

PHILIPPINE TRANSPORT OVERVIEW

Population and Motorization Rate

	YEAR	VALUE
Population (million)	2014	99.14
Urban Population (percent)	2014	45%
GDP/capita (2010 PPP USD)	2014	6,982
Car Ownership (Cars/1000 population)	2014	44
Vehicle Ownership (Vehicles/1000 population)	2014	136

State of Transport Infrastructure

	YEAR	VALUE
Length of national roads (km)	2015	32,633.37
Paved	2015	28,919.17 (88.62%)
Unpaved	2015	3,714.20 (11.38%)
Length of Rail (km)	2014	528.3
Urban Rail	2014	140
Number of Airports	2014	85
Number of Domestic Ports	2013	412
Number of International		
	YEAR	VALUE
Road PKM	2014	258
Rail PKM	2014	4
Air PKM	2014	15
Water PKM	2014	0.006

Freight Transport Activity (billion TKM)

	YEAR	VALUE
Road TKM	2014	179.7
Rail TKM	2014	0
Air TKM	2014	0.6
Water TKM	2014	0.2

As of 2014, Philippines's population was at 99.14 million, of which 45% were in urban areas.

- Since 2000, Philippine's urban population has been increasing by 1.2% per year, 0.5% lower than the overall population growth rate of 1.7% per year.

Economy

- The average income in Philippines is about 6.9 thousand USD per capita as of 2014 (based on GDP adjusted by 2010 PPP)
- The GDP growth rate is estimated at 7.2% per year from 2000 to 2014.

Motorization Rates

- There are 136 road vehicles per 1000 persons in Philippines as of 2014, which is about 2.3 times the motorization levels in 2000.
- Car ownership in 2014 is about 44 cars per 1000 persons, 3.4 times the 2000 level.
- Car ownership has been rising by about 9.1% per year since 2000, faster than the increase in vehicle ownership which is just 13.3% per year.

Infrastructure

- As of 2015, 88.6% of Philippine national roads are paved and 34% of which is considered in good conditions according to the Department of Public Works and Highways Road Assessment and Inventory.

Philippines has 528.3 kilometers of rail tracks, where 140 kilometers run through the National

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Road data – we can use 2015 national road inventory data instead of putting in the data we have now to avoid inconsistencies (i.e. paved and unpaved total in 2010 decreased based on 2007 data.

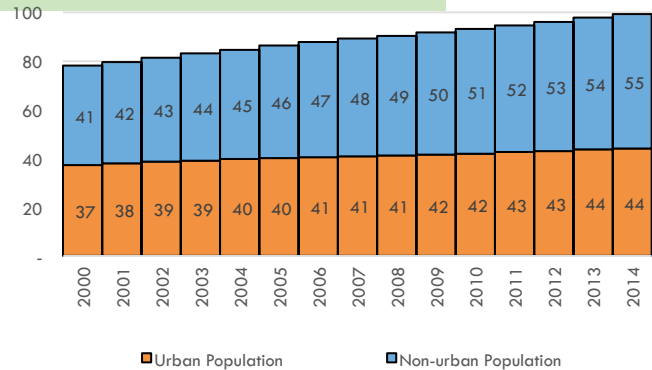
-I changed some data needed here (domestic and international ports instead on navigable rivers, maritime etc)

For passenger transport activity, water pkm is almost negligible at .006. I still put in exact data though.

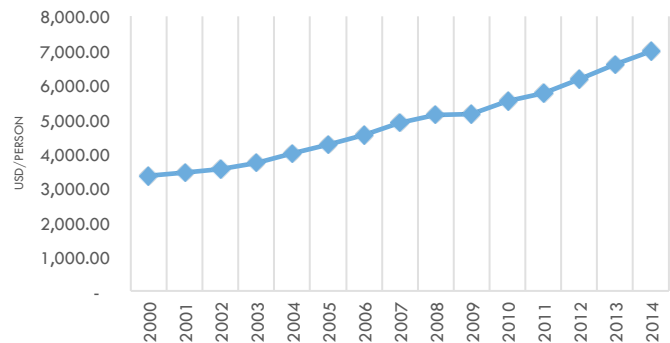
For freight transport activity, I am leaning towards using million ton km than btkm cos of the values we have.

HERE

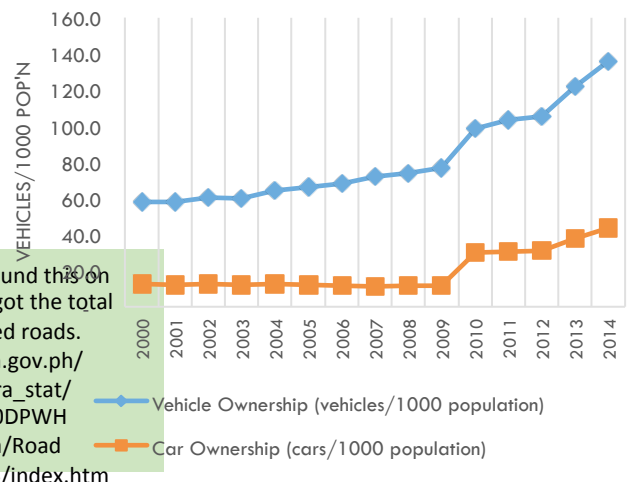
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NATIONAL INCOME PER CAPITA



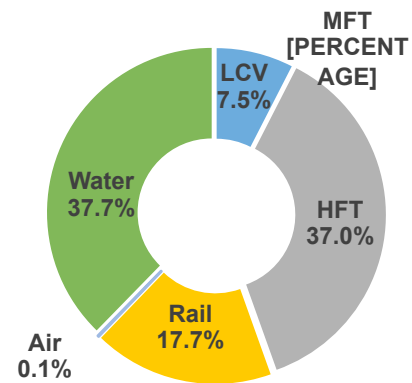
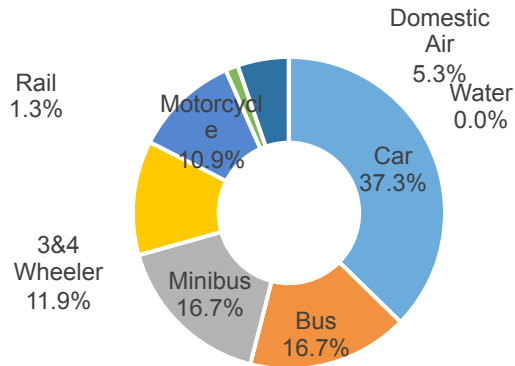
MOTORIZATION RATE



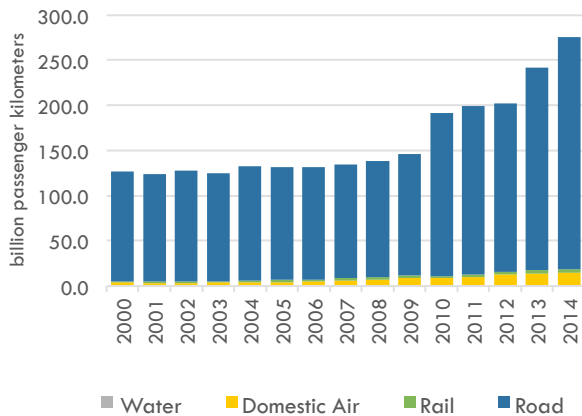
For road infra: I found this on DPWH website. I got the total paved and unpaved roads. http://www.dpwh.gov.ph/infrastructure/infra_stat/2015RBI/2015%20DPWH%20Road%20Data/Road%20Data%202015/index.htm

TRANSPORT DEMAND SUMMARY

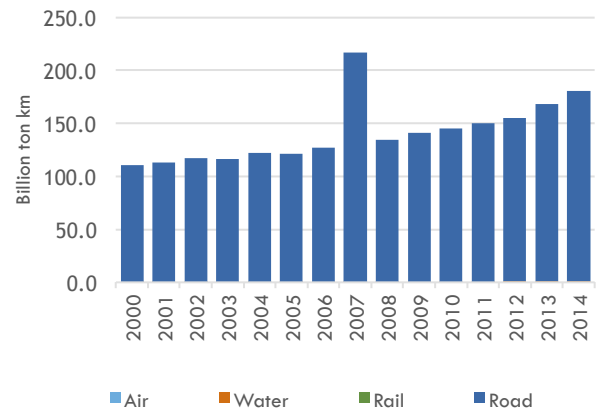
Passenger Mode Shares by Vehicle Type (2014, %PKM) Freight Mode Shares by Vehicle Type (2014, %TKM)



Passenger Activity by Mode of Transport



Freight Activity by Mode of Transport



HIGHLIGHTS

Passenger Transport

- Philippines has a high share of cars which accounted for 37.3% of the total passenger-kilometers in 2014.
- Passenger-kilometers by all modes increased on the average by 5.7% per year from 2000 to 2014. However, passenger transport by cars and motorcycles grew most rapidly, rising by about 11% per year.
- Transport by car comprised the largest fraction of passenger mode shares at 37.3% in 2014 followed by a tie between bus and mini bus at 16.7%.
- Rail transport demand in 2014 comprised only 1.3% of the total passenger modes shares but grew by 7.6% annually from 2000-2014. Also, domestic air transport comprised 5.3% and grew rapidly by 10.5% from 2000 to 2014.
- Water transport is negligible.

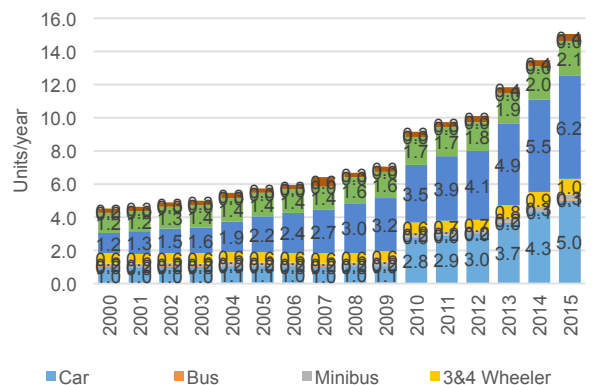
Freight Transport

- Freight transport activity in the Philippines has an average annual increase of 3.6% from 2000-2014. It is dominated by road transport which accounts for 100% of the total ton-kilometers from 2000 to 2014. Of this figure, 74% are heavy freight trucks and 26% are LCVs.
- Freight transport using rail is not yet explored in the Philippines while freight activity using water transport is negligible.

Overall

- ##

Road Vehicles per Year (By Vehicle Type)



Indigenous Motorized Transport in the Philippines - Jeepneys - Tricycles

Thailand's Tuktuk

Aside from the ordinary cars and motorcycles, Thailand has the Motorcycle Taxis, or Tuktuks, which is one of the primary modes of transport for smaller access roads, and a popular mode of transport for tourists. Tuktuks can carry up to six passengers, and may be seen in tourist locations in the country.

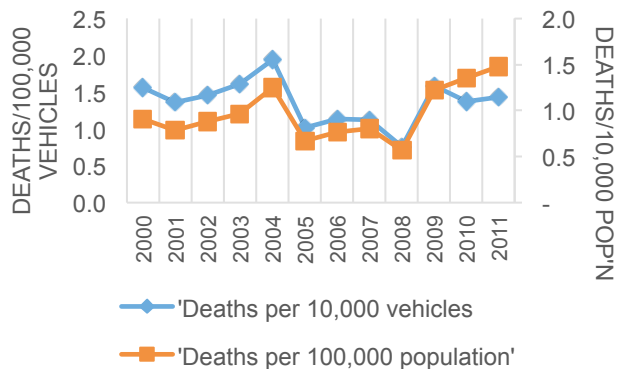
Bangkok Bus Rapid Transit (BRT)

The Bangkok BRT is a 15.3 kilometer system with 12 stations and transports about 15 thousand passengers per day. The Bangkok BRT became operational in 2010.

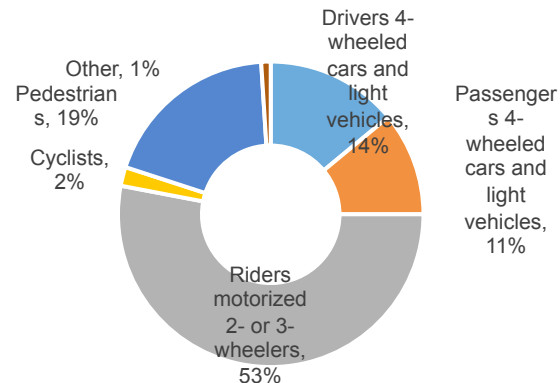
(Source: ITDP. <http://www.worldbrt.net/en/cities/bangkok.aspx>)

ROAD SAFETY

Road Fatalities per Year



Deaths by Road User Category (2013)



Source: WHO. 2013, DPWH Traffic Accident Recording and A

Road Fatality Rates	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total Deaths ('000)	0.7	0.6	0.7	0.8	1.1	0.6	0.7	0.7	0.5	1.1	1.3	1.4	1.1	1.4	1.3
per 10,000 vehicles	1.6	1.4	1.5	1.6	1.9	1.0	1.1	1.1	0.8	1.6	1.4	1.4	1.1	1.1	0.9
per 100,000 population	0.9	0.8	0.9	1.0	1.2	0.7	0.8	0.8	0.6	1.2	1.4	1.5	1.2	1.4	1.3

Source: China Transportation & Communications Yearbook

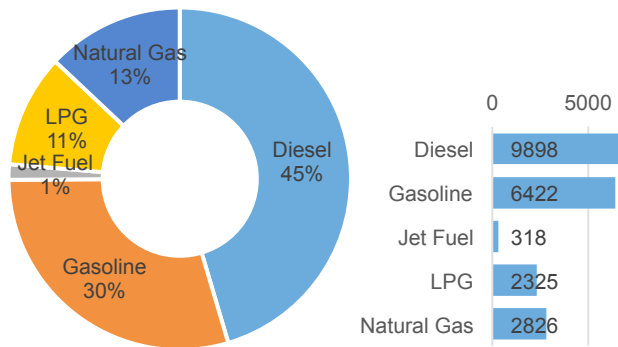
Highlights

- From 2000 to 2014, an average of 992 thousand persons die from road accidents every year, with the most deaths occurring in 2011 and 2013 to date, according to official statistics.
- While deaths per 100 thousand population have been increasing until 2004 and decrease in 2005 to 2008, which is remarkably the year that has the lowest fatality rate from 2000 to 2014.
- With respect to the number of vehicles on the road, there seem to be a drop in the deaths per 10 thousand vehicles in 2008 but doubled in 2009. From 2009, there was a decreasing trend up to 2014.
- According to WHO, most of road fatalities are riders of 2 and 3-wheeled vehicles.

TRANSPORT ENERGY CONSUMPTION AND

PA to MT:

Final Energy Demand from Transport (ktoe)



Total transport energy consumption: 21,789 ktoe

Highlights

Energy Consumption

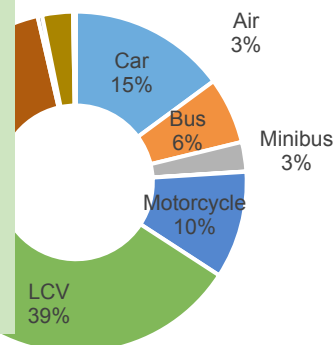
- As of 2014, 45% of transport energy consumption is Diesel based on the final energy demand.
- Thailand's transport has quite a notable demand for clean energy, with natural gas comprising 13% of final energy demand as of 2014.

CO₂ Emissions

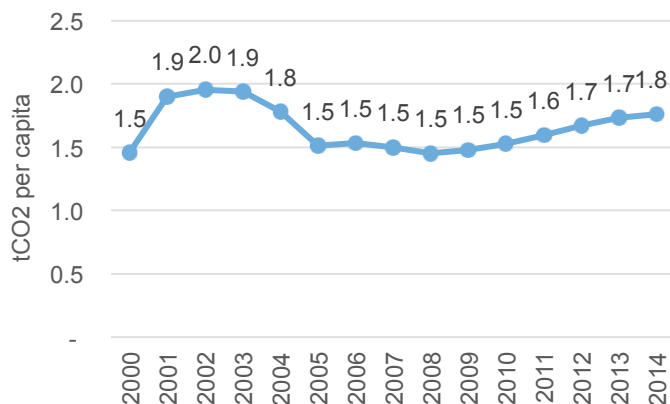
- According to the Second National Communications to the UNFCCC, Thailand's Transport Sector comprises 21% of the total CO₂ emissions.
- It is estimated that freight comprises 63% of the total transport emissions of Thailand as of 2014 (39% from LCVs, and 24% from HFTs).
- With respect to the population, the amount of transport CO₂ per capita has been gradually increasing from 2005 to 2014.

For this section, kindly provide the source where I can get the data to be able to input this in the template.

O₂ Emissions per Vehicle Type (2014)

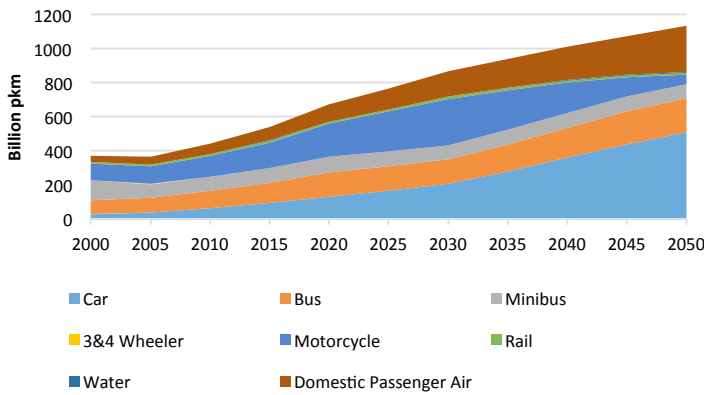


Transport CO₂ per Capita per Year (2000-2014)

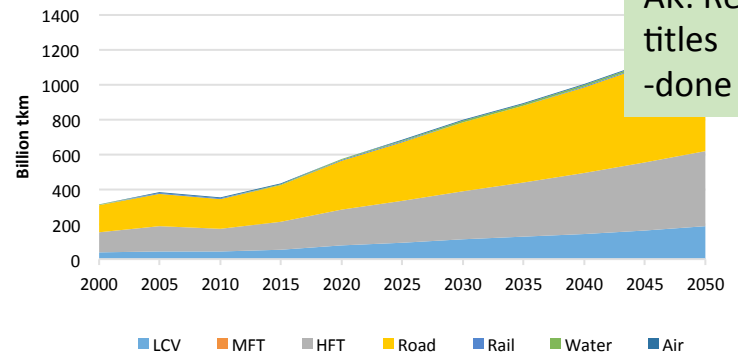


FUTURE OF TRANSPORT - BUSINESS AS USUAL SCENARIO

Passenger Travel by Vehicle Type (PKM)

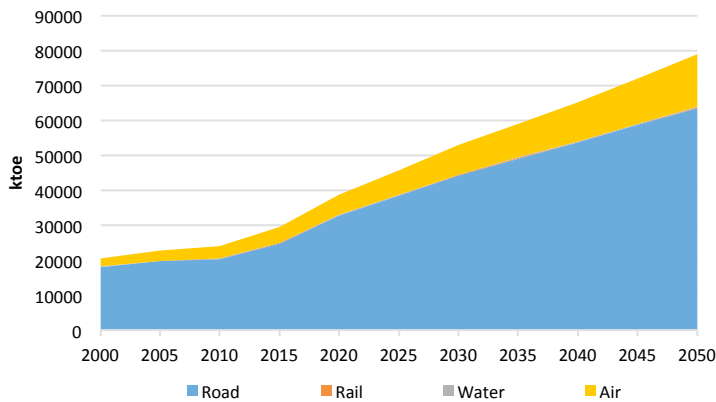


Freight Travel by Vehicle Type

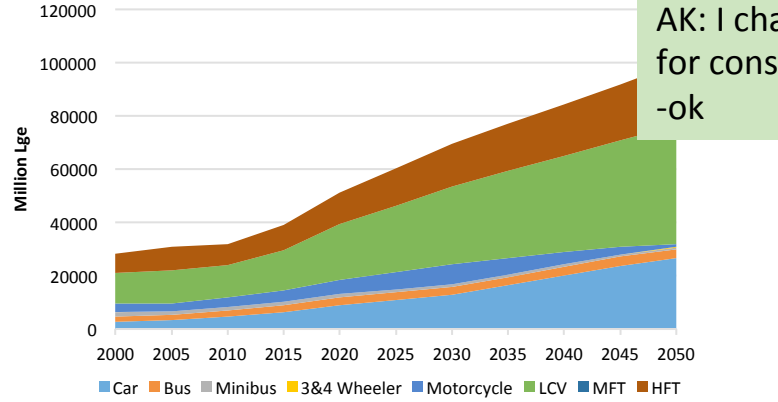


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Energy Demand by Mode of Transport

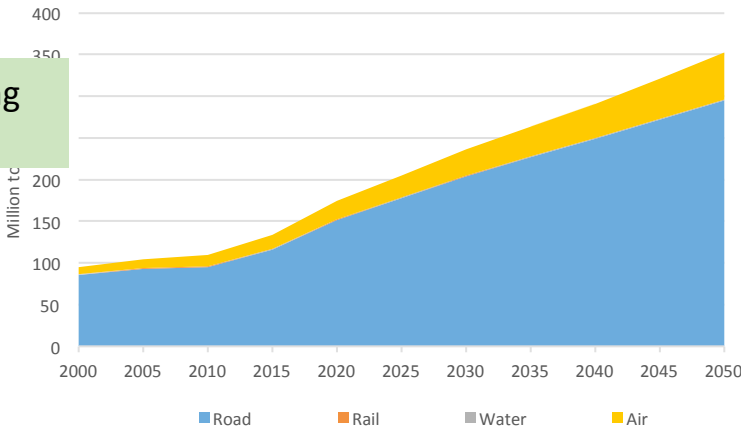


Road Transport Energy Demand by Vehicle



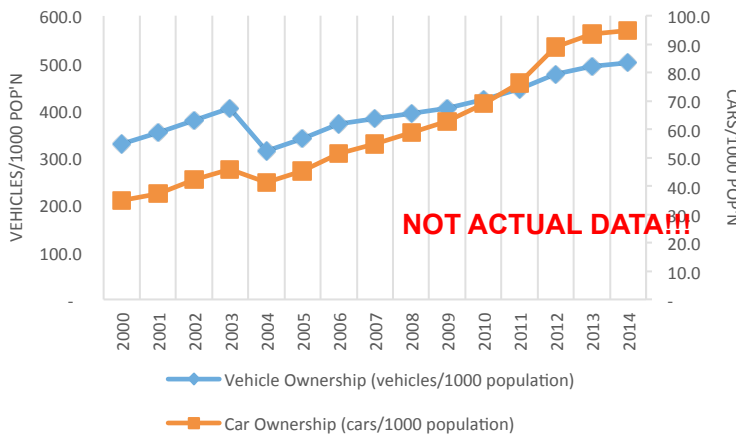
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Transport CO2 Emissions by Vehicle Type



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Motorization Rates



NOT ACTUAL DATA!!!

Under the BAU scenario, the total passenger kilometers (PKM) from all modes of transport is expected to reach 863.96 bpkm by 2030 compared to 536.63 bpkm in 2015, an average increase of about 3.8% per year from 2015 to 2030. From 2030 to 2050, the increase in transport demand will slow down to 1.5% annually, reaching 1130.7 bpkm by 2050.

- Transport demand by passenger car will increase rapidly at 7.9% per year from 2015 to 2030 and 6.9% from 2030 to 2050, the fastest across all modes.

Freight Transport

- the total freight transport demand is projected to have a 5.3% increase annually from 2015-2030 reaching 796.67 billion ton kilometers in 2030 compared to 431.99 btkm in 2015. While the increase will slow down to 2.8% annual increase from 2030-2050 reaching 1263.5 btkm in 2050.

Energy Demand

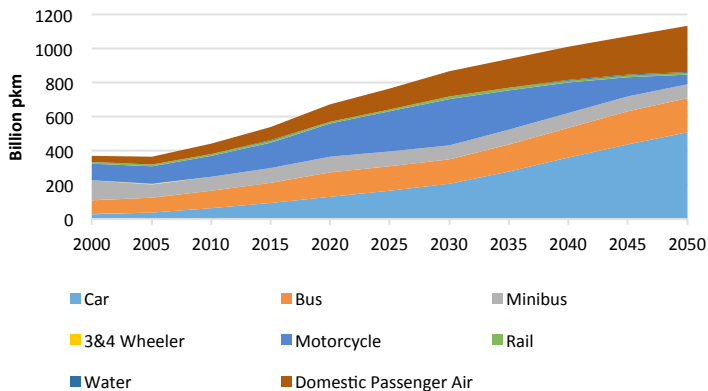
- Passenger transport will comprise 43% of the total energy use in 2030 and 2050. while freight transport sector energy use will cover 57% of the total energy use in 2030 and 2050.
- Road transport energy use will remain to be the highest among all modes at around 84% in 2015 and 2030 and 80% in 2050. Among the road transport modes, LCV is projected to have the highest percentage share among other modes at 42% (29293 million Lge) in 2030 and 45% (44343 million Lge) in 2050.

Transport Emissions

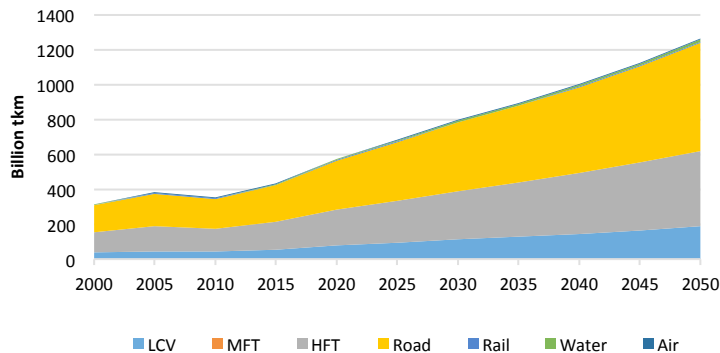
- Total tank to wheel CO2 emission from passenger transport is accountable for up to 43% by 2030-2050. It is projected to increase annually by 6% from 2015- 2030, reaching up to 82.9 million tons by 2030 while there will be a 5% annual increase from 2030-2050 accounting for the total CO2 emission from passenger transport of 125 million tons by 2050.
- 57% of the total CO2 emission from 2030- 2050 will be coming from the freight transport sector. An annual increase in CO2 emission by 5% is expected from 2015-2030 reaching up to 112.2 million tons by 2030. By 2030-2050, the rate of

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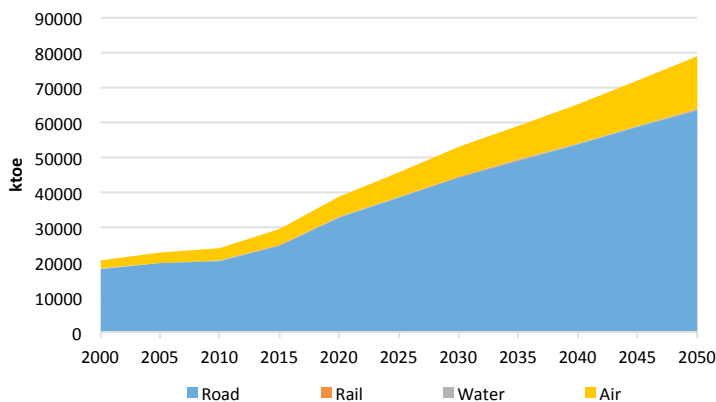
Passenger Mode Shares by Vehicle Type (PKM)



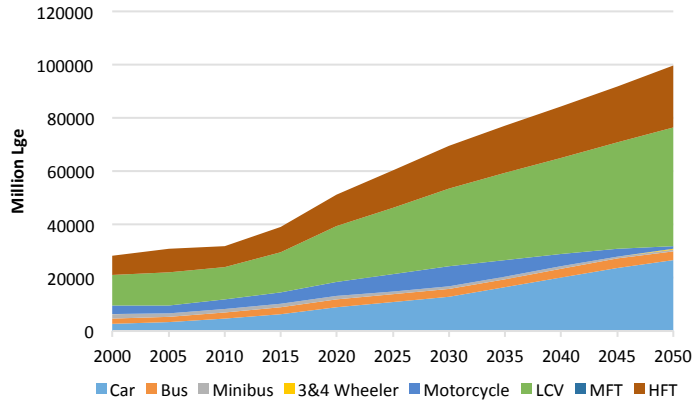
Freight Mode Shares by Vehicle Type (TKM)



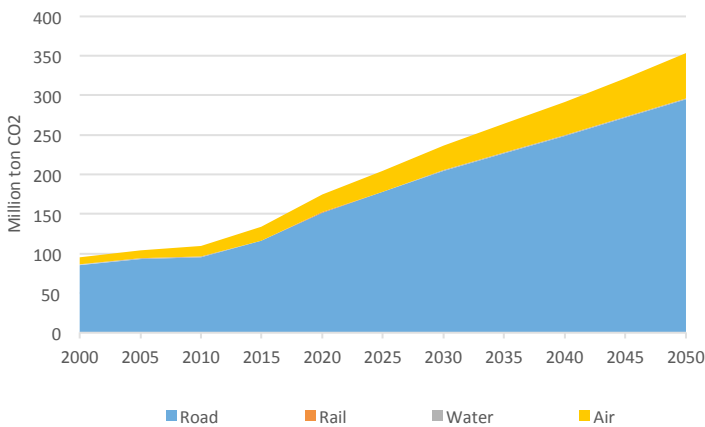
Future Energy Demand by Mode of Transport



Future Energy Demand of Road Transport



Transport CO2 Emissions by Mode



Transport CO2 Emissions by Vehicle Type

HIGHLIGHTS

Passenger Transport

- It is anticipated that passenger transport demand will increase ## times the 2000 levels by 2030 and up to ## times by 2050.
- Transport by [vehicle type] will have the largest share of passenger kilometers at ##%.

Freight Transport

- Freight transport demand is foreseen to increase by ## times the 2000 levels by 2030 and ## times by 2050.

Energy Demand

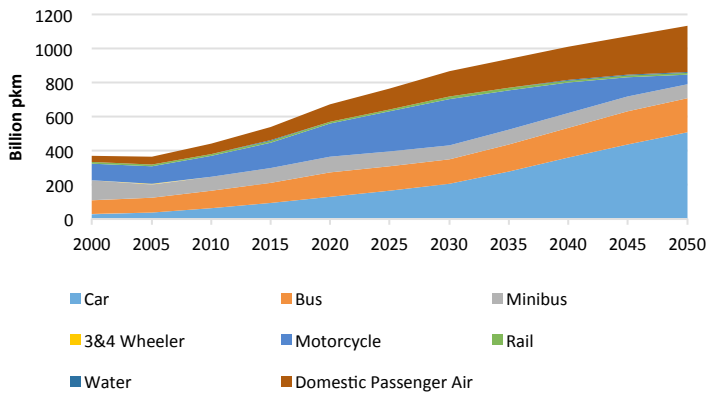
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Transport Emissions

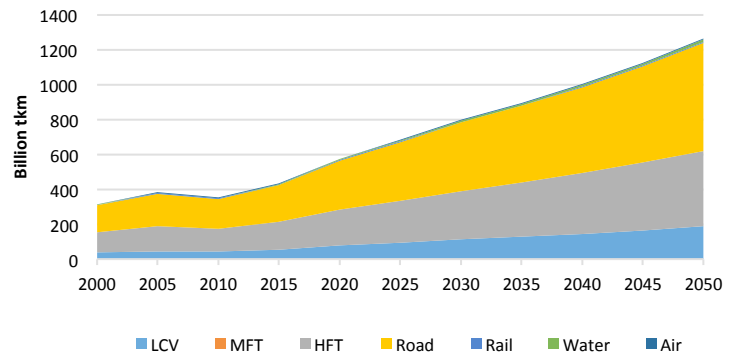
- By 2030, under a BAU scenario, transport emissions will increase by ### times the 2000 level due to the increased energy demand from [vehicle type].

FUTURE OF TRANSPORT – 1.5-DEGREE SCENARIO

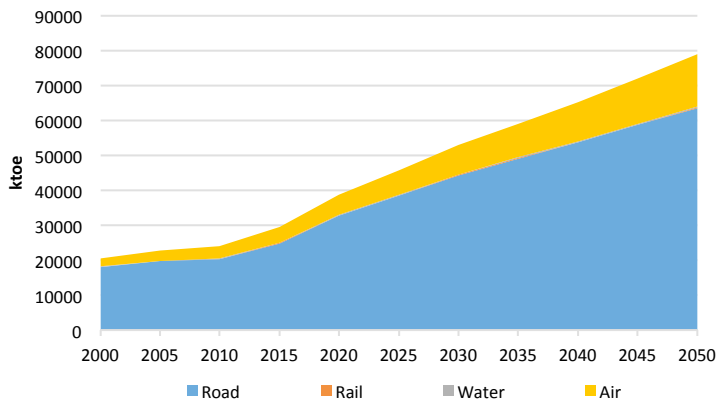
Passenger Mode Shares by Vehicle Type (PKM)



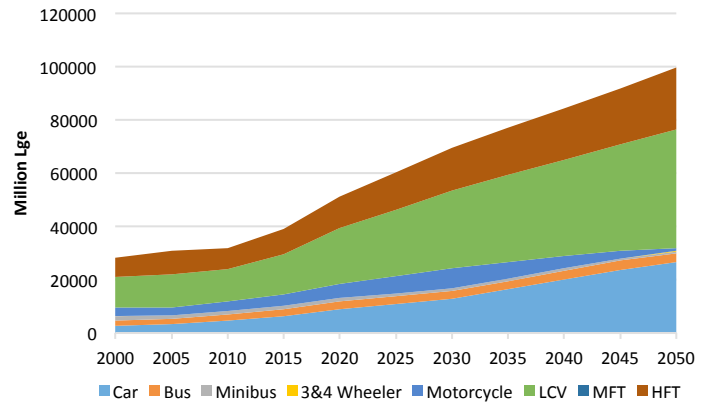
Freight Mode Shares by Vehicle Type (TKM)



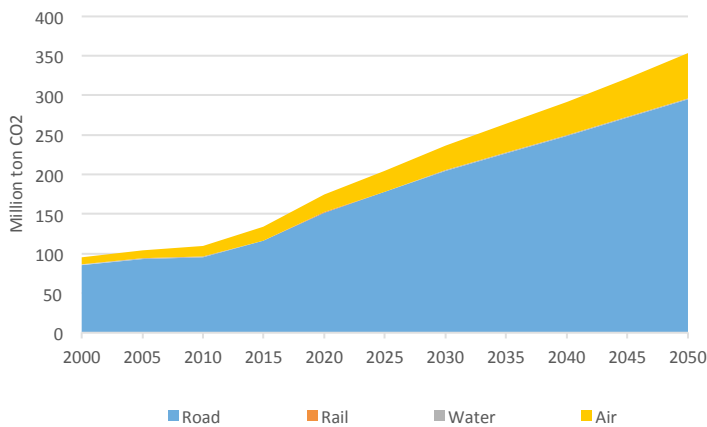
Future Energy Demand by Mode of Transport



Future Energy Demand of Road Transport



Transport CO2 Emissions by Mode



Transport CO2 Emissions by Vehicle Type

HIGHLIGHTS

Passenger Transport

- It is anticipated that passenger transport demand will increase ## times the 2000 levels by 2030 and up to ## times by 2050.
- Transport by [vehicle type] will have the largest share of passenger kilometers at ##%.

Freight Transport

- Freight transport demand is foreseen to increase by ## times the 2000 levels by 2030 and ## times by 2050.

Energy Demand

- ...

Transport Emissions

- By 2030, under a BAU scenario, transport emissions will increase by ### times the 2000 level due to the increased energy demand from [vehicle type].

Future Energy Demand by Mode of Transport

Future Energy Demand of Road Transport

Transport CO2 Emissions by Mode

Transport CO2 Emissions by Vehicle Type

HIGHLIGHTS

Passenger Transport

- It is anticipated that passenger transport demand will increase ## times the 2000 levels by 2030 and up to ## times by 2050.
- Transport by [vehicle type] will have the largest share of passenger kilometers at ##%.

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Freight Transport

- Freight transport demand is foreseen to increase by ## times the 2000 levels by 2030 and ## times by 2050.

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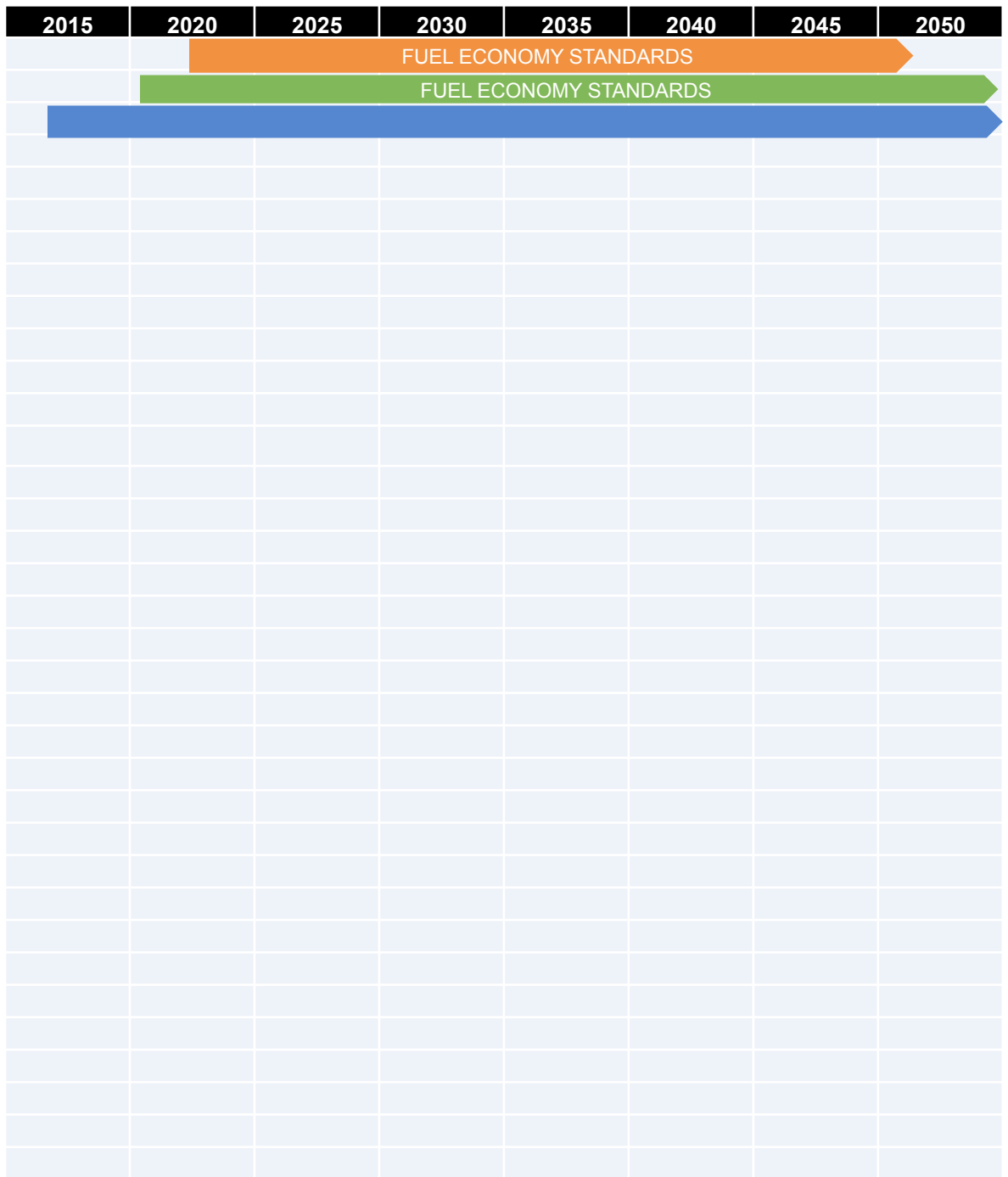
Energy Demand

- ...

Transport Emissions

- By 2030, under a BAU scenario, transport emissions will increase by ### times the 2000 level due to the increased energy demand from [vehicle type].

1.5 AND 2-DEGREE SCENARIO



AVOID

SHIFT

IMPROVE

BAU

1.5DS

2DS