Intelligent Transport System (ITS) Master Plan

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Framework for the International Activity

ERTICO (ITS Europe)
（Europe）

ITS America
（Americas）

ITS Korea

ITS China

ITS HK   ITS Taiwan

ITS India   ITS Thailand

ITS Malaysia

ITS Singapore

ITS Indonesia

ITS Japan
（Asia Pacific）

ITS Australia   ITS NZ
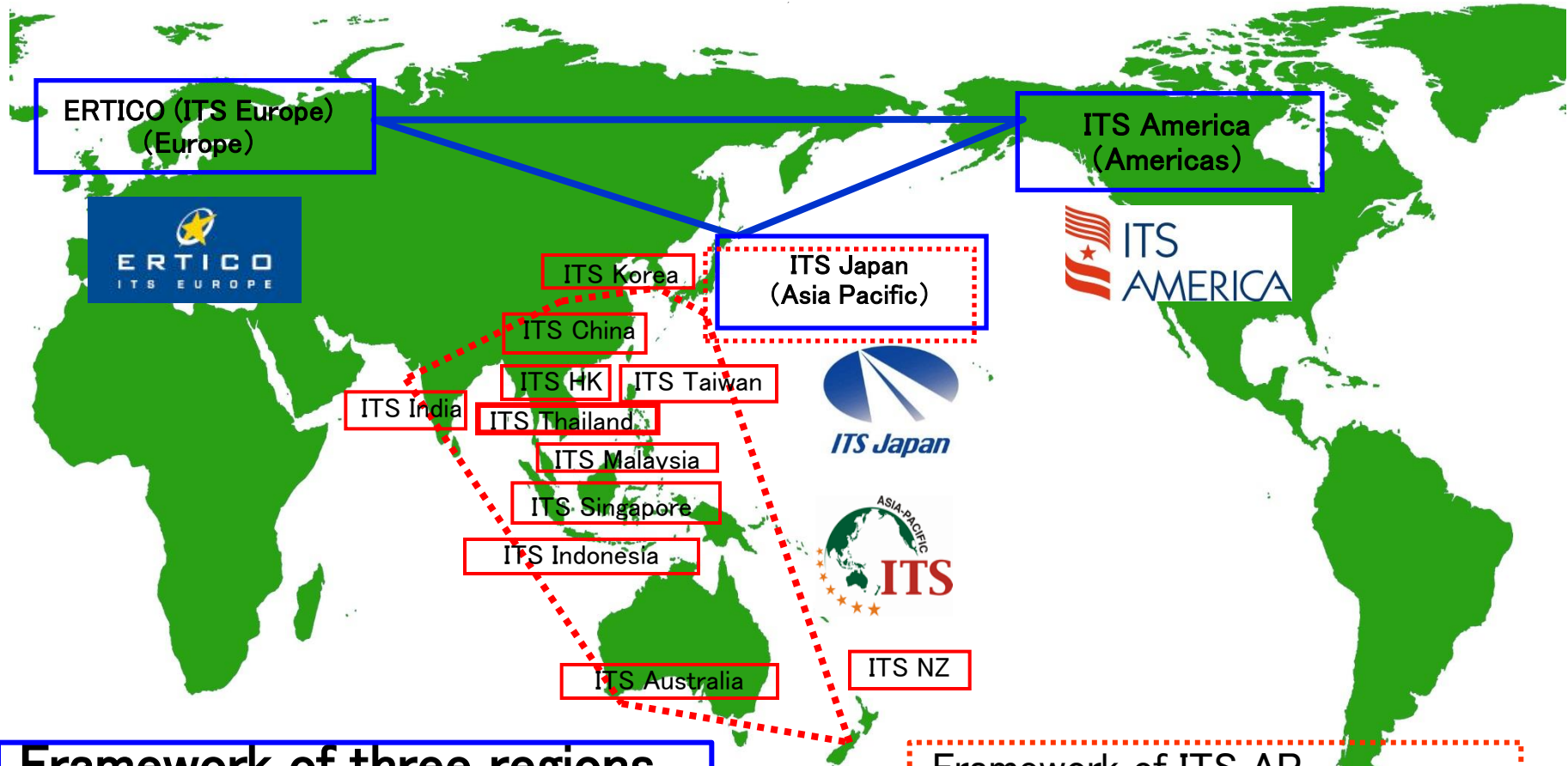
Framework of three regions
1. MOC between ERTICO, ITS America and ITS Japan
   ①ITS World Congress （rotating three regions）
   ②Collaboration to promote ITS Development
2. BOD of ITS World Congress
3. ITS Japan is representing of Asia Pacific
   ITS Japan is responsible of selecting a venue of ITS
   World Congress in Asia Pacific

Framework of ITS AP
1. MOU among 12 ITS organizations in AP
   ① Promoting ITS in AP
   ② Organizing ITSAP Forum
   ③ Support ITS World Congress
2. ITS AP BOD
3. ITS Japan is a secretariat of ITS AP

ITS Organizations in Asia-Pacific

Memorandum of Understanding Signatories

Partners

China

India

Thailand

Malaysia

Singapore

Indonesia

Japan

Korea

Chinese Taipei

Hong Kong SAR

Australia

New Zealand

Philippines

Vietnam
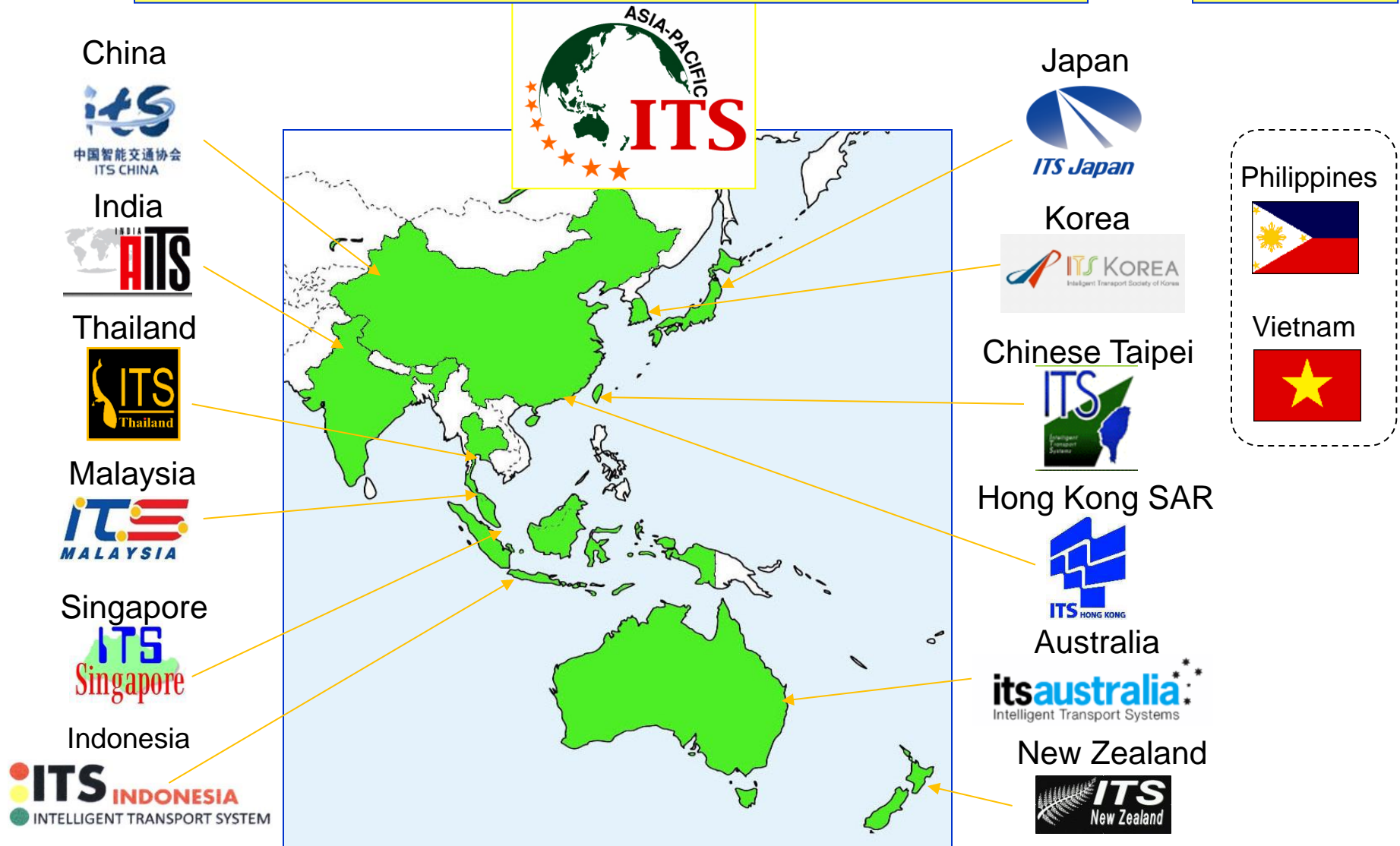
ITS in ASEAN Countries

Country	Year Established	Model
Singapore	2001	Private sector
Thailand	2005 (started as a Forum)/2008	Academe
Malaysia	1999/2008	Private sector
Indonesia	2011	Government

REPUBLIC OF THE PHILIPPINES
SECURITIES AND EXCHANGE COMMISSION
SEC Building, EDSA, Greenhills
City of Mandaluyong, Metro Manila

COMPANY REG. NO. CN201505534
COMPANY TIN 008-986-637

CERTIFICATE OF INCORPORATION

KNOW ALL PERSONS BY THESE PRESENTS:

This is to certify that the Articles of Incorporation and By-Laws of

INTELLIGENT TRANSPORTATION SYSTEMS ASSOCIATION OF THE PHILIPPINES, INC.

were duly approved by the Commission on this date upon the issuance of this Certificate of Incorporation in accordance with the Corporation Code of the Philippines (Batas Pambansa Blg.68), and copies of said Articles and By-Laws are hereto attached.

This Certificate grants juridical personality to the corporation but does not authorize it to undertake business activities requiring a Secondary License from this Commission such as, but not limited to acting as: broker or dealer in securities, government securities eligible dealer (GSED), investment adviser of an investment company, close-end or open-end investment company, investment house, transfer agent, commodity/financial futures exchange/broker/merchant, financing company, pre-need plan issuer, general agent in pre-need plans and time shares/club shares/membership certificates issuers or selling agents thereof. Neither does this Certificate constitute as permit to undertake activities for which other government agencies require a license or permit.

As a registered corporation, it shall submit annually to this Commission the reports indicated at the back of this certificate.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of this Commission to be affixed at Mandaluyong City, Metro Manila, Philippines, this _19th_ day of March, Twenty Fifteen.

FERDINAND B. SALES
Director
Company Registration and Monitoring Department

Creation of ITS Philippines organization in March 2015.

ITS Organization

- AIM: bring together the professional interests of those in **public and private organizations, practitioners, academicians and researchers related to ITS**, and create opportunities for networking and interaction.

ITS Master Plan for Metro Manila +2 regions (Region 3 and 4A)

Mega Manila Region Highway Network Intelligent Transport Systems (ITS) Integration Project (MMDA/DPWH; funded by JICA) 2012-2013

AVERAGE POPULATION GROWTH RATE (YEARS 2000-2010)
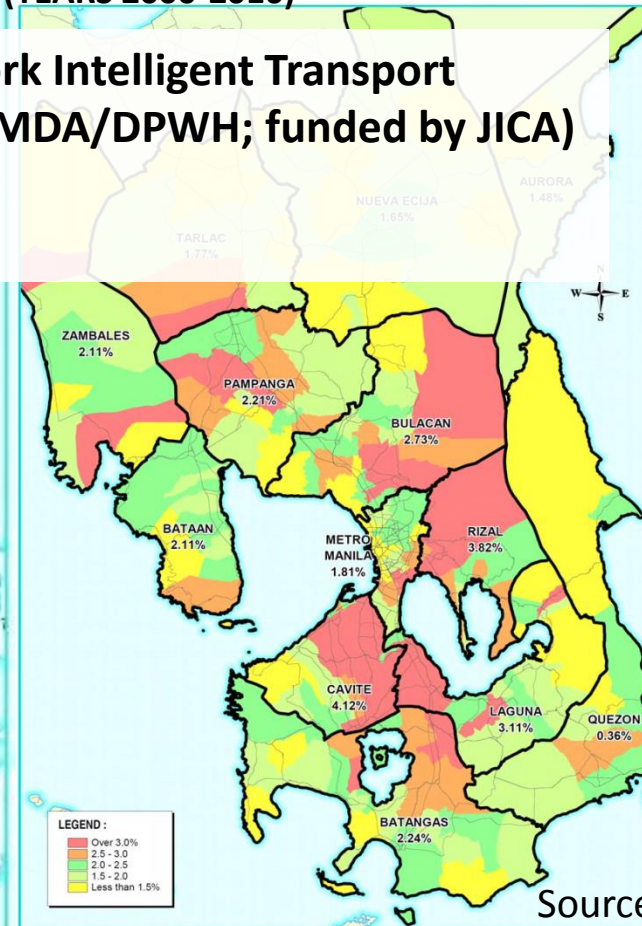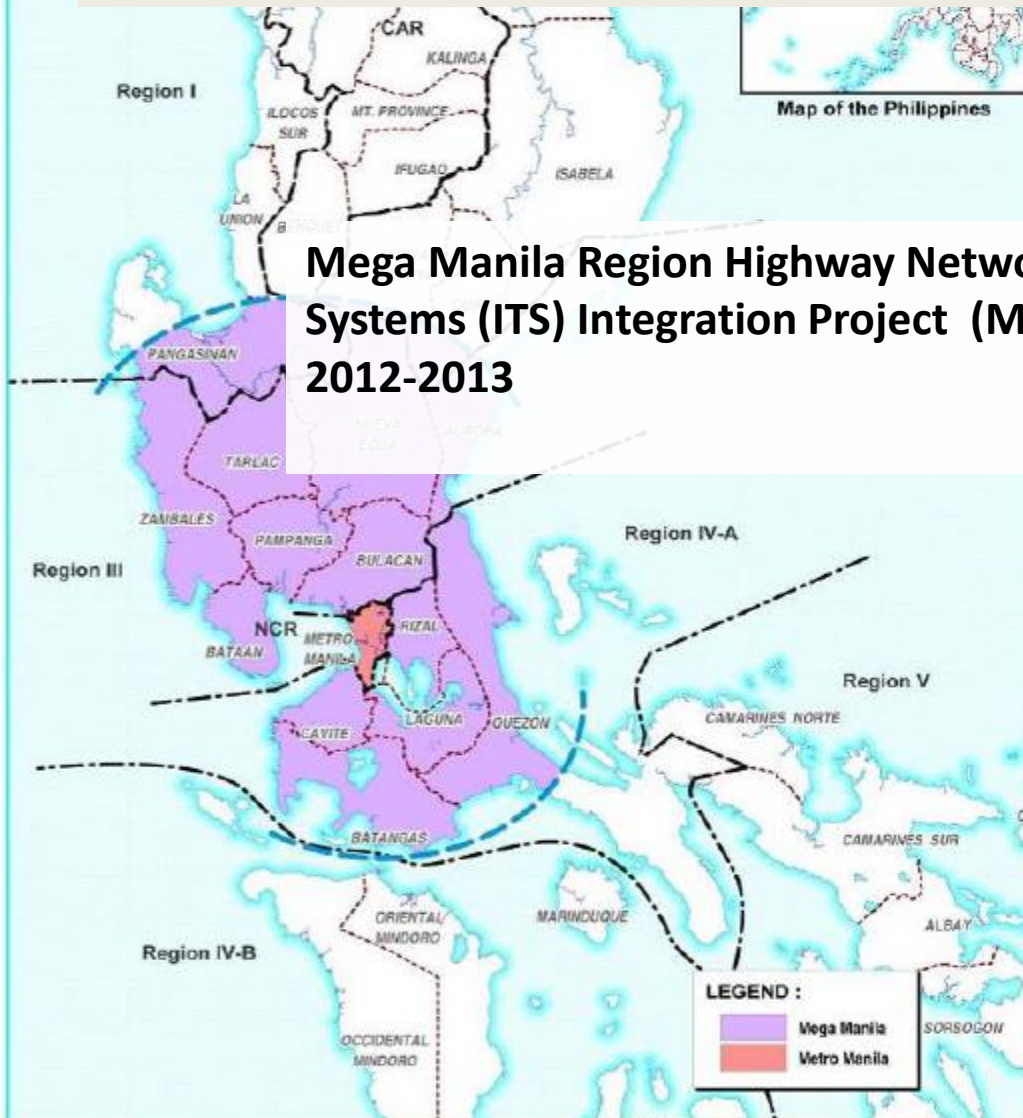
Source: NSO

Development of ITS Master Plan

Identification of Transport Problems/Issues
- ITS Needs Survey
- ITS Current Applications

ITS Master Plan Development
- Development Vision
- Overall Goal and Objectives
- Development/Deployment Areas
- Implementation Schedule and Cost

Measures for Sustainable ITS Development

Traffic Problems Experienced in Metro Manila

Traffic Problem	Percentage
Traffic Congestion of Roads	83%
Delays at Intersections	34%
Slow Travel Speed	24%
Frequent/Irregular Stop of Bus/Jeepney	40%
Driver's Behavior	62%
Lack of Traffic Information	21%
Difficult to Estimate Arrival Time	13%
Crowding /Long Stay of Buses at Bus Stop	41%
Others	10%
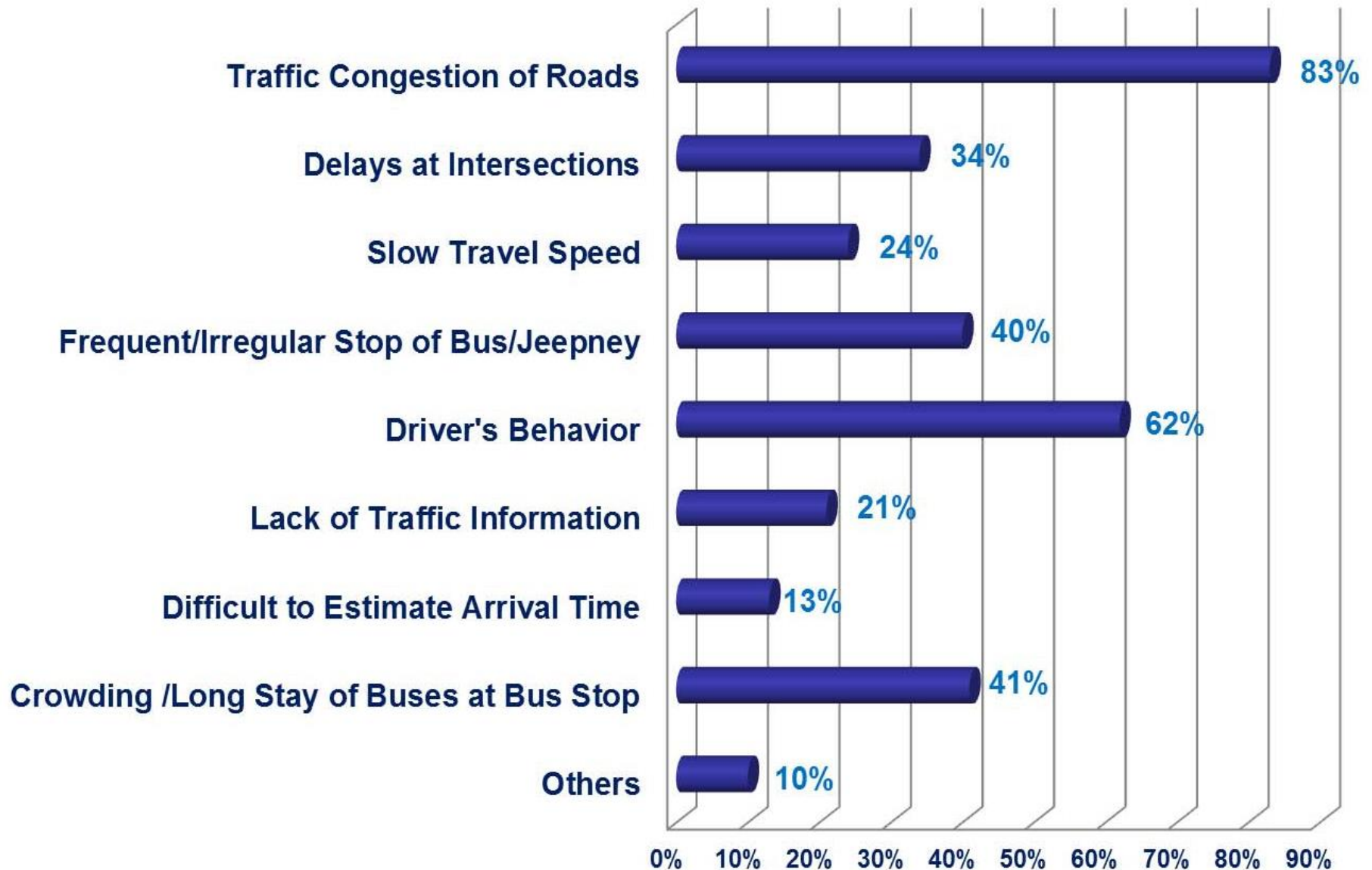
Causes of Congestion in Metro Manila

Cause	Percentage
Intersections	51%
U-Turn Slots	38%
Bus Stops	51%
Shopping Malls/Commercial Establishments	21%
Construction Work Site	28%
Road Maintenance Work Site	37%
Deteriorated Pavement	10%
Traffic Disturbed by Pedestrian	8%
Near LRT/MRT Station	8%
Traffic Accident	18%
Flooding	25%
Bad Manners of Drivers	26%
Reduced Number of Traffic Lanes	10%
Too Many Intersections	12%

Development Visions

'Towards a Competitive, Inclusive
And Resilient Metropolis' - MMDA

'A Sustainable and Caring Global Gateway
through Public-Private Partnership and
Growth for All'

ITS Goals and Services

Major Transport Problems

Metro Manila

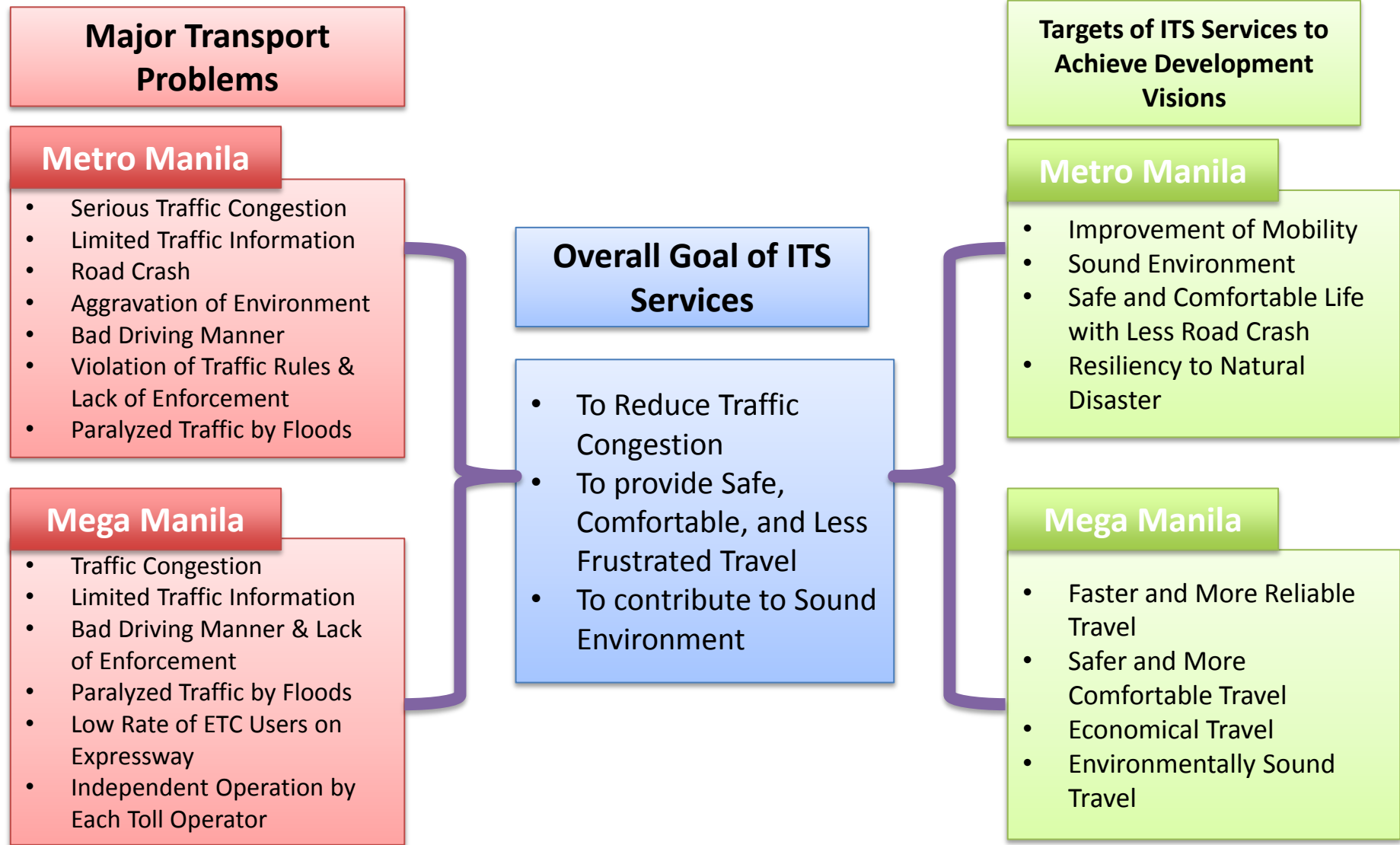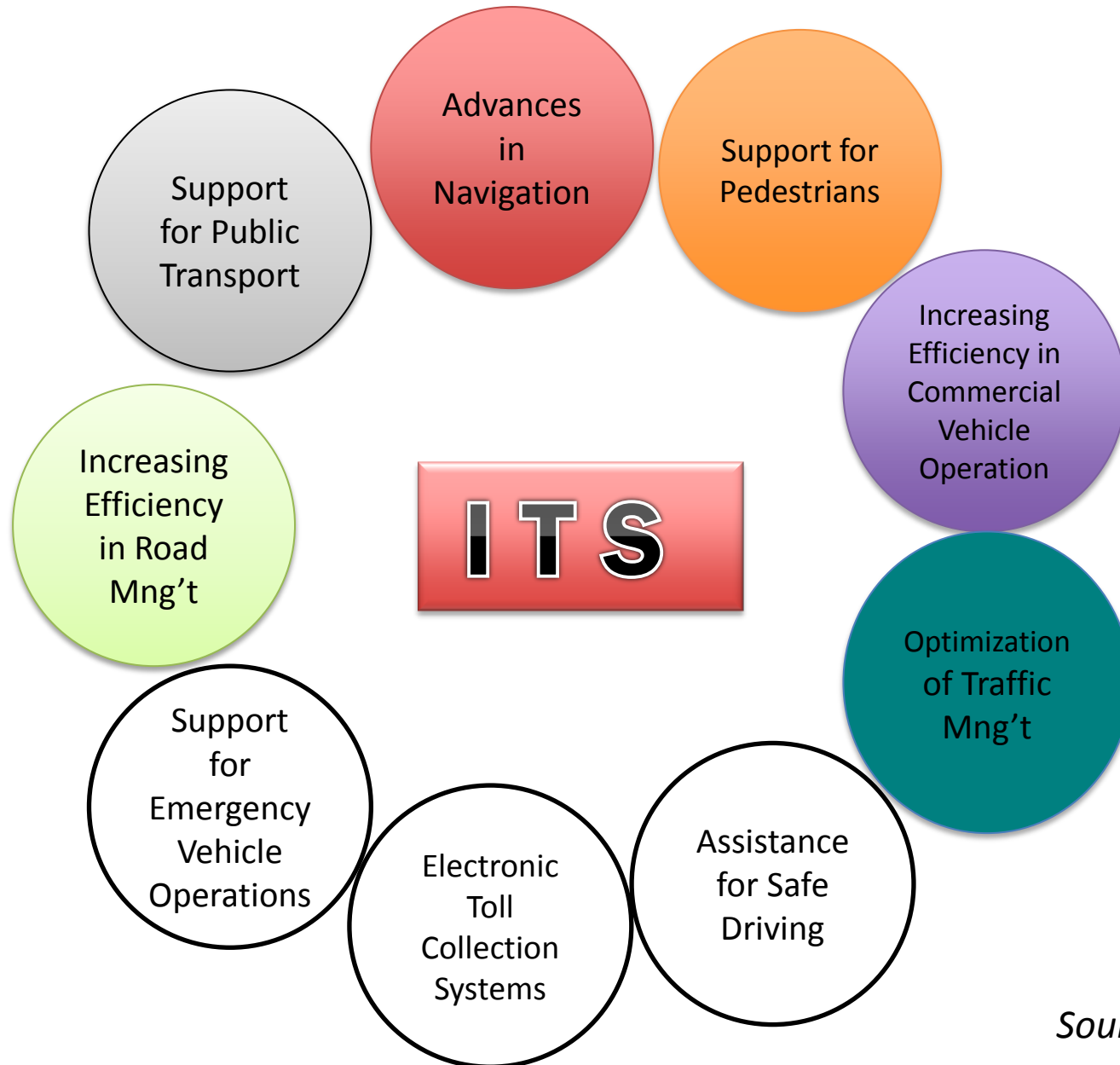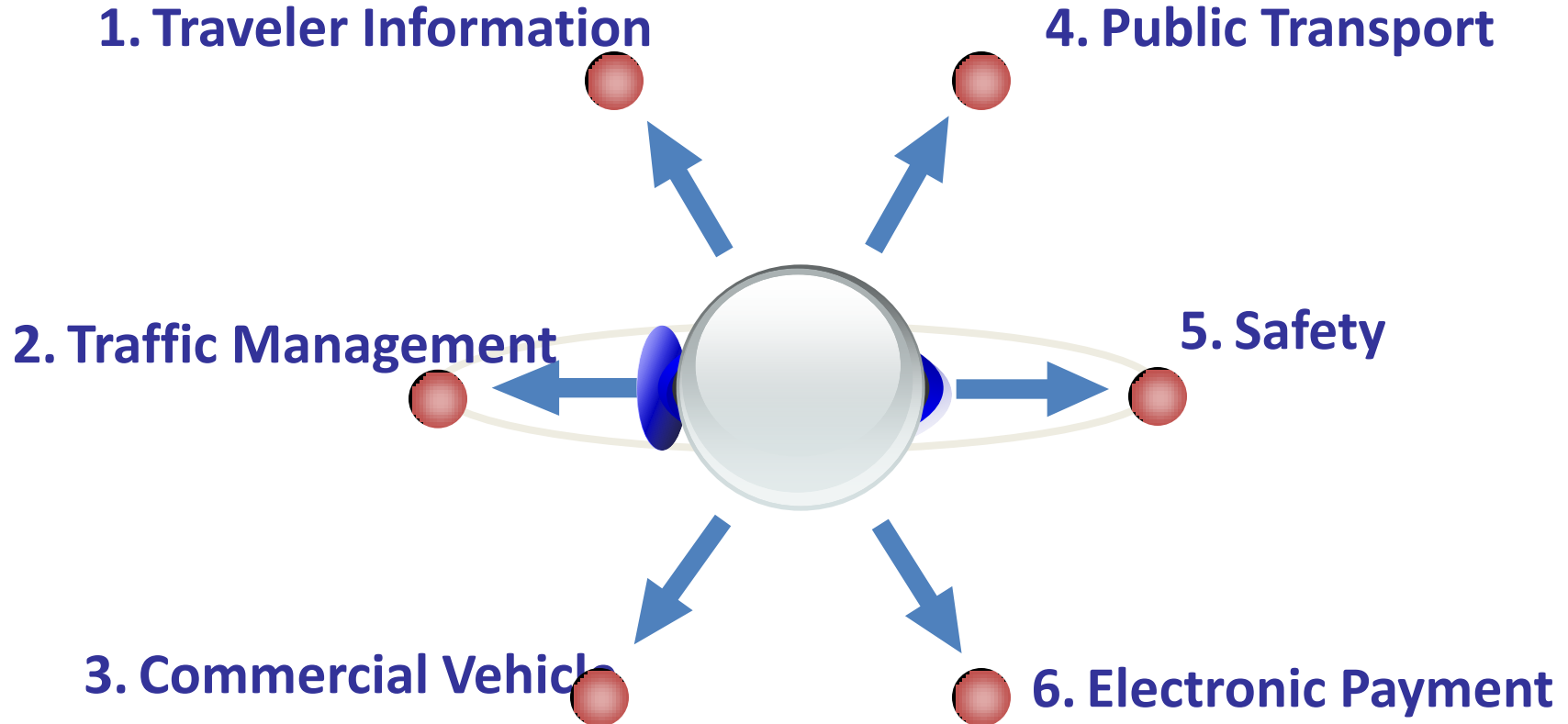- Serious Traffic Congestion
- Limited Traffic Information
- Road Crash
- Aggravation of Environment
- Bad Driving Manner
- Violation of Traffic Rules & Lack of Enforcement
- Paralyzed Traffic by Floods

Mega Manila

- Traffic Congestion
- Limited Traffic Information
- Bad Driving Manner & Lack of Enforcement
- Paralyzed Traffic by Floods
- Low Rate of ETC Users on Expressway
- Independent Operation by Each Toll Operator

Overall Goal of ITS Services

- To Reduce Traffic Congestion
- To provide Safe, Comfortable, and Less Frustrated Travel
- To contribute to Sound Environment

Targets of ITS Services to Achieve Development Visions

Metro Manila

- Improvement of Mobility
- Sound Environment
- Safe and Comfortable Life with Less Road Crash
- Resiliency to Natural Disaster

Mega Manila

- Faster and More Reliable Travel
- Safer and More Comfortable Travel
- Economical Travel
- Environmentally Sound Travel

9 Areas of ITS Deployment: Japan

Support for Public Transport

Advances in Navigation

Support for Pedestrians

Increasing Efficiency in Commercial Vehicle Operation

Increasing Efficiency in Road Mng't

ITS

Optimization of Traffic Mng't

Support for Emergency Vehicle Operations

Electronic Toll Collection Systems

Assistance for Safe Driving

Source: ITS Japan

6 Areas of ITS Development/ Deployment: Thailand

1. Traveler Information

4. Public Transport

2. Traffic Management

5. Safety

3. Commercial Vehicle

6. Electronic Payment

ITS Development/Deployment Areas	ITS User Service
1. Traffic Management/Traffic Signal Control	(1) Advance Traffic Control System at Intersections to improve traffic efficiency at intersections
	(2) Emergency Vehicle Priority System for safer lives of people
2. Traffic Information Provision	(3) Upgrading of Traffic Information Collection and Provision System on real-time basis for faster and comfortable travel and to maximize the use of existing road facilities
	(4) Events Information Provision System to reduce traffic congestion at and around event sites
	(5) Route Guidance System to direct drivers to less congested routes to maximize the use of existing road facilities
	(6) Information Provision System for Temporary Traffic Bottlenecks to achieve less frustrating trips and to reduce traffic congestion at temporary traffic bottlenecks
	(7) Traffic Management System at Large-scale Shopping Malls to reduce localized traffic congestion
	(8) Parking Space Information Provision System to improve traffic flow in CBDs and for better road user service
	(9) Commercial Vehicles Location System for more orderly trips of commercial vehicles
3. Traffic Safety Assistance	(10) Danger Warning System to reduce road crashes to improve traffic safety
	(11) Pedestrian Safety Support System to reduce road crashes
	(12) Weather Condition and Prediction Information Provision System for safer travel and to improve resiliency to natural disaster.
4. PUV Management	(13) Bus operation Monitoring and Control System to reduce traffic congestion at bus stops and to eliminate illegal bus operations
	(14) Rail Operation Information Provision System for better passenger services
5. Traffic Enforcement Assistance	(15) Traffic Rules Surveillance and Control System to achieve smooth traffic flow and to reduce road crashes
	(16) On-street Parking Control to improve traffic capacity for smoother traffic flow
	(17) Over Speeding Control System reduce road crashes
	(18) Overloaded Truck Control System to provide better surfaced roads.
6. Road Management	(19) Upgrading of Road Condition Information Collection to improve Road Management and to Secure Service Level
7. Toll/Fare Collection	(20) Road Pricing System to reduce cars on the roads for smoother traffic flow
	(21) Common Ticketing System for easier transfer.

Mega Manila Region Highway Network Intelligent Transport System (ITS) Integration Project

KEY Recommendations

Recommendations

1. Firm Commitment of the Government to Implement the Master Plan

2. Collaborated Development of Transport Infrastructure and ITS Projects for Mitigation of Mega Manila Transport Problems

   - The Government must continuously pursue implementation of infrastructure projects. More urban rails, expressways, flyovers, etc. must be constructed.
   - At the same time, ITS projects should be simultaneously implemented.
   - Collaborated implementation of infrastructure projects and ITS projects will bring synergistic effect.
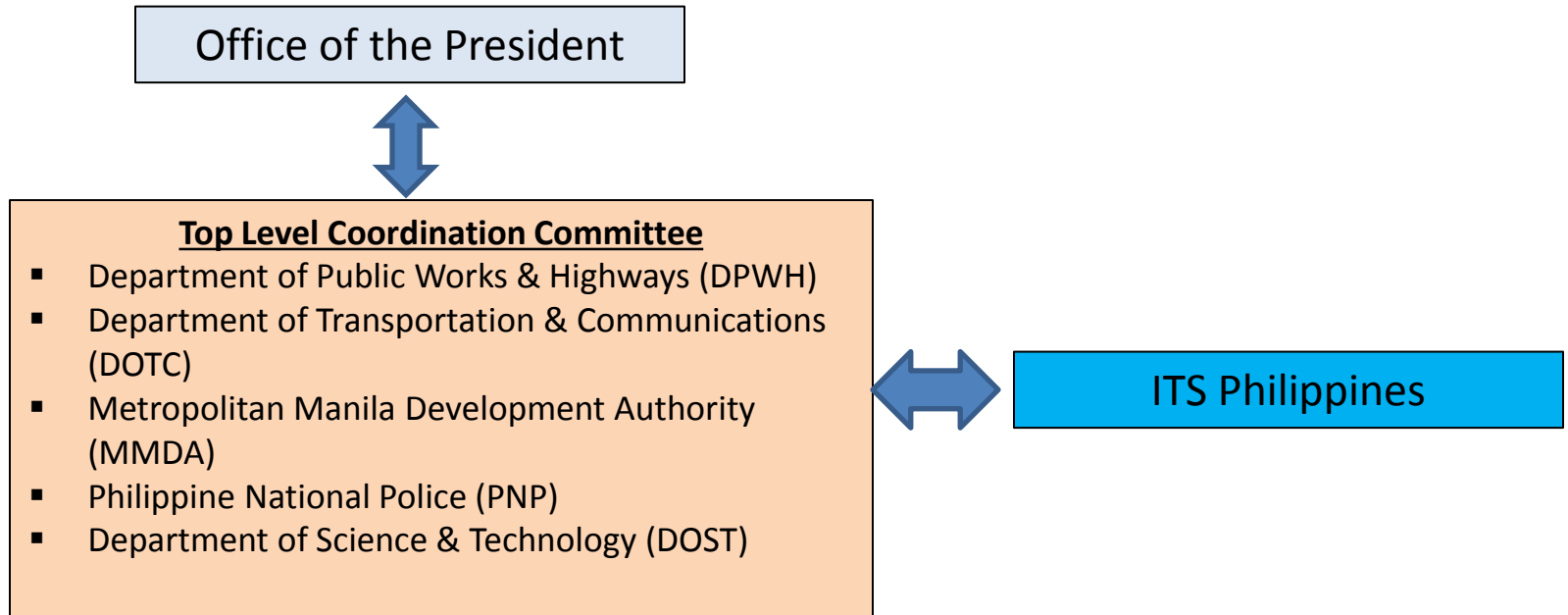
Recommendations

3. Active Implementation of ITS Projects. ITS projects do not require huge capital investment, still they bring huge effects. Recommended ITS Projects should be actively implemented.

- Advance Traffic Signalization Project
- Traffic Information Collection and Provision Project

Recommendations

4. For Sustainable ITS Development

4.1 Creation of Strong Body for ITS Promotion

Office of the President

Top Level Coordination Committee
- Department of Public Works & Highways (DPWH)
- Department of Transportation & Communications (DOTC)
- Metropolitan Manila Development Authority (MMDA)
- Philippine National Police (PNP)
- Department of Science & Technology (DOST)

ITS Philippines

[Roles and Function]

- ITS Policy Formulation for ITS Development
- Inter-Agency coordination/cooperation on jurisdiction/mandate issues
- Coordination to avoid overlapped investment

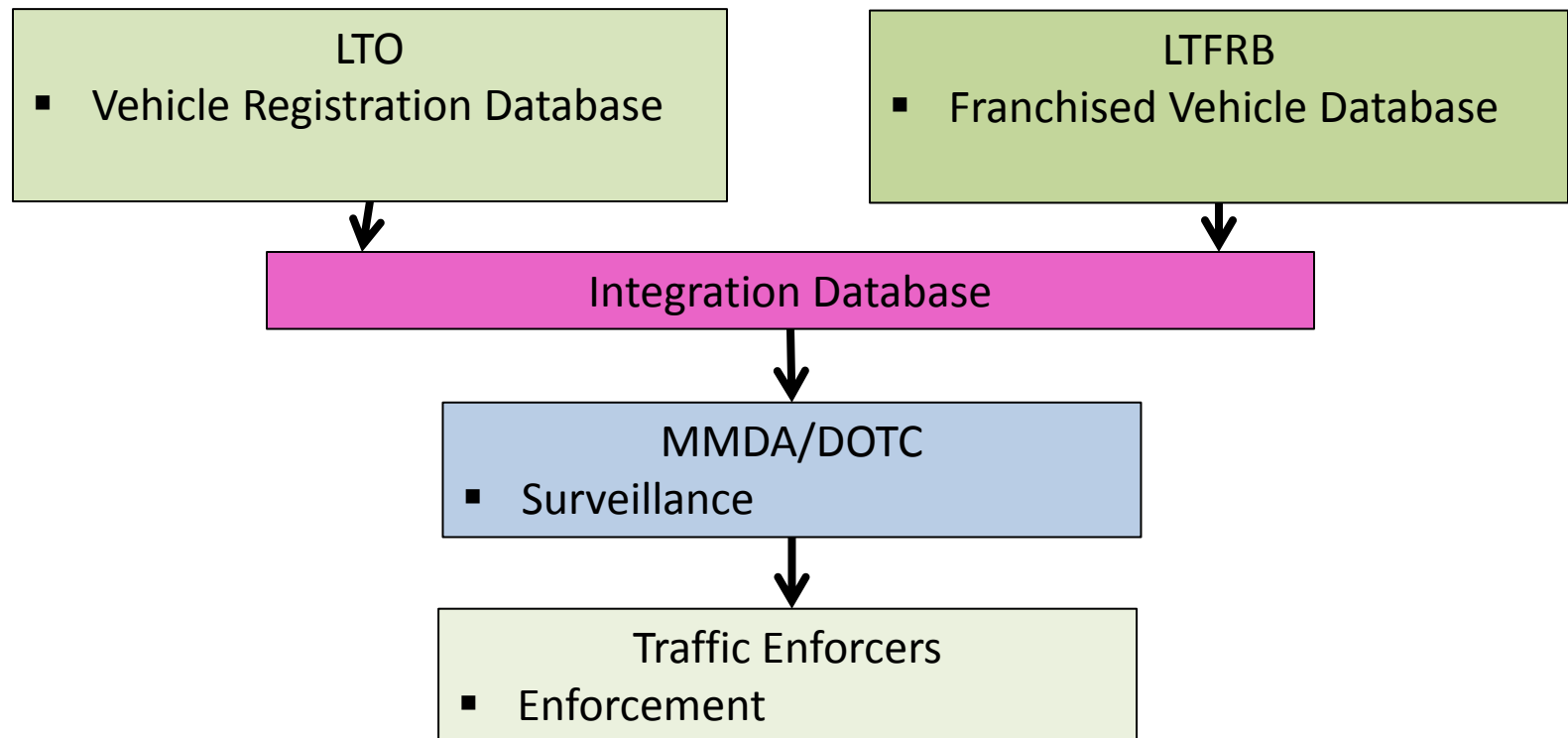# Recommendations

4.2 Institutional Arrangement

- For integration of Traffic information and provision
  - ✓ Creation of Third Party Organization
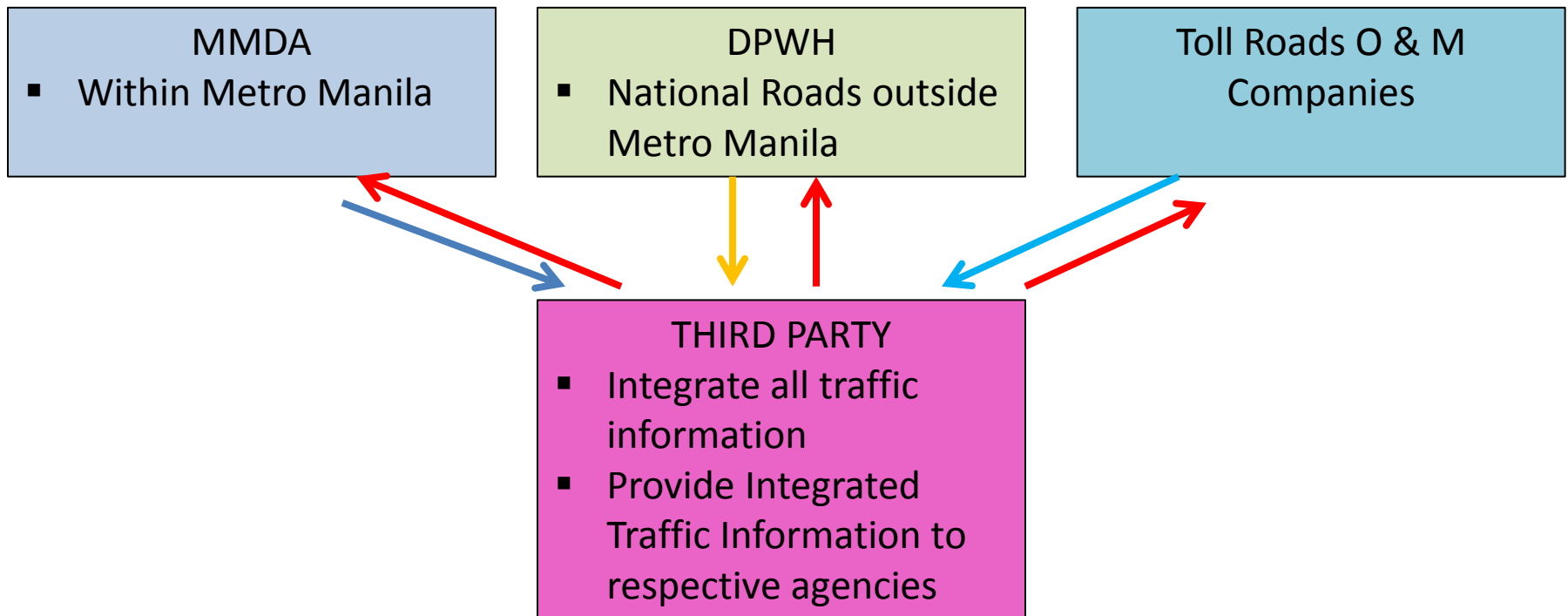
Recommendations

4.3 Institutional Arrangement

- For effective public transport monitoring
  - ✓ Coordination among LTO, LTFRB, MMDA and Traffic Enforcer

LTO ■ Vehicle Registration Database	LTFRB ■ Franchised Vehicle Database

Integration Database

MMDA/DOTC
- Surveillance

Traffic Enforcers
- Enforcement

Recommendations

4.4 Institutional Arrangement

- For toll road interoperability and standardization of ETC System.
    - ✓ Creation of Standardization Committee
- For promotion of private sector initiative
    - ✓ Advocate the private sector for ITS Technology adoption
    - ✓ For example, trucking companies can apply ITS technology for efficient collection and delivery of goods, thus truck traffic can be reduced.

Recommendations

5. Strengthening of Drivers/Pedestrian Education and Enforcement of Traffic Rules and Regulations

   - Infrastructure projects and ITS applications will not effectively mitigate traffic problems unless accompanied with "EDUCATION of Drivers and Pedestrians" and "ENFORCEMENT".
   - Strengthening of the on-going Philippine Road Safety Action Plan

6. Capacity Development of DPWH and MMDA

   - Capacity development through implementation of ITS Projects

Recommendations

7. Pilot Projects

7.1 Phase III of Metro Manila Traffic Signal Control Project

- In succession of Phase II, upgrading of 150 signal controlled intersections and installation of signal control system at 212 currently non-signalized intersections should be implemented.

7.2 Traffic Signal Control Project of Bicutan and Sucat Intersections

- Sucat intersection should be signal controlled. Bicutan intersection should follow in due consideration of traffic movement after the temporary integrated bus terminal is built.
- One of the candidates for "Experimental Project".

Recommendations

7.3 Metro Manila Route Guidance

- Automated Traffic Navigator (ATNAV), successor of Metro Manila Traffic Navigator (TNAV), be developed as early as possible.
- Route Guidance System, an important element of ATNAV, should be developed with reference to recommendations of this Master Plan

7.4 Traffic Information System Along Manila North Road (MNR) and North Luzon Expressway (NLEX)

- One of the candidates of "Experimental Project". If successful, similar system should be adopted for the other traffic corridors.

7.5 Standardization of ETC

- Standardization of ETC System should be implemented as early as possible. TRB and DPWH should take initiative for the realization of ETC system standardization.

Recommendations

8. To cope with Rapid Development of Information/Communication Technology (ICT)

   ▪ Latest ICT should be adopted for ITS application which should regularly updated.

9. Creation of ITS-Philippines

10. Preparation of ITS Master Plan for Other Areas of the Philippines

Thank you!

Updating and Activity Plan

RECOMMENDATION	REQUIRED ACTIVITIES	RESPONSIBLE ENTITY	TIMELINE	SOURCE OF FUND
1. Firm Commitment of the Government to Implement the Master Plan				
2. Collaborated Development of Transport Infrastructure and ITS Projects for Mitigation of Mega Manila Transport Problems				
3. Active Implementation of ITS Projects				

RECOMMENDATION	REQUIRED ACTIVITIES	RESPONSIBLE ENTITY	TIMELINE	SOURCE OF FUND
4. Sustainable ITS Development				
4.1 Creation of Strong Body for ITS Promotion				
4.2 Integration of Traffic information and provision				
4.3 Effective public transport monitoring				
4.4-a Toll road interoperability and standardization of ETC System				
4.4-b Promotion of private sector initiative				

RECOMMENDATION	REQUIRED ACTIVITIES	RESPONSIBLE ENTITY	TIMELINE	SOURCE OF FUND
5. Strengthening of Drivers/Pedestrian Education and Enforcement of Traffic Rules and Regulations				
6. Capacity development through implementation of ITS Projects				
7. Pilot Projects Implementation				
7.1 Phase III of Metro Manila Traffic Signal Control Project				
7.2 Traffic Signal Control Project of Bicutan and Sucat Intersections				
7.3 Metro Manila Route Guidance				
7.4 Traffic Information System Along Manila North Road (MNR) and North Luzon Expressway (NLEX)				
7.5 Standardization of ETC				

RECOMMENDATION	REQUIRED ACTIVITIES	RESPONSIBLE ENTITY	TIMELINE	SOURCE OF FUND
8. Adoption of latest ICT for ITS application which should be regularly updated.				
9. Creation of ITS - Philippines				
10. Preparation of ITS Master Plan for Other Areas of the Philippines				