Workshop on Vehicle Emission Reduction Program November 28th, 2013

Option and challenges of public transport System in Sri Lanka

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Silent Features Economy of Sri Lanka

I. Population = 20.36 million with average household size of 4.2 (Census March, 2012);
II. GDP per capita income is US $ 3,100/= as at June, 2013;
III. population living below poverty line 7.2% as at 2012;
IV. Average life expectancy at birth 76 years with literacy rate of 96.2% and that of females is 93.1%;
V. 43% of the GDP accounted for the Western Province of the Island;
VI. Sri Lanka has relatively higher Gini-coefficient (0.49 in 2012) than other South Asian Countries which indicate unequal income distribution.

Macro Economic Back Ground

I. The Value of GDP has reached US $ 66.05 billion as at June, 2013;
II. Budget Deficit has reduced to 6.7% in 2012 and recorded average inflation as 7.2% in 2013 and reduced to 6.2% in August, 2013;
III. The total import is amounting to US $ 18.5 billion and US $ 4.9 billion was for fossil fuel as at 2012 and total exports amounting to US $ 10.2 billion;
IV. The remittances from workers in abroad was US $ 5.1 billion and US $ 1.01 billion in 2012

Year

Macro Economic Back Ground (Continue)

v. Export earnings led by Apparel Sector (US $ 4.2 billion), Tea (US $ 1.7 Billion), and Tourism (US 1.01 Billion);

vi. Country's economic policy has identified sectors for potential development as Knowledge, Shipping, Aviation, Tourism and Urban Development;

vii. The demand for mobility has increased with the high economic growth average of 8% growth, and 6.4% growth in 2012 and average of 6.3% first half of this year

Silent Features of Mobility Market in Sri Lanka

A. **Road Sector serves 95.8% of Passenger and 99% of Freight transport;**
B. **Railways serves only 4.2% of Passengers and less than 0.8% of freight transport in the country;**
C. **The total fossil fuel consumption for mobility accounted US $ 3.035 billion in 2012;**
D. **Current Active Vehicle Fleet has reached to 3.48 million (as at August 31st, 2013);**
E. **The total Passenger Trips per day recorded as 16.4 million per day for all mode of transport**

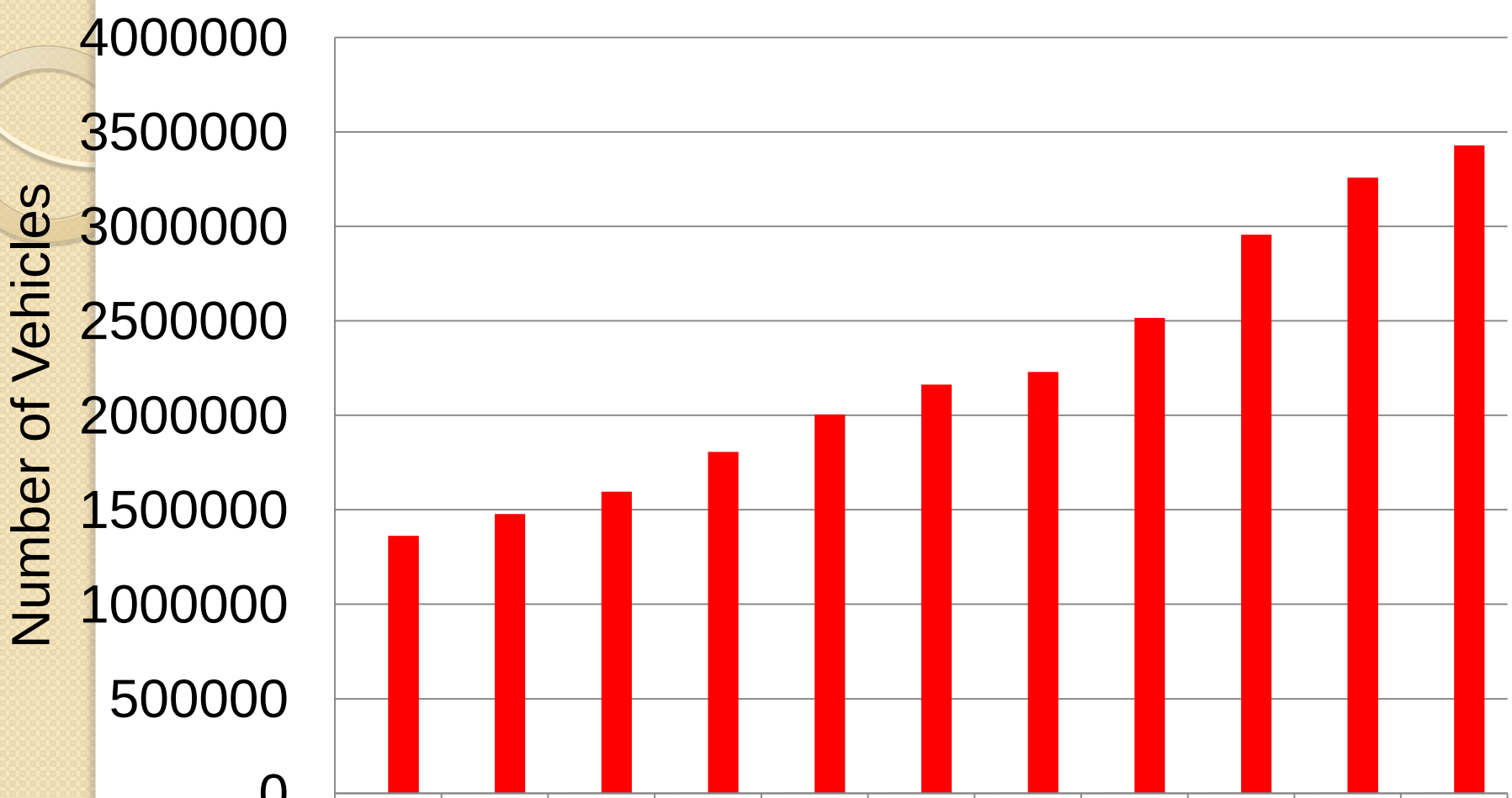
Change of Modal share of the Passenger Transport Market (2008-2013)

Passenger Km's	2008	2009	2010	2011	2012	2013
Motor Cars	7.2%	7.8%	8.8%	13.0%	13.8%	14.1%
Vans	11.8%	11.4%	11.6%	12.8%	12.4%	12.0%
Buses	*64.1%*	*61.4%*	*56.9%*	*49.2%*	*47.6%*	46.1%
Three Wheelers	5.9%	7.4%	9.3%	11.0%	12.0%	13.2%
Trucks/Lorry	1.7%	1.6%	1.7%	3.4%	3.3%	3.2%
Motor Cycles	4.6%	5.7%	7.1%	6.2%	6.7%	7.4%
Railways	*4.7%*	*4.5%*	*4.6%*	*4.4%*	*4.2%*	4.1%
Total	100%	100%	100%	100%	100%	100%

Present Characteristics of Road Use Vehicle Fleet

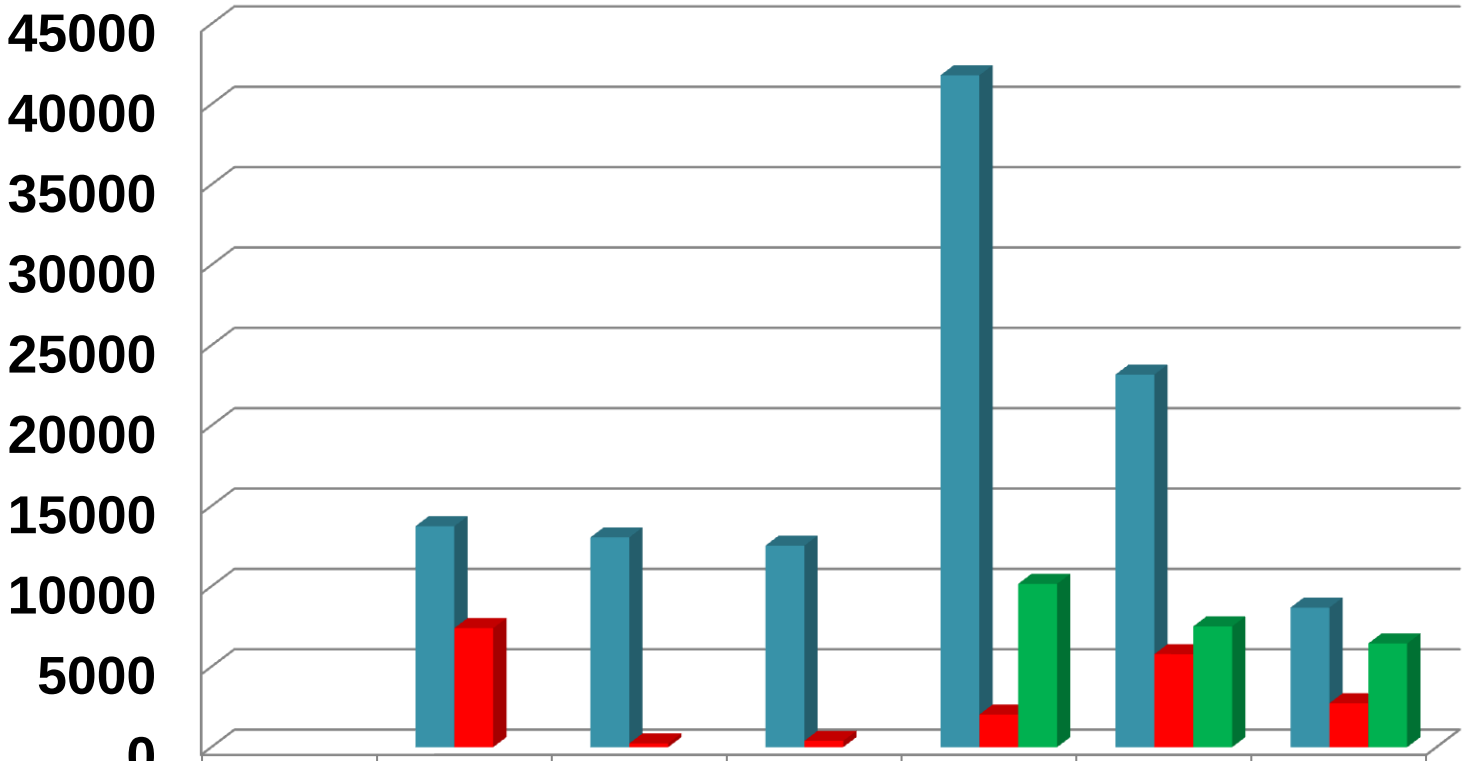
- **Motor Cycles as at August 31st, 2013 is 1.834 million and Three Wheelers are 691,597 (Petrol 655,535 Diesel 36,062);**
- **All four wheel road use vehicles as at August 31st, 2013 is 903,182;**
- **This shows that 74% are two or three wheelers (20% Three Wheelers and 54% Motor Cycles);**
- **Government has implemented to get fuel efficient and less polluted fleet to the country by introducing tax benefits for Hybrid Electric technology and reducing age of used vehicle importation**

Total Active Fleet Growth 2003 -2013



	1	2	3	4	5	6	7	8	9	10	11
Year	0	0	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Vehicles	1,36	1,47	1,59	1,80	2,00	2,16	2,22	2,51	2,95	3,25	3,42

New Fleet Added by Technology



	1983	1993	2000	2005	2011	2012	2013
Car (Petrol)		13,746	13,054	12,541	41,806	23,184	8,683
Cars (Diesel)		7,406	234	393	2,028	5,787	2,730
Car (Hybrid)					10,164	7,514	6,451

Source: Department of Customs

Fuel Consumption in ‘000 liters and Operated Vehicle Km’s in ‘000 Km’s

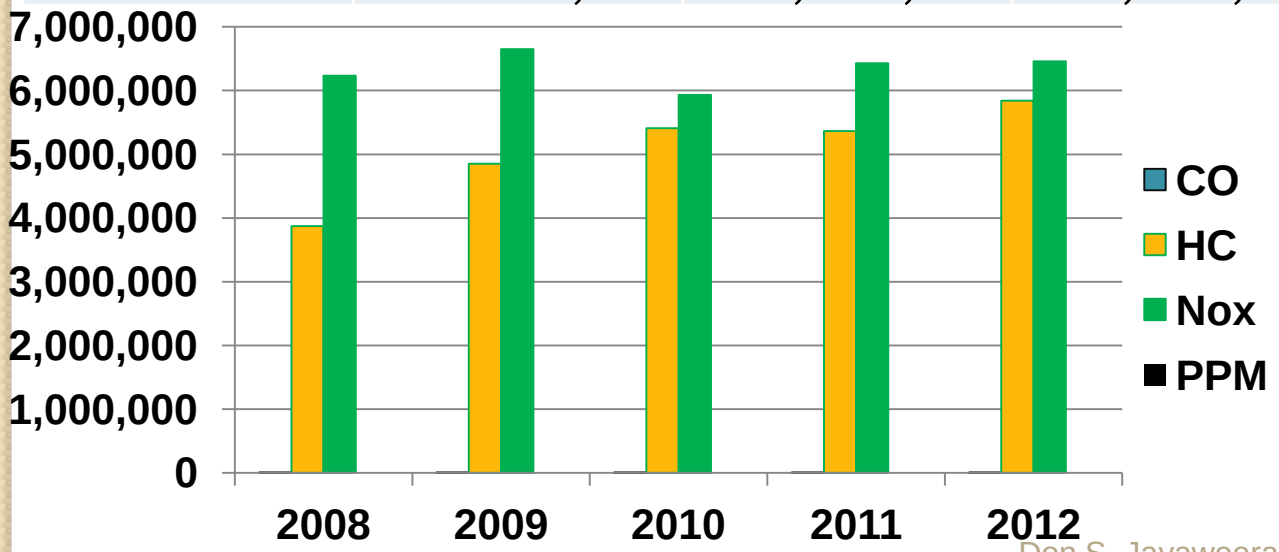
	2007	2008	2009	2010	2011	2012	2013
Petrol	667	668	695	776	708	999	687
Vehicle Km	7,679	7,737	10,074	11,473	11,116	15,939	10,970
Diesel	2,087	1,801	1,885	1,782	1,721	2,142	1,305
Vehicle Km	9,001	6,696	8,139	7,685	9,286	11,535	7,059
Ratio Petrol/Diesel	0.320	0.371	0.369	0.436	0.411	0.466	0.526
Effeciency Km's per liter	0.853	1.155	1.238	1.493	1.197	1.382	1.554

Average Vehicle Occupancy by Vehicle Type

Mode/Vehicle Category	2008	2009	2010	2011	2012
Motor Cars	2.0	2.0	2.0	2.8	2.8
Vans	3.0	3.1	3.1	3.0	3.0
Buses	52.0	52.0	47.1	46.1	46.1
Three Wheelers	2.2	2.2	2.2	3.1	3.1
Trucks/Lorry	1.3	1.3	1.3	2.9	2.9
Motor Cycles	1.3	1.3	1.3	1.3	1.3
Railways	434.7	437.1	440.7	480.0	480.0

Emission Emitted by Vehicles (Estimates) – Time Series Data

	Summery of Emission Transport Sector in'000 MT			
	CO	HC	Nox	PPM
2008	1,948	3,872,240	6,230,936	1,077
2009	2,397	4,853,498	6,649,152	1,401
2010	2,631	5,408,608	5,929,915	1,372
2011	2,684	5,362,001	6,427,923	1,590
2012	2,902	5,842,370	6,458,606	1,550



Land Use Planning Intervention to Address Challenges on Mobility

1. Cities Land Use has changed with clearing open areas and water fronts;
2. Specially designed walking paths has been built close to water fronts with solar lighting;
3. Commercial areas designated as high density development and mixed development also segregated with residential and commercial land use;
4. High density parking areas under development with new developments

Public Transport Scenarios Considered on City of Colombo Development

1. The public transport (Bus and Railways) has not been address properly during last five years;
2. The Ministry of Defense and Urban Development has under taken comprehensive master plan with JICA assistance to address the urban transport issue (city of Colombo) in 2013;
3. Now they consider mass transit option connecting high passenger nodes emerged with highway network. i.e. Kottawa, Peliyagoda, and Moratuwa

Intervention on Parking and Traffic Management

1. City of Colombo has introduced one way traffic system to avoid conflict at intersection;
2. On street parking has been prohibited areas where traffic get affected;
3. Now GOSL considering to use parking charges to be reflect the economic cost and evaluating possible congestion pricing with the option of public transport systems;
4. BRT has now been consider with one way traffic systems

Best Practices on Mobility

1. **Economic Instruments for effective parking policy for encourage walkability and public transport;**
2. **Well defined pricing mechanism to manage vehicle ownership and usage;**
3. **Congestion pricing for expand high occupancy fuel efficient vehicle to be use for mobility;**
4. **Walk path with greenery and water fronts for attraction;**
5. **High density to be served by BRT and Mass Transit systems**

Way Forward as Middle Income Country on Mobility

1. *Traffic Management tools be introduced with Mass Transit option for high density passenger corridors;*
2. *Congestion pricing to be implemented with public transport scenarios allowing market forces to decide the tariff (de-regulation);*
3. *Refine further on tax policy to meet objectives vehicle fleet management for technology and usage;*
4. *Land Use to be more integrated to transport corridor and activities on high density nodes*

Thank You !!