Roadmap for Transport Infrastructure Development for Metro Manila and Its Surrounding Areas (Region III and Region IV-A)

Main Points of the Roadmap

Technical Assistance from the Japan International Cooperation Agency (JICA)
Roadmap Study

Objective
- To formulate “Transportation Infrastructure Roadmap” for sustainable development of Metro Manila and its surrounding areas (Region III and IV-A)

Outputs
- Dream plan towards 2030
- Roadmap towards 2016 and 2020
- Priority projects

Study Period
- March 2013 – March 2014

Stakeholders Consulted
- NEDA
- DPWH
- DOTC
- MMDA
- Others (donors, private sectors, etc.)
Significance of the study area: How to ensure sustainable growth of Metro Manila and surrounding regions.

Study Area
- **GCR**: MMManila, Region III, Region IV-A
- **Mega Manila**: MMManila, Bulacan, Rizal, Laguna, Cavite
- **Metro Manila**: 17 cities/municipality

- **Metro Manila shares 36% of GDP**
- **GCR shares 62% of GDP** (Population :37%)

Growth rate of population & GRDP is between 2000 and 2010
### Rapid growth of Metro Manila, 1980 - 2010

<table>
<thead>
<tr>
<th>Metric</th>
<th>1980</th>
<th>2010</th>
<th>2010/‘80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (000)</td>
<td>5,923</td>
<td>11,856</td>
<td>2.0</td>
</tr>
<tr>
<td>Roads (km)</td>
<td>675</td>
<td>1,032</td>
<td>1.5</td>
</tr>
<tr>
<td>GRDP @ 2010 price (Php billion)</td>
<td>1,233</td>
<td>3,226</td>
<td>2.6</td>
</tr>
<tr>
<td>GRDP per Capita (Php 000)</td>
<td>208</td>
<td>272</td>
<td>1.3</td>
</tr>
<tr>
<td>No. of Vehicles (000 units)</td>
<td>446</td>
<td>1,904</td>
<td>4.3</td>
</tr>
<tr>
<td>LRT (km)</td>
<td>20 (‘85)</td>
<td>50</td>
<td>2.5</td>
</tr>
<tr>
<td>Bus (000 units)</td>
<td>3.6</td>
<td>14.2</td>
<td>3.9</td>
</tr>
<tr>
<td>Jeepney (000 units)</td>
<td>37</td>
<td>48</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Are there solutions for sustainable development of Metro Manila?
3 Major Urban Problems in Metro Manila

- Traffic congestions
- Natural disasters (flood, earthquake, typhoon, landslide, etc.)
- Affordable housing, slum/squatter areas

They are interrelated!!
Traffic congestions; everywhere throughout the day

Hourly Traffic Distribution on MManila Roads

1) Results from 11 survey stations, 2012

Traffic Demand and Impact (Metro Manila)

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2030</th>
<th>‘30’/’12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic demand (million trips/day)</td>
<td>12.8</td>
<td>14.5</td>
<td>1.13</td>
</tr>
<tr>
<td>Public transport share in total demand</td>
<td>69%</td>
<td>69%</td>
<td>1.00</td>
</tr>
<tr>
<td>Occupancy of road space by private vehicles</td>
<td>78%</td>
<td>78%</td>
<td>1.00</td>
</tr>
<tr>
<td>Transport cost (Php billion/day)</td>
<td>2.4</td>
<td>6.0</td>
<td>2.50</td>
</tr>
<tr>
<td>Air quality (million Tons/year)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GHG</td>
<td>4.79</td>
<td>5.72</td>
<td>1.19</td>
</tr>
<tr>
<td>PM</td>
<td>0.014</td>
<td>0.019</td>
<td>1.36</td>
</tr>
<tr>
<td>NOx</td>
<td>0.049</td>
<td>0.059</td>
<td>1.20</td>
</tr>
</tbody>
</table>

Source: JICA Study Team

If nothing is done by 2030
Hazard risks threaten large number of households.

No. of households living in hazard areas
- **High risk areas**: 0.5 mil. (MManila), 1.4 mil. (GCR),
- **Moderate risk areas**: 0.7 mil. (MManila), 1.8 mil. (GCR),

No. of ISFs living along waterways; 60,130 (MManila)
- **No. of ISFs in priority waterways**: 19,500 (8 waterways)

Hazard risk areas

Legend
- **High risk**
- **Moderate risk**
- **Low risk**
- **Priority waterways**

Earthquake

Flood

Landslide
Need for affordable housing is large.

Affordable housing needs (Metro Manila 2010)
- Backlog: 500,000 households
- Resettlement: 560,000 households
Situation may worsen as Manila grows to Metro Manila and farther to Mega Manila.

**Metro Manila (2010)**
- Area: 620 km²
- Population: 11.9 million
- Density: **191 person/ha**

**Tokyo/23wards**
- Area: 621 km²
- Population: 9.1 million
- Density: 146 person/ha

Expansion of Urban Areas

5 Large Urban Areas
- Tokyo: 35 million
- Jakarta: 28 million
- Seoul: 26 million
- Shanghai: 25 million
- Karachi: 24 million

How and where the people in need of affordable housing free from hazard risk can be accommodated!

Source: MMUTIS
Metro Manila’s problems can no longer be solved within Metro Manila.

Region III and Region IV-A must work out effective ways to maximize positive impacts of Metro Manila and contribute to mitigate Metro Manila’s problems.
Connectivity of Metro Manila, Region 3 and Region 4-1

- Strengthening connectivity through transport development and industry location strategies

Need for Regional Integration

- Connectivity of Metro Manila, Region 3 and Region 4-A
- Connectivity with global market
- Strengthening connectivity through transport development and industry location strategies

**Gate to wellspring of hope**

**Place for livable communities**

**Space for dynamic business centers**
Redefine spatial structure of Metro Manila

- Shift from radial/circumferential to ladder form
  - High density residential areas in city center → suburban
  - Development of peri-urban/suburban areas
  - Development of subcenters
  - Recovery of green space
  - Redevelopment/retrofitting of city center areas

Conventional Road network pattern

Proposed Road network pattern

Eco zone

1977 Metro Plan

- Redefine spatial structure of Metro Manila
- Shift from radial/circumferential to ladder form
  - High density residential areas in city center → suburban
  - Development of peri-urban/suburban areas
  - Development of subcenters
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Conventional Road network pattern

Proposed Road network pattern

Eco zone

1977 Metro Plan
Regional development strategy
(Integrated, Innovative and Inclusive)

- Integration of regional development clusters with north-south transport backbones (expressway and suburban rail)
- Accommodation of ISFs living in high hazard risk areas and those who need affordable housing in planned new urban areas with good accessibility and living environment in Bulacan, Cavite and Laguna areas.
- Retrofitting/regeneration of existing urban areas in integration with transportation development (port areas, NAIA, water front, others)
Spatial development concept for GCR (from monocentric to polycentric)

Today

- Development of hierarchical regional centers/clusters
- Economic development
  - Agro-based
  - Manufacturing
  - Services, BPO
  - Tourism, others
- Improved connectivity (between urban/growth center, urban-rural)

Future

- Regional Center
- Sub-regional Center
- Urban Center
- City population

Metropolis
Provincial Capital
Urban center
City population
Transport network in the region must be:
- hierarchical
- multimodal
- disaster-resilient
- intelligent
- service-oriented, rather than hard infrastructure

Key Transport Intervention for Regional Integration

- Transport as a catalyst to:
  - integrate cities, growth centers, gateways, urban and rural areas within a region
  - facilitate local economic development, enhance social integrity, and promote environmental sustainability
  - facilitate planned/guided urban growth and expansion of Metro Manila
NLEx – SLEx connection: urgently needed and doable

- Project components
  - NLEx Segment 10
  - NLEx – SLEx connector
  - Skyway Stage 3
  - Port access connection

**Impact**
- Reduction in EDSA traffic
- Diversion of long-haul traffic from main urban roads
- Improvement of port access
Need for competitive (high quality and capacity) public transport backbone: North-South Commuter Rail and EDSA Subway

Objectives

- To strengthen connectivity between Metro Manila and adjoining municipalities in Region III and IV-A
- To guide urban development of new urban centers along the route to meet large resettlement demands

North-South Commuter Rail (Malolos - Calamba) 1)

- Route length: 91 km
- Elevated with modern high capacity train
- Future extension to CLARK

Impact

- No level crossings at main roads
- At-grade urban roads created
- Land use are connected

EDSA subway: 2nd north-south mass transit backbone (San Jose Del Monte – Dasmarinas): 75 km 2)

Impact

- Promoting north-south urban growth
- Dramatic improvement of mobility and accessibility along EDSA and other roads
- New urban land development opportunities

1) F/S is on-going
2) Preliminary study was done in Roadmap Study.
Integrated development is a key for success: Suburban rail + new town (experiences of Japan)

Kashiwa-no-Ha Smart City along Tsukuba Express

- Location: 50km from Tokyo, 40km from Narita International Airport
- Area: 28,400 ha; Central part: 2,700 ha
- Population: 216,300 (2011)

Tokyu Tama Denentoshi along Tokyu Denentoshi Line

- Location: 20-30km from Tokyo
- Area: 5,000ha
- Population: 600,000 (2013)
Opportunities exist for large-scale new towns development?

- Yes!
  - Large-scale properties owned by private/public sectors
  - Active subdivision development by private sector
  - Republic Act No. 7279 (20% of total No. of unites should be allocated for low cost housing)

Approach: to establish a PPP model based on regulation, guidance and incentives

- Public: north-south commuter rail, access roads, basic infrastructure and public services
- Private: affordable housing, commercial facilities, industrial parks, relocation of universities, etc.

Estimated demand

- 1–2 million households = 5-10 new towns (2,000ha with 200,000 residents each)
Proposed concept for gateway port development: maximize capacities and development opportunities of three ports

- Shift cargo-handling function of Metro Manila to Subic and Batangas through controlling of future expansion of Manila ports and providing incentives to use Subic and Batangas ports
- Regenerate Manila Port to high value-added diversified waterfront areas

<table>
<thead>
<tr>
<th>Port Area</th>
<th>Capacity (TEU)</th>
</tr>
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<tbody>
<tr>
<td>MICT (ICTSI)</td>
<td>1,500,000</td>
</tr>
<tr>
<td>South (ATI)</td>
<td>850,000</td>
</tr>
<tr>
<td>Subic</td>
<td>600,000</td>
</tr>
<tr>
<td>Batangas</td>
<td>400,000</td>
</tr>
</tbody>
</table>
Proposed concept for gateway airport development: globally competitive international gateway airport is a critical driving force for future development of Metro Manila and the Philippines.

**Gateway Airports**
- Development of CLARK (secondary gateway airport for central and northern cluster; alternative to New NAIA)
- Development of New NAIA (existing NAIA will be closed and converted for New CBD)

Note: Alternative locations for New NAIA was studied in Roadmap Study.

**Proposed Actions**
1. Improvement of existing NAIA (immediate)
2. Improvement of existing CLARK (immediate)
3. Utilization of runway @ Sangley (short-term)
4. Construction of new NAIA near Metro Manila (developed on off-shore reclaimed land and connected with a bay bridge)

Bay Bridge: a new icon for Metro Manila

Proposed Dream Plan for Mega Manila

- **5 NOs for Mega Manila**
  - No traffic congestion
  - No households living in high hazard risk areas
  - No barrier for seamless mobility
  - No excessive transport cost burden for low-income groups
  - No air pollution
5 Main components of Dream Plan

- **At-grade roads (urban roads)**
  - Missing links: C3, C5, bridges and others
  - New roads (137km)
  - Flyovers
  - Sidewalks and pedestrian facilities
  - Secondary roads in periurban areas

- **Expressways**
  - Intercity expressway (426 km)
  - Urban expressway (78 km)

- **Urban/Suburban rails**
  - Main line: 246 km (6 lines)
  - Secondary line: 72 km (5 lines)
  - Integrated lines and improved accessibility

- **Bus/Jeepneys**
  - Modern fleet and operation
  - Rationalized route structure
  - Improved terminals and interchange facilities

- **Traffic management**
  - Traffic signals
  - Traffic safety
  - Traffic enforcement and education
  - ITS

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Legend

**Main Urban Roads**
- Upgrade
- New links

**Expressways**
- Existing
- New links

**Urban/Suburban Rails Network**
- Main Line: 246 km (6 lines)
- Secondary Line: 72 km (5 lines)
- Integrated lines and improved accessibility

**Urban Roads/Expressways Network**
- At-grade roads (urban roads)
- Flyovers
- Sidewalks and pedestrian facilities
- Secondary roads in periurban areas
- Expressways
- Intercity expressway (426 km)
- Urban expressway (78 km)
- Urban/Suburban rails
- Main line: 246 km (6 lines)
- Secondary line: 72 km (5 lines)
- Bus/Jeepneys
- Modern fleet and operation
- Rationalized route structure
- Improved terminals and interchange facilities

Legend

- NS Commuter
- Main Line
  - Existing Line
  - Extension/New Line
  - New Main Line (UG)
- Secondary Line

---

Map showing urban and suburban rail networks and main roads/expressways.
Main transport network concept for central area of Metro Manila

Urban/Suburban Rails Network

Main Roads/Expressways Network

Legend:
- Main Urban Roads
  - Upgrade
  - New Links
- Expressways
  - Existing
  - New Links
- North-South Commuter
- Main Line
  - Existing Line
  - Extension or New Line
  - New Main Line (UG)
- Secondary Line

0 1 2 4km

0 1 2 4km
Truly integrated urban mass-transit network is a must!

Demand for Mass-transit in Mega Manila

<table>
<thead>
<tr>
<th>Ridership (mil./day)</th>
<th>2012</th>
<th>2030</th>
<th>‘30/’12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metro Manila</td>
<td>1.5</td>
<td>7.4</td>
<td>4.9</td>
</tr>
<tr>
<td>BRLC</td>
<td>0</td>
<td>2.1</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>1.5</td>
<td>9.1</td>
<td>6.1</td>
</tr>
</tbody>
</table>

Hierarchical railway network
- PNR/AER (suburban/urban backbone)
- Primary urban
- Secondary urban

Impact of integration (common fare)
- Ridership increase: +20%
- Bus/jeepney ridership increase: + 2%
- Impact on road traffic: - 4%

Expected modal share in 2030 (MMManila)
- Railway: 41%
- Bus/Jeepney: 33%
- Car: 26%

Railway share of other successful cities
- Tokyo (62%),
- Singapore (20%),
- New York (24%)
- Yokohama (46%)
- Hong Kong (25%)

Note: excluding walk trips
Select appropriate mass-transit systems and introduce TOD for improved mobility (examples)

- Commuter rail (Odakyu Line)
- Tokyo Metro (MRT)
- LRT Greenmover (Hiroshima)
- LRT & feeder bus (Toyama)
- Monorail (Chiba)
- Station plaza (interchange facilities) (Kawasaki)
- Guideway Bus (Nagoya)
- BRT (Gifu city)
- Monorail (integrated with commercial/other building) (Kokura)
- Linear motor car (Aichi)

Total length of railway in Tokyo metropolitan \( \approx 2,400 \text{km} \)
Urban expressways need to be developed as an integrated network!

- Role of urban expressway
  - Attract long-trip vehicle traffic from at-grade urban roads
  - Provide congestion free fast travel to those who are willing to pay for such service
  - Strengthen network resilience

- Should be integrated in terms of:
  - Physical (between expressways, and with urban roads)
  - Toll system
  - Operational and management

### Distribution of Expressway Demand
(Dream Plan, 2030)

<table>
<thead>
<tr>
<th>Volume/Capacity Ratio</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>V/C &gt; 1.50</td>
<td></td>
</tr>
<tr>
<td>V/C = 0.90 – 1.50</td>
<td></td>
</tr>
<tr>
<td>V/C = 0.75 – 0.90</td>
<td></td>
</tr>
<tr>
<td>V/C = 0.50 – 0.75</td>
<td></td>
</tr>
<tr>
<td>V/C &lt; 0.50</td>
<td></td>
</tr>
</tbody>
</table>

Cross section traffic demand:
- 30,000 pcu/day
- 60,000 pcu/day
Modernize road-based public transport modernization

Rocks and railways will be insufficient in solving traffic congestion . . . 71% of trips today and 30% in 2030 still rely on buses and jeepneys . . .

- **Bus modernization program**
  - Comprehensive approach is necessary to modernize bus system and services
  - Bus fleet, bus terminals, route planning, fare setting and collection are all interrelated.
  - Need for a participatory study

- **Jeepney modernization program**
  - Improvement of vehicles (safety, air pollution)
  - Improvement of operation and management
  - Shift to low emission vehicles (LEVs)

- **Bus/jeepney support program**
  - Infrastructure: terminals, interchange facilities
  - Route rationalization
  - Subsidy

Need for a comprehensive road-based public transport study
Traffic management is the most fundamental action to maximize capacities and use of available infrastructure in the most efficient and effective manner.

- Capacity building: enforcement and education
- Infrastructure/facilities: signaling, intersection improvement, flyovers, parking, IT, others
- Traffic safety
- Demand management
- Pedestrian/NMT environment improvement

**Component of intelligent transport system (example)**

- Incident Detection
- Signal Control Systems
- Electronic Road Pricing
- Road Maintenance Scheduling & Monitoring
- Intelligent Parking
- Travel Time Prediction
- Transit Priority
- Bus Scheduling Assistance

**Need for a comprehensive traffic management study**
Intelligent transport services (examples)

- Car sharing at convenience store
- Electric vehicle and charging station
- Bus stop facilities with billboard business
- Mobile navigation system for rail
- Automated ticketing system
- Mechanical multi-storey parking
- Park & Ride facilities
- Community Cycle (Bicycle sharing)
- Personal urban mobility car
- Pedestrian zone
Impact of the Dream Plan on road traffic in 2030

Volume/ Capacity Ratio
- **V/C > 1.50** (beyond capacity)
- **V/C = 1.00 – 1.50** (at & above capacity)
- **V/C = 0.75 – 1.00** (reaching capacity)
- **V/C < 0.75** (below capacity)

- Traffic situation will be significantly improved!
- Transport cost will be reduced much!
- Air quality will also be improved!

### Impact of Dream Plan

<table>
<thead>
<tr>
<th>Indicators</th>
<th>2030</th>
<th>%Change from 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Metro Manila</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport demand (mil. pax-km/day)</td>
<td>152.3</td>
<td>15.4%</td>
</tr>
<tr>
<td>Transport Cost (Php bil./day)</td>
<td>1.4</td>
<td>-41.5%</td>
</tr>
<tr>
<td>Air quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GHG (mil. Tons/year)</td>
<td>3.99</td>
<td>-16.7%</td>
</tr>
<tr>
<td>PM (mil. Tons/year)</td>
<td>0.005</td>
<td>-64.3%</td>
</tr>
<tr>
<td>NOx (mil. Tons/year)</td>
<td>0.040</td>
<td>-18.4%</td>
</tr>
<tr>
<td><strong>Bulacan, Rizal, Laguna, Cavite</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport demand (mil. pax-km/day)</td>
<td>115.2</td>
<td>18.9%</td>
</tr>
<tr>
<td>Transport Cost (Php bil./day)</td>
<td>0.84</td>
<td>-15.2%</td>
</tr>
<tr>
<td>Air quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GHG (mil. Tons/year)</td>
<td>3.15</td>
<td>-1.60%</td>
</tr>
<tr>
<td>PM (mil. Tons/year)</td>
<td>0.003</td>
<td>-40.0%</td>
</tr>
<tr>
<td>NOx (mil. Tons/year)</td>
<td>0.031</td>
<td>-3.10%</td>
</tr>
</tbody>
</table>
Preliminary evaluation of Dream Plan: Dream Plan generates significantly positive economic, social and environmental impacts

Total investment cost up to 2030: Php 2,610 bil. (US$ 65.3bil.)

- **Economic impact:**
  - VOC saving: Php 2.1 bil./day = Php 630 bil./year
  - Time cost saving: Php 1.9 bil./day = Php 570 bil./year

- **Financial impact:**
  - Toll and fare revenue: Php 397 mil./day = Php 119 bil./year

- **Social impact:**
  - Public transport fare saving: Php 18/person/day (from Php 42 to Php 24)
  - Travel time reduction: 49 min./person · trip (from 80 min. to 31 min.)

- **Environmental impact:**
  - Reduction in GHG: 10,233 ton/day (from 34,033 to 23,800 ton/day)
  - Reduction in PM: 6.7 ton/day (from 33.4 to 26.7 ton/day)
  - Reduction in NOx: 50 ton/day (from 153 to 103 ton/day)

Note: above values are for 2030 alone
Impact of Dream Plan (estimated travel time from Manila)

Today

Future (Dream Plan)

60 min
90 min
120 min
150 min
Impact of Dream Plan (estimated travel time from Manila)

Today

Future (Dream Plan)

- 30 min
- 45 min
- 60 min
- 75 min
- 90 min
Budget envelop can cover the Dream Plan

Estimated budget envelop

<table>
<thead>
<tr>
<th>GDP in 2012 (Constant Price)</th>
<th>Growth Rate (%/year)</th>
<th>2014-16</th>
<th>2017-22</th>
<th>2023-30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Php billion</td>
<td>6.0</td>
<td>7.5</td>
<td>5.0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Infra-structure</th>
<th>National (5% of GDP)</th>
<th>1,746</th>
<th>5,297</th>
<th>9,795</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Area (61% of National)</td>
<td>1,189</td>
<td>3,045</td>
<td>5,387</td>
<td></td>
</tr>
<tr>
<td>Transport Study Area (50% of infra)</td>
<td>539</td>
<td>1,523</td>
<td>2,694</td>
<td></td>
</tr>
</tbody>
</table>

Short-term Plan

<table>
<thead>
<tr>
<th>Budget Envelop (Php billion)</th>
<th>(Php billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infra-structure National (5% of GDP)</td>
<td>1,746</td>
</tr>
<tr>
<td>Study Area (61% of National)</td>
<td>1,189</td>
</tr>
<tr>
<td>Transport Study Area (50% of infra)</td>
<td>539</td>
</tr>
</tbody>
</table>

Medium-term Plan

<table>
<thead>
<tr>
<th>Program Budget (Php billion)</th>
<th>(Php billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program</td>
<td>520</td>
</tr>
<tr>
<td>Budget</td>
<td>539</td>
</tr>
</tbody>
</table>

Long-term Plan (2014 - 2030)

- Program: Php 2,610 billion
- Budget: Php 4,756 billion
Manila was once mass-transit based well designed urban area

- Population: approximately 300,000 in 1920 – 30
- Well planned urban area
- Extensive tranvia network (track length): ~ 85km
- Tranvia covered about 40% of total demand.
- Strategic integrated development by private sector: suburban line + housing development + power supply
- Diversified urban transport modes
- Good traffic management
Short-term Program (2014-2016)

Criteria

- consistent with policies
- doability or high possibility of being completed or of starting construction on or before 2016
- robustness
## Action plan (short-term projects) towards Dream Plan

| **Urban Roads** | • Complete missing links (i.e., flyovers, interchanges, bridges)  
• Rehabilitate main urban roads including EDSA  
• Study and develop secondary roads in peri-urban areas |
| **Expressways** | • Complete NLEX-SLEX connections including port access  
• Implement CALA expressway, C6 ext.-Lakeshore dike road, NAIA expressway  
• Finalize overall metropolitan expressway network plan |
| **Urban Rail** | • Complete committed projects (Line 1 ext./expansion, Line 2 ext., Line 3 expansion.)  
• Improve connectivity among urban rail lines  
• Implement North-South Commuter Rail (Malolos-Calamba) and MRT7  
• Finalize overall metropolitan urban rail network system plan and feasibility study including EDSA Subway, further expansion/extension of main lines and development of secondary lines |
| **Road-based Public Transport** | • Develop BRT lines ahead of urban rail lines for specific corridors (Quezon Ave., C5, Commonwealth Ave., etc.)  
• Study and implement modernization of bus/jeepney vehicles facilities and O & M  
• Improve and expand sidewalks and pedestrian/NMT(Non-Motorized Transport) facilities |
| **Traffic Management** | • Conduct comprehensive traffic management study  
• Strengthen enforcement capacities  
• Introduce systematic road safety interventions |
| **Gateway Ports & Airports** | • Implement committed improvement packages for NAIA and CLARK  
• Place cap for expansion of Manila ports and facilitate diversion to Batangas and Subic ports through incentives  
• Conduct study for development of New NAIA and redevelopment of port area in Manila. |
## Short-term Program (2014 – 2016)

### A. Roads

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Amount (Php Mil.)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Missing Links of C5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Flyover on CP Garcia in Sucat</td>
<td>251</td>
<td>Committed</td>
</tr>
<tr>
<td>b. Coastal Rd/C5 Extn. South Flyover</td>
<td>210</td>
<td>Committed</td>
</tr>
<tr>
<td>c. C5 South Extn. Flyover at SLEX</td>
<td>235</td>
<td>Proposed</td>
</tr>
<tr>
<td>2. Global City-Ortigas Link Road</td>
<td>8,120</td>
<td>Proposed</td>
</tr>
<tr>
<td>3. Skyway/FTI/C5 Link</td>
<td>17,880</td>
<td>Committed</td>
</tr>
<tr>
<td>4. C3 Missing Links (S. Juan to Makati (Sta Ana oval))</td>
<td>24,000</td>
<td>Proposed</td>
</tr>
<tr>
<td>5. EDSA Rehabilitation</td>
<td>3,744</td>
<td>Committed</td>
</tr>
<tr>
<td>6. Plaridel Bypass, Packages 3 &amp; 4</td>
<td>3,341</td>
<td>Committed</td>
</tr>
<tr>
<td>7. EDSA – Taft Flyover</td>
<td>3,033</td>
<td>Committed</td>
</tr>
<tr>
<td>8. Metro Manila Interchanges Construction Phase IV: 7 Packages</td>
<td>4,129</td>
<td>Committed</td>
</tr>
<tr>
<td><strong>Roads Total</strong></td>
<td><strong>64,943</strong></td>
<td>-</td>
</tr>
</tbody>
</table>

### B. Expressways

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Amount (Php Mil.)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Daang Hari-SLEX Link Tollroad</td>
<td>2,010</td>
<td>Committed</td>
</tr>
<tr>
<td>2. NLEX-SLEX Connectors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Link Expressway (MNTC)</td>
<td>25,556</td>
<td>Committed</td>
</tr>
<tr>
<td>b. Skyway 3 Section (Citra)</td>
<td>26,500</td>
<td>Committed</td>
</tr>
<tr>
<td>c. Seg. 9&amp;10, and Connection to R10</td>
<td>8,600</td>
<td>Committed</td>
</tr>
<tr>
<td>3. NAIA Expressway, Phase 2</td>
<td>15,520</td>
<td>Committed</td>
</tr>
<tr>
<td>4. CALA Expressway, Stages 1 and 2</td>
<td>35,420</td>
<td>Committed</td>
</tr>
<tr>
<td>5. CLLEX Phase I (La Paz, Tarlac – Cabanatuan)</td>
<td>14,936</td>
<td>Committed</td>
</tr>
<tr>
<td>6. Calamba-Los Baños Expressway</td>
<td>8,210</td>
<td>Proposed</td>
</tr>
<tr>
<td>7. C6 extension – Lakeshore Dike Road</td>
<td>18,590</td>
<td>Committed</td>
</tr>
<tr>
<td>8. Segment 8.2 of NLEX to Commonwealth Ave.</td>
<td>7,000</td>
<td>Proposed</td>
</tr>
<tr>
<td>9. STAR Stage II (Batangas – Lipa)</td>
<td>2,320</td>
<td>Committed</td>
</tr>
<tr>
<td><strong>Expressways Total</strong></td>
<td><strong>164,662</strong></td>
<td>-</td>
</tr>
</tbody>
</table>

### C. Other Roads

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Amount (Php Mil.)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Secondary Road Packages</td>
<td>23,000</td>
<td>Proposed</td>
</tr>
<tr>
<td>2. Preparatory Studies for Several Projects</td>
<td>500</td>
<td>Proposed</td>
</tr>
<tr>
<td>3. Other Central Luzon Road Projects</td>
<td>16,000</td>
<td>Committed</td>
</tr>
<tr>
<td>4. Other Southern Luzon Road Projects</td>
<td>36,360</td>
<td>Committed</td>
</tr>
<tr>
<td><strong>Other Roads Total</strong></td>
<td><strong>75,860</strong></td>
<td>-</td>
</tr>
</tbody>
</table>
D. Railways

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Amount (Php Mil.)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. LRT1 - Cavite Extension (Niyog) and O&amp;M</td>
<td>63,550</td>
<td>Committed</td>
</tr>
<tr>
<td>2. LRT2 - East Extension</td>
<td>9,759</td>
<td>Committed</td>
</tr>
<tr>
<td>3. MRT3 Capacity Expansion</td>
<td>8,633</td>
<td>Committed</td>
</tr>
<tr>
<td>4. MRT 7 stage1 (Quezon Ave. – Commonwealth Ave.)</td>
<td>62,698</td>
<td>Committed</td>
</tr>
<tr>
<td>5. AFCS Common Ticketing System</td>
<td>1,722</td>
<td>Committed</td>
</tr>
<tr>
<td>6. System Rehabilitation for LRT1 and 2</td>
<td>6,067</td>
<td>Committed</td>
</tr>
<tr>
<td>7. Mega Manila North-South Commuter Railway</td>
<td>24,800</td>
<td>Proposed</td>
</tr>
<tr>
<td>8. Metro Manila CBD Transit System Project Study</td>
<td>75</td>
<td>Proposed</td>
</tr>
<tr>
<td>9. Mega Manila Subway Study</td>
<td>120</td>
<td>Proposed</td>
</tr>
<tr>
<td>10. Common Station for LRT1, MRT3 and MRT7</td>
<td>1,400</td>
<td>Committed</td>
</tr>
<tr>
<td>Railways Total</td>
<td>178,823</td>
<td>-</td>
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</tbody>
</table>

E. Road-based public Transport

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Amount (Php Mil.)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ITS (3 Provincial Bus Terminals)</td>
<td>5,080</td>
<td>Committed</td>
</tr>
<tr>
<td>2. Public Road Passenger Transport Reform Study</td>
<td>60</td>
<td>Proposed</td>
</tr>
<tr>
<td>3. BRT System 1</td>
<td>3,200</td>
<td>Proposed</td>
</tr>
<tr>
<td>Road-based Public Transport Total</td>
<td>8,340</td>
<td>-</td>
</tr>
</tbody>
</table>

F. Traffic Management Projects

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Amount (Php Mil.)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Modernization of Traffic Signalling System</td>
<td>3,309</td>
<td>Committed</td>
</tr>
<tr>
<td>2. Systematic Road Safety Interventions</td>
<td>1,000</td>
<td>Proposed</td>
</tr>
<tr>
<td>3. Comprehensive Traffic Management Study</td>
<td>50</td>
<td>Proposed</td>
</tr>
<tr>
<td>Traffic Management Projects Total</td>
<td>4,359</td>
<td>-</td>
</tr>
</tbody>
</table>

G. Airports

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Amount (Php Mil.)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. NAIA a. NAIA Improvements– airside package</td>
<td>4,249</td>
<td>Committed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Committed</td>
</tr>
<tr>
<td>2. Clark International Airport Construction of a Budget/ LCC Terminal</td>
<td>7,070</td>
<td>Committed</td>
</tr>
<tr>
<td>3. Feasibility Study of a New NAIA</td>
<td>50</td>
<td>Proposed</td>
</tr>
<tr>
<td>Airport Infrastructure Total</td>
<td>11,368</td>
<td>-</td>
</tr>
</tbody>
</table>

H. Ports*

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Amount (Php Mil.)</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Projects for North Harbor</td>
<td>6,000</td>
<td>Committed</td>
</tr>
<tr>
<td>2. Projects for South Harbor</td>
<td>1,000</td>
<td>Committed</td>
</tr>
<tr>
<td>3. MICT</td>
<td>4,000</td>
<td>Committed</td>
</tr>
<tr>
<td>4. Feasibility Study of NH Redevelopment</td>
<td>75</td>
<td>Proposed</td>
</tr>
<tr>
<td>5. Other Ports</td>
<td>1,010</td>
<td>Proposed</td>
</tr>
<tr>
<td>Port Projects Total</td>
<td>12,085</td>
<td>-</td>
</tr>
</tbody>
</table>

*Planned expansion projects recommended for rescheduling to promote diversion of cargo to Batangas and Subic ports as well as decongest roads of Metro Manila.

Short-term Program (2014 – 2016) = Php 520 billion
Action plan on institutions

- Clear backlogs of un-implemented projects (committed)
- Ramp up delivery capacity of transport agencies
- Improve management/control of unsolicited unsolicited proposals for roads and railways to ensure network integrity
- Clear policy framework for privatization of rail lines to avoid direct government involvement in rail operation
- Harness resources of LGUs for many secondary roads
- Strengthen development control and guidance to private sector development to maximize benefits both by public and private sector
- Capacity development for planning and project preparation
- Outsource project studies to support current institutional weakness
Thank you for your attention...