

# *Presentation layout*

- Background
- Policies and strategies for transportation
- Thimphu City Transportation Plan

# *Background*

- Bhutan has about 5,000km road across the country
- Classification
  - National highways
  - District roads
  - Feeder roads
  - Farm roads
  - Urban roads
  - Forest and power tiller roads

# *Motor cars (1997 - 2006)*

Vehicles registered in Bhutan



# *Policies and Strategy*

- Establishment of Vehicle emission standards
- Establishment of Type Approval

Type of Vehicle	HSU	CO % Volume	Type Approval
Petrol	-	4.0	Euro 2 or above
Diesel	70 %	-	Euro 2 or above

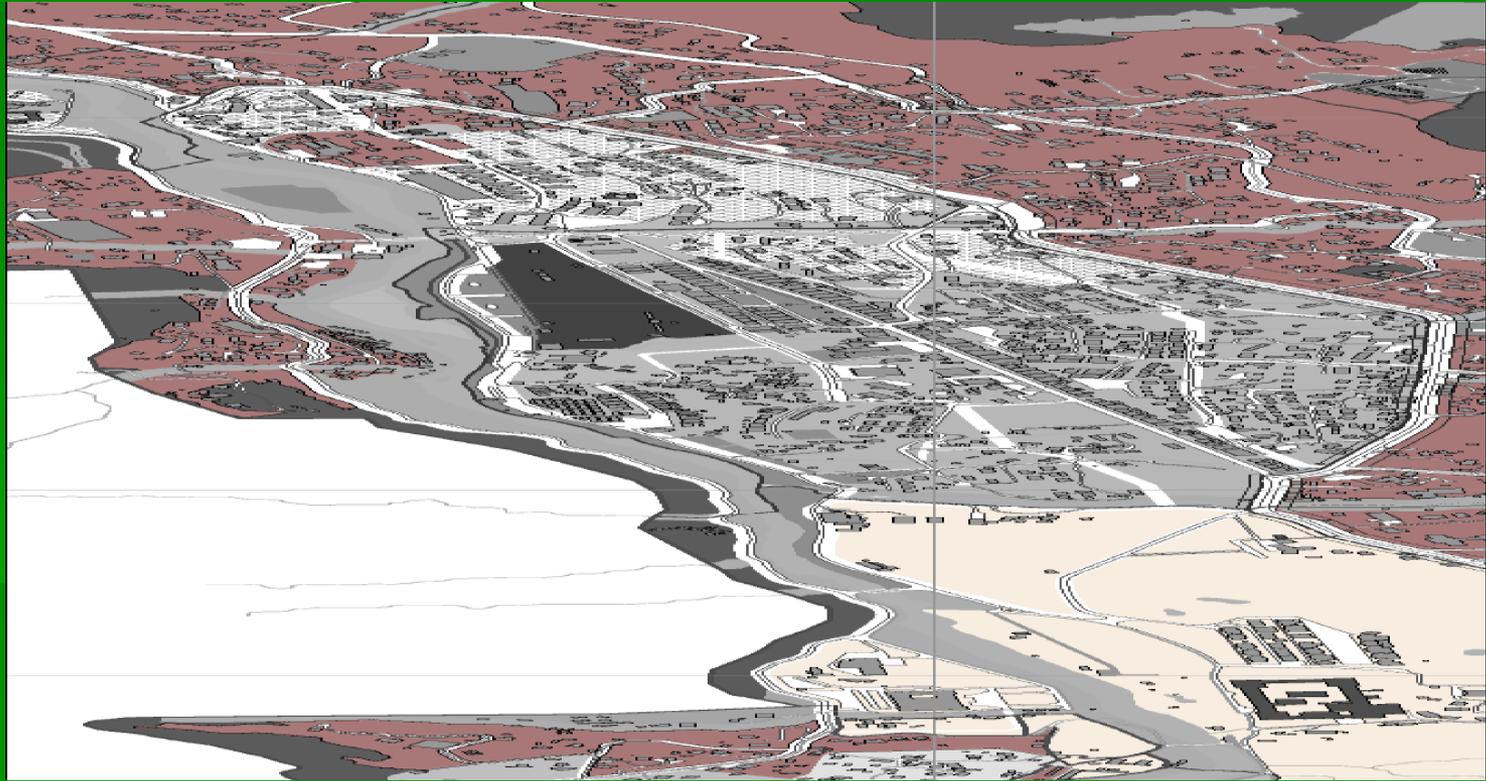
# *Policies and Strategy*

- 1996 – ban on import of secondhand vehicles
- 1999 - Reduction of import duty on motor car spare parts related to emission
- 1999 - all vehicles imported to conform to Euro 1 standard
- 2001 - Import of unleaded petrol only
- 2002- Vehicle emission standard for Bhutan regulated/implemented
- 2003 - Import of ultra-low sulphur Diesel ( $\leq 0.025\%$  content)
- 2006 - development of transportation strategy and plans for Thimphu City
- 2007 - Upgrade emission standard

# *Thimphu (capital city)*

- Thimphu is the capital city of Bhutan
- Population is more than 90,000 (?)
- It is the only city that has City plan and it is being implemented since 2006
- It is situated in a valley in the inner Himalayas with an altitude of more than 2,000m above sea level
- Phuentsholing is the second largest town in Bhutan and the city plan is being prepared

# *Thimphu city plan*



North

# *Thimphu city plan (transport network only)*

- Transportation plan are guided by the following principles
  - Promotion of vehicular access ways
  - Promotion of pedestrian access ways
  - Discouragement of vehicular access ways

# *Transportation plans*

- The plans evolves around these main themes
  - Urban corridors
  - Road classifications
  - Pedestrian and Bike movements
  - Public transit system
  - Integration of transport stops with walking areas

# *Urban Corridor*

- Urban corridor forms the spine of the city connecting urban hubs, major neighborhood nodes and commercial areas across the entire North - South of the city
- Urban hubs will act as terminals for public transit systems with essential facilities

# *Road classifications*

- An efficient network system connecting the entire city at different levels
- All classes of roads will be an important components of the city

# *Pedestrian and bike movement*

- A citywide system of pathways providing shorter routes to public transit, residential areas, connecting the open space system and important religious and heritage sites.

# *Pedestrian pathway system*

Sr. No.	Heritage Walk Stage	Distance (km)	Stoppage Facilities
1	Simtokha Dzong to Tandin Ney Lhakhang	5.65	
1a	Simtokha Dzong to Proposed location of Prayer Wheel	1.65	Simtokha Dzong, Tandin Ney Lhakhang
1b	Proposed location of Prayer Wheel to Lungtenphu (Army) Lhakhang	1.70	
1c	Lungtenphu (Army) Lhakhang to Tandin Ney Lhakhang	2.30	
2	Wangchutaba Chortens to Island of past Buddha	3.00	
2a	Wangchutaba Chortens to Barpa Lhakhang	0.50	Barpa Lhakhang
2b	Barpa Lhakhang to Island of past Buddha	2.50	
3	Lungten Zampa Circular Trip	5.15	
3a	Lungten Zampa to Memorial Chorten	0.45	Memorial Chorten, Changangkha Lhakhang, Zangdo Peiri Lhakhang
3b	Memorial Chorten to Changangkha Lhakhang	1.25	
3c	Changangkha Lhakhang to Proposed Dzong Gateway	1.45	
3d	Proposed Dzong Gateway to Zangdo Peiri Lhakhang	1.20	
3e	Zangdo Peiri Lhakhang to Island of Present Buddha	0.60	
3f	Island of Present Buddha to Changlimithang Archery Fields	0.20	
4	Proposed Dzong Gateway to Island of Future Buddha	5.20	

# *Pedestrian pathway system*



# *Public Transit System*

- An efficient public transport system to achieve lower emission levels thus reducing air pollution
- A set of measures to discourage use of private cars will be established and enforced
- Electric city buses will also be used

# *Integration of transport stops with walking areas*

- Plans will be developed so that the entire city is linked into “ride and walk” system

# *Problems and Constraints*

- Rapid growth of number of vehicles
- Narrow Valley (Thimphu) congestion prone to pollution
- Non-motorized transport not feasible.  
*Gear mountain bicycles?*
- Insufficiency of gadgets and trained personnel for enforcement

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