



Country Presentation, CAMBODIA

Environmentally Sustainable Transport Strategy Formulation

By: (1) **VONG Pisith**, Deputy DG & MPWT/EST NC
(2) **CHUON Chanrithy**, Director & MoE/EST NC

*Fourth Regional EST Forum in Asia
24-26 Feb. 2009
Seoul, Republic of Korea*



Contents

- **Background & Introduction**
- **Key Issues Related Transport**
- **The Way Forward - From Strategy
To Action**

Background



National dialogue-cum-training workshop on
"Environmentally Sustainable Transport Policy"
26-28 June 2006, Siem Reap, Cambodia





National Consultation Workshop on "1st Draft EST Strategy", 03-04 Dec. 2007, Phnom Penh, Cambodia





National Expert Consultation Meeting on "2nd Draft EST Strategy", 2-3 Oct. 2008, Preah Sihanoukville, Cambodia





Outline for Nat'l Strategy-cum-AP



- EXECUTIVE SUMMARY
- SECTION 1 - INTRODUCTION
 - *Major Trends & Developments in the Transport Sector & Its Impacts*
- SECTION 2 - KEY ISSUES RELATED TO THE TRANSPORT SECTOR IN CAMBODIA
- SECTION 3 - STRATEGIC CHALLENGES
- SECTION 4 - THE WAY FORWARD - FROM STRATEGY TO ACTION
- SECTION 5 - IMPLEMENTATION & FINANCIAL MECHANISMS
- SECTION 6 - CONCLUSIONS & RECOMMENDATIONS



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 within the last three years;*
 - *Traffic congestion experienced twice daily;*
 - *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 PM_{25} and/or PM_{10} .*



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

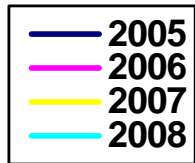
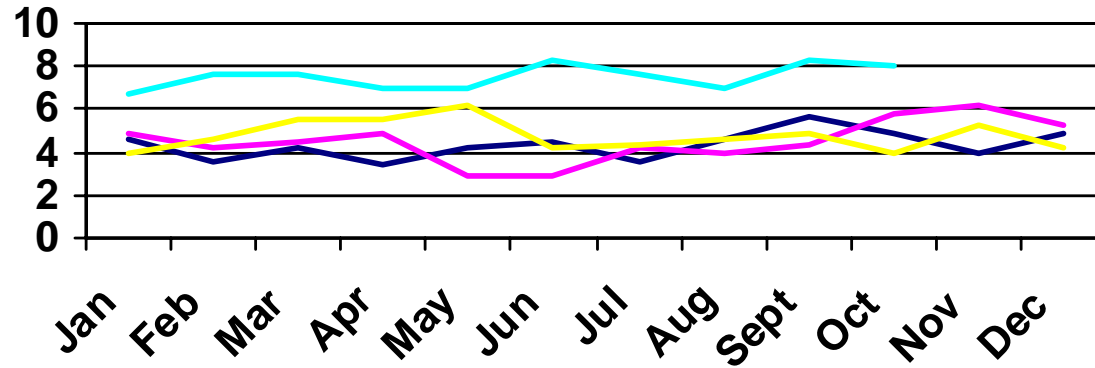


2. Roadside Air Q. Monitoring & Mangt.

- 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/or roadside concentrations of air pollutants;*
 - *Unclear and/or non-existent monitoring program of ground-level air quality at designated locations and congested intersections by vehicle volume;*
 - *Weak enforcement of existing regulations;*
 - *Constraint in HR capacity, facilities & budget.*

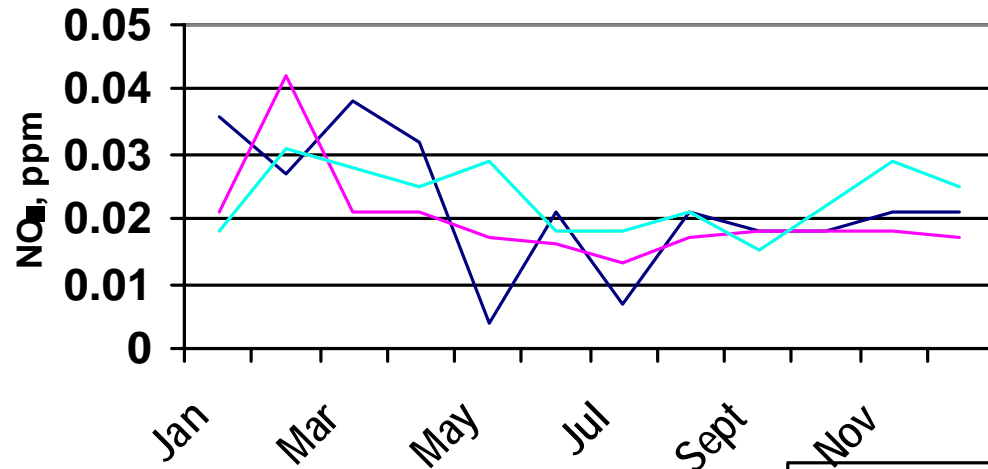


The Mean CO Concentration in Ambient Air at Selected Areas in PNH (2005-2008)

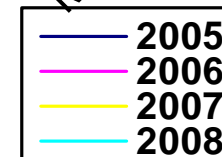


Month

The Mean NO₂ in Ambient Air at Selected Areas in PNH (2005-2008)



Month





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 Reltd. Legislations
 - *Increased second-hand vehicles imports (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. Regulation of 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

5. Inspection & Maintenance of Vehicles

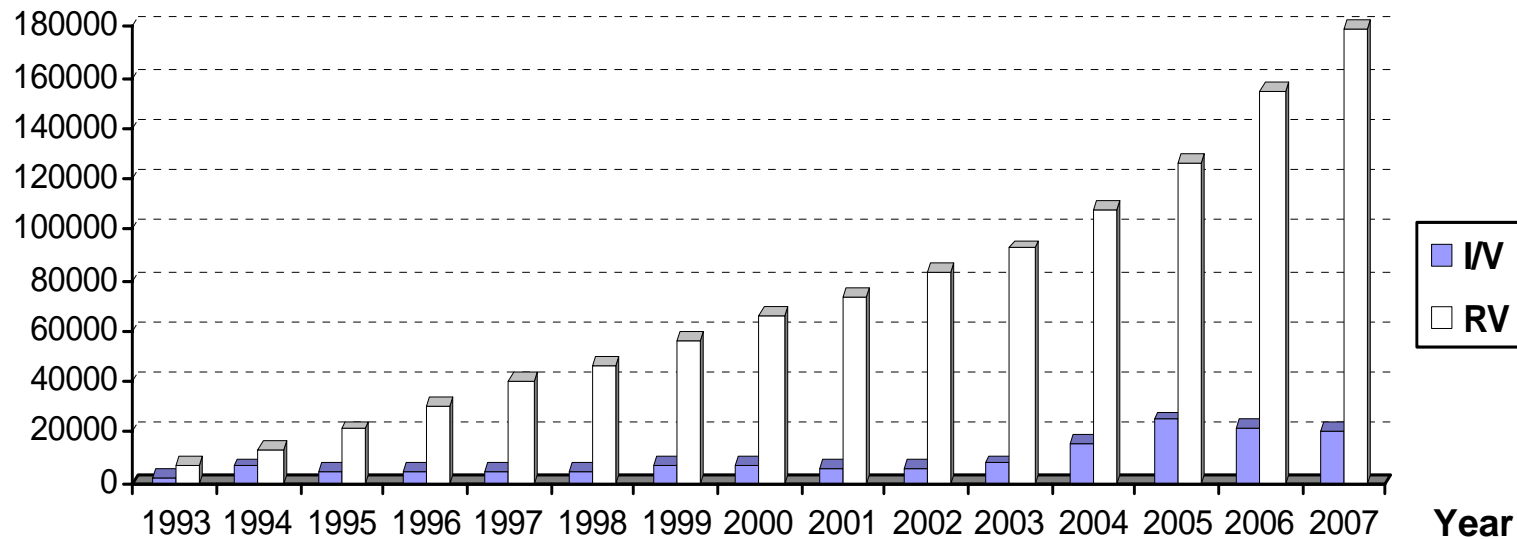
- Emission Standards Set at Low Level (EURO 1)
- Fuel & Vehicle Standards Not Tied/Matched
 - *Limited number of Testing Stations;*
 - *Unknown standard used in testing (Tailpipe emission);*
 - *Increase in emission at congested intersection;*
 - *Increase in road accidents;*
 - *New Land Traffic Law Slowly Enforced;*
 - *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





From Strategy To Action



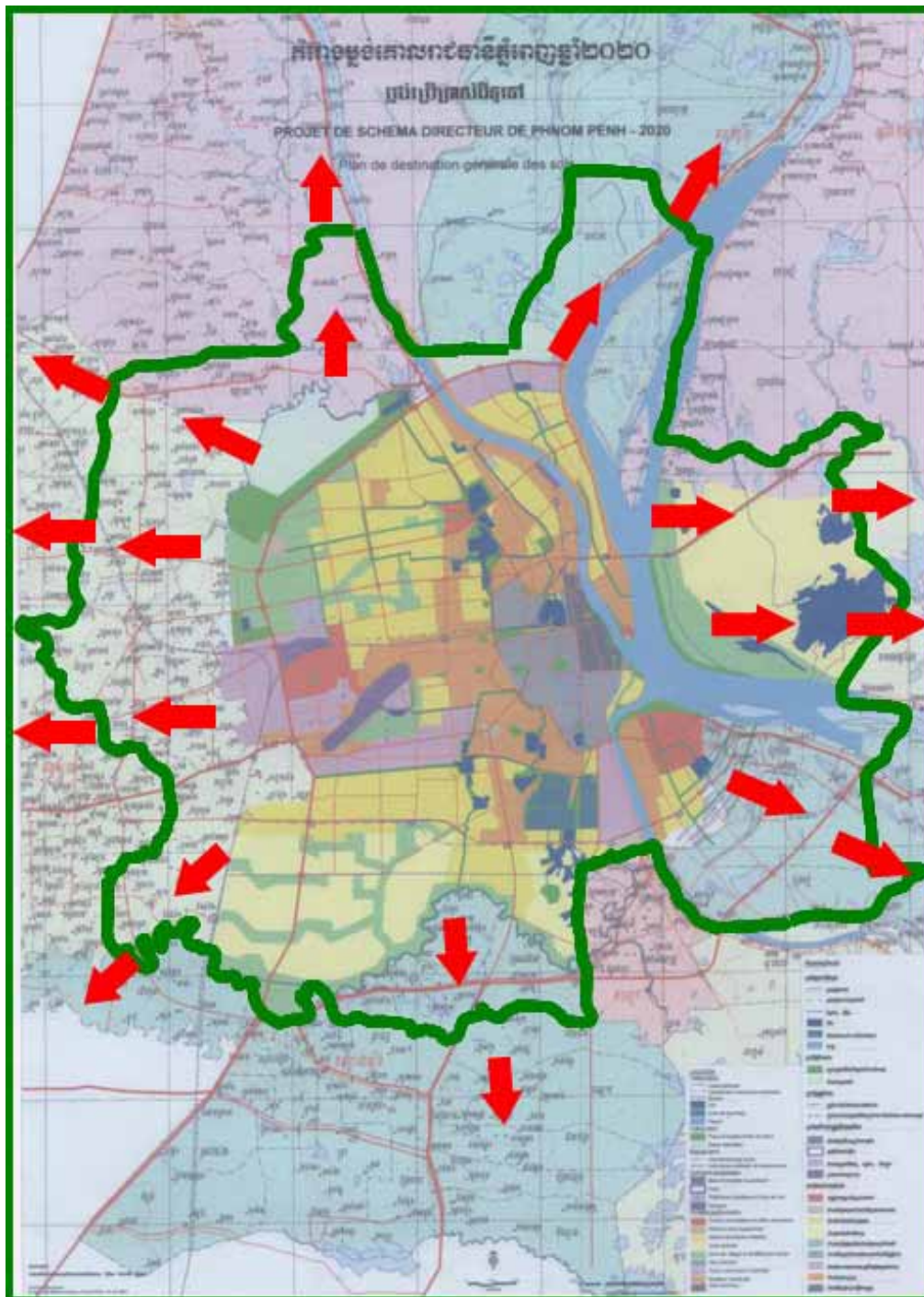
- Land Traffic Law approved in Feb. 2007;
- Reinforcement of laws and policies related to inspection and maintenance;
- Decentralized I/M stations to local authorities;
- Capacity building to upgrade knowledge & skills of inspectors & traffic police to promote law enforcement;
- Skill exchange visit;
- Public knowledge & awareness raising.



Key Issues related Transport

6. Public Transport Planning & TDM

- *Increase in Urbanization - City Sprawling;*
- *Increase in Traffic Volume - Vehicle Ownership;*
- *Traffic Congestion & Traffic-Related Problems;*



ITEMS	2008	2015
GDP/Capita in USD	350	447
Population in mil.	1,17	1,80
Employment (10 ³)	830	1,006
Nb. of Motor-Vehicles	78,000	136,000



Key Issues related Transport



- *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;



From Strategy To Action



- Re-Introduce the low-cost and efficient city bus services (BRT);
- Study on Mass Transit Alternatives with different costs (low-cost MRT & easily operated, as well);
- Conduct the study of TDM;
- Draw up the TDM measures & enforce.



Key Issues related Transport



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

- *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 Not Yet In Good Condition and Well Maintained
 - 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;



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.



Key Issues related Transport



9. Traffic Noise Management

10. Knowledge Base & Public Awareness

11. Gender Perspectives



Many Thanks For Your Attention!



Email Address: cchanrithy@gmail.com
vong_pisith@yahoo.com