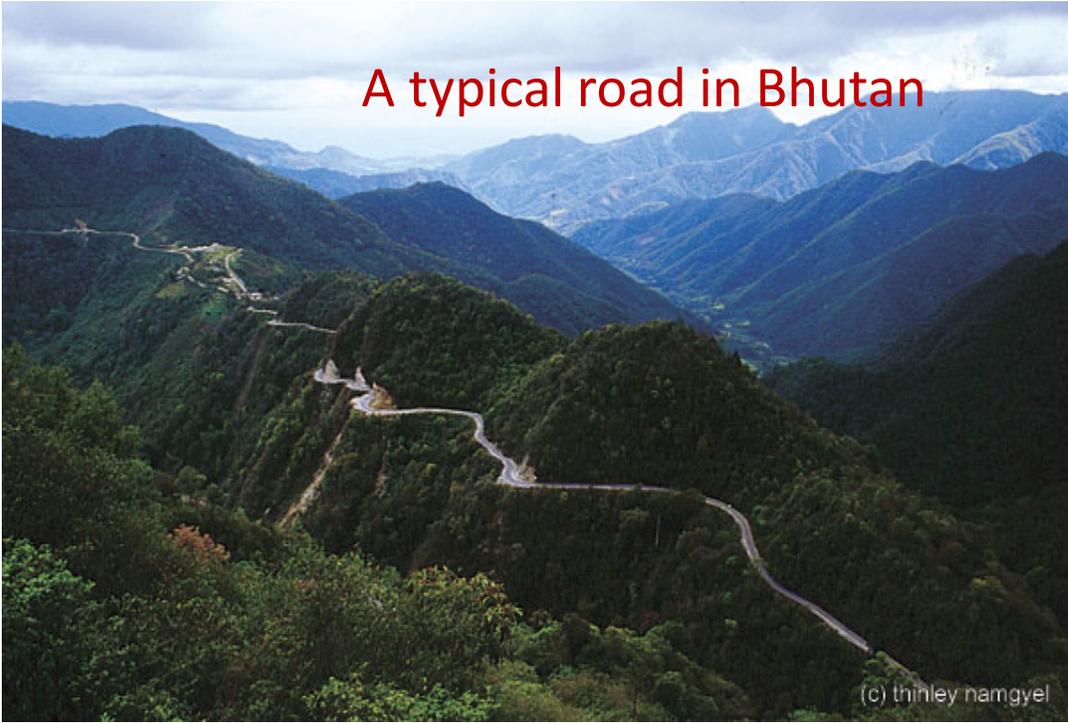
- ❖ Electric vehicle is a major initiative of the Government
 - number is small currently at about 0.06% of the total vehicle fleet (<100)
 - most were imported after July 2014
 - zero tax on E-Vs

Major achievements/new initiatives based on 20 goals and four Strategies under Bangkok Declaration - 3/3

(4) Cross-cutting strategies (goals 12-20)

- ❖ Introduced reserved seats for people with special needs in all city buses
- ❖ Subsidy to bus operators providing services to places with low population density
- ❖ Fuel quality is being monitored regularly
- ❖ Emission testing is mandatory for all vehicles – once every year for non-commercial vehicles and every six months for commercial vehicles
- ❖ Prescribed life span for passenger transport buses and taxis
- ❖ Minimum of third party vehicle insurance is mandatory by law
- ❖ 8 air quality monitoring stations established

A typical road in Bhutan

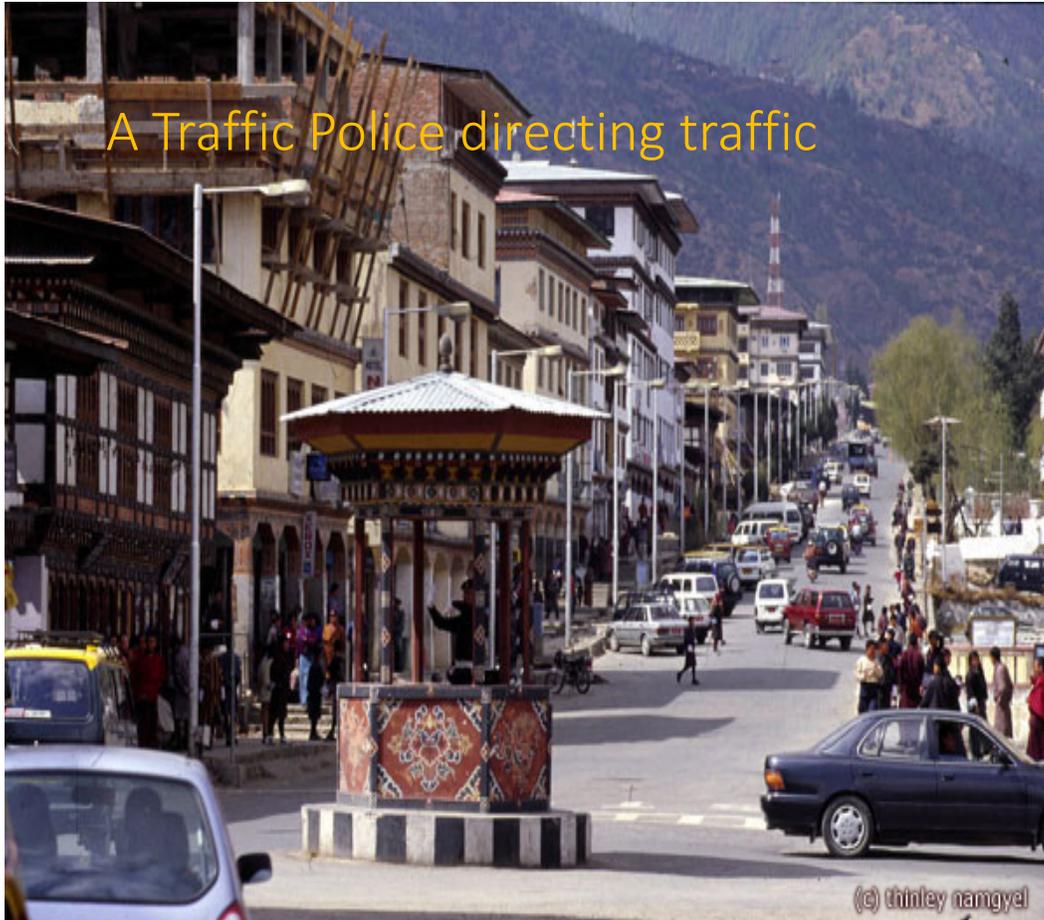


Land-slides are common in summer



Challenges – 1/2

- ❖ Non-motorized transport is rather slow:
 - quantity and quality of foot-paths, especially for visually impaired
 - cycling has limitations due to terrain
 - reluctance to walk
- ❖ Growing vehicle ownership with marginal increase in road network
- ❖ Vehicle crash still a major public health concern
- ❖ EV
 - High initial cost
 - Quick Charging stations: Technological compatibility and availability
 - Driving Distance per charge
 - Battery Life and end-of life car value
 - Battery waste management



Critical challenges – 2/2

- ❖ Use of ITS in all forms is non-existent
- ❖ Congestion charging/toll system remains unimplemented except parking fees
- ❖ Funding constraint to augment city service or civil works for BRT system
- ❖ Freight industry remains largely unregulated & operating mostly as SMEs
- ❖ People living in remote areas either pay high fare or are deprived of quality transport services with bus operators reluctant to serve remote areas with low population density
- ❖ PPP projects in the transport sector not attractive due to low user base
- ❖ No single office dedicated to EST

Future plans

- ❖ ITS being planned for piloting (Installation of CCTVs, speed cameras and traffic control room)
- ❖ Feasibility study for LRT system for the national capital region – exploring donors
- ❖ Plans for enhancement of urban transport through additional buses and BRT system
- ❖ Plans to introduce capping/entitlement system for vehicle import
- ❖ Network of electric charging stations being considered along the road network
- ❖ Government has set a vision to promote electric vehicles - Road-map on e-vehicle initiative is being finalized through a joint initiative of WB/UNDP/ADB
- ❖ Vehicle Emission Standards being reviewed to increase the standards
- ❖ Dry port designed and implementation in pipeline
- ❖ Plans for automated vehicle testing facility and privatization of roadworthiness testing system
- ❖ Massive road network expansion program