GENERAL DIRECTORATE OF HIGHWAYS

TRAFFIC SAFETY PROJECT

VEHICLE INSPECTION
PROGRESS REPORT

March 2001
Foreword

The purpose of this progress report is mainly to develop some basic principles for a possible privatization of vehicle inspection in Turkey, including drafts for invitation to tender, contract between KGM and Operators, and necessary technical specifications, etc. The report also includes some proposals about what SweRoad thinks KGM should do in connection with this matter.

The author of the report is Mr. Gösta Svensson, SweRoad’s specialist on vehicle safety.

Ankara April 2001

Karl-Olov Hedman
Team Leader
Vehicle Inspection Progress Report, March 12 – 30, 2001

During a previous mission as part of the project (Sept. – Oct. 1999) a proposal was made in order to establish, if possible, a privatized vehicle inspection system on the National level in Turkey. The basic idea behind this proposal was that the insurance business should find a number of synergy effects and therefore be willing to form and operate a National vehicle inspection company.

Unfortunately the proposal was not possible to implement. In December 2000 a new mission was requested by KGM, and the project’s vehicle safety consultant spent three weeks in Ankara (March 12 – 30, 2001). During a first meeting already on March 12, it was explained that plans had been developed to try dividing the country into four approximately equal parts, containing about the same proportions of densely and sparsely populated provinces, and then invite interested parties to tender for concessions to set up and operate vehicle inspection stations in these parts. The original plans were to do this in two steps – a pre-qualification to short-list a number of applicants, who would then be invited to tender. The vehicle safety consultant was asked to assist in compiling the necessary documents for these processes.

In order to find out the present situation and conditions, plans for future development etc. of the vehicle register, a meeting with the police was requested. At that meeting it was stated that there were several activities going on in connection with the creation of POLNET, a number of data bases to be used by the police. Unfortunately no information about the timetable for this work could be obtained. It was also stated that the present vehicle register would probably be of limited value, among other things because of inaccurate addresses, but technically it should be possible to register a last date of legal use for every vehicle. Whether it will be possible in the future to send summons based on remaining time to that last date is an open question. If those who are developing the new vehicle register know that requirement it should not present any complex technical problems.

It soon became evident that the documentation necessary for a pre-qualification would have to be almost as comprehensive as for the tenders. As a consequence, it was decided to abolish the pre-qualification and go directly to the tender process.

On the request of KGM the vehicle safety consultant compiled:
1. Invitation to tender
2. Appendix-2 Contract between KGM and Operators
3. Appendix-4 Specification of inspection equipment.

These documents were presented and discussed at a final meeting with KGM on March 29. At that meeting it was also underlined, that the tender documents should also include latest possible statistics showing the provincial distribution of vehicles of various kinds (Appendix-
1, which will be supplied by KGM), and a very detailed inspection program describing what to check, how to do the checks and how to assess the defects found (Appendix-3). As a basis for the latter it was agreed that the corresponding Swedish document should be translated into English and sent to SweRoad Ankara for translation into Turkish. It was agreed that the consultant should devote a few more working days in Stockholm to this.

Besides the documents already mentioned the consultant had also presented a memorandum titled "What KGM must do". In this memo it was discussed how to ensure that the future vehicle register will have the necessary facilities and how to enable the police to see that a vehicle has been inspected, or rather: has not been inspected. The possibility of a windscreen sticker indicating month and year of the last date was discussed, as well as the pros and cons of different locations on the vehicle. Also different ways to correct the vehicle and driving license registers’ addresses were discussed.

The documents mentioned in this progress report, are herewith enclosed as attachments:

- Appendix-A: Invitation to tender
- Appendix-B: Contract (between KGM and Operators) (Appendix-2 of Invitation to tender)
- Appendix-C1: Inspection Programme - Vehicle Inspection (Appendix-3 of Invitation to tender)
- Appendix-C2: Inspection programme for motorcycles 1997 (Appendix-3 of Invitation to tender)
- Appendix-D: Specifications of inspection equipment (Appendix-4 of Invitation to tender)
- Appendix-E: What KGM must do
INVITATION TO TENDER FOR CONCESSION TO SET UP AND OPERATE VEHICLE INSPECTION STATIONS IN TURKEY

1. GENERAL

The Turkish General Directorate of Highways is planning to transfer the setting up and operation of Vehicle Inspection Stations to private companies. For this purpose the country has been divided into four parts, containing approximately equal proportions of densely populated provinces and more sparsely populated provinces.

**Part 1** consists of the 17 provinces Istanbul, ............ and Hakkari. Total number of vehicles is about 2.9 million, whereof about 1.82 million are to be inspected each year.

**Part 2** consists of the 21 provinces Izmir, ............ and Bingöl. Total number of vehicles is about 2.2 million, whereof about 1.46 million are to be inspected each year.

**Part 3** consists of the 19 provinces Ankara, ............ and Burdur. Total number of vehicles is about 2.3 million, whereof about 1.45 million are to be inspected each year.

**Part 4** consists of the 24 provinces Bursa, ............ and Sirnak. Total number of vehicles is about 2.1 million, whereof about 1.43 million are to be inspected each year.

The intention is to offer 10 year concessions to private companies who are interested in setting up and operating vehicle inspection stations to provide vehicle inspection services to vehicle owners in one or more of these parts, financed entirely by inspection fees set by the Government. No other activities besides vehicle inspections are permitted at the vehicle inspection stations.

See Appendix-1 for the actual distribution of vehicles of various kinds in the provinces in September 2000. An annual growth rate of 5 – 10% is foreseen, based on the development during later years.

2. CONDITIONS FOR PARTICIPATION
The applicant for a concession must be, or be prepared to form, a Turkish company that will be the Operator, and that has co-operation agreements with partners (other companies, organizations or institutions) providing specialized knowledge and experience. At least one of the partners must have comprehensive experience of periodic vehicle inspection (the Technical Partner).

3. DISQUALIFICATIONS

An applicant having side interests in the vehicle business will be automatically disqualified, i.e. the Operator must not be owner or part owner of enterprises buying/selling new or used vehicles spare parts, accessories, tires, fuel, oils etc., or repairing vehicles.

4. NECESSARY DOCUMENTS

4.1 Application form, signed by the applicant
4.2 Certificate of Chamber of Trade and/or Chamber of Industry (existing company)
4.3 General description of the Operator, the Technical Partner and other partners
4.4 Agreements between the Operator and the partners
4.5 Financial status declaration
4.6 Experience of general management
4.7 Experience of periodic vehicle inspection
4.8 Experience of design and construction work
4.9 The Operator’s plan and report how to execute the work, including
   4.9.1 the organizational structure for the work
   4.9.2 by which organizations/enterprises the different works will be performed
   4.9.3 how design and construction work will be controlled and supervised
   4.9.4 work schedule for the design and construction works
   4.9.5 design samples for station layouts including location of equipment
   4.9.6 technical specifications of equipment
   4.9.7 location of inspection stations year one, two and three, location of head office
   4.9.8 information about any mobile inspection units or other special arrangements
4.10 Calculations of investments, receipts and expenditures during concession years 1 – 5, including capital costs and what percentage of the receipts can be delivered to the General Directorate.
5. PREPARATION OF TENDERS

The application is to be divided into two parts, the technical part and the economical part. They are to be submitted in separate envelopes, marked Technical Application and Economical Application, respectively. Both are to contain signed application forms (4.1 above). The Economical Application is to comprise documents 4.2, 4.4, 4.5 and 4.10. The Technical Application is to comprise the other documents (4.3, 4.6, 4.7, 4.8 and 4.9).

Documents may be submitted in Turkish or English. In the application must be stated the names, addresses and telecommunication addresses of the applicant and partners.

The required information must be complete, definite and clear. If so desired all information supplied, except the applicant’s name, will be kept confidential.

6. CONDITIONS FOR CORRECTION AND RE-SUBMISSION OF DOCUMENTS

An applicant who wants to change an item(items) in his tender may do so within xx weeks after the submission date. He must inform the General Directorate as soon as possible about the nature and extent of the changes and must submit the complete document(s) where the changes are made, together with a cover letter, signed by the applicant, stating that the document(s) are to replace the previously submitted ones in the tender.

7. SUBMISSION DATE AND PLACE

The application documents must be submitted to the General Directorate of Highways, Head of Maintenance Department, Yüçetepe, Ankara before close of business YYYYMMDD.

8. SPECIAL CONDITIONS FOR THIS TENDER

The applicant is advised to study the provincial distribution of vehicles in Appendix-1, the basic service requirements and the time schedule in Appendix-2, the inspection program specified in Appendix-3, and the inspection equipment characteristics specified in Appendix-4. On the basis of the information in these Appendix-es the applicant should calculate the need for inspection capacity, investment and operation costs for the whole concession period of ten years. It should be noted that there will be no income during the first concession year, and that the build-up period shall be finished before the end of the third concession year.
9. EVALUATION OF TENDERS

Applications will first be evaluated with regards to the technical merits, then with regards to the economic and financial matters. The different items will be evaluated according to the following main principles:

<table>
<thead>
<tr>
<th>Weighted points</th>
<th>100</th>
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<tbody>
<tr>
<td><strong>A – Scope of application</strong></td>
<td></td>
</tr>
<tr>
<td>• Application for more than one part</td>
<td>15</td>
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<tr>
<td><strong>B – Station network</strong></td>
<td>10</td>
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<tr>
<td><strong>C – Experience</strong></td>
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<tr>
<td>• Experience of general management</td>
<td>5</td>
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<tr>
<td>• Experience of vehicle inspection</td>
<td>15</td>
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<tr>
<td>• Experience of layout, design and construction work</td>
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<td><strong>D – Financial status</strong></td>
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<tr>
<td>• Equity</td>
<td>5</td>
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<tr>
<td>• Liquid assets</td>
<td>5</td>
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<tr>
<td>• Total amount to be channeled to this investment</td>
<td>10</td>
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<tr>
<td>• Bank reference</td>
<td>10</td>
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<tr>
<td>• Balance sheet</td>
<td>5</td>
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<tr>
<td><strong>E – Information in the application</strong></td>
<td>10</td>
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</tbody>
</table>

The General Directorate may require additional documents if deemed necessary, and may also consider other circumstances in the evaluation.

The evaluation of tenders is expected to take X months.

10. ANNOUNCEMENT OF EVALUATION RESULTS

(Is this common procedure in Turkey? In Sweden we just inform the tenderers in a letter that either your tender has been accepted, or the tender of Firm X has been accepted.)

11. LETTER OF GUARANTEE

(If considered necessary…)
12. LIST OF APPLICATION FORMS

Attachments:

Appendix-1: Distribution of vehicles of various kinds in the provinces, September 2000 (will be provided by KGM)
Appendix-2: Contract
Appendix-3A: Inspection Programme - Vehicle Inspection
Appendix-3B: Inspection programme for motorcycles 1997
Appendix-4: Specifications of inspection equipment
CONTRACT FOR A CONCESSION TO SET UP AND OPERATE PERIODIC VEHICLE INSPECTION IN …………

1. PARTIES, ADDRESSES

This contract is drawn up between the General Directorate of Highways and the Operator…………………

2. SCOPE OF WORK

The Operator shall set up and operate vehicle inspection stations according to the conditions stipulated in the contract.

3. DURATION OF CONCESSION

The concession is ten years from the date of signing the contract.

4. LAND ALLOCATION

5. SIGNPOSTING

All vehicle inspection stations visible from a street or highway shall have a sign as specified by the General Directorate, indicating to the public that this is a vehicle inspection station. If the station is not visible from a street or highway, the same type of sign is to be put up at the beginning of the access/entrance road.

6. APPROVAL OF PLANS

Land site plans, building drawings and specifications, and training course plans and plans for maintenance and calibration of inspection equipment must be submitted to the General Directorate for approval.

7. PERMISSION TO START

When reporting to the General Directorate that a vehicle inspection station is completed, tested and ready for operation, the Operator will get permission to start. The General Directorate may require to visit the station before the start.

8. WORK PROGRAM AND TIME PLAN

The inspection station network is to be developed during a period of three years, and prospective concession holders are advised to plan for a total inspection capacity of at
least 120%, i.e. 20% more than the figures stated in Appendix-1, because of the expected growth of the vehicle fleet.

Concession holders will be required to provide at least one vehicle inspection station in each province (more than one in the big city areas) and recruit and train inspectors so that all the stations can start operations at about 40% capacity at the end of the first concession year.

During the second concession year the station network shall be developed so that 90% of the vehicle owners have max. 50 km road distance to the nearest vehicle inspection station, and the capacity should be increased to about 60%.

During the third concession year the station network shall be further expanded and finalized, the goal being 95% of vehicle owners within 40 km road distance from a vehicle inspection station. The concession holders are required to monitor the demand for inspections and the development of the vehicle fleet and develop the station network and the size of staff accordingly.

9. PENALTIES FOR DELAYS

For every week’s delay after the respective ends of year one, two and three of the concession, until the conditions in 8.above are fulfilled, the Operator must pay a fine of YYY Million TL to the General Directorate.

10. CONDITIONS THAT MUST BE FULFILLED

If the Operator has other activities and sources of income besides vehicle inspection this must be reported to the General Directorate.

Any other use of the land site or buildings of an inspection station besides vehicle inspections must be reported to the General Directorate for approval.

11. FEES AND MONETARY MATTERS

Inspection fees are set by the Government. From the beginning of the second concession year inspection fees will be applied corresponding to 15 US $ for a light vehicle, motorcycle and tractor, 35 US $ for a heavy bus, truck or trailer with two axles and 45 US $ for a heavy bus, truck or trailer with three or more axles. A semi-trailer is regarded as three-axled regardless of actual number of axles. Corresponding re-inspection fees will be 10, 20 and 25 US $, respectively.

The concession holder is required to present a budget for each concession year, to be approved by the General Directorate. The General Directorate will require full transparency and right to scrutinize and audit all financial arrangements and transactions of the concession holders, and will propose adjustments of the fees to maintain the planned economic result according to the budget.
The inspection stations will not handle any money. A summons will be sent to the vehicle owner some time before his inspection period expires. The summons will state the final date of the inspection and the fee. After paying the fee (and any outstanding tax or fines) at the bank or post office, and getting proof of the payment, the vehicle owner is to use the summons card for payment at the station. If a vehicle is failed, a corresponding card with the re-inspection fee is given to the customer for pre-payment at the bank or post office.

12. OPERATING COSTS, TAXES AND OTHER COSTS

13. TRAINING OF INSPECTION STAFF

The concession holder is required to recruit inspection staff with adequate basic technical knowledge of different vehicles, and to arrange training courses to give the staff good theoretical knowledge and practical ability to carry out inspections. The training courses should be documented in course plans, to be approved by the General Directorate.

Three kinds of training courses are foreseen: a basic training course after which the inspectors should be qualified to inspect light vehicles and tractors, and supplementary training courses to qualify the inspectors for inspection of heavy vehicles and motorcycles, respectively. The courses are to be finished by theoretical and practical tests. The qualifications of the individual inspectors are to be reported to the General Directorate, who will assign a personal identity code to each inspector.

The inspectors should have driving licenses for the vehicle categories they are qualified to inspect.

14. EMPLOYMENT CONDITIONS FOR THE INSPECTION STAFF

After being registered by the General Directorate and assigned a personal identity code, a vehicle inspector is to be given an employment contract for a duration of at least five years.

The inspector is not permitted to have any other contacts with vehicles than the inspections and those of a normal vehicle owner, and must report to the employer if he has any other source of income besides the vehicle inspection work. The Operator is to have a register of all such side interests and activities of the employed. Vehicles owned by the inspector must be inspected by another inspector.

15. PREPARATION OF INSPECTION STATIONS

A vehicle inspection station should have an office building, minimum 2nd class, inspection building(s), minimum 3rd class, and surfaced areas for staff parking, customer

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*If this kind of administrative system is not yet available at the start, the vehicle owners will have to buy "inspection cheques" at the bank or post offices*
and visitor parking, and entry and exit roads. The buildings may be separate or forming a single block, and may also be the ground floor of a larger building. The office building is to contain rooms for management, administration, archives and stores, staff and waiting customers. The staff canteen shall be arranged so that it can also be used as a lecture room. Separate toilets and washrooms for male and female staff are to be provided, as well as a toilet with baby care and handicapped facilities for customers in the vicinity of the waiting room. Infrastructural requirements are drinking and tap water/sewer facilities, electricity and communication facilities.

Inspection stations shall normally be designed for inspection of all kinds of vehicles. This means, as a minimum, an inspection building with doors at both ends, with a total length of at least 25 m, at least 6 m wide and at least 5 m from floor to ceiling. In the center of this building there should be an at least 21 m long inspection pit, with grid flooring 1.65 m below the floor level and stairs at both ends. Certain special equipment should be provided (See Appendix-4).

In a big vehicle inspection station it is also possible to create special workplaces for inspection of special categories of vehicles and provide special equipment for this, such as special lifts for motorcycles.

Parking space for visitors, staff and a reasonable number of waiting vehicles should be provided in suitable locations. Parking space for light vehicles should be min. 2.5 x 5 m, parking space for heavy vehicles min. 3.5 m wide. Parking for waiting vehicles should be located so that the drivers are able to see entry signals.

Entry, exit and internal roads should be one-way roads, with min. curve radius 12 m for heavy vehicles, 8 m for light vehicles.

Concession holders are required to present site plan, building drawings and technical specifications to the General Directorate for approval before land preparations and construction work are started.

16. OPENING THE SERVICE

Concession holders will have no income during the first year. Legislation transferring the vehicle inspection services from the General Directorate to concession holders will come into effect at the end of the first year.

17. BASIC OPERATING CONDITIONS, LEVEL OF SERVICE

When completed, before the end of the third concession year, the station network is to offer at least 95 % of the vehicle owners no more than 40 km road distance to an inspection station. When starting up at the end of the first concession year, the requirement is one station in each province (more in the Ankara, Istanbul and Izmir ares) and capacity for inspection of at least 40 % of the vehicle numbers in Appendix-1.
At the end of the second concession year the capacity should be for at least 60 % of the vehicles, and the station network expanded so that 90 % of the vehicle owners have an inspection station within 50 km road distance.

Most of the vehicle inspection stations are to be permanent stations open 0600 – 2000 weekdays, 0800 – 1300 Sat/Sundays. However, in places with less than 20 000 vehicles to be inspected per year, other open hours and other arrangements may be considered, such as mobile inspection services, "satellite" stations manned from a permanent station just a few days a week, or special agreements with garages and service stations and exclusive rights to use their premises and equipment a few days a week.

The concession holders are required to have a computerized booking system with 24 hours self-service via the Internet, and 0800-number telephone booking services open 0600 – 2000 weekdays, 0800 – 1300 Sat/Sundays.

The concession holders are required to organize the work so as to be able to offer customers a pre-booked inspection appointment within 15 days, and so that inspections can be started no longer than 15 minutes after the appointed time.

18. INSPECTION REPORT FORM, “PASS STICKER” AND REPORTING

The General Directorate will specify the report form to be used by the Operator, who may have it printed with the Operator’s firm’s letterhead. The General Directorate will supply special stickers to put on vehicles that are passed at inspection. The result of the inspections are to be reported the same day to the vehicle register, in computerized form via the telecommunication system.

19. QUALITY CONTROL AND SURVEILLANCE

The General Directorate will set up a special, nationwide organization for quality control and surveillance of the activities of concession holders, which are obliged to give the staff of that organization full access at any time, even without prior notice, to inspection facilities, offices, books and archives, as well as training facilities.

The concession holder is required to have a quality assurance system to ensure that inspections are uniform and in accordance with the national standard, and a certain person is to be appointed as responsible for the quality assurance system. This system shall include fixed routines on how to deal with and document complaints. Staff training plans and equipment maintenance and calibration plans are to be approved by the General Directorate’s quality control organization.

The General Directorate’s quality supervisors will statistically monitor the performance of the inspectors. They will also visit the inspection stations and check that inspections are carried out according to the national standard, that staff training follows the plans, that equipment and instruments are maintained and calibrated according to plans etc. and that the service to the public is adequate.
20. ACTIONS IF CONCESSION HOLDER DOES NOT FULFILL CONDITIONS

If minor irregularities or quality deviations are discovered by the quality supervisors, such cases are reported in writing to the manager of the station in question, with a copy to the quality responsible in central management. More substantial irregularities or quality deviations are reported in writing to the quality responsible in central management with a request for a reply as soon as possible outlining what action is going to be taken by the concession holder. Serious irregularities also incur a formal warning that if repeated, the concession may be terminated.

In the case of repeated serious irregularities the concession will be terminated. Fraud, corruption and failure to rectify criticized matters are other examples of reasons for termination.

21. TERMINATION OF CONCESSION

When the concession is terminated the inspection stations, i.e. land sites, buildings and equipment, shall be valuated by independent valuators and taken over by the new concession holder. There is no such stipulation as regards head office premises, computers, other office equipment and furniture at the head office and stations, but if the concession holder and the successor agree, also these items can be valuated according to the same principles and taken over.

The concession contract will be for a period of ten years. After nine years a reappraisal will be made and the General Directorate will decide to either start a new tender process or prolong the contract with the concession holder for another five years. The concession holder may choose to terminate the concession after ten years, and must then notify the General Directorate before the end of the ninth year. A concession holder who wants to terminate the concession earlier, must notify the General Directorate as soon as possible and has to accept that termination will not be possible until a new concession holder is contracted.

If a new concession holder is to be contracted, the Provincial Valuation Commissions will establish the current value of the assets to be taken over. If the valuation is disputed, the matter is taken to court. The court may appoint a special Valuation Committee, and this Committee’s decision is final.

22. CONTRACT WITH A NEW CONCESSION HOLDER

A contract with a new concession holder will contain conditions similar to the conditions in this contract, but not necessarily the same.

23. ARBITRATION IF CONTRACT IS DISPUTED

If the General Directorate and the Operator disagree about the interpretation of the contract, an independent arbitrator shall be appointed.
24. APPROVAL OF CONTRACT

When the Operator accepts and signs the contract, the next day is the first day of the ten year concession, unless another date is agreed by the parties.

25. APPENDICES

26. TERMINATION
SPECIFICATIONS OF INSPECTION EQUIPMENT

1. Roller brake testers

A roller brake tester for heavy vehicles should have rollers of at least 190 mm diameter, and a testing speed of at least 2 km/h. It should start automatically when the axle to be tested is located on the rollers, stop automatically when the wheel locks, and then restart after an adjustable delay. It should be dimensioned for an axle load of at least 10 tons, and preferably include a weighing facility to establish the actual axle load. The testing sequence including the air pressure should be possible to register and print out, and the tester should preferably have facilities for automated analysis and assessment of results. An interface for connection to a computer network should be provided.

A combined light/heavy roller brake tester should have the same characteristics and features, but when used to test light vehicles have a finer scale discrimination and a testing speed of at least 5 km/h. Preferably it should also be possible to reduce the distance between the rollers.

A roller brake tester for light vehicles should have rollers of at least 190 mm diameter, and a testing speed of at least 5 km/h. It should start automatically when the axle to be tested is located on the rollers, stop automatically when a wheel locks, and then restart after an adjustable delay. It should be dimensioned for an axle load of at least 5 tons, and preferably include a weighing facility to establish the actual axle load.

2. Headlamp aiming check unit

Headlamp aiming check units should be designed for checking headlamps and auxiliary lamps with optical axis from 0.25 to 1.40 m over ground level. The unit should be adjustable for full parallelism with the surface where the vehicle is standing, and preferably be mounted on rails.

3. Exhaust gas analyzer

Exhaust gas analyzers for checking exhaust emissions and λ-sensor functioning should be able to measure the contents of CO, O₂ and CO₂ in the exhaust gases with an accuracy of 0.5%, and on the basis of the measured values establish the λ-value with an accuracy of 0.005. An interface for connection to a computer network should be provided.

Supplementary equipment for blowing air through test probe, hoses and analyzer between measurements is recommended.
4. **Opacimeter**

Opacimeters for checking the opacity of diesel exhausts should be able to measure the opacity with an accuracy of xxxxxx. An interface for connection to a computer network should be provided.

5. **Noise meter**

Noise meters for checking exhaust noise level by the so-called proximity method should be able to measure the noise emitted with an accuracy of 1 dB(A).

6. **Axle jacks**

Pneumatic axle jacks for heavy vehicles should have a lifting capacity of at least 10 tons when lifting in a single point. Lifting yokes for two-point lifting should be provided. The jack should be mounted on a wheeled wagon for easy movement along the pit, and be connected to the compressed air supply system by self-coiling plastic tubing.

Pneumatic axle jacks for light vehicles should have a lifting capacity of at least 1.5 tons. The jack should have extendable lifting arms with adapters enabling lifting forces to be applied as close to the wheels as possible, as well as in any other positions underneath the vehicle. The jack should be mounted on a wheeled wagon for easy movement along the hoist or pit, and be connected to the compressed air supply system by self-coiling plastic tubing.

7. **Hoists for light vehicles**

While an inspection pit is most rational for inspection of the chassis parts of heavy vehicles and combinations of vehicles, it is more rational to use vehicle hoists for the corresponding inspection of chassis parts of light vehicles. Two types of hoists are suitable for this – four-pillar hoists and pillarless hoists. Both types have parallel, relatively wide steel plates ("wheel tracks") on which the wheels of the inspected vehicle are resting, and folding ramps at both ends for driving on and off. The four-pillar hoist has crossbeams over which the wheel tracks are fitted, and the lifting operation is by wires in the pillars. The pillarless hoist has no crossbeams, and the lifting operation is by hydraulic cylinders in a scissors-type mechanism.

The pillarless hoist is preferred. It allows the floor to be even, without any obstruction, and the absence of crossbeams is an advantage ergonomically.

Both four-pillar and pillarless hoists should have a max. lifting height of at least 1.70 m and it should be possible to stop and secure it at any height from 0 to max. lifting height, at max. 0.05 m intervals. Lifting and lowering speed should be at least 0.10 m/s, corresponding to a total lifting time of about 15 – 17 seconds.
The hoist should be fitted with a movable 1.5 ton jack for lifting the front or rear wheels off the wheel tracks, and preferably also with a "play detector", a movable plate on which one of the front wheels is resting.

8. Others

In addition to the above a vehicle inspection station should have some equipment to be used in special circumstances, for training purposes and as supplementary equipment. This includes a manometer and connecting adapters to register air pressure during brake testing of vehicles with pneumatic braking systems, a pedal effort meter to "calibrate" the inspectors, a stop watch to measure brake operating and charging times, and to check accuracy of speedometer/tachograph and taximeter if required, tire tread depth meters for use in borderline cases, decelerometers to be used in road brake tests, and gauges to determine if the wear of trailer couplings is within or exceeding what is acceptable. It is also recommended to have a 10 ton and a 1.5 ton "alligator" type floor jack and a set of ordinary hand tools, plus a number of crow bars of various sizes and shapes. Furthermore, it is recommended to include facilities to recharge air braking systems through the station’s compressed air supply system, and also facilities to top up tires with air before roller brake testing.

Queue number system

A queue number and entrance signal system is recommended. The most sophisticated such systems are connected to computerized planning and pre-booking systems so that waiting time is minimized. The arriving customer drives to a unit with a keyboard, a screen and a small printer, enters the registration number of the vehicle, or the appointment time, and gets a queue number. The system analyses the actual production and waiting situation and gives the customer a number that will give a signal to enter as soon as possible after the pre-booked time.
Appendix-E

What KGM must do

- Inform the police about the new requirements on the vehicle register, and follow closely the development of POLNET, vehicle and driving license registers.

The vehicle register should contain final date of legal use unless inspected for all vehicles. Every month the register should be run to produce a list of registration numbers and owners' addresses for all vehicles with five months time before the final date of legal use. This list is then to be used to produce pre-printed summons cards, sent by mail to the vehicle owners. Summons card message:

Your vehicle with reg. No 06AB123 should be inspected soon. Last date of legal use unless inspected is yyyy-mm-dd. The fee for the inspection is xxx million TL, which is to be paid to account no 1234-5678-9012 at a bank or post office. With the post or bank stamp on it, this card can be used as payment for the inspection. Call 0800-9876543 and make an appointment at your nearest inspection station. You can also make your booking via Internet, at abcd@fghjk.com.

The vehicle register should also be able to receive and automatically register a personal code, identifying the inspector, together with the new final date.

- Initiate registration of final date of legal use for all new vehicles as soon as possible.

- Decide on layout and contents of report form.

  Report forms should be printed by the respective Operators, and have the Operator's letterhead, but should otherwise be as specified by KGM.

- Form a working group together with the police and
  a) decide on form and location of a "month" sticker
  b) discuss how to update the vehicle register with correct addresses.

  Advertisements, TV and radio spots instructing vehicle owners to send correct address to the vehicle register if not having received summons 4 months before final date? Or connect inspection stations to the register, check addresses when carrying out inspections, and report correct addresses together with results? Or….?
• Convince the police that checking of stickers and final dates is a task they must take on. Otherwise it will be very difficult to improve today’s figures as regards number of inspected vehicles.

• Initiate legislation requiring stickers also to be put on new vehicles and making it illegal to drive a vehicle without a sticker.

**Inspection “month” sticker**

Proposed design: rectangular about 45 x 70 mm with black digits on colored background. Colors to be changed for each year according to a cycle: red – green – violet – yellow – blue – brown – red again etc. Digits in the top line to be OC, SU, MAR, NI, MAY, HA, TE, AG, EY, EK, KA, AR, and 01, 02, 03 etc in the bottom line, about 30 mm high.

The sticker will thus not indicate the final date of legal use, but the month and year in which that date will occur. The material of the sticker should be such that it can not be removed without being destroyed. Removal should require a razor blade scraper or similar tool.

Proposed location: on vehicles with a windscreen, inside bottom right-hand corner, on vehicles without windscreen, on rear number plate.

A new sticker should only be delivered when a vehicle is passed, not when it is failed.

The KGM should take responsibility for the production and distribution to the Operators of stickers.

• Carefully consider the question of corruption and how to counteract corruption.

Whether the customer should be allowed to be present and have direct contacts with the inspectors must be discussed and analysed carefully. On one hand the total positive effect of the inspections will be greater if the customer is present and able to see exactly what is found to be defective, ask questions and get direct comments from the inspector. Furthermore, it saves time. It is also an advantage that the customer can see that the inspectors are not applying any harmful methods to his vehicle.

On the other hand the direct contact between the customer and the inspectors creates opportunities for corruption. Systems of alternating roles for the inspectors and queue numbers can reduce the possibilities of corruption by making it impossible for the inspectors to choose a certain customer and for the customer to choose a certain inspector. An open layout and several inspectors working in parallel in a quiet environment further reduce the possibilities of e.g. bribery. Handling no money at the stations will also reduce
the risk, but for maximum reduction of the risk for corruption there should be no contacts at all between the inspectors and the customers.

To counteract corruption it is also important that the station is not too small. If the needed capacity in a certain place is less than a certain number, i.e. 20,000 inspections per year, and motivates only one or two inspectors, it is not recommended to have a permanently open centre manned by inspectors living in that area. It is better to open the station just one or two days per week and send staff from a bigger station, different inspectors every time, according to a rotation schedule. If possible, the size of inspection staff should be within the bracket of 10 – 15 inspectors per shift.

Whether to sacrifice, in order to minimise the risk for corruption, the valuable effects of the customer following his vehicle through the inspection, is nothing we can decide. That must be decided by people who are more familiar with the business culture and customs in Turkey.

- Compile an inspection program that specifies very clearly what to check, how the checks should be made, and how the defects found should be assessed.

It is especially important to specify in a very detailed way how the checks should be made. In order to be successful an inspection system must have the public’s confidence, and an important prerequisite is then uniformity. Inspectors must be seen to apply the same methods and use the same kind of equipment, and they must be trained so that they can assess the defects and come to the same results wherever a vehicle is inspected.