

# **THE KAMPALA TRAFFIC FLOW IMPROVEMENT PROJECT:**

**(A TRANSPORT SECTOR PROJECT IDEA IN UGANDA)**

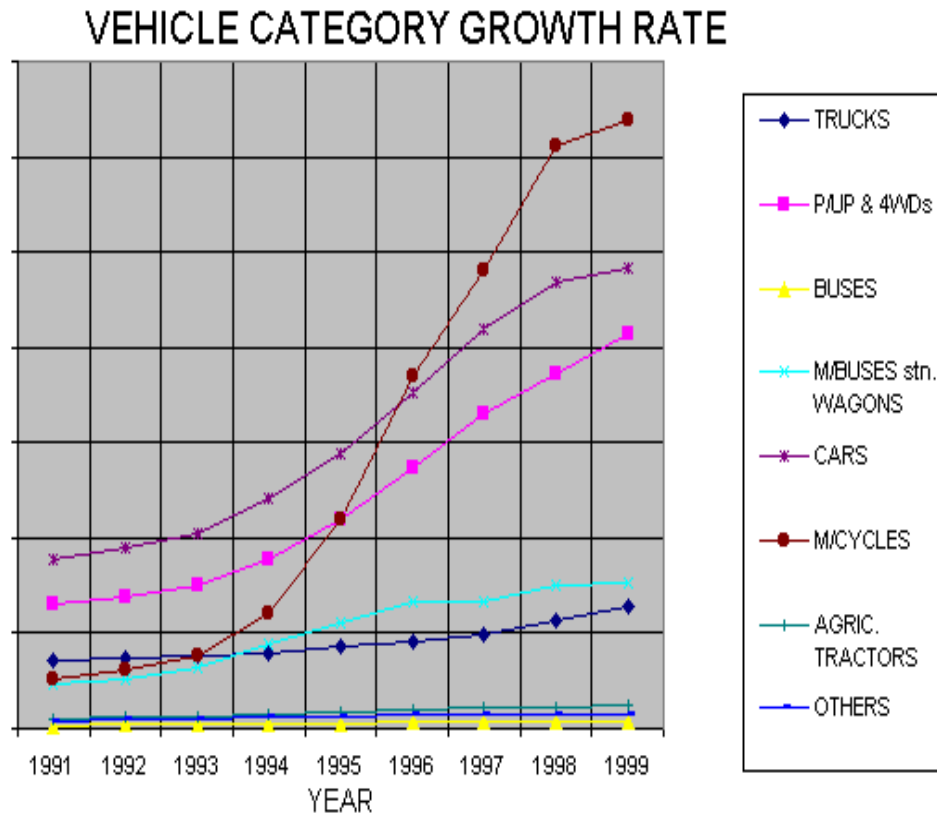
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# Background

- Uganda is land-locked and relies on road transport as the main mode of transport for both goods and people;
- Rapid population growth (estimated at 4.9%) in Kampala;
- The main modes of transport available in Kampala are **minibuses** and private cars;

# Problem Statement

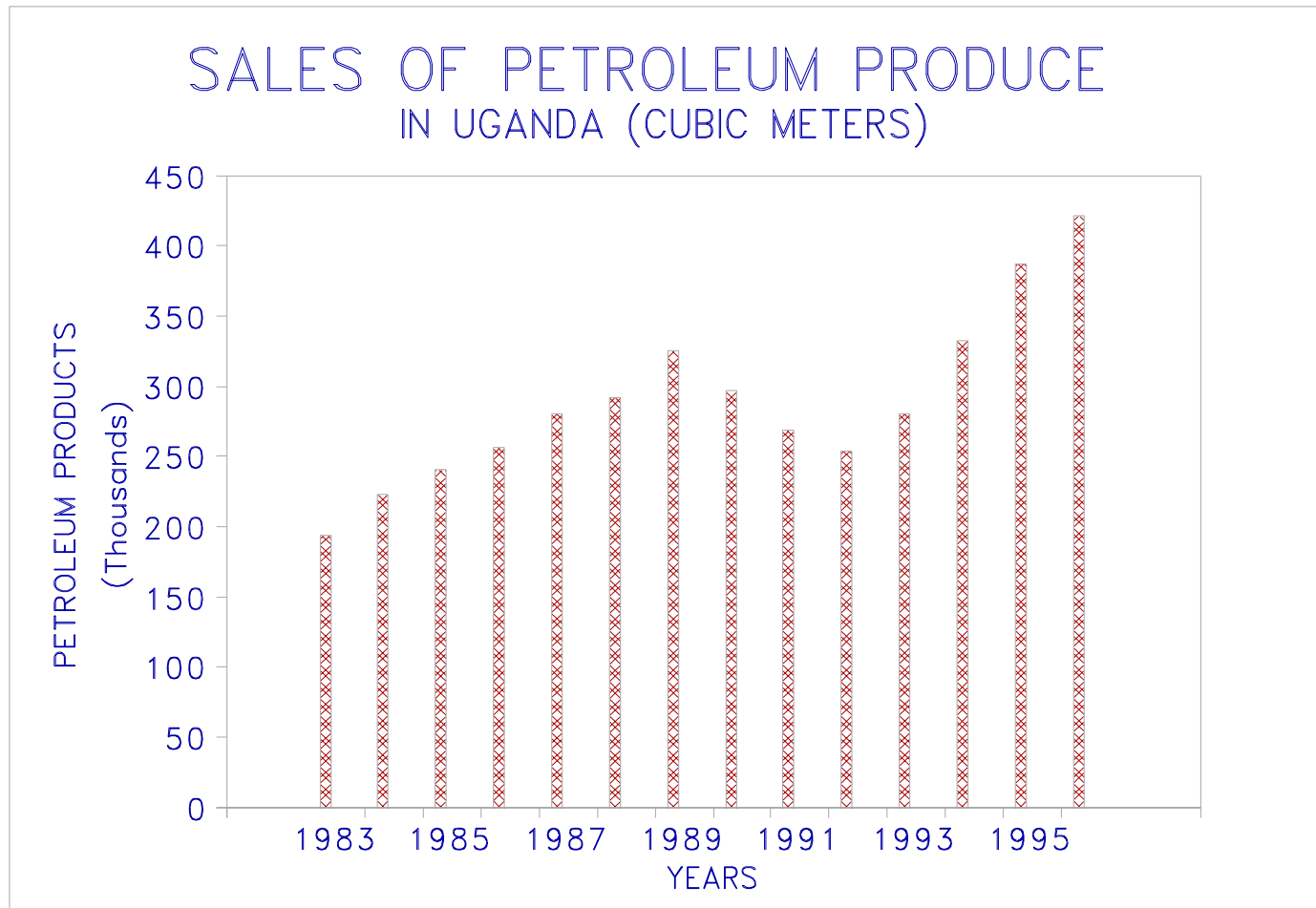


- There are approximately 200,000 vehicles in the country, with a potential of additional 10,000 vehicles per year. Over 70% are located in Kampala and ply the city roads daily, causing **congestion**.

# Problem Statement

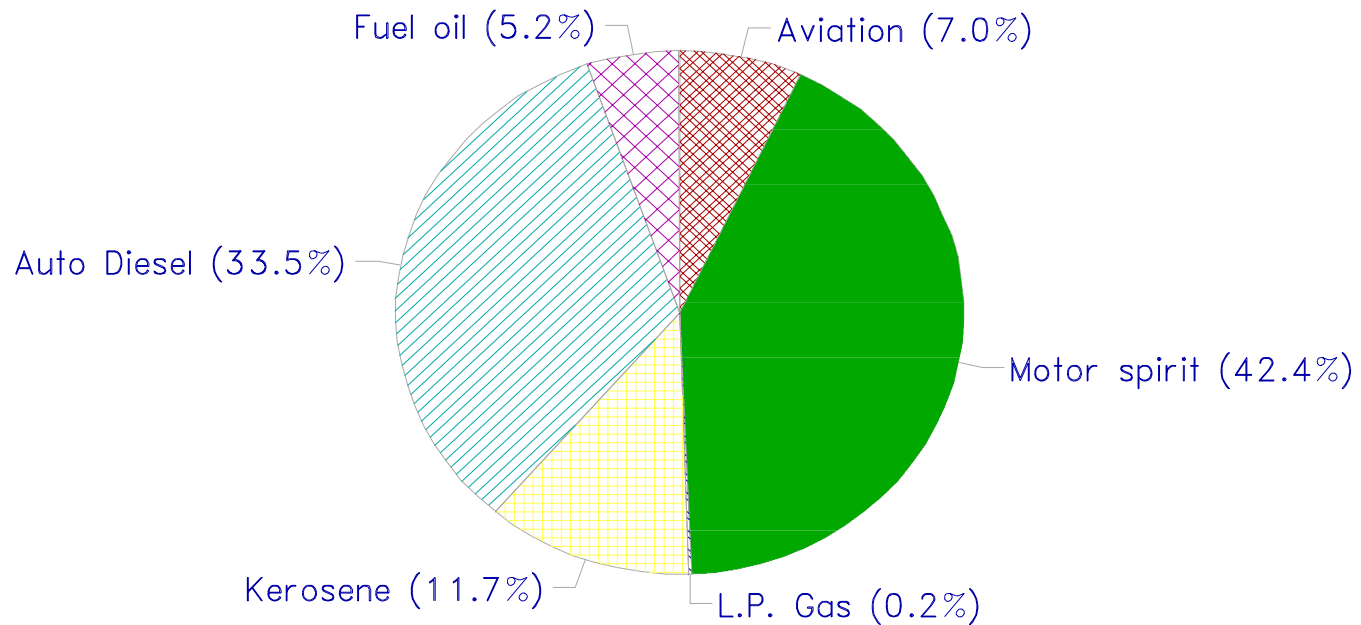
- The demand for transportation energy is continuously growing. GHG emissions will, therefore, continue to increase.
- In Uganda the transport sector accounts for 75% of GHG emissions.
- The increase in motor vehicles, thus the consumption of petroleum products, coupled with the rapid growth of urban populations will impact negatively on human health in urban areas (particularly Kampala).

# Consumption of Petroleum Produce in Uganda



# Sales of Petroleum Products

MARKET SHARES OF PETROLEUM  
PRODUCE IN UGANDA 1992.



# Suggested Solutions

- Mitigation options in Uganda should therefore focus on the transport and energy sectors.
- A viable option to reduce traffic congestion while reducing GHG emissions is the introduction of mass transportation.
- The fuel consumption by bus for person per km is less than that for omnibuses.

# Analysis for Viability

**Benefit Cost Ratio**

Buses = 1.32

Petrol omnibus = 1.11

Diesel omnibus = 1.25



# Analysis for GHG Emissions

## Average Daily Fuel Consumption

Petrol omnibus = 34.3 litres

Diesel omnibus = 26.1 litres

Big bus = 80 litres

## Carbon Content Computation

Fuel Type	Kg/m <sup>3</sup>	Mj/kg	C Kg/GJ
Petrol	720	44	69
Diesel	850	42.7	71

# Conclusions

- On average one omnibus produces 18,536 Kg of carbon annually while one big bus produces 61,847 Kg of carbon a year.
- Five omnibuses will produce 92,680 Kg of carbon in a year, which is equivalent to 339,827 Kg of carbon dioxide;
- One big bus produces an equivalent carbon dioxide of 226,771 Kg.
- Use of bus reduces CO<sub>2</sub> emissions by 113,056 Kg per year per bus, which is equivalent to **30,833 Kg of carbon.**

# Conclusions

- Over 10,000 omnibuses operate within the city, 90% of which do town service.
- If 50% of the town service omnibuses are replaced with an efficient bus system then 900 buses will be required.
- **The total carbon reduction will amount to 27,750 tons.**