

Towards a low carbon transport future for the Philippines

Country Report

Presented at the Final Symposium of

“Study of Long-Term Transport Action Plan for ASEAN”

Hotel Okura Tokyo - February 20, 2014



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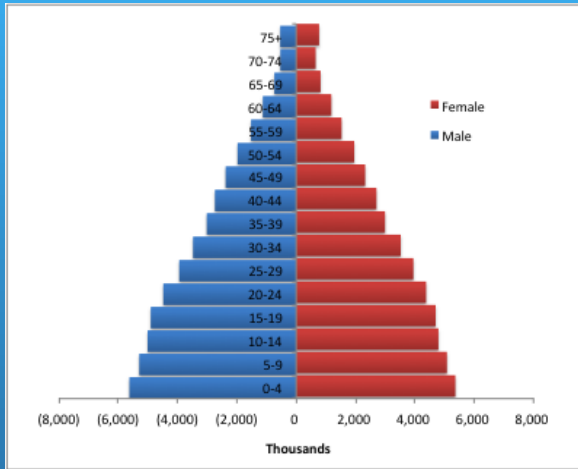
Institute of Civil Engineering &
National Center for Transportation Studies
University of the Philippines

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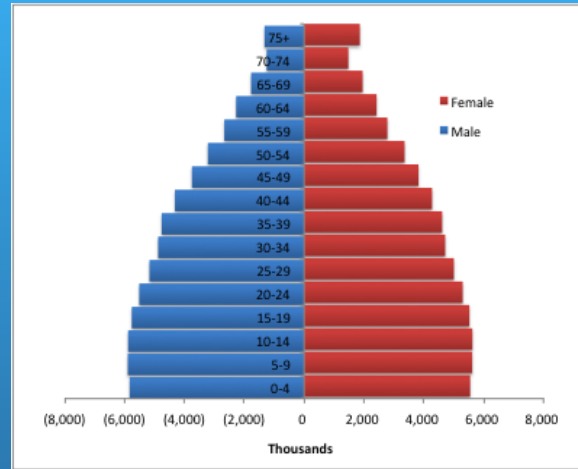


Population

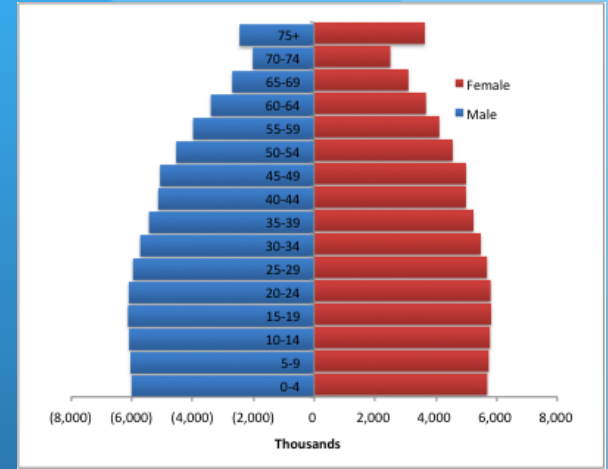
2010



2030



2050

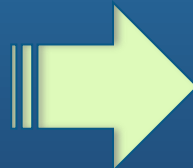


Population:
92 million

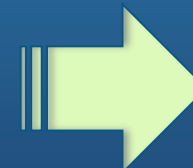
128 million

153 million

Working:
(2010) 50%



(2030) 53%



(2050) 54%

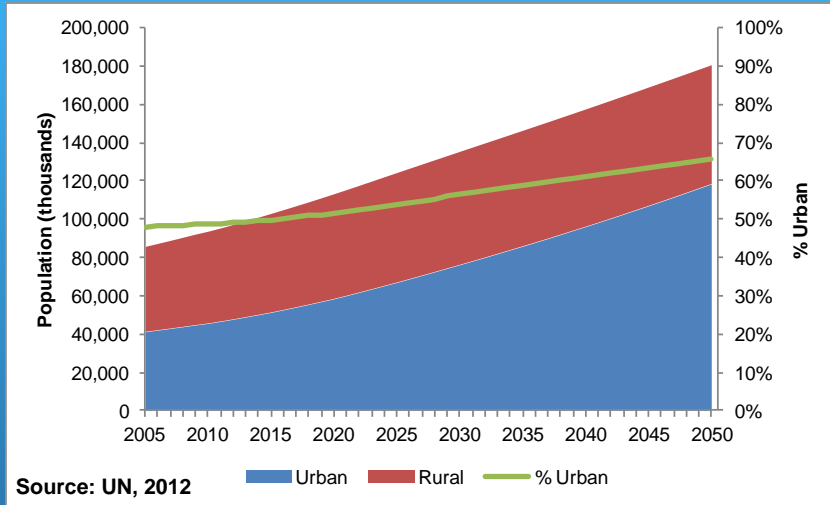
Senior citizens:
(2010) 6.8%

(2030) 11%

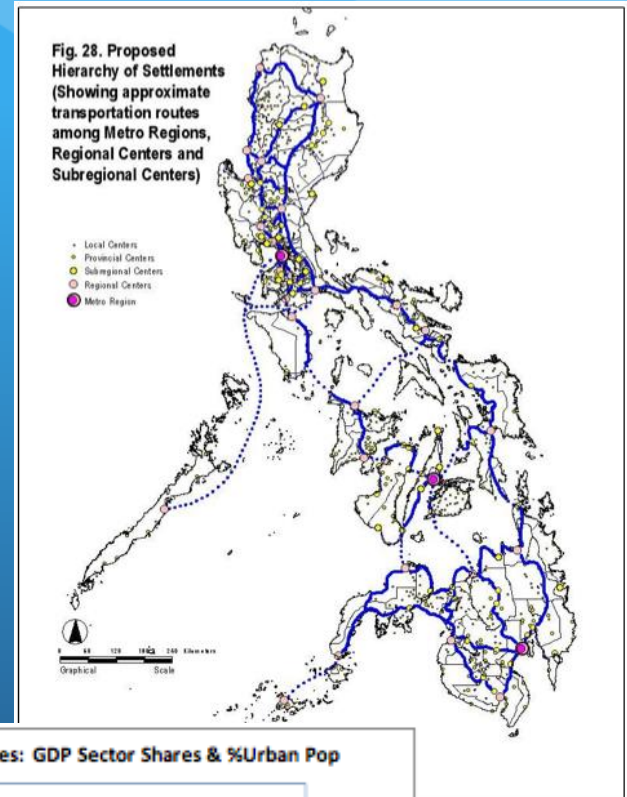
(2050) 15%

Urbanization and Economy

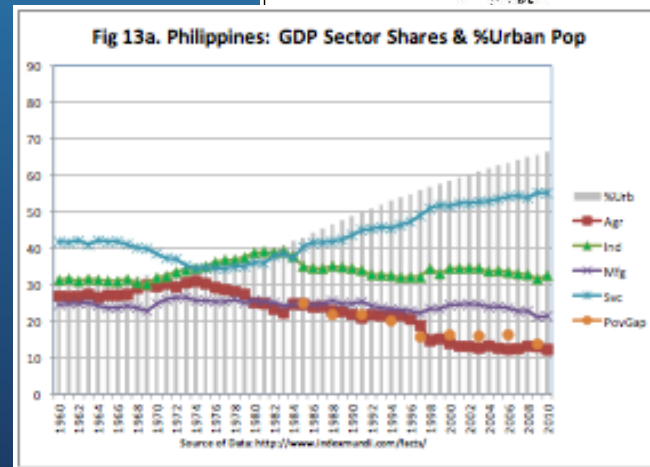
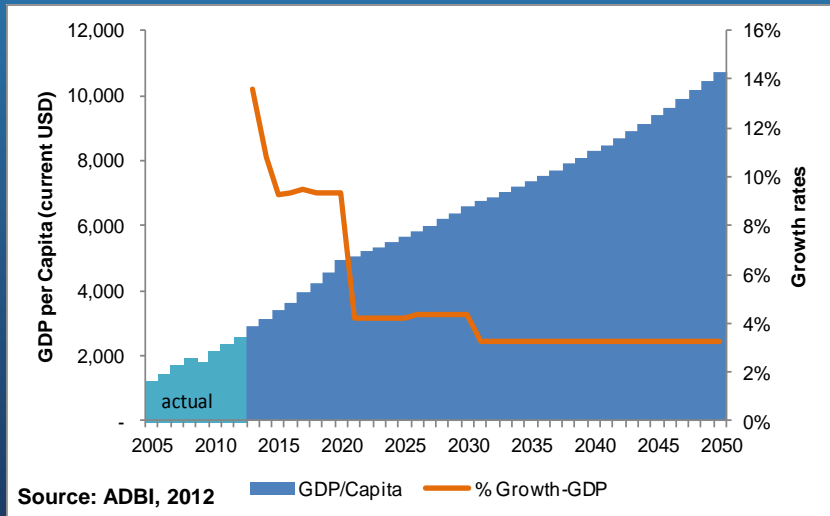
Urban and rural population



National Spatial Strategy (2013)



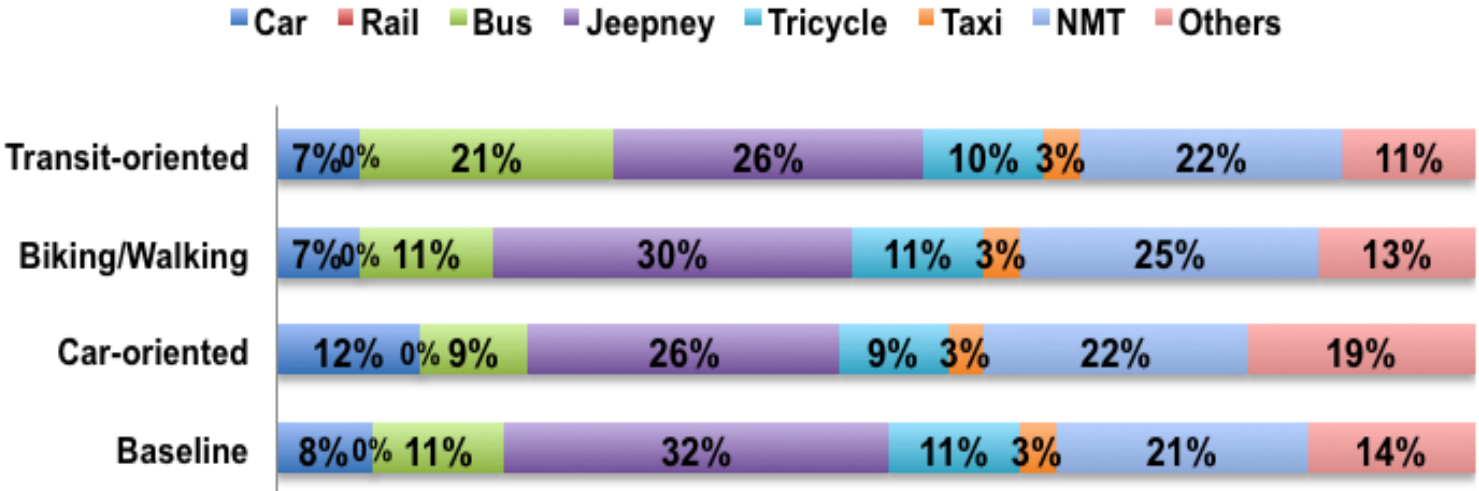
Economic performance



Mode Shares

FUTURE SCENARIOS

Estimated mode share in the Philippines by 2030

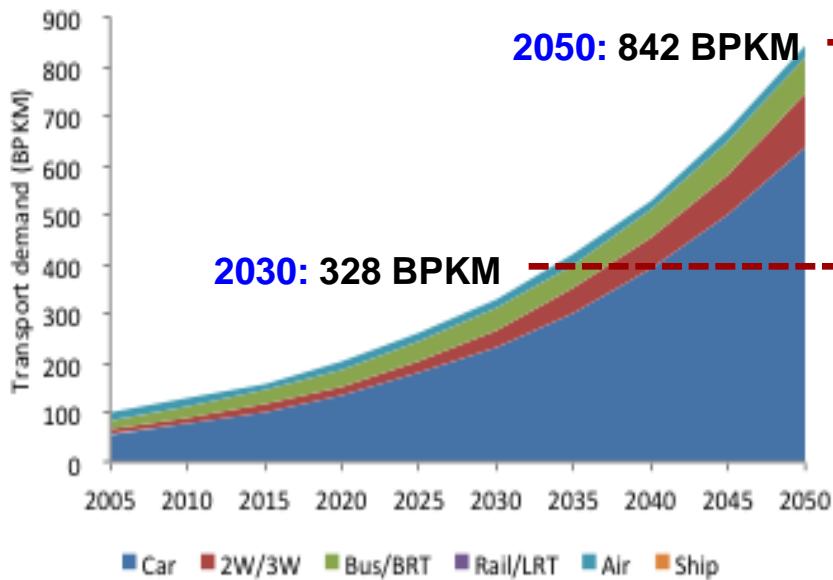


Source: WB, Transport Infrastructure Framework and Roadmap for the Philippines, Interim Report, 2013

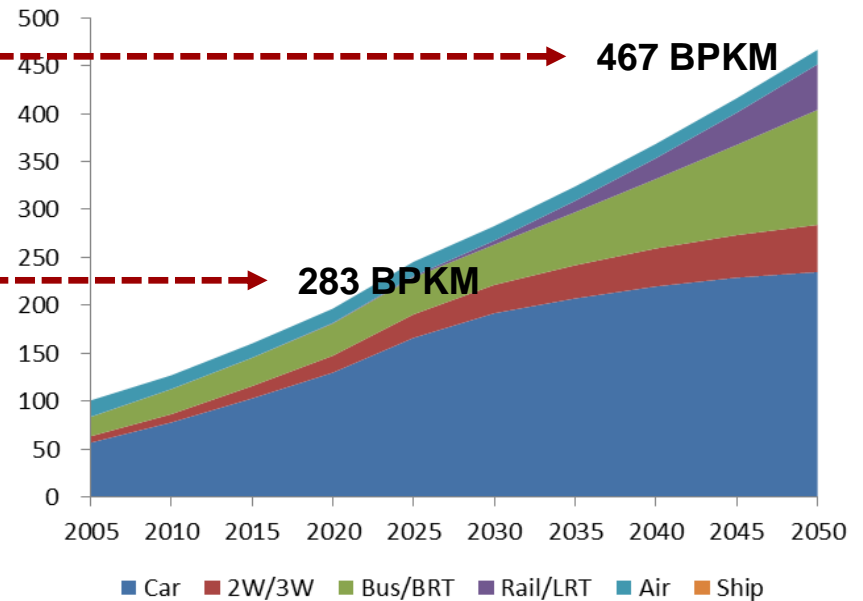
This assumes that there is no aggressive push for rail development in the country both for urban and long distance services.

Future Transport

Business As Usual Passenger Transport Demand



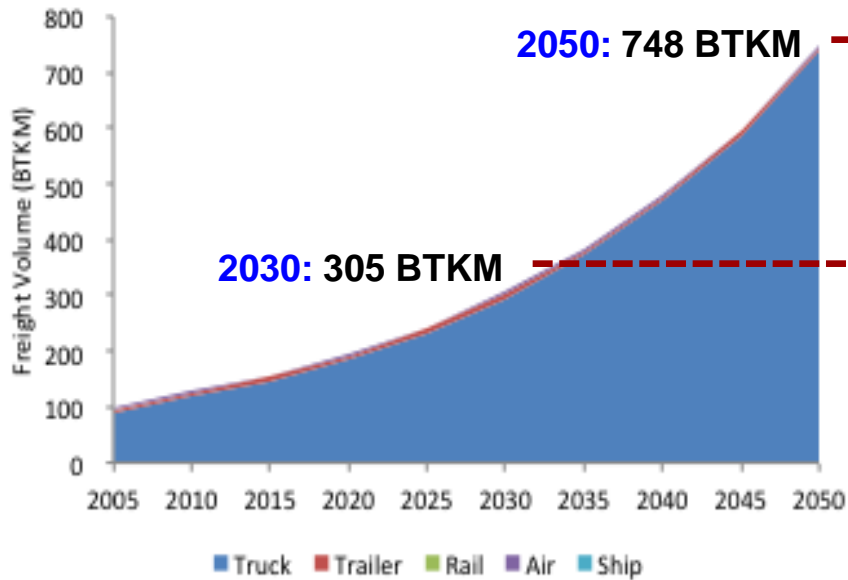
Alternative Passenger Transport Demand



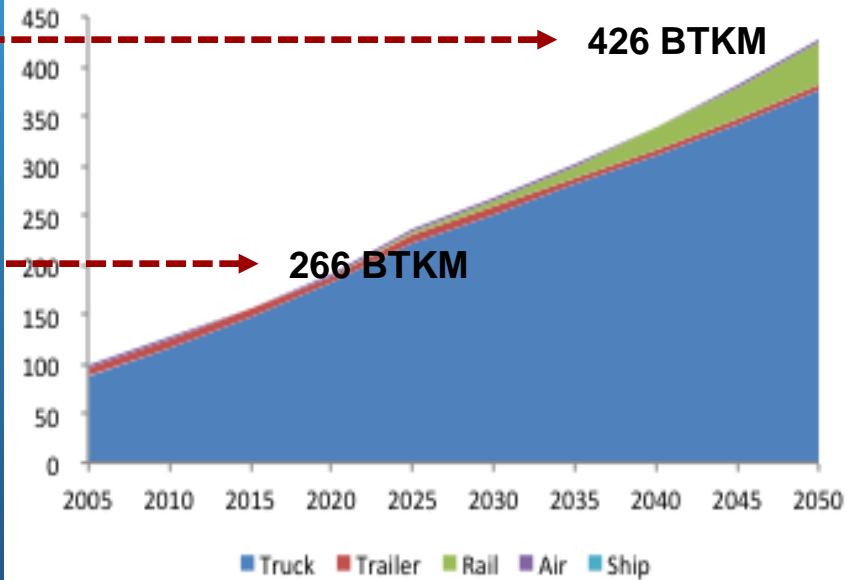
Demand in billion passenger kilometers (BP KM)

Future Transport

Business As Usual Freight Transport Demand




Alternative Freight Transport Demand




Demand in billion ton kilometers (BTKM)


Summary of Policies & Future Images for Transport

Case	Characteristic Policies	Future Image for Transport
<p>PRIMARY CITY</p> 	<p>A. Rail transit such as MRT to form a comprehensive network.</p> <p>B. BRT and bus transit for other major routes and as feeders to MRT.</p> <p>C. Electric jeepneys and tricycles as feeders to bus and rail.</p> <p>D. Hybrid and electric cars will be dominant over conventional cars.</p>	<ul style="list-style-type: none"> - CBDs of high-density developments will be served by mass transit systems; - These will be complemented by modern 4- and 3-wheeled paratransit; - Most cars will be hybrid or electric by 2050.


Summary of Policies & Future Images for Transport

Case	Characteristic Policies	Future Image for Transport
<p>LARGE CITY</p> 	<p>A. Rail transit (MRT or LRT) introduced starting 2025, targeting perhaps at least 2 lines for each city by 2050.</p> <p>B. BRT and bus are introduced starting 2020 and 2015, respectively.</p> <p>C. EV is pursued as dominant mode for modern jeepneys and tricycles.</p> <p>D. Hybrid and electric cars will replace conventional cars though not as widely as in Metro Manila.</p>	<ul style="list-style-type: none"> - Large cities will have mass transit systems; - Modern jitneys will serve feeder routes; - electric tricycles will serve residential areas and local streets; - Significant number of cars will be hybrid or electric.


Summary of Policies & Future Images for Transport

Case	Characteristic Policies	Future Image for Transport
<p>CITY</p> 	<p>A. Bus introduced by 2020 to serve main routes.</p> <p>B. Promotion of electric and LPG jitneys</p> <p>C. Promotion of electric tricycles</p> <p>D. Promotion of hybrid and electric cars.</p>	<ul style="list-style-type: none"> - Smaller cities will have buses serving main routes; - Mix of modern and conventional jeepneys and tricycles serve minor roads and residential areas; - Significant NMT and pedestrian facilities in most small cities.


Summary of Policies & Future Images for Transport

Case	Characteristic Policies	Future Image for Transport
<p data-bbox="137 476 469 519">MUNICIPALITY</p> 	<p data-bbox="517 476 1128 696">A. Major routes to be served by jitneys with capacities similar to present day jeepneys.</p> <p data-bbox="517 708 1020 811">B. Promotion of electric tricycles</p> <p data-bbox="517 822 973 925">C. Promotion of NMT paratransit</p> <p data-bbox="517 936 1070 1039">D. Provision of pedestrian facilities</p>	<ul style="list-style-type: none"> <li data-bbox="1184 476 1779 696">- Major transport routes in municipalities will be served by jitneys instead of tricycles; <li data-bbox="1184 708 1773 982">- Tricycles will still provide motorized transport in many areas but those in the CBDs will include many e-trikes; <li data-bbox="1184 993 1740 1153">- Many areas will be pedestrian and bicycle-friendly.

Summary of Policies & Future Images for Transport

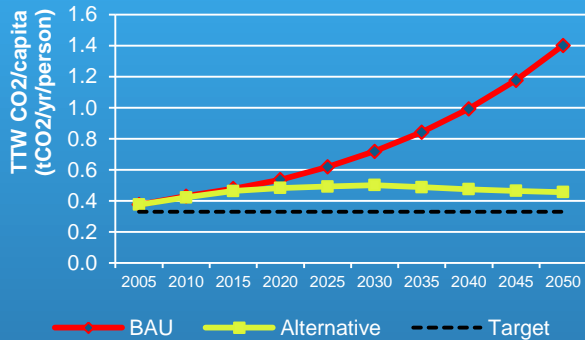
Case	Characteristic Policies	Future Image for Transport
<p data-bbox="179 478 432 578">INTER-REGIONAL</p> 	<p data-bbox="517 478 1112 578">A. Incentives for upgrade of truck fleets</p> <p data-bbox="517 592 1087 749">B. Incentives and investments for regional rail infrastructure</p>	<ul data-bbox="1184 478 1800 863" style="list-style-type: none">- Rail transport will become the backbone of land-based freight and passenger transport by 2050;- Trucks will run on hybrid-diesel and natural gas.

Summary of Policies & Future Images for Transport

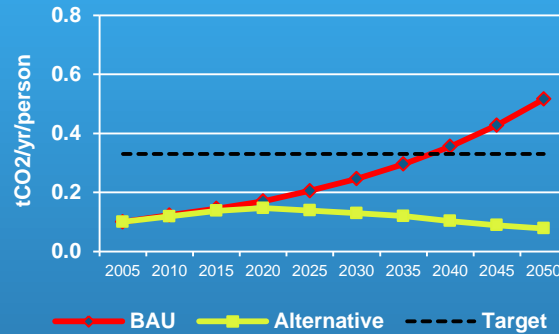
Case	Characteristic Policies	Future Image for Transport
<p data-bbox="131 475 519 519">INTERNATIONAL</p> 	<p data-bbox="562 475 1122 694">A. Airlines, particularly low cost carriers, are given incentives including deregulation</p> <p data-bbox="562 705 1074 923">B. Maritime transport companies are given incentives to upgrade their vessels.</p> <p data-bbox="562 935 1132 1205">C. Easing of travel restrictions such as visa requirements across ASEAN as well as other countries</p>	<ul data-bbox="1193 475 1785 1033" style="list-style-type: none">- International transport will be dominated by air (for passengers) and maritime (for freight) transport;- There will be more travel between ASEAN countries as restrictions across the region are eased.

Backcasting and visioning outcomes

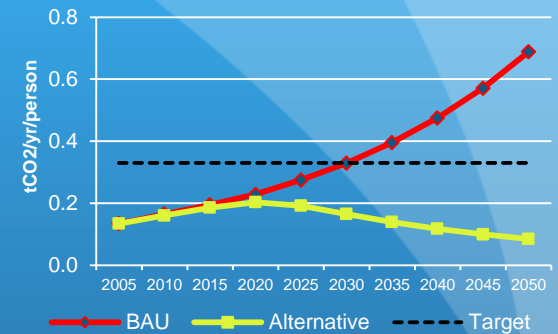
NATIONAL



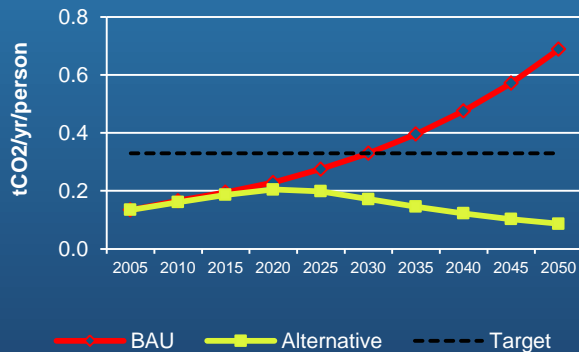
PRIMARY CITY



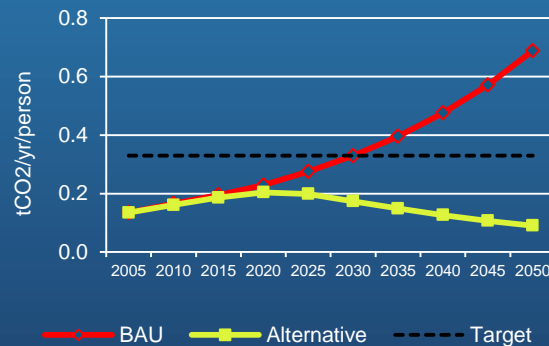
LARGE CITY



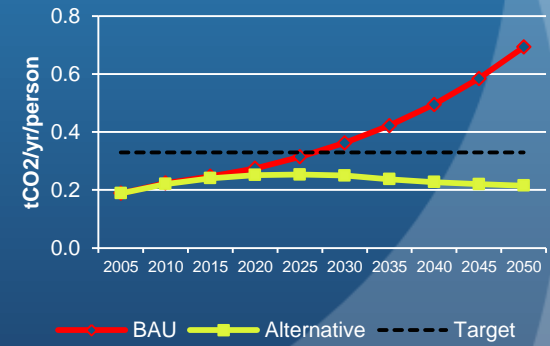
CITY



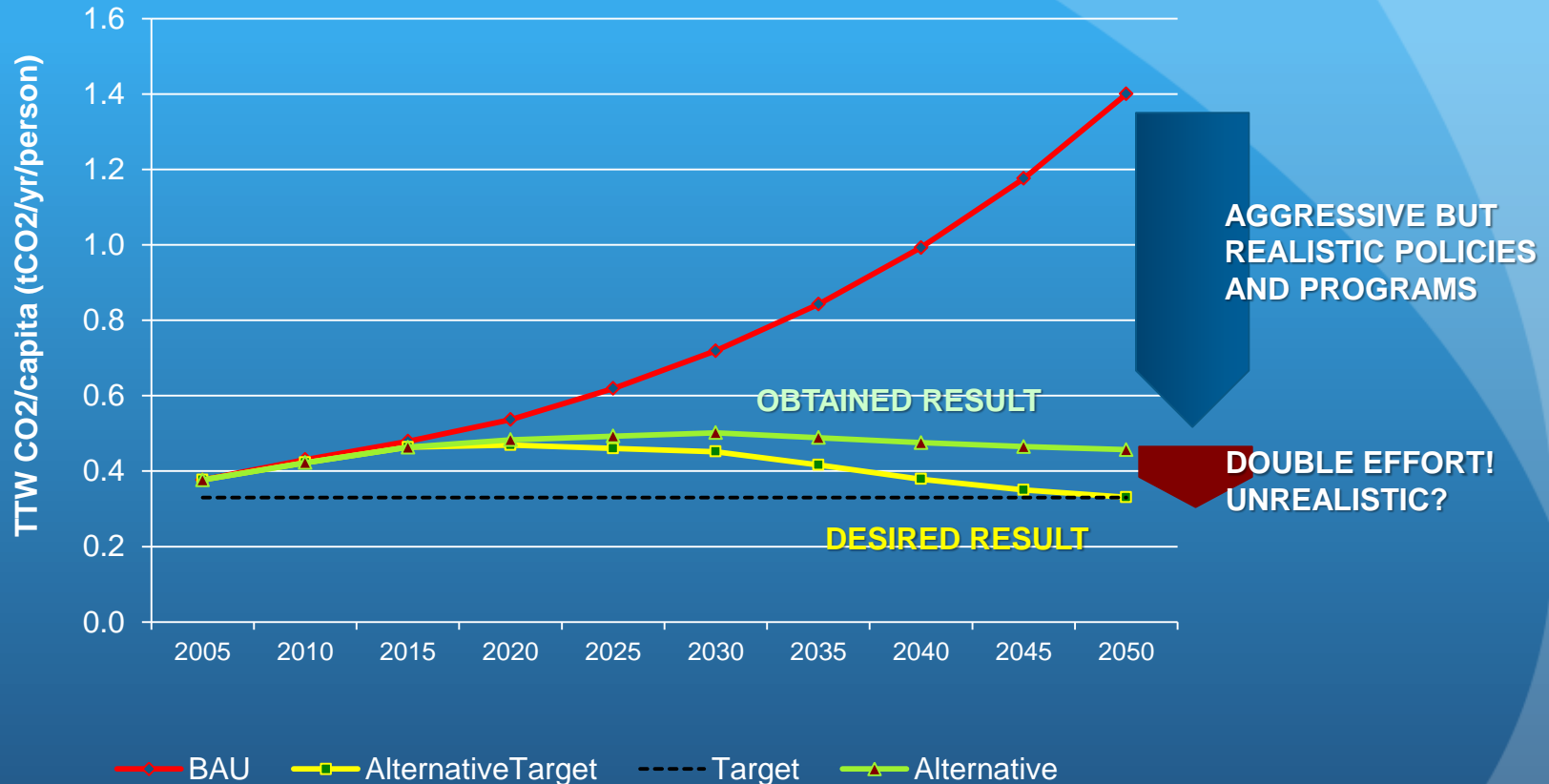
NON-CITY



INTER-REGIONAL



Backcasting and visioning outcomes



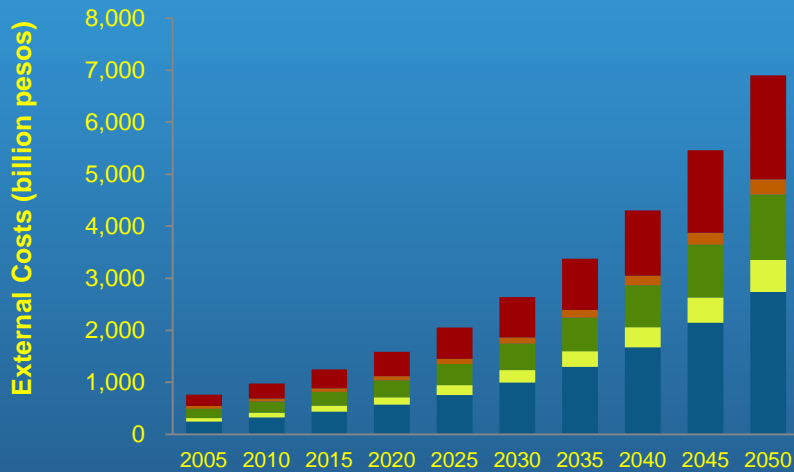
Further reduction requires, for example:

- Doubling passengers shifting from 2W/3W to bus and rail
- Significant shift of freight transport from truck and air to rail

Backcasting and visioning outcomes

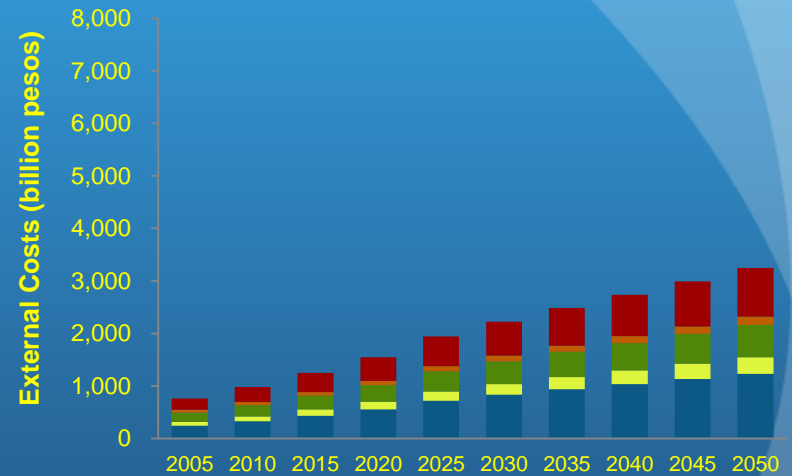
CO-BENEFITS

BAU



■ Accidents
■ Air pollution
■ Climate change high scenario
■ Congestion (delay cost)
■ Noise

ASI



■ Accidents
■ Air pollution
■ Climate change high scenario
■ Congestion (delay cost)
■ Noise

Conclusions

- Achieving the **0.33tCO₂/person/year target** will be **difficult, but possible**. Time sensitive action is needed.
- There is possible significant carbon reduction for the entire country (esp. Metro Manila)
 - ✧ if suitable **policies are implemented strictly**
 - ✧ if **quality data are available** to support the analysis/evaluations
- Implementation of policies is very dependent on the assumption of **good governance**

Conclusions

- Climate Change Commission (CCC) said that **GHG mitigation is already in the national agenda**.
 - ✦ However, they have no tools or methodology (e.g., NAMAs) for quantitative assessment of mitigation.
- DOTC already has a **National Implementation Plan (NIP)** for transport and environment. NIP identifies mitigation options.
 - ✦ But there is no specific tool or methodology yet to enable the agency to evaluate plans and programs at strategic and project levels.

Conclusions

- It is important to explain the benefits of the CO₂ reduction using the **co-benefits** approach.
 - ✦ The stakeholder workshop in Manila showed **less appreciation or concern about CO₂ compared with other factors** such mobility, pollution and safety.
- **Health benefits** due to CO₂ reduction is easier understood or appreciated.
- **Economic benefits** are not limited to carbon reduction but include benefits from associated concepts or parameters like **road safety, air pollution, noise and climate change.**

Thank you!
Domo Arigatou Gozaimasu!
Maraming salamat!

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