



Country Presentation, CAMBODIA



Current Status of Nat'l EST Strategy Development

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Outlines

- **National Capacity Building in EST**
- **Progress on EST Strategy**
- **The Way Forward - From Strategy
To Action**



National Capacity Building in EST



- **13-14 Sep 2004:** Nat'l Inception Meeting on the EST;
- **26-28 Jun 2006:** Nat'l Dialogue-cum-Training Workshop in EST Policy;
- **3-4 Dec 2007:** Nat'l Consultation Workshop on the 1st Draft EST Strategy;
- **2-3 Oct 2008:** Nat'l Consultation Workshop on the 2nd Draft EST Strategy.





Progress on EST Strategy

- Number of thematic key areas considered for development of the EST strategy includes:
 1. *Urban health & environment,*
 2. *Roadside air quality monitoring & mangt,*
 3. *Vehicle emission control & standards,*
 4. *Vehicle inspection & maintenance,*
 5. *Fuel quality & standards,*
 6. *Public transport planning & travel demand mangt,*
 7. *People & envt'l friendly transport infrastructure devt,*
 8. *Road safety & maintenance,*
 9. *Traffic noise monitoring,*
 10. *Knowledge base & public awareness, and*
 11. *Gender perspective.*



Key Issues related Transport

1. Health & Environment

- Unknown Health & Env't'l Impacts - No Study
 - *More people migrated to city for jobs;*
 - *Increase in traffic and mobility;*
 - *Number of vehicles increased proportionately;*



- *Traffic congestion occurred at main intersections;*
- *Increase in annual fuel consumption;*
- *Less monitoring and data collection of air quality by roadside and ambient area;*
- *Less known issue of health and env't'l impact of PM₂₅ and/or PM₁₀.*



From Strategy To Action

- SPM is the most harmful pollutant to human health - Public awareness raising & capacity building on pollution issues, health impact from motor vehicles;
- Integration of transport-related issues into educational system curricula;
- Conduct the research to assess health impacts resulting from transport sector.





Key Issues related Transport

2. Roadside Air Q. Monitoring & Mangt.

- Air Quality Concern voiced by city residents
 - *Motor vehicles emit a range of air pollutants;*
 - *Less study conducted & activities dealt with air quality monitoring, data collection on ambient and roadside concentrations of air pollutants;*
 - *Unclear monitoring program of ground-level air quality at designated locations and congested intersections by vehicle volume;*
 - *Enforcement of existing land traffic law & related regulations;*
 - *Constraint in HR capacity, facilities & budget.*



From Strategy To Action

- Development of monitoring program to conduct air quality assessment, data collection on ambient and roadside concentrations of air pollutants.
- Formulation of stringent emission standard/upgraded existing regulation on air pollution control taken into account the fuel types and pollutants from vehicle.
- Enforcement of vehicle inspection & maintenance regulation.
- Encouragement & promotion of public transport & related facilities.
- Public education on vehicle emission reduction.



Key Issues related Transport

3. Vehicle Emission Control & Standards

- Unclear Set of Emission & Fuel Standards/
Weak Enforcement of Related Legislations
 - *Increased imported used vehicle nb. (Poor Q);*
 - *Older (EURO 1) & modified vehicles still used;*
 - *Unclear set of limit, permit & standards for vehicle pollutants emitted like NO_x, CO, SO_x, & PM;*
 - *Different types of fuel quality imported from different sources.*



From Strategy To Action

- Conduct the assessment of number and types of motor vehicle, and fuel quality and quantity;
- Development of vehicle standards, chemical contents in fuel and its qualities, and vehicle emissions measurements.

Key Issues related Transport



4. Vehicles Inspection & Maintenance

- Emission Standards Set at Low Level (EURO 1)
- Fuel & Vehicle Standards Not Tied/Matched
 - *Limited number of Testing Stations;*
 - *Unknown standard used in testing (Tailpipe emission);*
 - *Increase in emission at congested intersection;*
 - *Increase in road accidents;*
 - *Challenges in Land Traffic Law enforcement;*
 - *Limited capacity for vehicle inspection & awareness.*

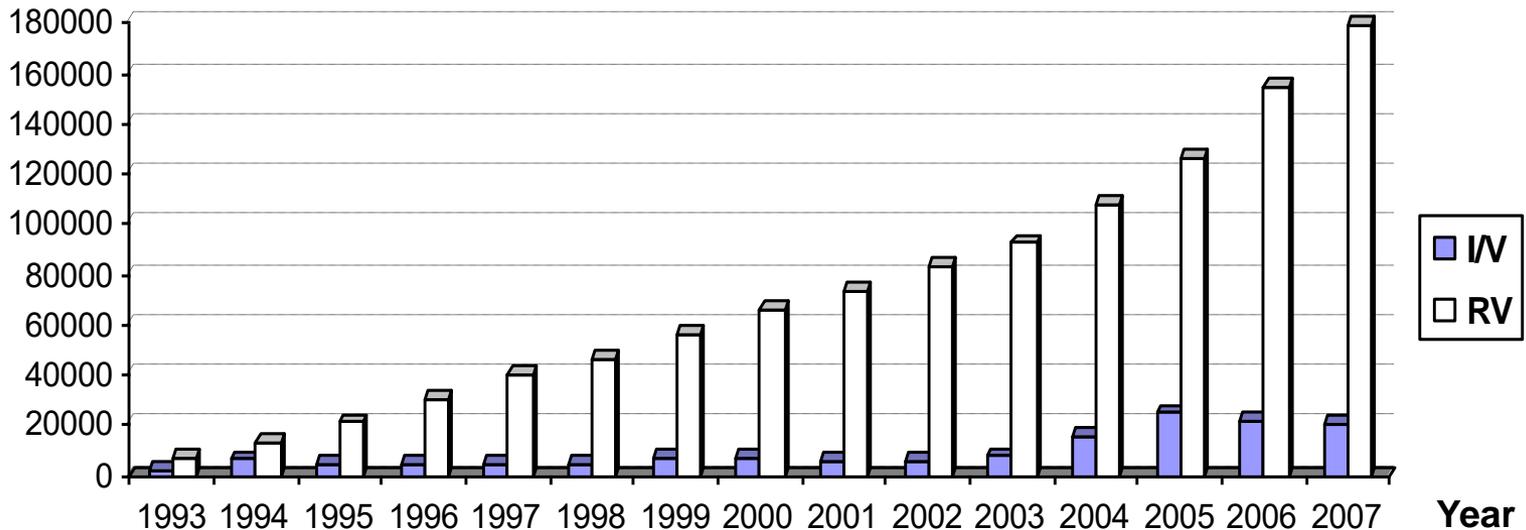




Key Issues related Transport

- *Most of vehicles on roads are second-hand;*
- *Not all registered vehicles in PNH inspected;*
- *Motorcycles, tricycle rickshaws & modified vehicles not inspected;*

Nb. of Vehicles





Mode of Transport	2004	2005	2006	2007	2008	2009
Car	10,275	12,807	18,694	14,453	15,902	20,435
Mini-Bus	1,205	1,749	2,486	2,284	2,338	2,614
Bus	202	178	349	401	531	324
Light Truck	2,376	2,763	4,364	4,197	4,808	5,065
Heavy Truck	1,462	1,197	2,284	3,139	3,274	3,241
Motor-bike	22,664	70,523	111,457	130,106	188,915	276,471
Total	38,184	89,217	139,634	154,580	215,768	308,150



From Strategy To Action

- Enforcement of Land Traffic Law approved in Feb. 2007, incl. regulations related to I/M;
- Decentralized I/M stations to local authorities;
- Capacity building to upgrade knowledge & skills of inspectors & traffic police to promote law enforcement;
- Skill exchange visit;
- Public knowledge & awareness raising.



Key Issues related Transport

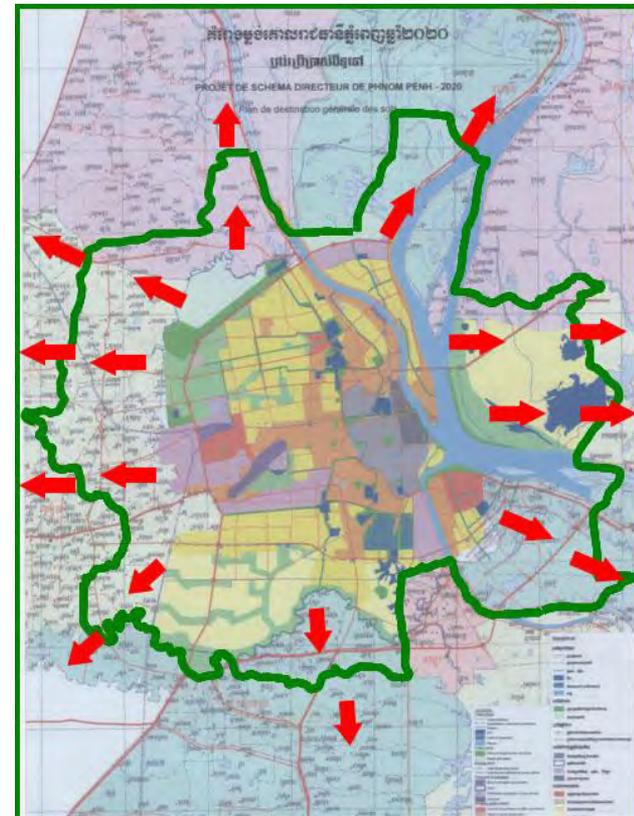
5. Fuel Quality & Standards

- Absence/No Law captioned specific contents requirement of fuel products/quality control
 - *Absence of fuel quality standards;*
 - *Only few fuel parameters included in Sub-decree on Air Pollution & Noise Disturbance Control;*
 - *Fuel imported largely from neighboring countries, where the quality of such depends;*
 - *Fuel quality not well known due to limited study;*
 - *Smuggling & adulteration of fuels;*
 - *Limited public knowledge & awareness.*



Key Issues related Transport

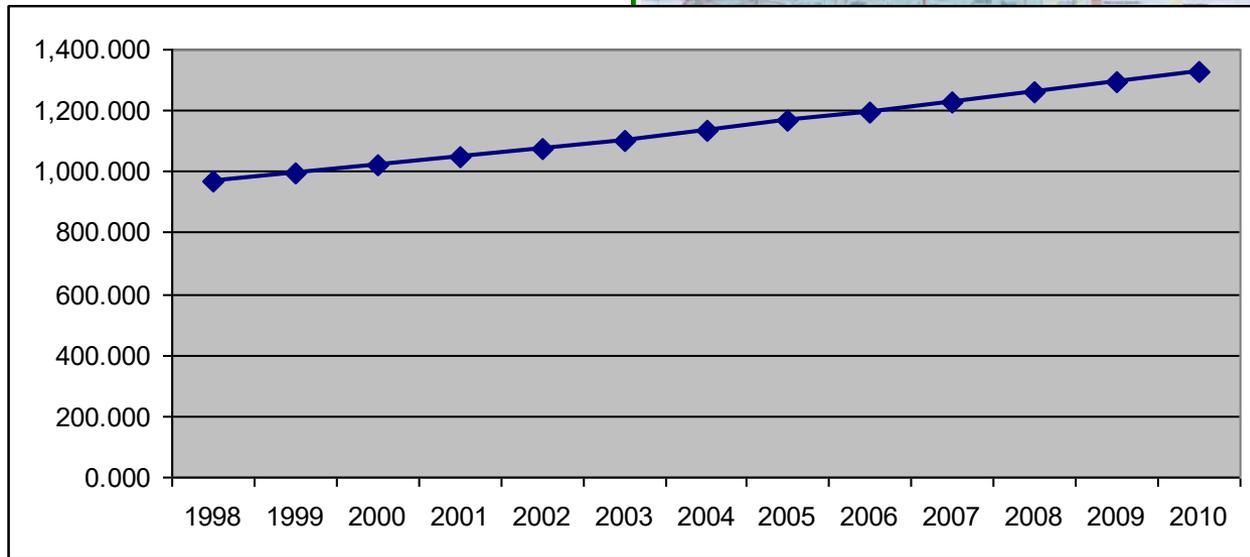
6. Public Transport Planning & TDM



Phnom Penh Population

Phnom Penh Municipality	
Land Area in Km2	290

Population in '000' (March 2008 Census)	
1998	967.192
1999	993.219
2000	1,019.946
2001	1,047.392
2002	1,075.578
2003	1,104.521
2004	1,134.244
2005	1,164.766
2006	1,196.109
2007	1,228.297
2008	1,261.350
2009	1,295.292
2010	1,330.149





6. Public Transport Planning & TDM



- *Increase in Urbanization - City Sprawling;*
- *Increase in Traffic Volume - Vehicle Ownership;*
- *Traffic Congestion & Traffic-Related Problems;*
- *Poorly managed traffic control network/system - Mixed traffic flow;*
- *Absence of city buses from mix, No LRT/MRT;*
- *Private-led Public Transport Connecting PNH-Provinces-PNH;*
- *Weak enforcement of traffic law & transport-related legislations;*





From Strategy To Action

- Budget allocated for rebuilding/repairing road network should include the focus on moving people/goods rather than the vehicles to facilitate economic growth and social development;
- Devt. of clear roadmap to manage the demand for private transport use, part. private cars & motorcycles;





Key Issues related Transport



7. People & Env. Friendly Transport Infr. Dev.

- *Increasing capacity for motor-vehicle traffic;*
- *Conflict amongst road users;*
- *Mixed use of roads/Physical barriers;*
- *Private motorized traffic not restricted in crowded area;*
- *No cycle-track & sidewalk networks & overpasses;*
- *No car-free zone;*
- *Pollution (air & noise).*





From Strategy To Action

- Infrastructure dev. planning includes NMT modes to any great extent;
Recognises the needs of the NMT modes & makes suitable provision for them;
- construct adequate drainage facilities since some urban roads prone to flooding, hampering transport movements & causing heavy congestion.





Key Issues related Transport

8. Road Safety & Maintenance

- Transport Infrastructure in general not yet in good condition
 - Rapid growth of population & economic activities;
 - Infrastructure dev. not sufficiently provided to meet the people's access & mobility needs with a sustainable, safe & healthy environment;
 - Inadequate transport facilities & mangt. system;
 - Insufficient road maintenance;
 - Mangt. of traffic flow;





Driving without wearing helmet



Driving without helmet wearing helmet and with phone using





Overloading



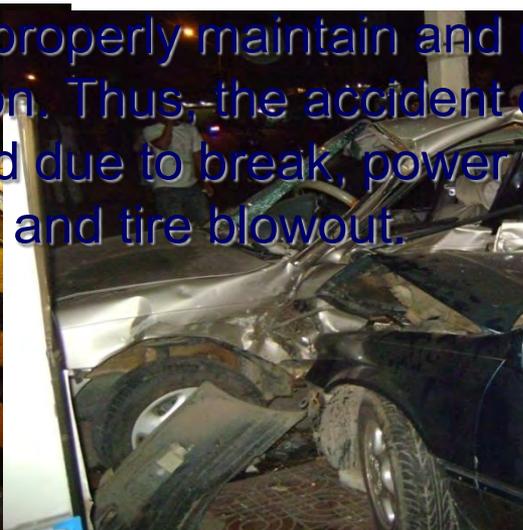


Key Issues related Transport

– Increased road casualties per annum as 4.8 people died/day by road accidents

- *Traffic law not widely disseminated & enforced;*
- *Improper use of public roadway & pavement;*
- *Signs, road marking/delineation not adequate;*
- *Lack of Vehicle Maintenance and Inspection*

– Vehicles have caused road accident, since the owners did not properly maintain and regularly inspect during the operation. Thus, the accident can be immediately occurred due to break, power steering and headlight failures, and tire blowout.





From Strategy To Action

- Increase capacity of road network, but at the expense of safety of vulnerable road users like pedestrians, motorcyclists, non-motorized vehicle occupants;
- Develop urban safety mangt. strategy to reduce number & severity of road crashes;
- Involve both public & non-public agencies to deal with road safety issues;
- Promote public awareness & consciousness on road safety;
- Mangr'l improvt. & funding for road maintenance.





Awareness Raising Program To Improve Road Safety -- The Increasing In Helmet Wearing & Mirror By Road Users





Increase In Seatbelt Wearing While Driving





Respect to the road sign





Over-Speed Driving Control By Police





Alcohol Testing To Drivers At Night





Key Issues related Transport

9. Traffic Noise Management

10. Knowledge Base & Public Awareness

11. Gender Perspectives



Many Thanks For Your Attention!

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