Diesel Vehicle Fleet

Thailand's in-use[1] national motor vehicle fleet was about 11.5M in 2001 as shown in Table 2.4 below. Bangkok accounts for about 24% of the nation's registered motor vehicles including 61% of the private car fleet, but only 13% of national motorcycles and 38% of the combined truck and bus registrations. Pick-ups, almost all diesel engine powered, are widely used as a personal vehicles particularly in urban areas. Approximately 28% of all in-use vehicles registered in Bangkok are diesel vehicles.

Over 1991 to 2001, the national vehicle fleet grew at a rate of 6.2% per annum – that is, the national motor vehicle fleet almost doubled. A high proportion of this growth was due to motorcycles. Private car registrations increased at a rate of 10% per annum in the same period.

Designed to boost domestic production, expand regional vehicle exports and cut foreign trade deficits (vehicles accounted for almost 20% of the dollar value of Thailand's imports in 1992), Thailand had an exhaustive range of vehicle import tariffs and duties that prevailed until the late 1990s. These have been substantially cut.

The one-ton pick-up, Thailand's "national vehicle," represents 21% of the total vehicle market. These vehicles are lightly taxed, are rugged and offer flexibility in passenger and goods transport.

Attractive government incentives, introduced in the early 1990s, have led to the establishment of more than a dozen vehicle assemblers by 1996, with a domestic output in excess of one million vehicles. SThe Japanese dominate both imports and domestic production joint ventures, accounting for nearly 100% of the commercial vehicle market – although this dominance is now being challenged through new ventures by GM and Ford and other firms.

Table 2.4 – Number of in-use Vehicles by Type, Thailand, 1991 and 2001

Type	1991	2001	% of overall fleet	% growth rate pa	% in Bangkok
Private Cars	669,920	1,767,704	15.4%	10.0	61%
Micro Bus	409,694	316,053	2.7%	NC	52%
Pick-up & Van	731,619	2,439,413	21.2%	12.8	21%
Taxi	14,338	53,022	0.5%	14.0	100%
Tuk-Tuk	15,171	15,627	0.1%	NS	46%
M/C	3,947,017	6,257,156	54.4%	4.7	13%
Bus	89,193	95,750	0.8%	1.0	21%
Truck	334,724	465,639	4.1%	3.3	17%
Other*	94,968	86,830	0.8%	NC	14%
Total	**6,306,644**	**11,497,194**	**100.0%**	**6.2**	**24%**

Source: DLT * Other includes vehicles such as tractors. Non motorized vehicles excluded. NC means not calculated.

[1] Through existing manually developed records held by DLT's Statistics section and DLT's records of vehicle taxation payments, it is possible to make reasonable estimates of total in-use vehicles by vehicle type. These estimates differ significantly from reported vehicle registrations which do not deduct vehicles no longer in-use, but not officially de-registered. Estimates of in-use vehicles are about half of the cumulative vehicle registration figures.

The in-use truck fleet consisted of 465,000 vehicles nationally in 2001 having grown by 4.1% pa since 1991. Bangkok accounted for 17% of the national truck fleet. Overall the national truck fleet is old and largely uses rebuilt 10 wheel trucks that are not fuel efficient nor environmentally sound. At present, less than 10% of the total fleet makes use of articulated or other modern technology vehicles. Although there are economies in operating larger, modern vehicles there are numerous barriers to the introduction of these vehicles including: high capital costs; fragmented ownership (average fleet size per owner is two vehicles); high duties on vehicles and parts; the pattern of road development and congestion in Bangkok; and the truck ban which restricts large truck movement during peak periods. Thailand's truck fleet is quite inefficient and if there were no barriers to the use of modern, high payload vehicles then the total vehicle fleet might be reduced by considerably and still perform the same transport task. During the DIESEL pilot an investigation of the current tax and import duties regime is being made. Annex G provides some initial information on vehicle taxes applied by DLT.

In-use Diesel Vehicle Population

Information on the existing in-use diesel vehicle fleet in Bangkok covering vehicle brand/ model, and other characteristics is being collected through the computerized vehicle registration records held by DLT's Database Section. These data are being supplemented by data vehicle manufacturers on models of vehicle and their engine/ technology[2] characteristics sold in Thailand over the past 20 years.

To date, some manufacturers have provided this information in complete form while others have yet to supply this information.

Table 2.6 – Comparison of Estimated In-Use Diesel Vehicles from Two Sources at DLT

Type No	Type of vehicle	(A) Statistics Section	(B) Database Section	% difference B versus A
	Vehicles under Motor Vehicle Act			
2&3	Van & Pick up	502,166	693,244	38%
4	Microbus & Passenger Van	161,167	230,797	43%
	Vehicles under Land Transport Act			
	Bus			
5	Fixed route bus	15,157	19,784	31%
6	Non fixed route bus	5,418	8,690	60%
7	Private bus	2,320	4,320	86%
	Truck			
8	Non fixed route truck	25,730	27,967	9%
9	Private truck	50,387	44,046	-13%

Source: Department of Land Transport, 2003

Preliminary analysis of the computerized data show there are significant differences with the estimates of in-use vehicles derived from data from the Statistics Section (of DLT). Table 2.6 shows this comparison.

[2] These data included gross weight, number of axles, engine model, number of cylinders, engine displacement, engine power, engine air induction system, engine fuel system, transmission type and emission certification.

Detailed examination of the records shows that in general the estimates by vehicle type derived from the data from the Database Section are overstated significantly compared to estimates derived from data held by the Statistics Section (and other sources in DLT). The reason for this difference has not been fully established. A more significant issue is that the Database Section's data on in-use buses and trucks appears to be missing buses and trucks newly registered in the past five years. Further work on developing a reliable data base on in-use diesel vehicles and their characteristics is required.