

Inspection and Maintenance System in Indonesia

Future Opportunity

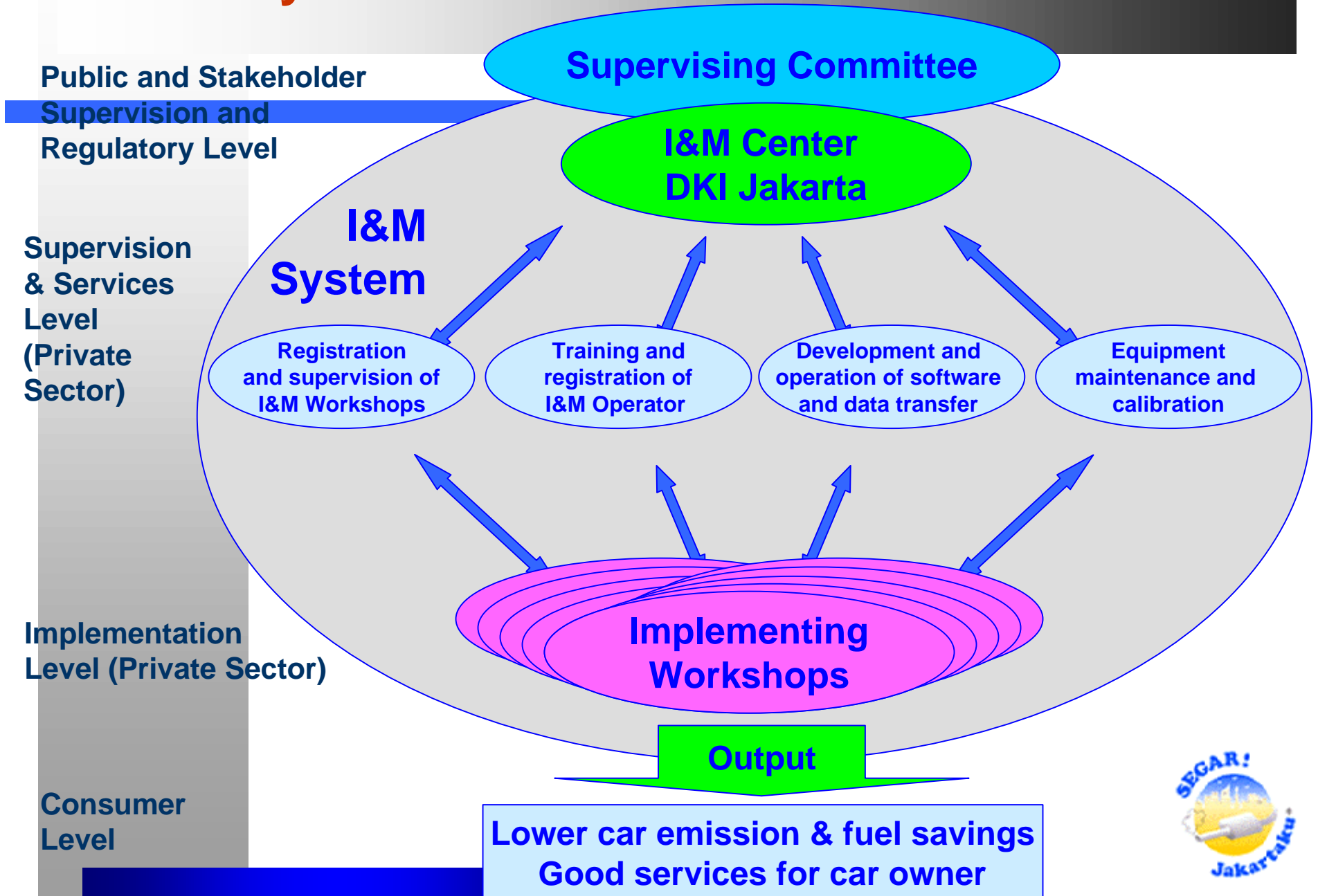
by : Martin Steckdaub & Restiti
Clean Air Project Swisscontact

GITE Regional Workshop on Inspection and Maintenance Policy in Asia

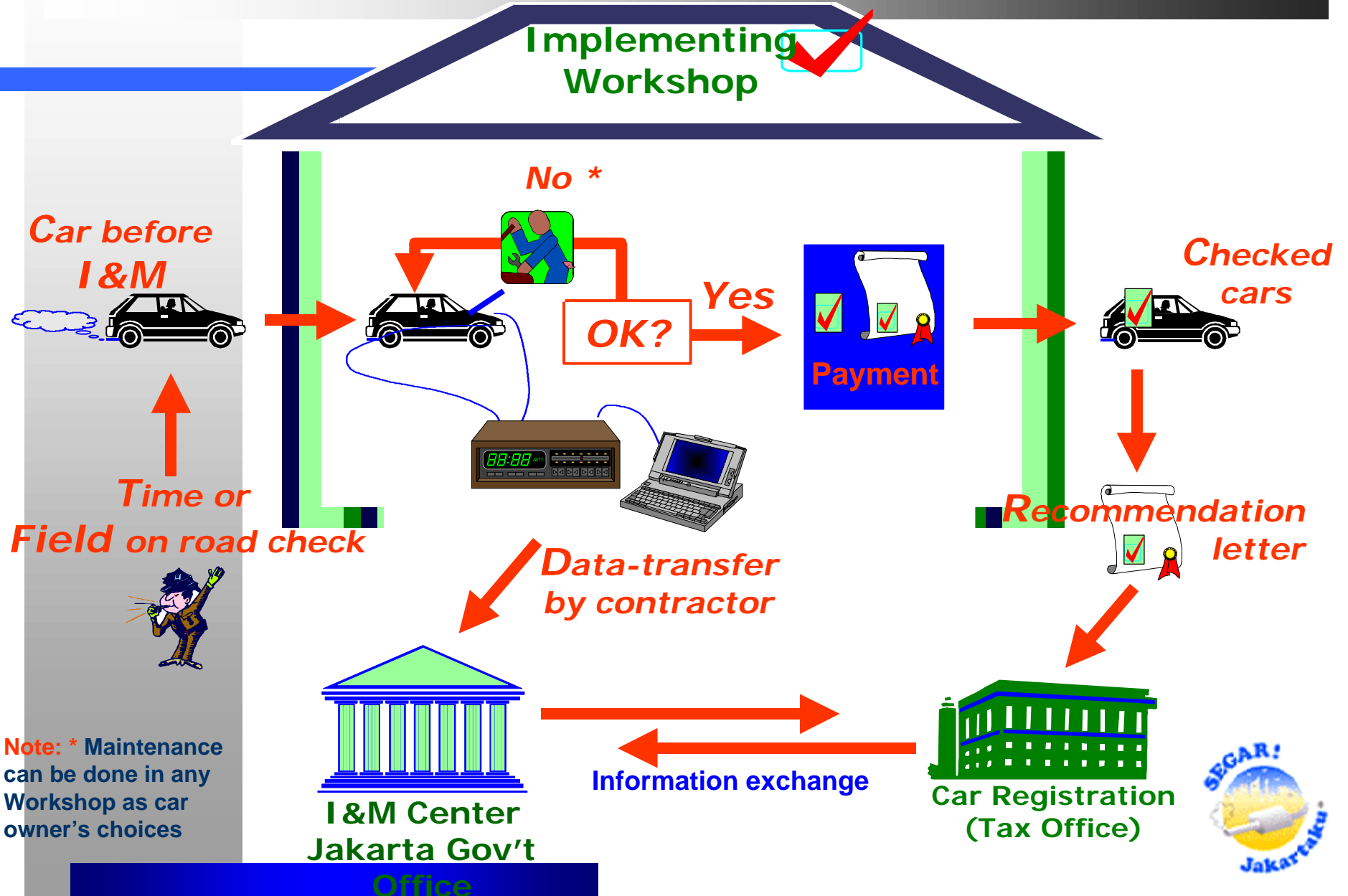
Bangkok, 10 – 12 December 2001



The I&M System Overview



The I&M Operation Procedure



The I&M Information Network

- Data of emission check and registration vehicle will be electronically sent to the main computer at Jakarta Government Office.
- In the main computer, data will be analyzed and transferred to the Tax Office in order to cross check the pass certificate.
- The analyzed data from main computer shall be accessible to the public to guarantee transparency.



INSTITUTIONAL SETTING

- **Bapedalda (Local Environmental Office)** is responsible for coordination of air pollution reduction
- **DLLAJ (Traffic and Transport Office)** is responsible for on-road test
- **Industrial Office** issues the workshop license and supervise the operational of the workshop
- **Law Office** is responsible for the issuance of any regulation

A task force as an interdepartmental organization has to be established



INVOLVEMENT OF PRIVATE SECTOR

- **Certification of I&M operators**
- **Certification of Workshops and Implementation supervision**
- **Software Development and Maintenance**
- **Implementation of I&M at private workshops**

The performance of technicians and workshops will be evaluated and monitored regularly by surveillance system.



Law Enforcement

- A random on-road control system including penalties will be established
- Mandatory I&M will be connected with yearly vehicle tax payment



Campaign on the I&M System



- **Public relation events** (*Seminars, Workshops, Training's, Interactive Dialogue, public exhibition, Campaign materials distribution, competition, etc*)
- **Media campaign** (*TV & radio Talk Show, Public Service Advertisement Placement on TV, radio and media print, Press communication & Newsletter*)
- **Emission reduction month** (*Joint cooperation with more than 100 workshops in Jakarta. The car owners are asked to check their car emission in workshops, free of charge during a month*)



Campaign on the I&M System (cont.)

Emission Reduction Month

Objective:

- to promote emission inspection and maintenance of private cars
- to enhance public awareness on emission maintenance
- to prove that the workshops are able to offer emission service

Participants in the latest Emission Reduction Month (17 April – 14 May 2000):

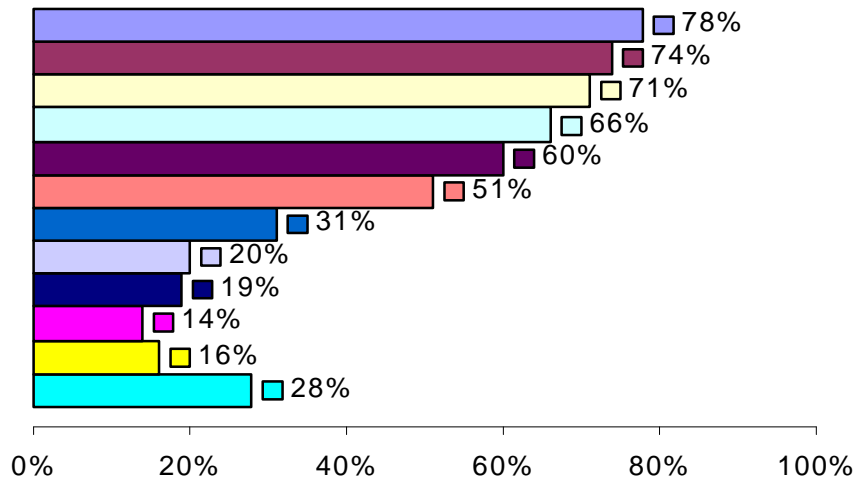
- *Around 8,000 car owners*
- *117 workshops around Jakarta*
- *23 car manufacturer (Chrysler, Fiat, Daewoo, Chevrolet, Mercedes, Renault, BMW, Ford, Isuzu, Opel, VW, Timor, Daihatsu, Honda, Peugeot, Mitsubishi, Volvo, Suzuki, Mazda, Nissan, Toyota, Hyundai, Audi)*



Emission Reduction Month (cont.)

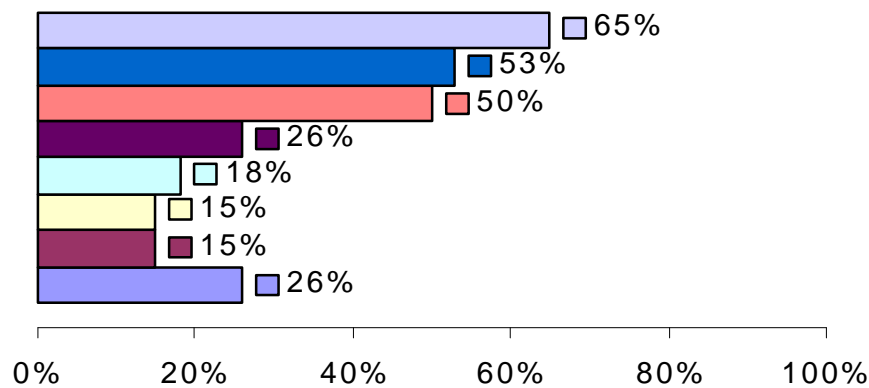
Work Done to Achieve Emission Reduction

Gasoline Cars



- Air Filter, cleaning
- Ignition Time, adjusting
- Fuel Filter, cleaning
- Carburetor / Injection, calibration
- Change Oil
- Spark-Plug, cleaning
- Spark-Plug, replacement
- Contact Point, replacement
- Fuel Filter, replacement
- Contact Point, adjusting
- Air Filter, replacement
- other work

Diesel Cars



- Air Filter, cleaning
- Change Oil
- Fuel Filter, cleaning
- Fuel Filter, replacement
- Injection Time, adjusting
- Air Filter, replacement
- Injection, calibration
- other work

Emission Reduction Month (cont.)

Emission reduction (on road vs after service) as result from PUTE Activity

HC



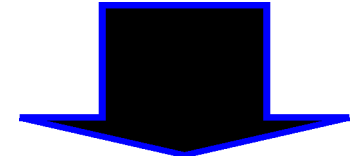
49 %

CO



53 %

Soot



61 %

5 % of Fuel saving potential



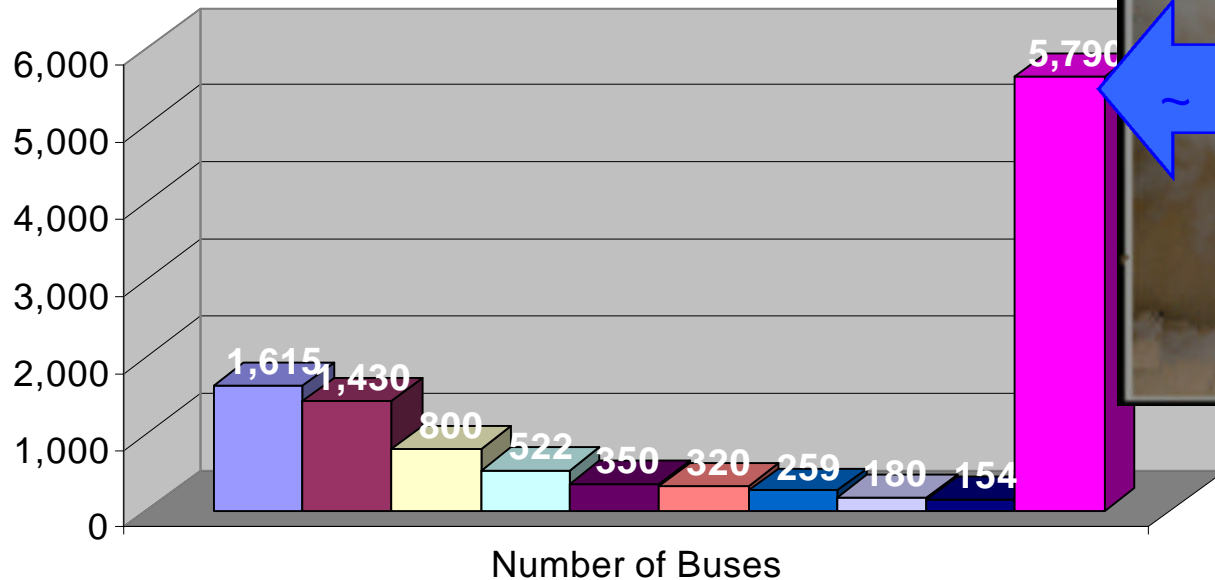
Internal I&M System in Clean Bus Program as a Potential of Emission Reduction & Fuel Saving

- Clean Bus Program, a voluntary based to reduce diesel soot and fuel consumption, economical benefit promoted through:
 - Improvement of Internal I/M System
 - Improvement of HR quality
 - Improvement of driving skill and knowledge
 - Support on equipment and spare parts



Clean Bus Program(cont.)

Number of Buses



From 21.000
Buses in Jakarta

- PT. Hiba Utama
- PT. Big Bird (Blue Bird)
- PT. Arimbi Jaya Agung
- PT. Sinar Jaya megah Langgeng
- PT. Pahala Kencana



Clean Bus Program (cont.)

Measure in Internal I&M System

Summary	1998	1999	2000	2001*
Number of inspection/service	3,904	4,325	5,790	4,413
Emission over limit (before service)	1,607	1,710	1,697	1,395
Emission over limit (after service)	24	104	273	236
Average opacity before service,%	56.4	40	51.7	51.2
Average opacity after service,%	43.6	27	36.4	36.7
Opacity reduction (%)	22.1	31	30.6	30.2
Service without additional cost,%	84.2	84	83	84.9
Service with additional cost,%	15.8	16	17	15.1

Fuel Saving Potential \pm 5%

* Data up to October 2001



Clean Bus Program (cont.) Measure in internal I&M system

Improvement of workshop condition

Emission measurement before and after service

Step by step corrective action according to following scheme

A

Cleaning of air filter

B

Setting of injection nozzle pressure

C

Setting of injection time

D

Replacement of air filter

E

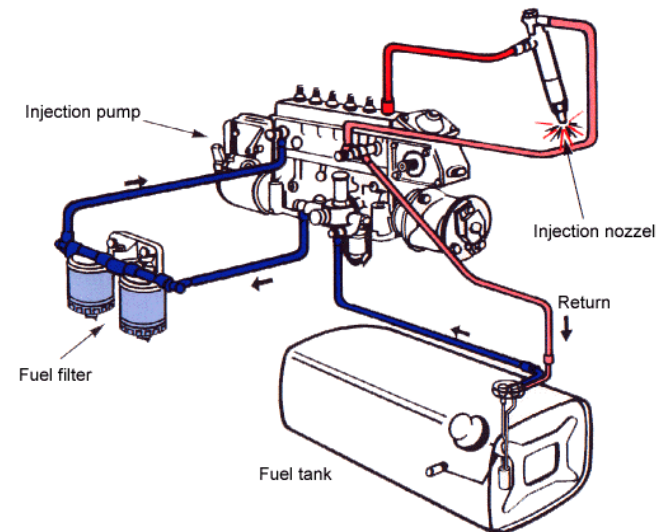
Replacement of nozzle

F

Calibration of injection pump

G

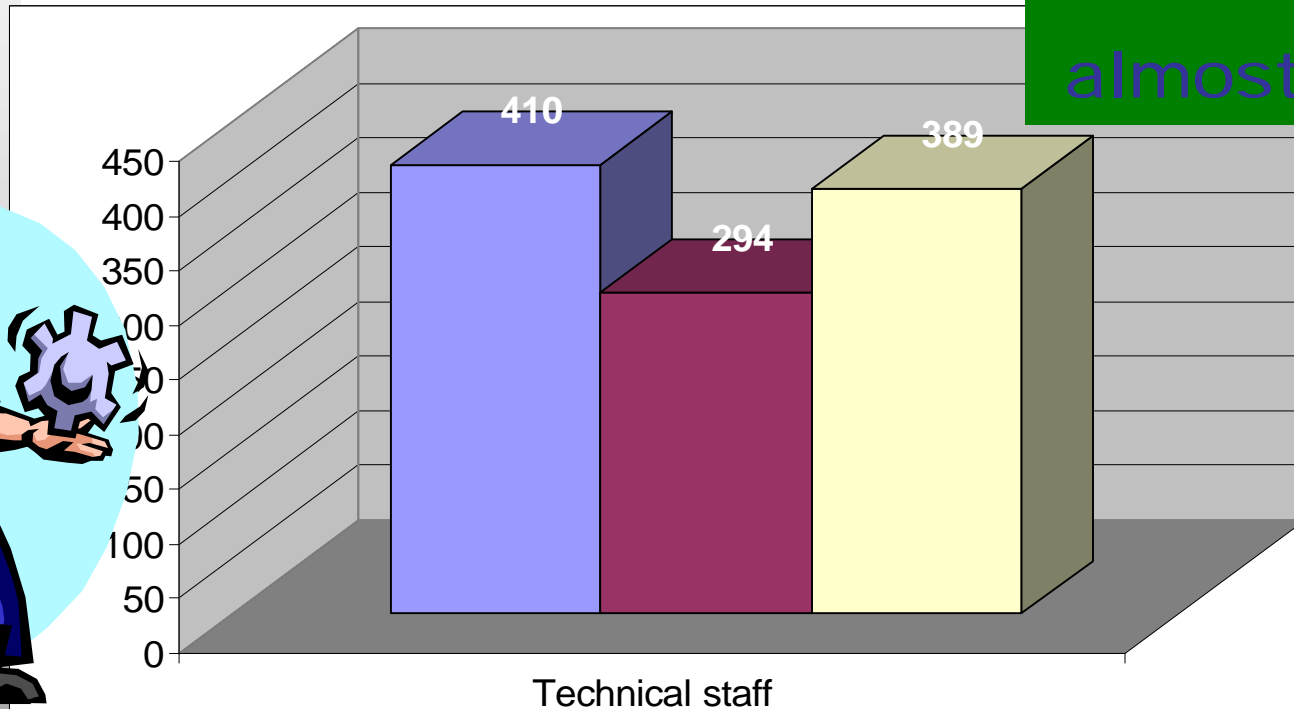
Revision of injection pump



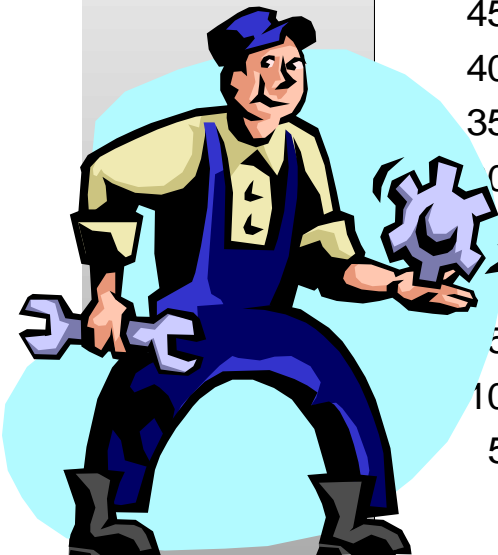
Clean Bus Program (cont.)

Technical Training

In 4 years
almost 70%

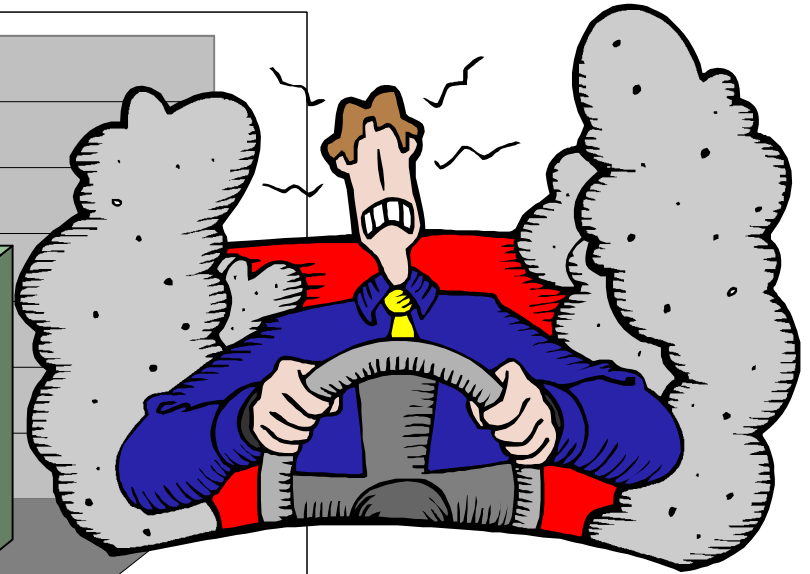
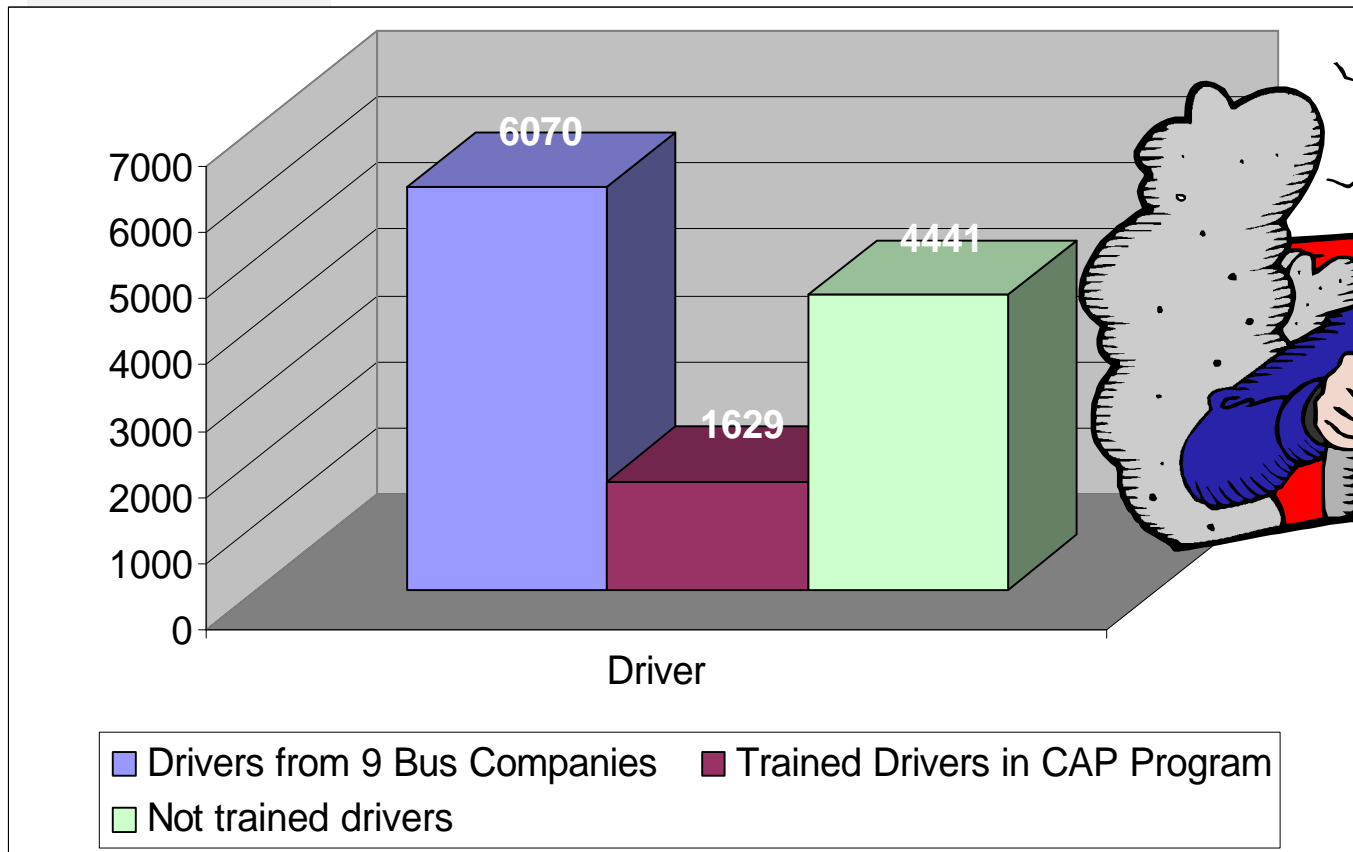


■ Technical staff from 9 Bus Companies ■ Trained Technicians in CAP Program
■ Not trained staff



Clean Bus Program (cont.)

Driver Training Program



Fuel Saving Potential 5 – 15 %



THANK YOU

