



Republic of the Philippines
Department of Environment and Natural Resources
Kagawaran ng Kapaligiran at Likas na Yaman



Republic of the Philippines
Department of Health



Republic of the Philippines
Department of Transportation and Communications

Formulation of a National EST Strategy for the Philippines

Country Report

Fourth Regional Environmentally Sustainable Transport (EST) Forum

Seoul, Republic of Korea

24 – 26 February 2009

Outline

A. Current conditions in the Philippines

- i. Impacts of climate change in the Philippines
- ii. Impacts of unsustainable transport in the Philippines
- iii. Current data and efforts (BRT, Cycling, etc.)
- iv. Urgency for EST

B. Formulating a National EST Strategy for the Philippines

- i. Project framework and DOTC log-frame
- ii. Participatory approach
- iii. Descriptors, strategies and indicators (per thematic area)

C. Outcomes of Strategic Planning

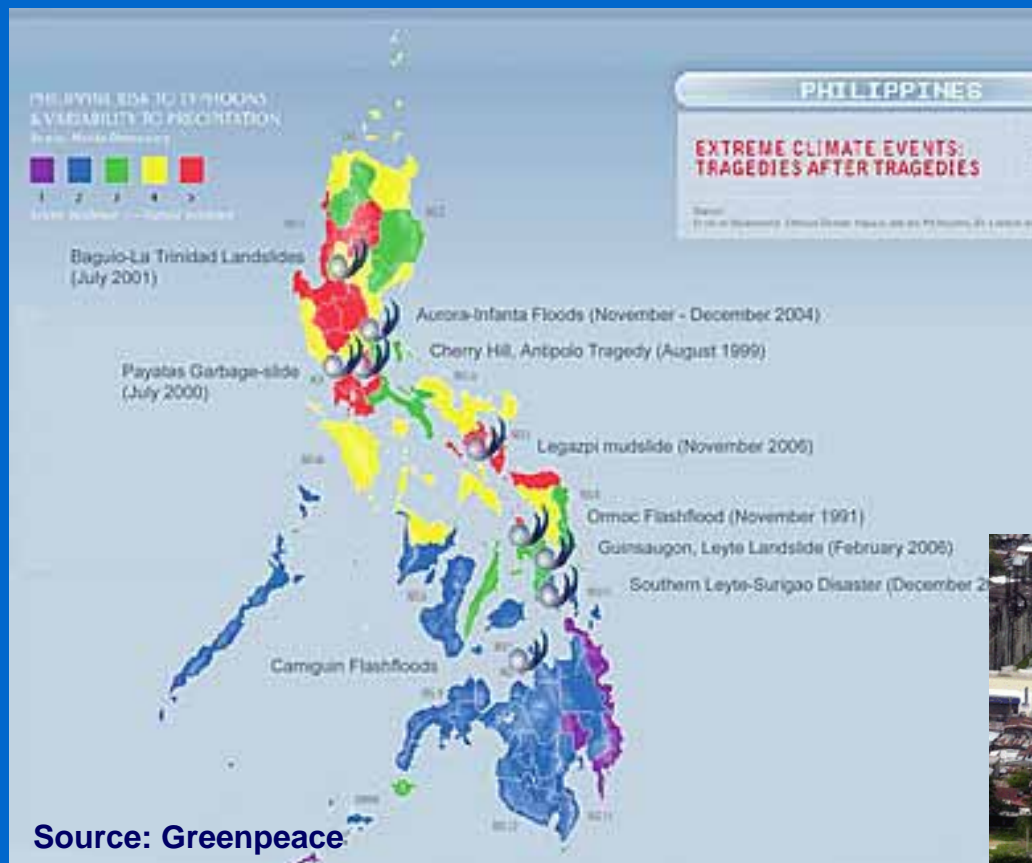
- i. Assessments
- ii. Strategies, Targets and Resource Planning

D. Timetable

Formulation of a National EST Strategy for the Philippines

A. Current Conditions

i. Impacts of climate change



Philippines population: 90M
Metro Manila population: 11.8M



A. Current Conditions

i. Impacts of unsustainable transport

Traffic Congestion



Environment



A. Current Conditions

i. Impacts of unsustainable transport



**Smoke-Belching Bus Along
C-4 Road (EDSA Avenue)**

Photo Courtesy of the Partnership for
Clean Air (PCA)

Magnitude of the Environmental problem

Based on the 2007
National Emission
Inventory mobile
sources contribute **65%**
of the air pollution load
nationwide

A. Current Conditions

i. Impacts of unsustainable transport

Traffic Accidents



A. Current Conditions - ii. Current data and efforts

Cross section of road transport services in the Philippines

SERVICES REGIONS	Public Utility Bus		Mini Bus		Public Utility Jeepney		Taxi	
	a. Aircon		a. Aircon		a. Aircon		a. Aircon Sedan	
	b. Regular		b. Regular		b. Regular		b. Regular Sedan	
	c. Articulated		c. Dual		c. Dual		c. Mega-taxi	
	d. Double Decker		d. Inter-Regional					
	e Inter-Regional Buses							
	Franchise	Units	Franchise	Units	Franchise	Units	Franchise	Units
CO	1,406	11,777	0	0	8,482	10,461	14,949	18,767
NCR	0	0	0	0	47,518	48,366	3,819	4,342
I	1,337	1,697	12	14	9,960	11,020	0	0
II	717	1,443	123	140	9,104	9,662	0	0
III	0	0	450	1,453	27,313	31,734	36	184
IV	366	1,105	701	974	39,751	42,183	45	190
V	869	1,647	69	100	7,386	7,878	8	9
VI	573	705	1,306	1,376	13,058	14,102	1,775	2,037
VII	1,029	2,111	2	2	9,783	11,563	2,862	5,159
VIII	803	1,160	988	1,076	5,336	6,571	75	97
IX	109	202	542	677	3,600	4,156	9	37
X	6	730	196	237	5,319	6,830	888	1,700
XI	133	809	75	95	8,431	9,577	1,637	3,728
XII	6	28	147	199	2,398	2,885	76	124
GRAND TOTAL	7,354	23,414	4,611	6,343	197,439	216,988	26,179	36,374

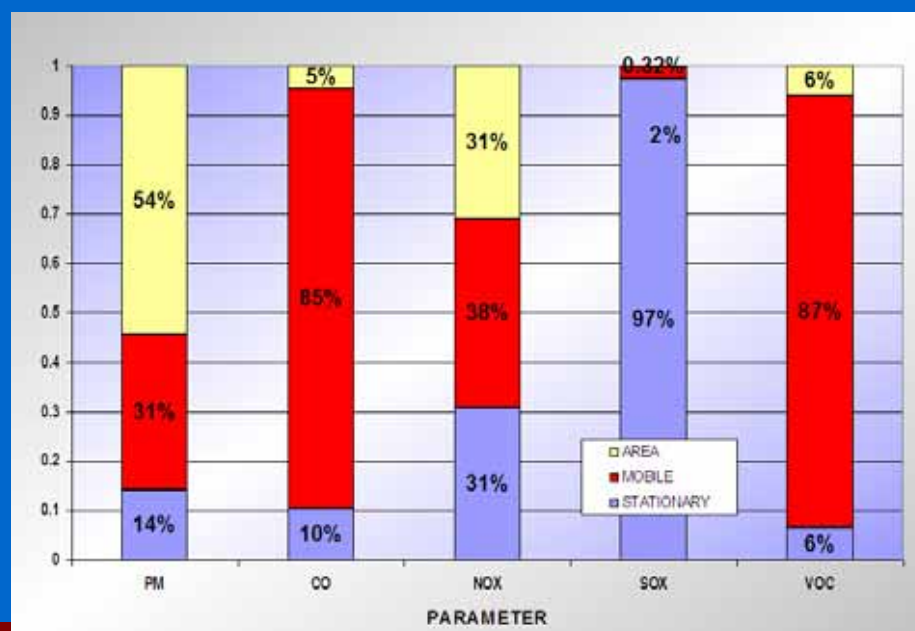
Source: LTFRB

A. Current Conditions

ii. Current data and efforts

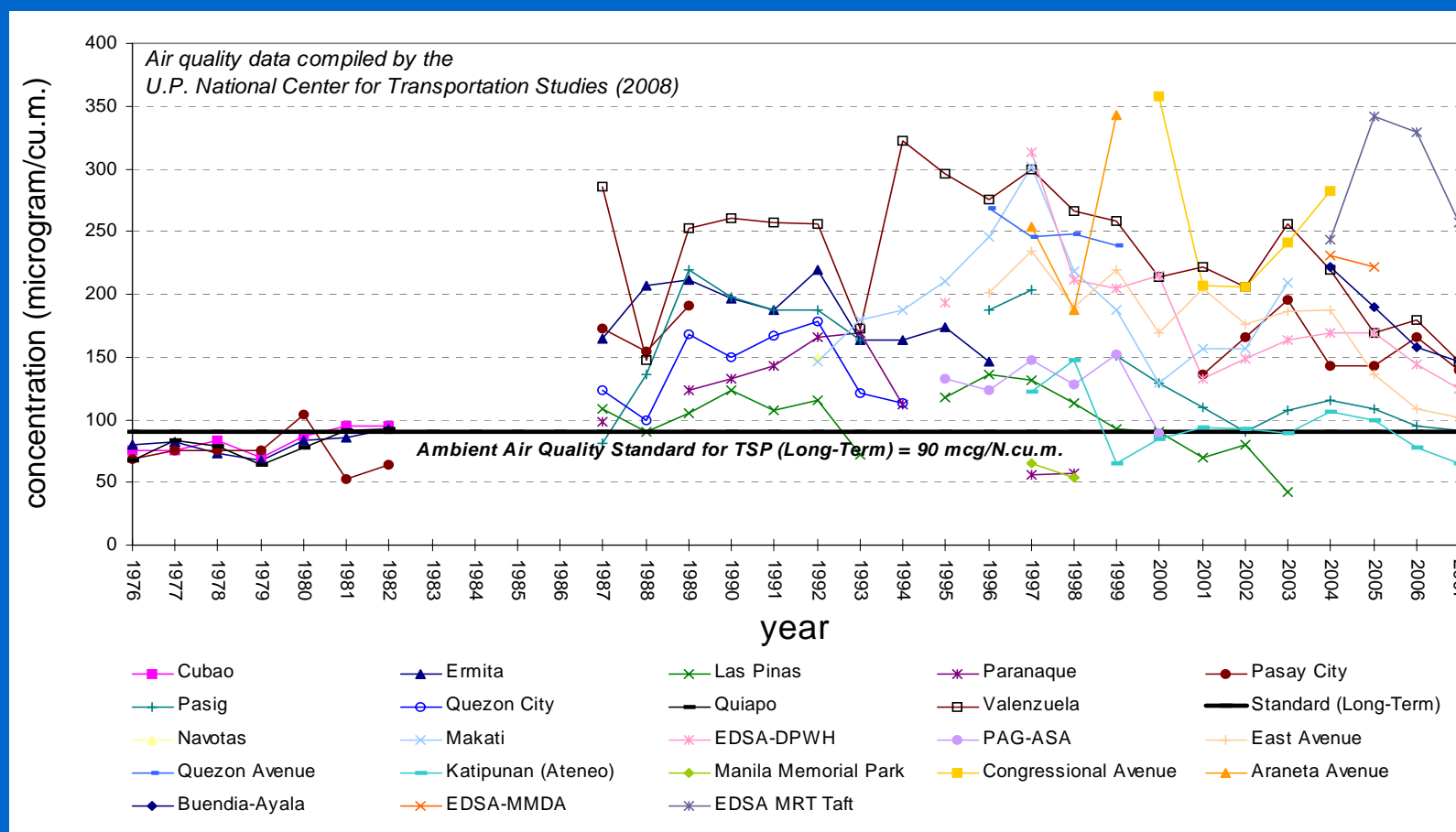
2007 NATIONAL EMISSION INVENTORY ACCORDING TO AIR POLLUTANTS

	PM	CO	NOX	SOX	VOC	Total Share
STATIONARY	14.13%	10.26%	30.82%	97.35%	6.48%	20.87%
MOBILE	31.44%	85.03%	38.26%	2.33%	87.42%	65.13%
AREA	54.42%	4.71%	30.92%	0.32%	6.10%	14.01%



Total Suspended Particulates (TSP) 1976-2007

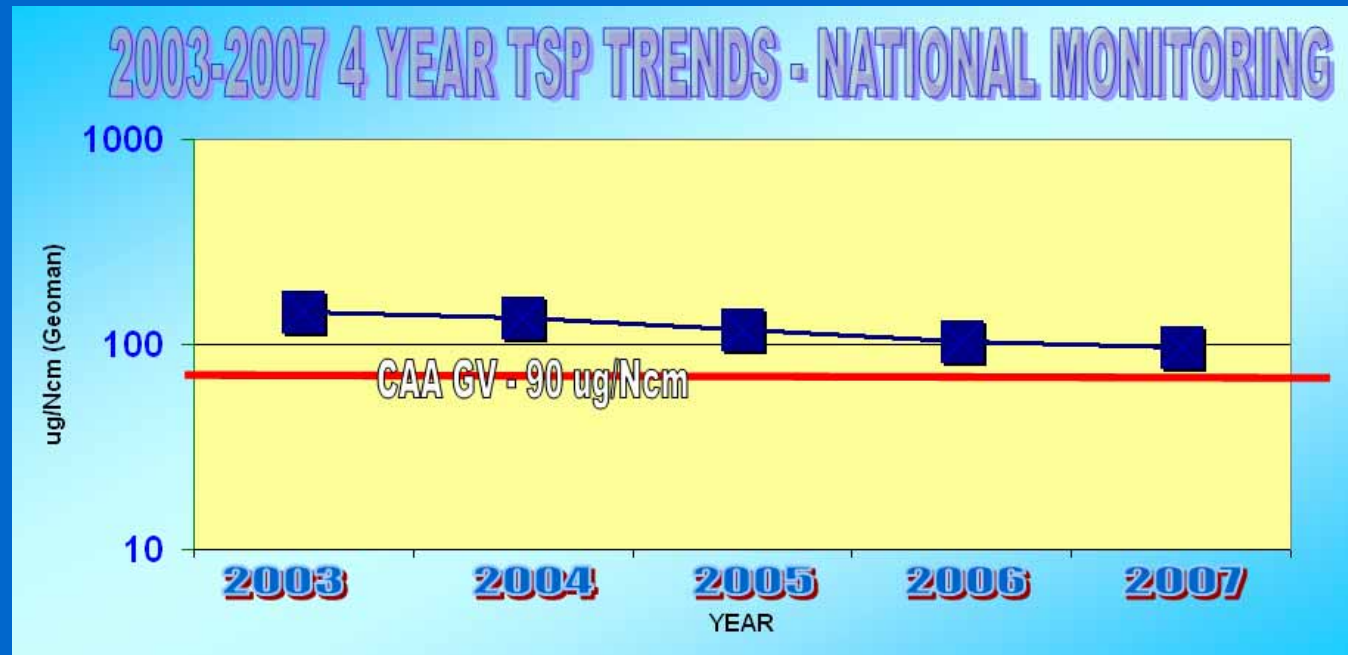
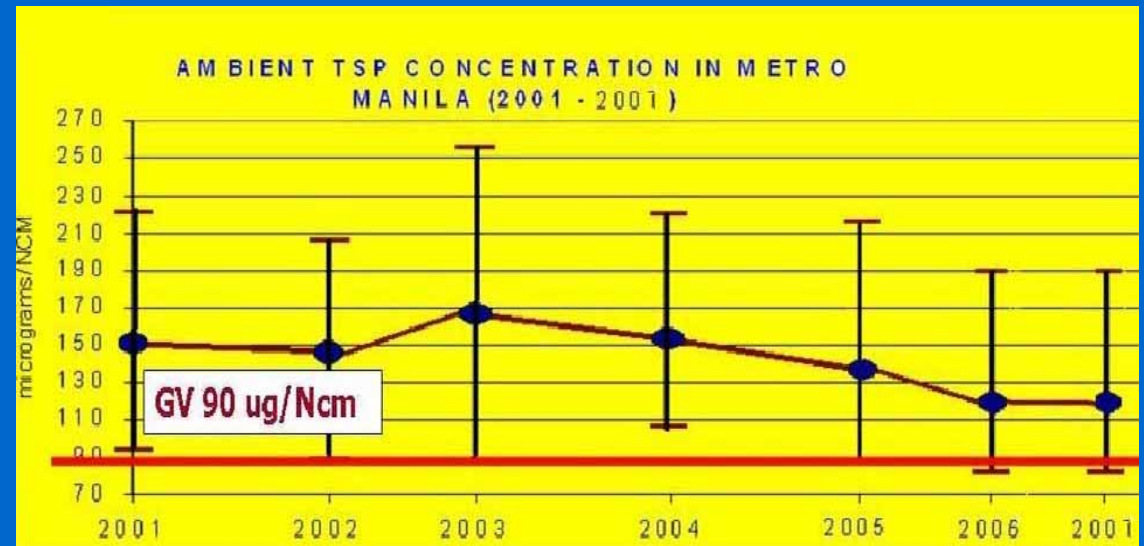
- 11-13% increase in 2002-2004
- 8-12% drop in 2004-2006



Annual Average Concentration of Total Suspended Particulates

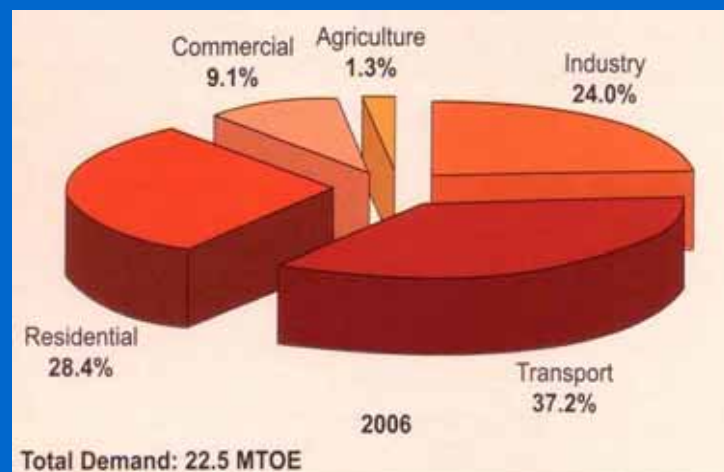
Data Sources: Department of Environment and Natural Resources Environmental Management Bureau, Philippines (DENR-EMB), DENR National Capital Region, Philippines (DENR-NCR) and Partnership for Clean Air (PCA)

Air Quality in Metro Manila and the Philippines

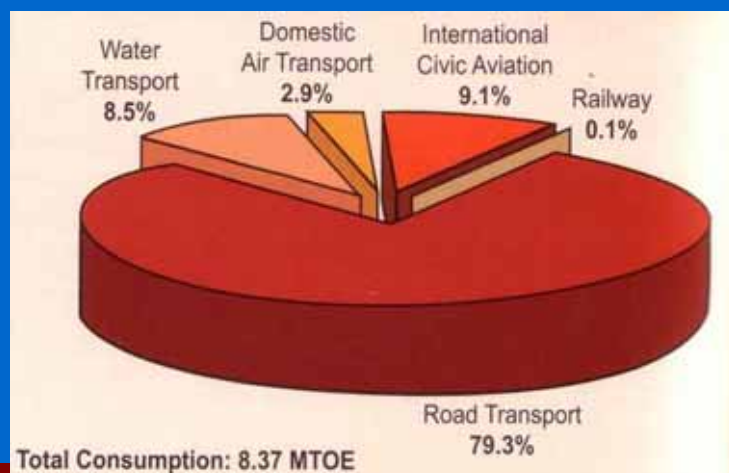


A. Current Conditions

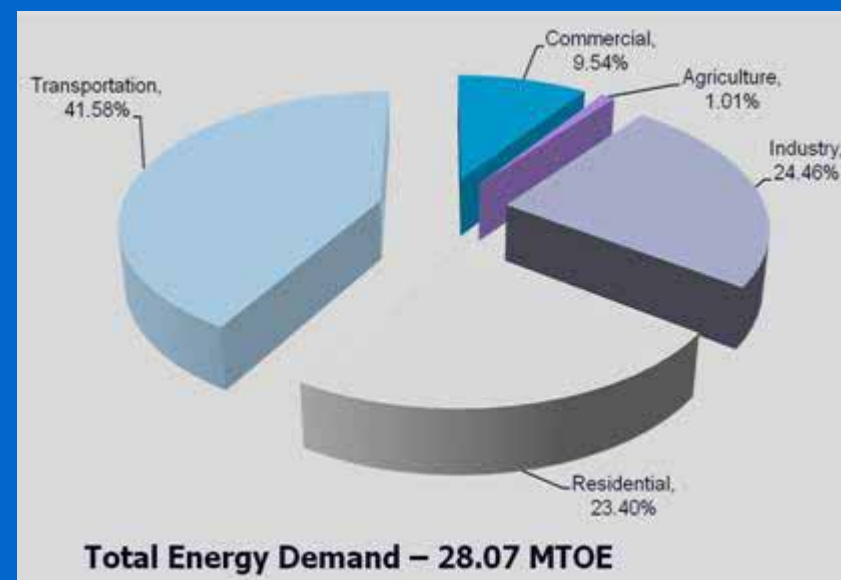
2006 Energy Demand by Sector



2006 Transport Energy Consumption

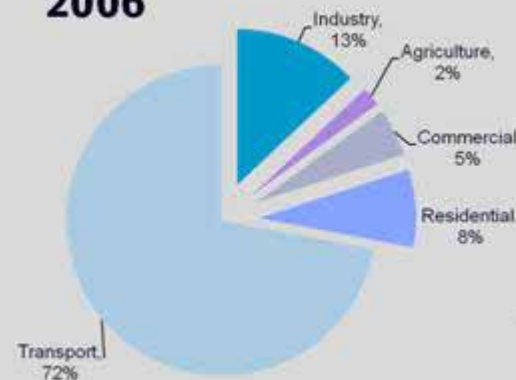


2008 Energy Demand by Sector

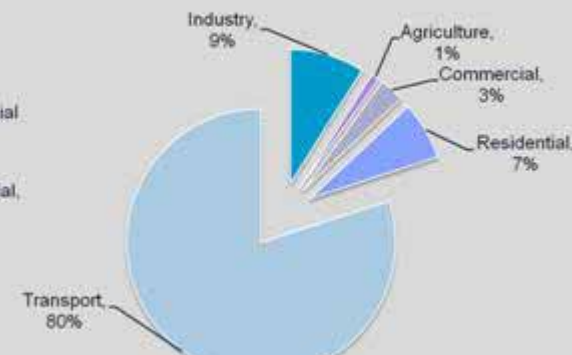


Sectoral Consumption of Oil

2006



2007



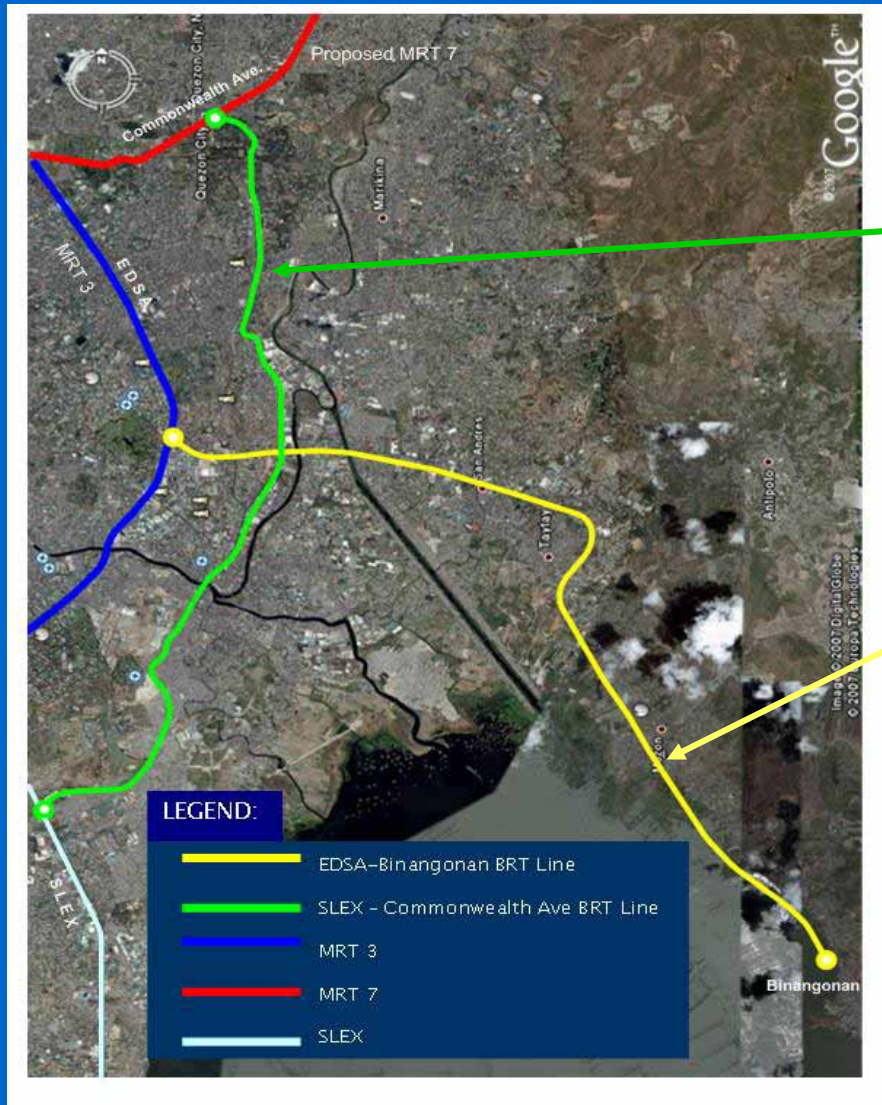
A. Current Conditions

ii. Current efforts – Cost-efficient and environment friendly mass transit options

Introduction of Bus Rapid Transit (BRT) in Cebu City



Pre-feasibility Study on BRT System for Greater Metro Manila



Two pilot routes were identified:

1) C5 (SLEX -Commonwealth Ave.): 21km.

assessed to have a very high potential for growth or development; least resistance from various stakeholders

2) EDSA-Binangonan: 24km.

selected for its potential to demonstrate the importance of BRT in servicing both urban and suburban areas.

Formulation of a National EST Strategy for the Philippines

A. Current Conditions

ii. Current efforts

Cycling



A. Current Conditions

ii. Current efforts

- a) Setting emission standards for motor vehicles
- b) Strengthening ambient air monitoring
- c) Cleaner fuels
- d) Jeepney upgrading through Cleaner Public Transport Financing Program

DENR interventions

Emission Standards for In-use Vehicles with Spark Ignition Engines Except Motorcycles

Vehicle Registration	CO (% by volume)	HC (ppm as Hexane)
Registered for the first time after 31 December 2007	0.5	250
Registered for the first time on or after January 1, 2003 but before January 1, 2008	3.5	600
Registered for the first time on or before December 31, 2002	4.5	800
* at idle		

Emission Standards for In-Use Motorcycles

Vehicle Registration	CO (% by volume)	HC** (ppm as Hexane)
Registered for the first time on or before 31 December 2002	6.0	Urban centers: 7,800
Registered for the first time after 31 December 2002	4.5	Rural areas: 10,000
* at idle		** regardless of date of registration

DAO 2007-27, all new MV types to be introduced in the market beginning January 1, 2008 shall comply with **EURO 2** Emission Limits

Next: EURO 4

A. Current Conditions

ii. Current efforts

Capacity Building for Mainstreaming EST in Local and Metropolitan Development



- ❑ “Consultation Seminar-Workshop on Sustainable Metropolitan Development,” 1 September 2006;
- ❑ “Executive Conference on Sustainable Metropolitan Development,” 10 October 2006;
- ❑ “Middle Management Course on Environmentally Sustainable Transport (EST) and Metropolitan Development,” 25-26 November 2006;
- ❑ “Capacity-Building Program on Mainstreaming Environmentally Sustainable Transport (EST) in Local and Metropolitan Development,” 16 February-30 March 2007

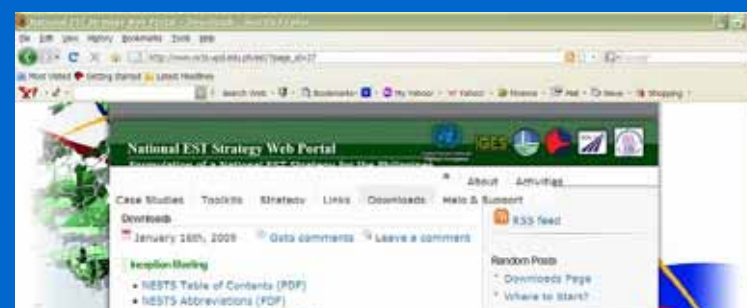
A. Current Conditions

ii. Current efforts

Capacity Building and Social Marketing for EST

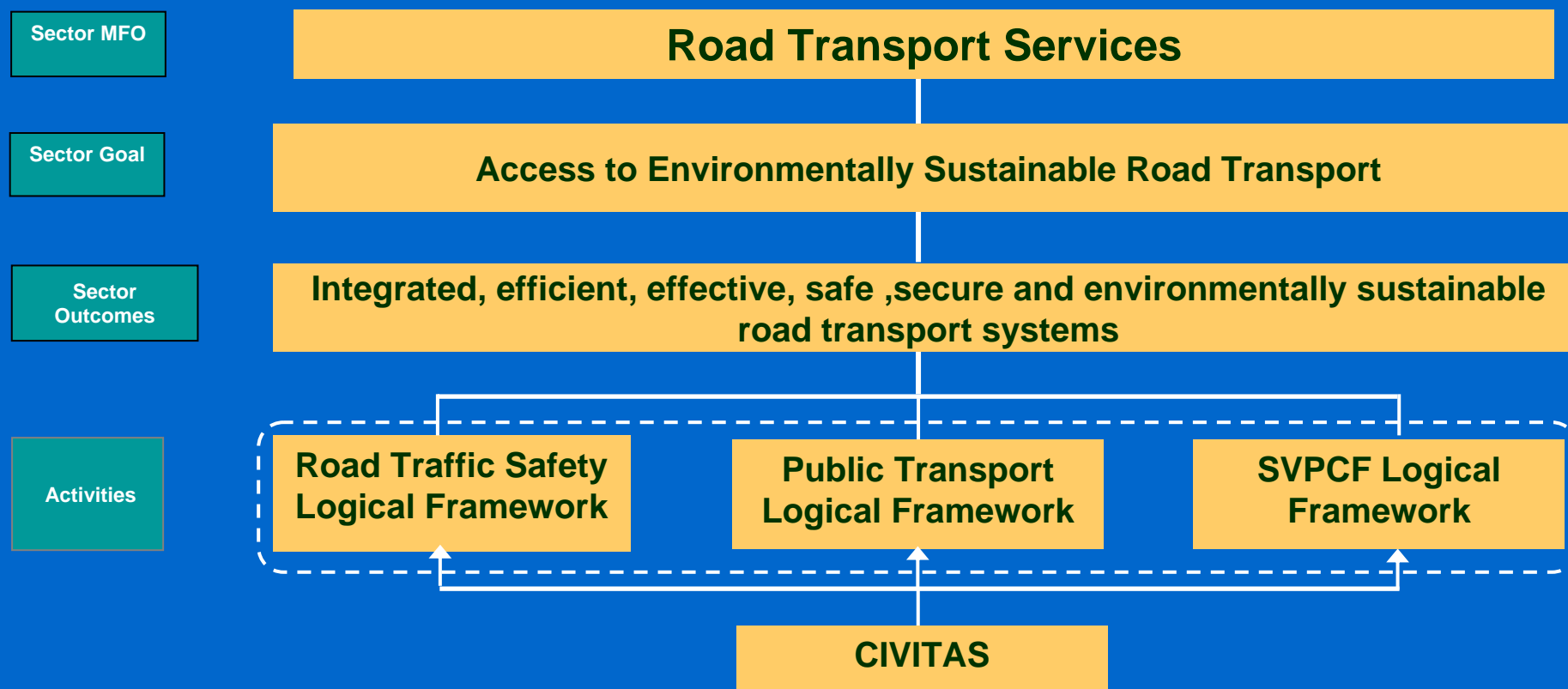


- ❑ Develop innovative knowledge products (such as toolkits, guidebooks, and training modules) on EST project identification, implementation, monitoring and evaluation
- ❑ Conduct of national conference to promote broad-based awareness and support and engage key policy and decision-makers
- ❑ Development of web portal and on-line collaboration facility to assist networking among concerned stakeholders



Formulation of a National EST Strategy for the Philippines

ROAD TRANSPORT SUB-SECTOR LOGICAL FRAMEWORK



A. Current Conditions

iii. Urgency of EST

- a) Where is the Philippines currently heading to?
[issues & challenges]
- b) Where does the Philippines want to head to?
[i.e., goals and visions]
- c) How will the Philippines head to those desired situations/achieve these goals? [i.e., strategies, measures, actions, financial mechanisms]

A. Current Conditions

iii. Urgency of EST

To develop and mainstream EST strategies that are sensitive to future development scenarios

Scenarios include: economic growth, population growth, urbanization, increase in vehicles

National Focal Agencies:

Department of Transportation and Communications
Department of Environment and Natural Resources

National Collaborating Center:

National Center for Transportation Studies,
University of the Philippines Diliman

A. Current Conditions

iii. Urgency of EST

Overall Goal of the National Strategy:

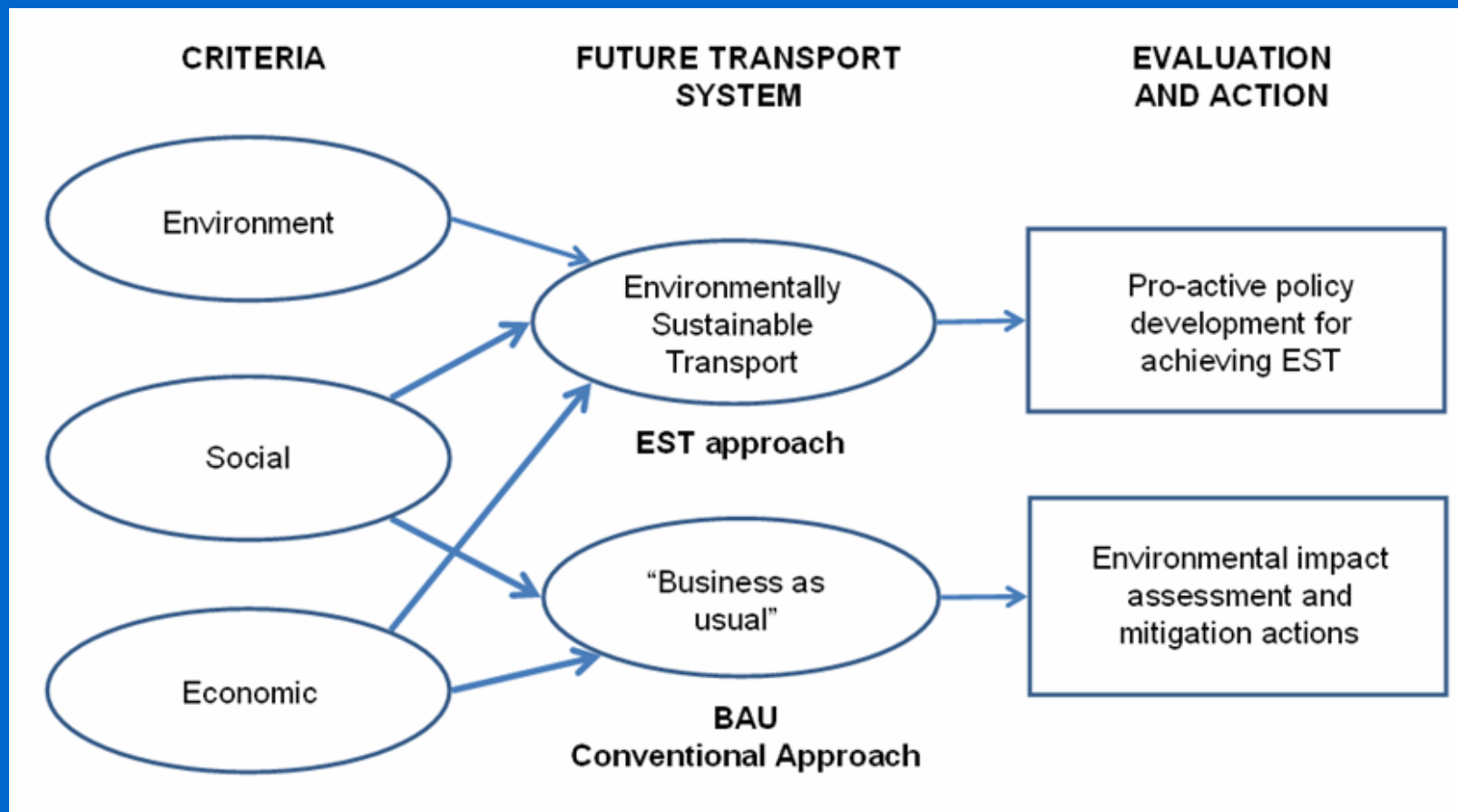
- ✓ **Reduction of the annual growth rate of energy consumption and associated GHG emissions** from the transport sector in urban areas of the country
- ✓ **Mainstream environmentally sustainable transport (EST)**, which involves, among others, the promotion of transportation systems of low carbon intensity and shift towards the use of more sustainable transport modes



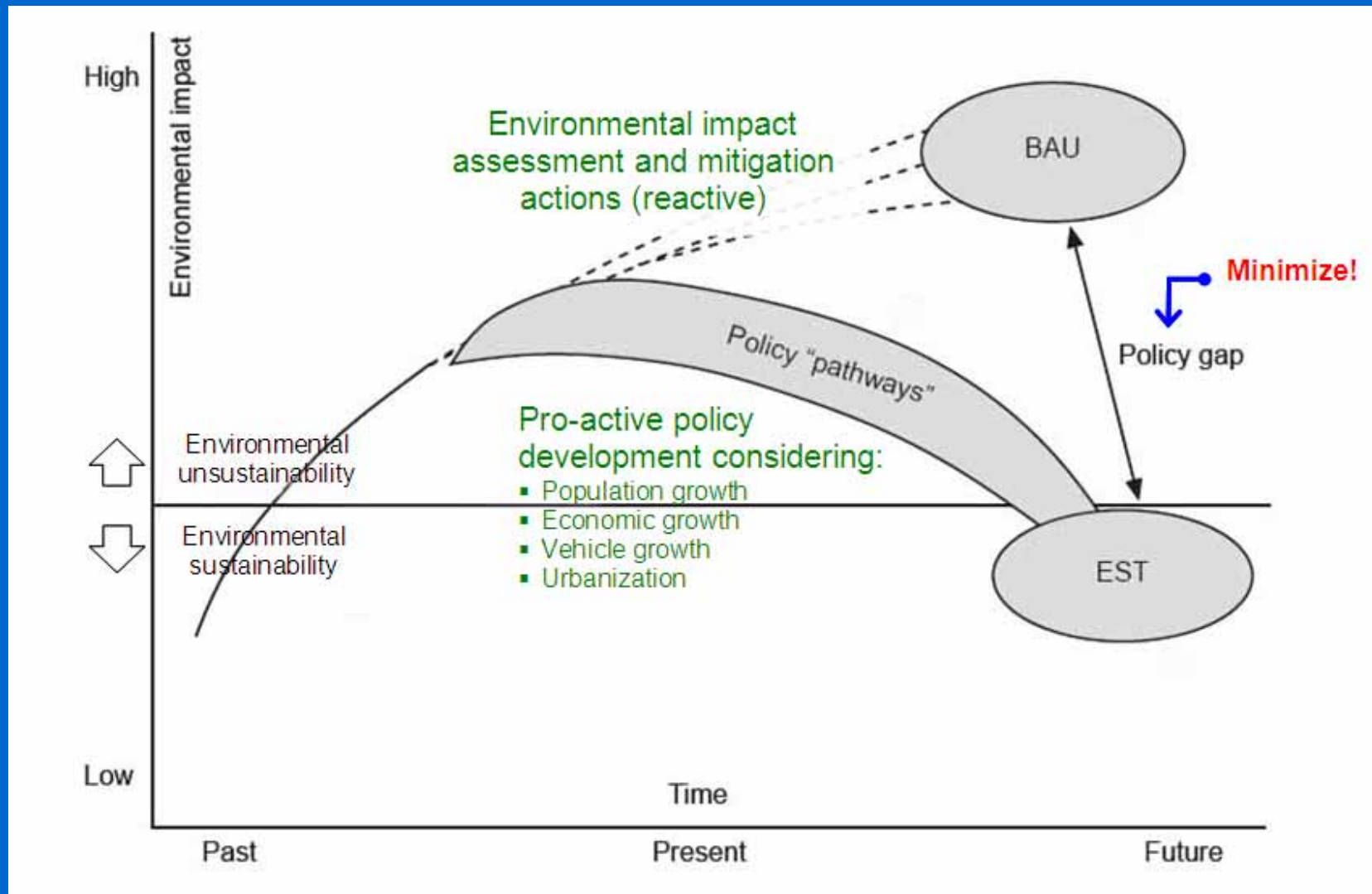
B. Formulating the National EST Strategy

i. Framework

Conventional approach vs. EST approach



Addressing the gaps through a proactive approach



Traditional planning vs. EST approach

- A layman's point of view -

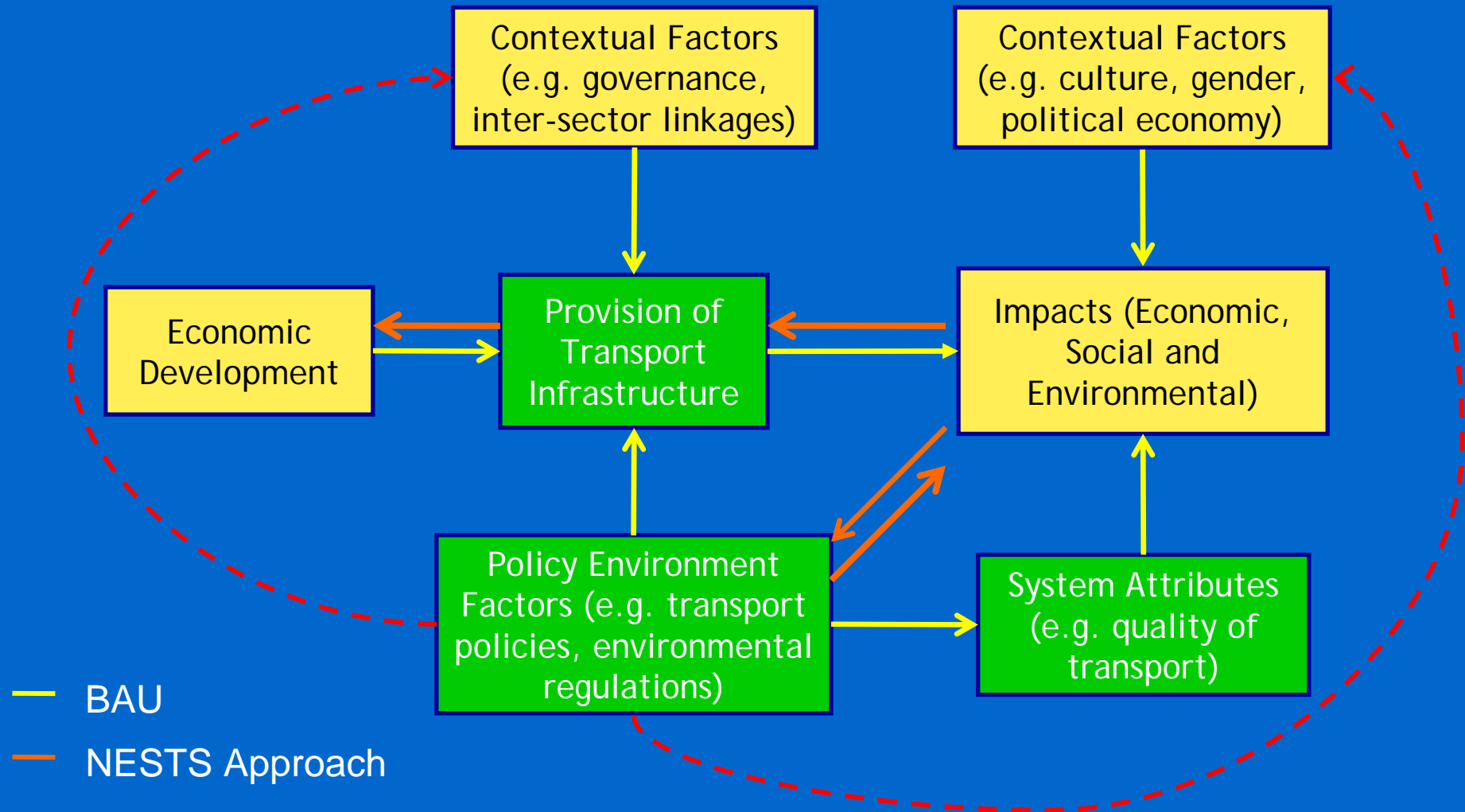
Traditional

- PREDICT AND PROVIDE
- MITIGATION MEASURES AFTER PLANS
- ENVIRONMENT TAKES THE BACK SEAT TO MOBILITY
- FOCUS ON EFFICIENCY

EST

- VIEW OF THE FUTURE
- ALL STRATEGIES WORK TOWARD THIS VISION OF THE FUTURE
- ENVIRONMENT IS AN EQUALLY IMPORTANT CONCERN
- EQUITY AND EFFICIENCY

Conceptual Framework of the Project



By way of a National EST Strategy, we can foster an EST-sensitive policy environment.

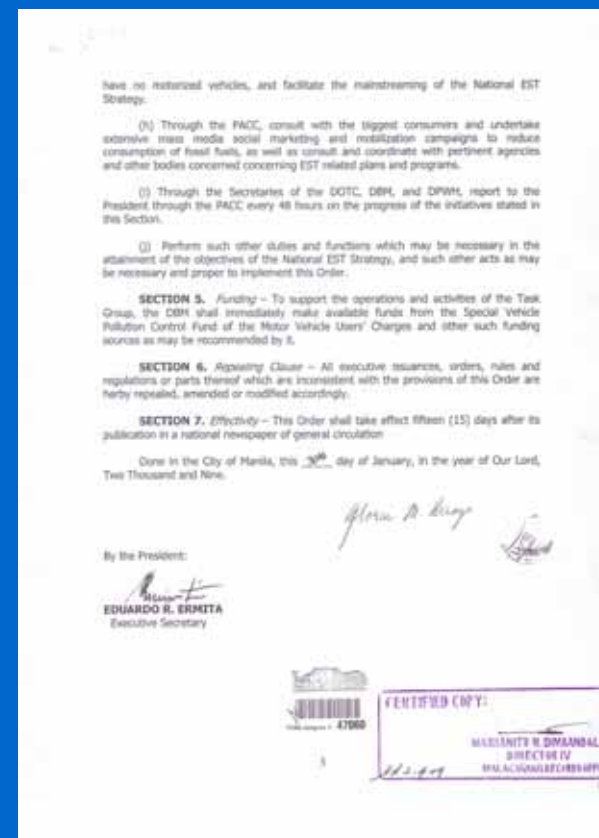
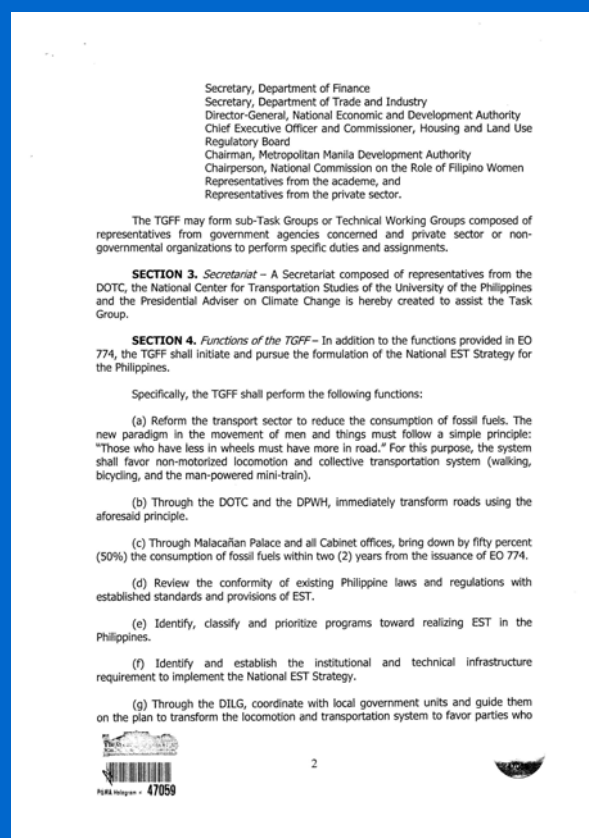
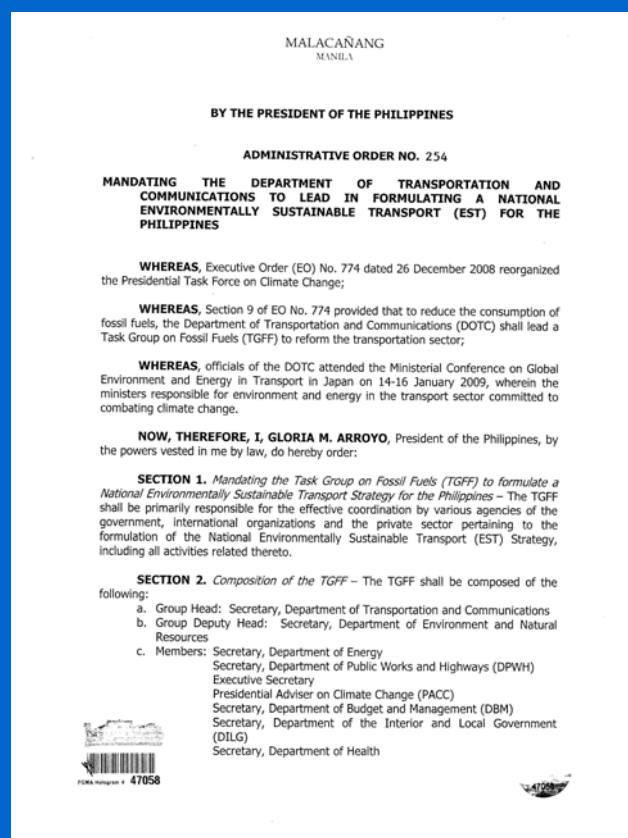
Strategy Development

The strategy should effect transformation in planning, policy-making and implementation processes in the transport sector by:

- 1) establishing an **enabling policy environment** for the implementation of EST
- 2) increasing **local government investment** on environmentally sustainable transport;
- 3) **improving the performance of in-use and locally manufactured vehicles**; and
- 4) **enhancing the capacity and awareness** of key stakeholders on EST

Formulation of a National EST Strategy for the Philippines

Presidential Administrative Order No. 254 - Formulation of a National Environmentally Sustainable Transport Strategy for the Philippines -



B. Formulating the National EST Strategy

ii. Participatory approach

Clusters for Consultation

Cluster 1: Public Health and Social Equity	• Public Health;	DOH-NCDPC, WHO, UP-CPH, DOTC, PSCT, DENR-EMB, etc.
	• Social Equity and Gender Perspectives	DOTC-LTO-LTFRB-LRTA-MRT3-PNR-OTC, NCDA, NCRFW, DSWD, NAPC, HUDCC, UP-CSWCD, UP-CWS, UP-NCPAG, Public Transport Groups , etc.

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Cluster 2: Roadside Pollution	<ul style="list-style-type: none"> Strengthening Roadside Air Quality Monitoring and Assessment; 	DOTC, DENR-EMB, LGU, MO, DOST-PNRI, etc.
	<ul style="list-style-type: none"> Traffic Noise Management; 	DENR-EMB, DOTC, LGU, DOLE-OSHC, etc.
	<ul style="list-style-type: none"> Vehicle Emission Control, Standards and Inspection & Maintenance; 	DOTC-LTO-LTFRB, DENR-EMB, DOF, BOI, DTI-BPS-BIS, TESDA, ECAP, MMASBA, UP-ME, DOE-OIMB, Public Transport Groups , etc.
	<ul style="list-style-type: none"> Cleaner Fuels 	DOE-OIMB, DTI-BPS, DOST-PCIERD, DOTC, DENR-EMB, DOE-EUMB, Public Transport Groups , etc.

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Cluster 3: Transport Planning	<ul style="list-style-type: none"> Public Transport Planning and Travel Demand Management; 	DOTC-LTO-LTFRB-LRTA-MRT3-PNR-OTC, MMDA, LGU, Public Transport Groups (e.g., Jeepney & Bus)
	<ul style="list-style-type: none"> Non-Motorized Transport; 	DOTC, MMDA, DPWH, LGU, etc.
	<ul style="list-style-type: none"> Environment and People Friendly Infrastructure Development; 	DOTC-LTO-LTFRB-LRTA-MRT3-PNR, DPWH-ESSO, DENR-EMB, MMDA, UP-SURP, NCDA, NCRFW, UAP, HLURB, etc.
	<ul style="list-style-type: none"> Land-Use Planning 	HLURB, DILG, UP-SURP, LGU, DOTC, DENR, MMDA, PIEP, etc.

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<u>Cluster 4:</u> Road Safety	<ul style="list-style-type: none">Road Safety and Maintenance	DPWH, DOTC-LTO, AAP, DOH, DILG, LGU, MMDA, Philippine Pediatric Society, SOPI, Public Transport Groups , etc.
<u>Cluster 5:</u> Advocacy and Awareness	<ul style="list-style-type: none">Knowledge Base, Awareness and Public Participation	DOTC, DPWH, DENR, PIA, PCA, MO, UP, Local Government Academy, League of Cities, League of Municipalities, Public Transport Groups , etc.

B. Formulating the National EST Strategy

Outcomes of participatory process/ consultations



Planning Horizons:

Immediate: until 2010
Short Term: until 2013

Medium Term: 2016
Long Term: Beyond 2016

Note for the following slides:

- a) Numbers after each Strategy refer to the Descriptor number.
- b) Letters after each Indicator refer to the Strategy

Formulation of a National EST Strategy for the Philippines

[1] Public Health

Descriptors	Strategies	Indicators
<p>Healthy road users through:</p> <p>(1) Reduced respiratory diseases</p> <p>(2) Good hearing/visual</p> <p>(3) Enhanced IQ of children</p> <p>(4) Stress free travel</p> <p>(5) Healthy pregnant women</p>	<p>(a) Dissemination of Information, Education, and Communication Materials (IEC) on public health hazards thru tri-media [1-5]</p> <p>(b) Conduct research and extension program to improve public health [1-5]</p> <p>(c) Strengthen public health services [1-5]</p> <p>(d) Develop monitoring tools for public health [1-5]</p> <p>(e) Formulation and promulgation of Department Administrative Orders on public health [1-5]</p> <p>(f) Adoption of EST as a planning paradigm in LGUs [1-5]</p> <p>(g) Annual medical check-up of PUV drivers [1]</p> <p>(h) Increase green areas [1]</p> <p>(i) Mandatory vehicle inspection of PUV (increased to twice a year) [1]</p>	<p>(i) Number of IEC materials produced and disseminated [a]</p> <p>(ii) Number/name of tri-media tapped for information campaign [a]</p> <p>(iii) No. of researches/ extension programs conducted (private/public funded) [b]</p> <p>(iv) No. and name of health professionals/allied medical professions tapped for service delivery [c]</p> <p>(v) No. of monitoring tools on public health developed [d]</p> <p>(vi) No. of government agencies with institutionalized monitoring and evaluation of identified EST indicators [d]</p> <p>(vii) No. of Dept. orders issued [e]</p> <p>(viii) No. of LGUs implementing localized EST [f]</p> <p>(ix) No. of EST policies/ ordinances passed [f]</p>

Example of cross-cutting indicator:

Reduced number of road traffic injuries

Formulation of a National EST Strategy for the Philippines

[1] Public Health (cont.)

Descriptors	Strategies	Indicators
<p>Healthy road users through:</p> <p>(1) Reduced respiratory diseases</p> <p>(2) Good hearing/visual</p> <p>(3) Enhanced IQ of children</p> <p>(4) Stress free travel</p> <p>(5) Healthy pregnant women</p>	<p>(j) Strict enforcement of rules/regulations/standard, e.g. enhanced anti-smoke belching operation and PETC [1]</p> <p>(k) Use of green fuels [1,5]</p> <p>(l) Installation of emission reducing device in vehicles' exhaust system (e.g., catalytic converter) [1]</p> <p>(m) Annual audiological check-up of PUV drivers and affected communities [2]</p> <p>(n) Installation of noise control device in vehicles [2]</p> <p>(o) TSM/TDM measures (e.g., synchronization of traffic lights, road widening and paving, alternate routes) [4]</p> <p>(p) Strict enforcement of rules/regulations/standard, e.g. enhanced anti-smoke belching operation and PETC [5]</p>	<p>(x) No. of motor vehicles passing the emission standards [i]</p> <p>(xi) No. of sick leaves due to respiratory illnesses [i]</p> <p>(xii) No. of PETC/ authorized and MVIS installed [j]</p> <p>(xiii) No. of PETC cancelled and suspended [j]</p> <p>(xiv) No. of drivers apprehended for drugs and liquor violations [j]</p> <p>(xv) No. of anti-smoke belching teams deputized/formed [j]</p> <p>(xvi) Number/share of vehicles using bio-fuels and other green fuels [k]</p> <p>(xvii) Million-tons oil equivalence (MTOE) of bio-fuels produced [k]</p> <p>(xviii) No. of LGUs with Traffic Management Office [o]</p>

[2] Strengthening Roadside Air Quality Monitoring and Assessment

Descriptors	Strategies	Indicators
(1) Air quality standards improved (2) Monitoring capacity enhanced (3) Knowledge on assessment and evaluation increased	(a) Monitor TSP reduction [1] (b) Purchase/Installation of PM, HC, CO, NO ₂ , SO ₂ (road side) equipment [1,2,3] (c) Develop locally fabricated monitoring instruments [2] (d) Capacitate local government unit and other sector on monitoring and assessment [2] (e) Enhance developmental and enforcement capacity of local government [2] (f) AQM equipment installed/working strategic areas nationwide [2,3] (g) Reporting of air quality indices to the public (website) [3]	(i) Concentration of criteria pollutants [a] (ii) No. of operational roadside air quality monitors [b,f,e] (iii) No. of locally fabricated monitoring instruments [c] (iv) No. of trained LGU personnel in air quality management [d,e] (v) No. of Air Quality Indices [g]

[3] Traffic Noise Management

Descriptors	Strategies	Indicators
(1) Reduced road side noise levels	(a) Public awareness on hazards of noise [1] (b) Amendment/updating of noise standards and compliance [1] (c) Strict enforcement of MV noise regulations [1] (d) Increase compliance of MV drivers and owners with noise standards [1] (e) Enhancement of LGU capability/enact local ordinances [1] (f) Installation of noise barriers [1]	(i) Revised noise standard [b,a] (ii) Roadside noise level [c,d,f,a] (iii) Enacted ordinances on noise [e,a] (iv) Length of noise barriers [f]

[4] Vehicle Emission Control, Standards, and Inspection and Maintenance

Descriptors	Strategies	Indicators
(1) Fully operational national vehicle inspection and management systems	(a) Develop MVIS and made operational in all regions [1,2,3]	(i) No. of MVIS stations/lanes and coverage [a]
(2) MV compliance with standards increased	(b) Establish motor vehicle standards (in-use) [2,3]	(ii) % compliance of MVs [a,b,c,d,e,f,g,h,i,j,k]
(3) Maintenance culture developed	(c) Adopt/harmonize Euro regulations (type approval) [2]	(iii) No. of operational LGU ASBUs [g,d,f,h]
(4) Public participation in enforcement/advocacy strengthened	(d) Strengthen LGU capacity to enforce standards through I/M [2,3,4]	(iv) No. of vehicle-related accidents (roadworthiness aspect) [a,d,i,b,c,k]
	(e) Strict regulation of PETCs by LGU/DTI/DOTC/DENR [2,3,4]	(v) No. of accredited repair shops [a,d,i,k]
	(f) Strengthen road side apprehension on smoke-belchers and vehicles [2,3,4]	
	(g) Intensify organization of Anti Smoke Belching Units under CENRO office [2,3,4]	
	(h) Enactment of local ordinances providing incentives for enforcers [2]	
	(i) Intensify advocacy for conduct of Preventive maintenance [2,3,4]	
	(j) Health monitoring of enforcers and drivers [2,3,4]	
	(k) Transport groups capacity to comply with MV standards improved [1,2,3,4]	

Example of cross-cutting strategy:

Identification of alternative transport modernization technologies that have passed the Environment Technology Verification Protocol with reference to the DENR-DOST JAO 01-2006

→ Applicable to Themes 5 and 6.

[5] Cleaner Fuels

Descriptors	Strategies	Indicators
<p>(1) Use of clean alternative fuels/vehicles increased</p> <p>(2) Fuel quality improved</p>	<p>(a) Intensify promotion of alternative fuels/vehicles such as CNG, biofuels, AutoLPG, hybrid vehicles and EVs [1]</p> <p>(b) Provision of fiscal and non-fiscal incentives for producers and users [1]</p> <p>(c) Access to financial assistance [1]</p> <p>(d) Fuel with less organic vapour and sulphur on the formulation [2]</p> <p>(e) Adoption of harmonized fuel quality standards (Euro regulations) [2]</p> <p>(f) Identify sources of cleaner fuels [1,2]</p> <p>(g) More accessible green fuels [1,2]</p> <p>(h) Enhanced safety handling of cleaner fuels [1,2]</p>	<p>(i) No. of vehicles using alternative fuels [a,b,c,f,g,h]</p> <p>(ii) No. of infrastructures for alternative fuels/vehicles [a,b,c,f,g,h]</p> <p>(iii) Euro 4 adoption [d,e]</p>

[6] Public Transport Planning and Travel Demand Management

Descriptors	Strategies	Indicators
(1) Fast and reliable transport services	(a) Transport modernization (thru financing) for PUV's [1]	(i) % or # of PUVs that converted from old engines [a, h]
(2) Developed mass transport network	(b) Promoting mass transport to policy makers [1,2,3,5,6,7]	(ii) % or # of PUVs with special needs provisions [a, d, h]
(3) Higher PT mode share	(c) PT network integration [1,2,3,4,5,6]	(iii) % or # of LGUs having PT planning integrated in local plans [b, c, d, f]
(4) Formalized/improved PT terminals	(d) Promote use of PT over private transport [1,2,3,6]	(iv) Modal share public and private mode users [b, c, d, e, f]
(5) Rationalized PT routes	(e) Promote high-occupancy vehicles [9]	(v) # of intermodal stations [a, b, c, d, f]
(6) Operational BRT in urban areas	(f) Promote park-and-ride facilities [3,4,5,9]	(vi) Presence of integrated ticketing system [a, c, d, h]
(7) Converted transport organizations to cooperatives	(g) Assess spatial & temporal	(vii) travel time reduction for public and private transport users [b, d, e, g]
(8) Rationalized truck routes	Example of cross-cutting strategy: Develop and deploy ITS! → Applicable to Most Themes	(viii) # of rationalized truck routes [g]
(9) Reduced number of low-occupancy vehicles		

[7] Non-Motorized Transport

Descriptors	Strategies	Indicators
(1) Walkable cities (2) Dedicated routes for NMTs (3) Available parking spaces for NMVs in public places (4) Rationalized NMT PT	(a) Promote walking as a utilitarian mode [1,2] (b) Promote cycling as a utilitarian mode [2,3] (c) Develop NMT facilities [1,2,3] (d) Assess NMT PT services [4]	(i) # of NMT-friendly cities [a, b, c] (ii) Rational number of NMT PT vehicles [d] (iii) # /length of bike lanes constructed [b, c] (iv) # /length of pedestrian walkways constructed [a, c] (v) % or amount of budget provision or incentives on the use of NMTs (national and local government) [a, b, c]

[8] Environment and People Friendly Infrastructure Development

Descriptors	Strategies	Indicators
(1) People friendly cities (2) Inclusive transport services and facilities (3) Green transport infrastructure and vehicles (4) Safe streets and roads	(a) Improve, enhance enforcement of traffic rules and regulations [1,4] (b) Incorporate green architecture principles in the design of transportation infrastructure [1,3,4] (c) Incorporate “inclusive transport” principles in transportation infrastructure and vehicle design [1,2,4] (d) Promote effective accessibility and efficient mobility for all (elderly, children, women, persons with disabilities, poor) [1,2,3,4] (e) Promote the use of green fuels or energy sources for vehicles [1,3]	(i) % Reduction in accidents involving elderly, children, women and persons with disabilities [a, c] (ii) % Increase in the number of public transport vehicles incorporating “inclusive” design [c, d] (iii) % Increase in the number of private and public transport vehicles using green energy/fuels [e] (iv) # of cities adopting or implementing environmentally sustainable transport infrastructure including green designs [a, b, c, d] (v) Increase in #/Length of pedestrian walkways and other people friendly facilities [b, c, d]

Example of cross-cutting strategy:
Planning, Oversight and Monitoring mechanism that would involve the concerned stakeholders
→ Applicable to all themes

[9] Social Equity and Gender Perspectives

Descriptors	Strategies	Indicators
<p>Equal access to public land transport thru:</p> <p>(1) NMT friendly roads</p> <p>(2) Gender sensitive public transport</p> <p>(3) Senior citizens' friendly transport</p> <p>(4) PWD friendly transport</p> <p>(5) Affordable transport</p>	<p>(a) Adoption of EST as a planning paradigm in LGUs [1-5]</p> <p>(b) Provision of pedestrian and bike lanes [1,5]</p> <p>(c) Passenger segregation (M/F, Senior citizens, PWD) [2,3,4]</p> <p>(d) Installation of traffic and transport assistive devices [2,3,4]</p> <p>(e) People-friendly public transport facility [2,3,4]</p> <p>(f) Use of cheaper renewable energy for public transport [5]</p>	<p>(i) No. of LGUs implementing localized EST [f]</p> <p>(ii) No. of EST policies/ ordinances passed [f]</p> <p>(iii) Number/kilometer of roads with pedestrian and bike lanes [b]</p> <p>(iv) Number of buses with assistive devices [e]</p> <p>(v) Satisfaction rating of PT services [e]</p> <p>(vi) Enhancement programs conducted [e]</p> <p>(vii) Number and share of senior citizens and PWD using public transport [e]</p> <p>(viii) Number of installed and functional facilities /equipment for senior citizens and PWDs [d]</p> <p>(ix) No. of PT vehicles utilizing LPG and other fuels [f]</p>

Formulation of a National EST Strategy for the Philippines

[10] Road Safety and Maintenance

Descriptors	Strategies	Indicators
SAFER VEHICLES	(a) Develop a comprehensive inspection and maintenance program for all vehicles [1]	(i) Issuance of DOTC Department Order (DOTC-DO) [a]
(1) Vehicles conforming to safety standards	(b) Motor vehicle inspection system program (MVIS program) [1]	(ii) Number of MVIS lanes operating [b]
SAFER ROADS	(c) Road safety audit [2,3]	(iii) Number of highway projects audited for road safety [c]
(2) Planning and design of roads with high regard for road safety	(d) Highway Engineering manuals and standards for road safety [2,3]	(iv) Number of manuals and standards developed and disseminated [d]
(3) Improvement of hazardous locations (no black spots)	(e) Implementation and funding of blackspot program [3,13]	(v) Amount allocated for blackspot program [e]
(4) Nation aware of costs due to accidents	(f) Research on accident costs [4]	(vi) Table of accident costs [f]
EFFECTIVE ROAD SAFETY MANAGEMENT	(g) Clear designation and empowerment of a national body serving as coordinator/manager for road safety [5]	(vii) A.O. and/or D.O. creating the national road safety coordinating body [g]
(5) Existence of a road safety coordinating body	(h) Road accident database system (including TARAS, MMARAS, and health sector data collection system) [6,13,15]	(viii) Accident fatality/injury per unit population [h]
(6) Existence of accurate road accident database	(i) Road safety research center [8]	(ix) Accident fatality/injury per kilometer of road [h]
(7) Budget allocated for road safety enhancement	(j) Road safety forum/ workshops/ conferences [8,9,13]	(x) Accident fatality/injury per veh-km travelled [h]
(8) Research support	(k) Harmonization traffic laws [10]	(ix) Number of researches published/disseminated [i,j]
(9) Involvement of private sector and community		(x) Inventory of road safety activities [j]

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[10] Road Safety and Maintenance (cont.)

Descriptors	Strategies	Indicators
EFFECTIVE ROAD SAFETY SUPPORT SYSTEM	(l) Capability building on road safety at the LGU level [11]	(xi) Number/inventory of traffic laws [k]
(10) Promulgation of laws that enhance road safety	(m) Establish traffic courts [10, 11]	(xii) Number of road safety curricula/ training programs/ education programs [l,o,q,r,s]
(11) Strict enforcement for road safety	(n) Traffic discipline zones (TDZ) [11, 13]	(xiii) Number of traffic courts established
(12) Presence of quick and reliable emergency road accident victim assistance	(o) Capability-building on emergency response system for LGUs [12]	(xiv) Number of traffic discipline zones (TDZ)
SAFER ROAD USERS	(p) Trauma units in tertiary hospitals [12]	(xv) Number of hospitals with trauma units [p]
(13) Citizens free from road accidents	(q) Road safety education program for vulnerable users (children, etc.)	(xvi) Number of road safety training centers established [s]
(14) "Road safety" culture among citizens	(r) Integration of road safety education in curriculum	
	(s) Improved driver licensing / driver training system	

[11] Land Use Planning

Descriptors	Strategies	Indicators
<p>(1) Compatible land uses/compatibility of land uses and transport for safe & orderly communities</p> <p>(2) Compact urban development</p> <p>(3) Adequate access to services</p> <p>(4) Sufficient transport infrastructure facilities/support</p> <p>(5) Proactive land use policies and planning guidelines</p>	<p>(a) Designation of vehicle free zones [1,2,5]</p> <p>(b) Implementation of traffic calming strategies [1]</p> <p>(c) Promote mixed use development [2,5]</p> <p>(d) Promote efficient use of idle lands [1,2,5]</p> <p>(e) Integration of EST in CLUP/CDP and other planning guidelines [5]</p> <p>(f) Capability building on integration of land use and transport policies [5]</p> <p>(g) Participatory process in stakeholder consultation [5]</p>	<p>(i) Number of trainings/seminars on land use and transport integration conducted [f]</p> <p>(ii) Number of CLUPs/CDPs integrating EST [e, g]</p> <p>(iii) Urban density (no. of persons/area) [c, d]</p> <p>(iv) Diversity of land uses in a given space [c, d]</p> <p>(v) # of Legislations/issuances re: adoption and implementation of EST [e]</p>

Outcomes of DOTC Strategic Planning (1)

PAP	Hindering Factor	Strategy Thematic Area	Timeframe	Quantifiable target
Public Transport Vehicle Modernization Program Ex:- CNG Buses - LPG Jeepney - LPG Taxi	<ul style="list-style-type: none"> • Lack of refueling stations/infra-structures support • Concentrated in Manila only because of lack of supply of LPG 	Public Transport Planning and Travel Demand Management	2009-2010	By 2009: <ul style="list-style-type: none"> •200 CNG Buses •250 LPG Jeepneys •75% taxis nationwide

Outcomes of DOTC Strategic Planning (2)

PAP	Hindering Factor	Strategy Thematic Area	Timeframe	Quantifiable target
Motor Vehicle Inspection System (MVIS) Development Program		Vehicle emission control, standards, and inspection and maintenance	2009 – 2010	By 2009: 8 Regional Motor Vehicle Inspection Centers constructed in major cities
Anti-smoke belching operation/ random roadside emission testing of in-use motor vehicle	-Insufficient manpower -Insufficient portable testing equipment	Strengthening Roadside AQ Monitoring and Assessment	2009 – 2010	Procurement of additional emission testing equipments for all regions

Resources

Challenge:

How do we support the plans and programs?

Use the Special Vehicle Pollution Control Fund (SVPCF)

- Derived from the **Motor Vehicle User's Charge**
- One of 4 trust funds. Others are:
 - ✓ Special Road Support Fund
 - ✓ Special Local Road Fund
 - ✓ **Special Road Safety Fund ← can be used for RS**
- The 3 other funds are under the DPWH while **SVPCF is under DOTC**

Resources

Example of SVPCF Projects:

- Planning Support Capacity Building for DOTC and LTO on the Implementation of a Phil Nationwide Motor Vehicle Inspection and Maintenance Program (NMVIMP) – **\$ 320K**
- Public Transport Network Development Plan for Mega Manila and Other Key Cities
 - Development of Mega Manila Public Transportation Planning Support System (MMPTPSS) : **\$ 575K**
 - Development of Public Transportation Strategic Plan for Metro Cebu : **\$ 745K**
- Capacity Building of Personnel Including Institutional Strengthening for EST (CBEST) : **\$ 65K**
- Center for Research in EST (CREST) : **\$ 320K**
- Development of CLRV Standards : **\$ 65K**

Challenge:

How do we mainstream EST?

[12] Knowledge Base, Awareness and Advocacy

EST must be like an epidemic

- It must be contagious!
- Initiatives must translate into big impacts!
- The critical mass must be reached!

Formulation of a National EST Strategy for the Philippines

Timetable

	2008				2009								
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Nov
Inception Meeting	W2												
Formulation of National Committees		W4	Participatory process/ consultations throughout the study.										
First Draft	Process of localizing/ mainstreaming the EST already initiated including the cities of Cebu and Davao.						W1						
National stakeholders consultation							W3		Cities where EST will be piloted identified and engaged during the project.				
Second Draft	Present at Regional Forum to be held in Korea on Feb. 24-26, 2009.							W1					
Expert Level Meeting								W3					
Third Draft									W2				
Regional Consultation	Continuing local efforts in Cebu, Davao, etc.								W2 -	W1			
Peer Review (Optional)													
Final Draft	- Includes formulation of policy recommendations, draft legislation, and other pertinent documents in support of the National EST Strategy										W2		
Official Endorsement/ Donors Consultation/ Printing and Dissemination													W2
	NESTS endorsed to NEDA Board by November 2009												

End of presentation

Thank you for your attention.

