

Regulation No. 2918

Item 5b "Police Powers, Duty and Authority-1983"

Item 7 "Duties and Authority of KGM-1983"

Item 13 "Road Traffic Safety, Traffic Signs, Buildings, and Facilities-1983"

**Summary:** These regulations discuss the powers, duties, and authority of the police and KGM related to the inspection of vehicles, controlling traffic, traffic safety education, traffic accidents, vehicle registrations, record keeping, data collection and analysis, and the conducting of work on the roadway.



## HIGHWAYS TRAFFIC LAW

No:2918

Accepted on 13 October, 1983

### POLICE POWERS, DUTY AND AUTHORITY

Item 5.b - The duties, power and authority of the police are listed below:

1. The police have the authority to inspect vehicles, necessary documents which must be present on the vehicles, and vehicle equipment. The police have the authority to inspect drivers or other people using the highway and their documents at any time, whether they are violating the laws or not, and to determine if any traffic regulations or equipment is in violation of the law.
2. The police have the authority to facilitate either the moving or the stopping of traffic.
3. The police have the authority to provide for the education of the people regarding traffic laws and the legal use of vehicles.
4. The police have the duty to create and use traffic accident forms.
5. The police shall create traffic violation records for those people who violate the traffic laws, and to carry out the necessary legal procedures.
6. The police shall help people who are injured in traffic accidents, and inform the relatives of those same people.
7. The police shall arrange for the registration procedures for vehicles, including handling of the official documents and providing the vehicle plates.
8. The police shall prepare drivers' examinations to be given to prospective drivers, and the providing of drivers' licenses.
9. The police shall keep a record of drivers and vehicles for all of Turkey, to make judicial and technical changes as appropriate, and to collect and evaluate statistical data.
10. The police shall collect all statistical data related to causes of traffic accidents, evaluate this data, and then take necessary measures to prevent traffic accidents and make suggestions to related organizations.
11. The police shall provide other duties and regulations as provided under this law.

## HIGHWAYS TRAFFIC LAW

No : 2918

Accepted on 13, October 1983

### DUTIES AND AUTHORITY OF KGM

Item 7 - The duties and authority of KGM related to this law are listed below.

- a) To take necessary measures by using markings and other devices on the highways and to secure life and property on the highways where KGM is responsible for construction and maintenance.
- b) To determine standards for markings other devices highways and to publish these standards.
- c) Within the authority and duties given to KGM by this law, it is empowered to provide traffic education to drivers.
- d) To explain it's views about traffic and vehicle techniques, to examine and approve projects related to highway safety.
- e) On the highways where KGM is responsible for construction and maintenance, on having approval of the Internal Affairs Ministry, to determine and post speed limits which are higher or lower than the speed limits defined in the regulations.
- f) To prepare data and to take necessary technical measures on highways with high or unusual traffic accident statistics.
- g) On highways where KGM is responsible for construction and maintenance, to construct intersections, bus stops, illumination parking areas and similar facilities when traffic safety is concerned and to examine projects prepared by other agencies and approve of them, where convenient.
- h) By conducting traffic accident analysis based on, physical road conditions and markings which were recognized by authorized units or traffic officers, as contributing to the accidents, to take necessary measures.
- i) To control vehicle weights and keep punishment records when the regulations are violated.
- j) To inspect vehicles for registration records and keep punishment records whenever there are violations against items 13 and 35 of this law.
- k) To carry out the other duties given by this law and regulations published according to this law.

## HIGHWAYS TRAFFIC LAW

No:2918

Accepted on 13 October, 1983

### DUTIES AND AUTHORITY OF KGM

#### Item 13 - Road Traffic Safety, Traffic Signs, Buildings and Facilities

##### Road Traffic Safety:

All the organizations responsible and authorized to construct and maintain roads shall take appropriate measures to ensure that traffic safety is provided on the roadway.

For work performed on the roadway and for which principles are described in the regulations, all persons, institutions and organizations must do as follows:

- a) obtain permission from the organization which is authorized and responsible for construction and maintenance
- b) conduct the work while taking necessary measures to provide continuity to the work without disturbing the flow and safety of traffic
- c) remove any unforeseen obstacle or defect, etc. which occurs on the roadway in a timely manner to avoid damages to road users and vehicles
- d) ensure that drivers can pass safely, and keep pedestrian access open by way of providing tunnels with appropriate illumination, etc., and by providing illumination of sidewalks during road construction in built-up areas.



Law No. 5539

"Legislation Covering the Establishment and Duties of the General Directorate of Highways"

Summary: This law discusses the establishment of the General Directorate of Highways, duties of the General Directorate of Highways, the road networks under the authority of the General Directorate of Highways, and revenues of the General Directorate of Highways.





**LEGISLATION <sup>1</sup> COVERING THE ESTABLISHMENT AND DUTIES  
OF THE GENERAL DIRECTORATE OF HIGHWAYS**

Law Number : 5539  
Date of acceptance : 11/02/1950  
Published in Official Gazette : 16/02/1950 Issue Number 7434  
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**I - General Provisions**

Article 1 : The General Directorate of Highways is established with a subordinate role to the Ministry of Public Works and has juristic body and is administered with a subsidiary budget. The General Directorate of Highways is represented by a General Manager.

**II Duties :**

Article 2 : ( Amendment 30/5/1973 - 1737 -1 md. )

The Duties of the General Directorate of Highways are as follows :

- A) To plan Motorways, State and Provincial road routes as defined by this Law, to specify and determine them and to obtain approval from Ministry of Public Works where routes are covered by public improvement legislation. To build , improve and repair roads and bridges as required by the planning programmes of the General Directorate and to ensure safe use of these and provide training where necessary.
- B) To define the quality and standards for building, repairing and maintaining all of the road network.
- C) To establish and implement rules and regulations governing the use of roads, their technical safety and protection and to erect road signs where it is considered appropriate.
- D) The General Directorate or it's appointed agent will prepare maps, studies and project works for all activities covered by this Article.
- E) To collect, publish and circulate information about the activities of the General Directorate.

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<sup>1</sup> Refer to Articles 2 to 5 of Law Number 2451 dated 23/4/1981 for issues relating to appointment principles regulated by this Law.

- F) According to the plans and projects prepared by the General Directorate or by others to build, improve, repair, and to maintain the roads and for their safe operation it will be necessary to provide the following facilities, garages, workshops, machinery and material stores, service and fuel facilities, laboratories, test stations, bridges and other side facilities for historical road networks, afforestation of routes, service areas, accommodation for maintenance and safety staff, radio transmitters and communication systems and all other social facilities required to achieve efficient operation of the General Directorate.
- G) In order for the General Directorate to carry out all the duties and tasks covered by this Article it shall select, provide, manufacture, stock, repair, equip stores and workshops necessary for the operation and repair of all the required equipment and materials.
- H) To expropriate, purchase, rent or acquire temporarily in accordance with the Law any land (with or without property) required for the General Directorate to fulfill its duties and for the safe and free flow of traffic.
- I) To complete the works imposed by other Motorway, State and Provincial road regulations.

#### IV. Road Networks

Article 15 : ( Amendment 30/5/1973 - 1737/ 1 md )

Roads belonging to the General Directorate of Highways are classified into three categories:

- A) Motorways
  - B) State Highways
  - C) Provincial Roads
- A) Motorways : are State Highways where access control is applied. In general Motorways have toll payments. The Minister of Public Works acting on the suggestion of the General Directorate of Highways sets the toll for the Motorways, assigns toll free zones where appropriate.
- B) State Highways : are first class roads which connect important regions and provincial centers of sea, air, railway stations, quays, ports and the areas around them.
- C) Provincial Roads : are second class roads that connect main centers like cities, towns, counties and subdistricts to each other and to town centers in neighboring provinces, State Highways, railway stations, seaports, airports and other public places.

The public benefits for these three categories of roads are determined by the General Directorate of Highways and the Scientific Committee of the Ministry of Public Works taking into consideration the National Defence requirements and economic conditions for developing the networks. Then the Minister of Public Works' approval is required before implementation. Amendments, changes and supplements are carried out with the same procedure as above.

Article 16 - 18 - ( Mulga : 30/5/1973 - 1737/3 md. )

#### V. Revenues

Article 19 : ( Amendment 30/5/1973 - 1737 / 1md )

The revenues of the General Directorate of Highways :

1. Subsidies from the State Budget,
2. All types of grants and other types of revenues.
3. Interests
4. Revenues obtained from the sale of surplus and old road machinery, workshops and contents, land and buildings.

5. The income from the rent of materials , equipment, tools, stores, land etc. to contractors.
6. Compensation in the form of guarantee bonds taken from contractors for either fully or partly failing to complete their contractual requirements is considered as income.
7. All types of revenues from toll roads, bridges and tunnels.
8. Customs duties collected from fuel.

Article 20 : ( Amendment 30/5/1973 - 1737/ lmd )

Revenues written in paragraph 7 of Article 19 above are considered to be both income by an arrangement in the budget of the General Directorate of Highways and also recorded as an allowance for related projects by the Ministry of Finance to build, maintain, repair and to operate roads, bridges and tunnels. Unspent budget in any year is transferred to the next year within the principles stated above as transfer revenue and allowances.

Proposed Regulation for Motorways

"Project of Access Controlled Highway Regulation"

Summary: Not yet a law or regulation, and still not in final approved form, the attached proposed regulation for Motorways discusses the purposes of the regulation, definitions used in the application of access controlled highways, duties of traffic police, authority and responsibilities of the office of the Directorate General of Highways, the procedures for establishment of access controlled highways, the establishment of service areas, and the operation of access controlled highways.



Appendix No. 4

Proposed Regulation for Motorways

"Project of Access Controlled Highway Regulation"

Summary: Not yet a law or regulation, and still not in final approved form, the attached proposed regulation for Motorways discusses the purposes of the regulation, definitions used in the application of access controlled highways, duties of traffic police, authority and responsibilities of the office of the Directorate General of Highways, the procedures for establishment of access controlled highways, the establishment of service areas, and the operation of access controlled highways.





PROJECT OF ACCESS CONTROLLED HIGHWAY REGULATION  
FIRST CHAPTER  
GENERAL PRINCIPLES

FIRST SECTION  
PURPOSE AND CONTENT

Purpose:

ITEM 1: The purpose of this regulation is to arrange the principles of the application of Access Controlled Highways Law numbered No. 1593, where access control is applied.

Content:

ITEM 2: This Access Controlled Highway Regulation is comprised of the establishment of, maintenance and operations, traffic rules and safety, private traffic control, environmental concerns, the responsibilities and authority of those in charge, and other related principles, methods, figures and legitimate conditions.

SECOND SECTION

Definitions:

ITEM 3: Without changing the definitions of those items relating to this law in Law No. 2918, Highway Traffic Law, and Law No. 5539, Highway Traffic Regulations, which describe the establishment of and functions of General Directorate of Highways, the definitions used in Law No. 1593 Access Controlled Highways Law and in this law are defined as follows:

(1) ACCESS CONTROL: Especially on the highways specified for long distance travel (traffic in transit), controlling the entering and exiting of prohibited traffic at the right-of-way lines, such as the prohibition of pedestrians, animals, non-motor driven vehicles, and slow-moving vehicles.

(2) MOTORWAY: It's specified as fully access controlled and it's a state road on which all the conditions in these regulations are valid.

(3) SERVICE AREA: These are the facilities arranged especially for the drivers and passengers to rest and eat. Restaurants and hotels can be located in this area, and maintenance for the vehicles can also be performed.

(4) MOTORWAY MAINTENANCE AND OPERATIONS CENTER: These are facilities supplied with necessary equipment and materials to perform maintenance and operations on access controlled highways.

(5) TOLL COLLECTION AREA: These are facilities designed for toll collection at the entrances and exits to access controlled highways.

(6) HIGHWAY FEEDER ROADS: These roads provide access for traffic wanting to enter or exit the highway at designated

locations (normally at grade-separated interchanges), and are normally crossing or adjacent to access controlled highways.

(7) PAVED SHOULDERS: These are the areas adjacent to the travel lanes in which normally traffic doesn't flow and vehicles can be safely driven out of the moving lanes. In unanticipated situations, repair work can be done, or drivers can wait until help arrives.

(8) TRAFFIC IN TRANSIT: Except for provincial traffic, this defines vehicles driving long distances.

(9) CARRIAGE: These are devices designed to transport people, animals and cargo. If the device is driven by engine power it is defined as "motorized vehicle", non-powered devices are defined as "vehicles without a motor".

(10) VEHICLE: This is the general name for the vehicles with or without a motor, or for work equipment.

## SECOND CHAPTER DUTY AUTHORITY AND RESPONSIBILITIES

The duty, authority and responsibilities of traffic security police:

ITEM 4: The duty, authority and responsibility of traffic security police are explained in Highway Traffic Law and related regulations. The duty, authority and responsibility of traffic security police on access controlled highways does not change.

ITEM 5: THE AUTHORITY AND RESPONSIBILITIES OF THE OFFICE OF THE DIRECTORATE GENERAL OF HIGHWAYS

(1) The authority and responsibilities of the office of the Directorate General of Highways are to inspect the behaviour of drivers on access controlled highways, regulate and manage traffic, and to prepare an offence and punishment record if violations against the regulations occur.

(2) To provide for the safety of traffic after traffic accidents, to sketch the accidents to show the positions of the vehicles and people involved in accidents, and to move the vehicles to the side of the road.

(3) To inspect the facilities in the service areas to determine whether they are in compliance with current standards. If the service areas are not up to current standards, they are responsible for taking appropriate measures to bring them up to standards.

(4) To move the defective car to the side of the road.

(5) To provide for the application of Law No. 1593 "Access Controlled Highways Law" and regulations regarding access controlled highways and to prepare the offence and punishment records for any violations.

THIRD CHAPTER  
ESTABLISHMENT OF ACCESS CONTROLLED HIGHWAYS

FIRST SECTION

Determine of Motorway Alignment and Eminent Domain

Determination the alignment in the municipality and neighbouring areas:

ITEM 6: The alignment for access controlled highways outside of municipalities and neighbouring areas is determined by General Directorate of Highways.

Determination of the alignment of the access controlled highway within the borders of municipalities or neighbouring areas:

ITEM 7: The alignment of access controlled highways within the borders of a municipality or neighbouring areas is determined after receiving the recommendation of the Mayor and the approval of the General Directorate of Highways, with final approval given by the Ministry of Public Works and Settlements.

Eminent Domain:

ITEM 8: The land area required for an access controlled highway of appropriate size can be obtained by Eminent Domain for necessary construction activities and for access controlled highway facilities, including the establishment, operation and future roadway needs to provide for normal traffic flow. The Law No. 2942 cancels Law No. 6830 (23rd item of this Law does not apply).

SECOND SECTION

Establishment and elimination of access controlled highways, and the determination of toll charge

Establishment of Access Controlled Highways:

ITEM 9: On highways planned for access control and whose construction has not yet begun, on existing highways which are to be included in the network of access controlled highways (and under restoration) are defined as access controlled highways, after obtaining the recommendation of the General Directorate of Highways, and the final approval by the Ministry of Public Works and Settlements. All kinds of property, buildings and facilities next to the access controlled highways and all existing entrances and exits to these highways are cancelled. New access to the access controlled highways will only be available by highway feeder roads.

The highways which are in the process of becoming access controlled highways will have their opening dates to traffic and restrictions determined by General Directorate of Highways and published in the official newspaper.

Cancellation of Access Control:

ITEM 10: Highways which currently are access controlled can have the access control canceled with the recommendation of the General Directorate of Highways and with final approval by the Ministry of Public Works and Settlements.

The following describes the cancellation of access control on highways. The cancellation date and cancellation of restrictions will be published in the official newspaper by the General Directorate of Highways.

Determination of Fare:

ITEM 11: Generally, those who use access controlled highways are charged a toll. The toll charged for use of these highways (and in some situations the issuance of a free pass) will be determined with the recommendation of the General Directorate of Highways and final approval by the Ministry of Public Works and Settlements. The toll charges and the application date will be published in the official newspaper by the General Directorate of Highways.

THIRD SECTION  
Environment Relations

Link to access Controlled Highways:

ITEM 12: The links to access controlled highways are made in places and ways as considered appropriate by the General Directorate of Highways. Linking the areas around the access controlled highway to the connecting points is provided through collector roads or other roads which provide access to these connecting points.

Direct connection to access controlled highways is not allowed for any reason.

To pay indemnities:

ARTICLE 13: When access control is implemented on an existing highway, should entry and exit by an adjacent land owner be eliminated and should his / her access to the highway not be provided by a collector road or some other means, the loss of value for the loss of access is paid as an indemnity due for his / her loss of access.

The amount of compensation for the loss of access is determined according to the 10th item of Indemnition Law No. 2942, by the value set by the Determining Commission.

The difference between the value of the property before and after the loss of access is the amount of the compensation for the loss of access.

Should the existing access of the land owners adjacent to the highway be cancelled due to the construction of a new access controlled highway, the owners' access will be provided through construction of a collector road or in some other way. If this is impossible, compensation for the value of the loss of access will be paid.

Land owners whose link to the access controlled highway is provided by highway feeder roads do not have the right to claim any additional compensation.

Settlement of the property surrounding the highway:

ITEM 14: The layout of the settlement of the property surrounding highways is carried out through regulations prepared by the Ministry of Public Affairs and Settlement.

Buildings nonconforming to the regulations and settlement plans can not be constructed around access controlled highways.

Buildings determined to be nonconforming must be removed within a given time period at the expense of the owner, after having received a warning in writing from the General Directorate of Highways.

Buildings not removed within the time limit given will be removed by the General Directorate of Highways under the supervision of the police. All expenses associated with removing the buildings are the responsibility of the building owner.

#### FOURTH CHAPTER

#### Service Areas, Facilities and Buildings

##### FIRST SECTION

#### Service Areas and Facilities

Service Areas:

ITEM 15: Within the rights-of-way of access controlled highways and in areas approved by General Directorate of Highways, service areas can be established for passengers and drivers to rest, eat, and provide vehicle maintenance, etc.

Facilities in the service areas:

ITEM 16: In service areas, repair shops, first aid centers, gas stations, service stations, parking areas, restaurants, coffee houses, hotels etc. can be established.

Construction of Facilities:

ITEM 17: The facilities in the service areas are going to be determined and constructed by the General Directorate of Highways.

Besides the facilities determined and constructed by the General Directorate of Highways, any other facility or similar activities are forbidden.

Operation of Facilities:

ITEM 18: Facilities in service areas are operated by General Directorate of Highways or can be assigned to others. Regulations relating to the operation of facilities will be determined the General Directorate of Highways. Facilities which do not abide by these regulations will be closed until they take necessary actions as determined by the General Directorate of Highways.

## SECOND SECTION

### Underground and Overhead Installations and Soil Movements

#### Underground and Overhead Installations:

ITEM 19: Except for the facilities constructed for the maintenance and operations of the access controlled highways, as well as the area in or out of the right-of-way, all buildings, facilities, communications facilities, energy facilities, facilities constructed for the movement of solids and liquids, canals, or links to canals, which are constructed in near proximity to access controlled highways, and may cause any kind of harm are prohibited from being constructed. The General Directorate of Highways can permit activities in extraordinary situations which are located away from the highway proper and are performed away from the slope of the highway.

#### Soil Movements:

ITEM 20: Any kind of excavation or filling is prohibited on access controlled highways, beginning at the limits of the right-of-way, as well as away from the right-of-way line but at a distance which could cause harm to repair and operations activities, with the exception of necessary maintenance and repairs.

## FIFTH CHAPTER

### Decisions about the Use and Operation of Highways

#### Using the Highways:

ITEM 21: For access controlled highways, pedestrians, animals, non-motor driver vehicles, vehicles having a maximum speed less than 70 km/hour and those vehicles defined and displayed on the sign provided by the General Directorate of Highways are prohibited from entering the highway.

Vehicles used for maintenance and repair work on the highway are not covered by this prohibition.

Entrances and exits to access controlled highways can take place only at defined points as specified by official signs.

On access controlled highways at important bridges and viaducts, the specific use of the highway, including operation and transportation principles will be determined by notices displayed by the General Directorate of Highways.

#### Traffic Inspection:

ITEM 22: The inspection of traffic on access controlled highways will be carried out by authorized people empowered by the General Directorate of Highways. Except for the illegal acts defined in this regulation and other traffic laws, vehicles can not be arbitrarily stopped and controlled. Inspections can be done only in the lanes specified for this purpose or in safety lanes.

Transportation of Hazardous Materials:

ITEM 23: Notification of transportation of hazardous materials on access controlled highways are to be prepared and published in the official newspaper by General Directorate of Highways. On important bridges, etc., movement of Hazardous Materials will be conducted according to the regulations for Transportation of Hazardous Materials on Highways and regulations for Transportation of Hazardous Materials on the Bosphorus Bridges. Any violations will be punished according to Access Controlled Highway Law.

Speed Limits:

ITEM 24: On access controlled highways, except for those areas where maintenance and repair work is being conducted, the minimum speed is 50 km. Where special speed limits are required because of physical and geometric conditions, the speed limit will be determined by the General Directorate of Highways and marked on traffic signs. Drivers must obey these speed limit signs.

Driving and Stopping:

ITEM 25: On access controlled highways it's forbidden to stop, park, or drive in reverse. In emergency situations help can be summoned by using the nearest emergency telephone or any similar system.

On the highways having 2x3 lanes or more, the lane on the right side is to be used for low speed vehicles. If these vehicles have to pass other vehicles moving at a lower speed in front of them, they can use the center lane to pass. Slow moving vehicles are prohibited from using the left lane.

On Motorways where the use of traffic lanes are designated by signs, vehicles can't use the other lanes.

Advertisement Signs:

ITEM 26: All types of advertisement signs having larger size than that defined in Appendix 1 and having perpendicular axis to highway axis (visible to motorists), are prohibited for access controlled highways.

Nonconforming signs, after written notification from the General Directorate of Highways, are to be removed by the owner within the time specified.

If the nonconforming signs are not removed within the time specified it will be done by the General Directorate of Highways and the cost will be the responsibility of the owner of the non-conforming sign.

Toll Collection Areas:

ITEM 27: Toll collection areas are established by the General Directorate of Highways at entrances and exits of access controlled Highways.

While approaching these areas, drivers should reduce the vehicle's speed, stop at the tollbooth and receive a toll-

collection ticket from the tollbooth employee (or from an automatic machine).

The procedures required for those who do not pay the required toll fee at the entrance to the controlled access highways and ultimate collection of this toll fee will be prepared by the General Directorate of Highways.

Motorway Operations and Maintenance Center:

ITEM 28: Motorway operations and maintenance centers are to be established by the General Directorate of Highways on the roadside or in a nearby location which contains necessary vehicles, supplemental equipment and supplies, and personnel.

Damages that May Occur:

ITEM 29: People who damage any of the structures on access controlled highways, including, but not limited to traffic signs, safety and operations installations, etc., are responsible for paying for those damages.

#### SIXTH CHAPTER VALIDITY AND AUTHORITY

Validity:

ITEM 30: According to the 13th article of the Access Controlled Highways Law No.1593, this regulation will be in force after being published in the official newspaper which is prepared by the Ministry of Public Works, and the Settlement Ministry, the Ministry of Interior and the Transportation Ministry, and examined by the Supreme Council.

Authority:

ITEM 31: Decisions concerning this regulation are enforced by the Council of Ministers.



## "Principles of Motorway Projects"

Summary: As prepared by the Directorate General of Highways, general principles to direct Engineering Firms in the design of Motorways, regarding illumination of highways, data communication systems and toll collection centers.



T. R.  
MINISTRY OF PUBLIC WORKS AND SETTLEMENTS  
DIRECTORATE GENERAL OF HIGHWAYS

Motorway, Director of Personnel  
Number : 675-5 / 3446  
Subject : Principles of Motorway Projects

The subject areas regarding the illumination of highways, data communication systems and toll collection centers, have been discussed during meetings held by our General Directorate. For this purpose, general principles have been prepared to help direct Engineering Firms. The names of those firms are attached in the Appendix.

I request that Motorway projects be prepared according to these criteria.

APPENDIX : 1 - Illumination, communication  
Toll Collection stations  
General Principles

*(signed)*

Atalay COSKUNOGLU  
General Directorate

DELIVERY :

To directors of 1,2,4,5 and 17 KGM divisions  
Temat-Dar-Dmm Common Enterprise  
Tekfen-Impresit Common Enterprise  
Yuksel-Rendel Common Enterprise  
Astaldi S.P.A.  
Kutlutas-SWK Common Enterprise  
Enka-Bechtel Common Enterprise  
Erer-Mayreder-Geoconsult Common Enterprise  
Temelsu-Halcrow Common Enterprise  
Entes-Balfour Beatty Common Enterprise  
UBM-LGM-SOWP Common Enterprise  
Dugus construction and Trade Company  
Nurol construction and Trade Company  
Public works construction Trade and Industries Company  
Chief of Motorway Construction Div.  
Chief of Motorway Bridges

1. GENERAL

Productive use of motorways, road safety and security of drivers are only possible by use of highly developed technological control and operation systems. Maximum safety for vehicles on the roadway is important for the people, and providing this will increase the expected utilization of motorways.

The main topics relating to project principles are listed and explained below to provide uniformity for the all sections of Motorway. The technical specifications and details for these projects will be prepared by the Engineers and Surveyors, and will be submitted for approval by the administration.

2. INFORMATION COLLECTION AND CONTROL SYSTEMS  
2.1. TRAFFIC ARRANGEMENT AND CONTROL SYSTEMS

Vertical and horizontal markings, installed in a sufficient manner for drivers to see and conforming to international standards, will be implemented on motorways and at junctions. There will not be any warnings which can be understood only by Turkish speaking drivers and nonconforming to international standards. To provide traffic safety and traffic surveillance on the motorway, and security for drivers, traffic detectors will be installed which can determine vehicle counts, vehicle lengths, vehicle types, and vehicle speeds. These traffic detectors, by using motorway communication media, will be connected to traffic control centers which will be in the maintenance centers. The traffic control centers will be designed to provide data collection and analysis from the traffic detector system.

In addition to providing for traffic safety, changeable message and speed control signs will be installed at motorway entrances and exits, at tunnel entrances, and in sections of the motorway with unusual passing conditions. Changeable message signs will be controlled by computer and connected to the traffic control centers. Traffic control centers will be designed to control changeable message signs. The wording on

changeable message signs will be presented alternately in Turkish and English or will be presented simultaneously.

## 2.2. METEOROLOGICAL DATA SYSTEMS

Detection of atmospheric conditions, especially the presence of freezing conditions and accumulation of snow will be established in the control centers at the maintenance centers. Collection of this information at control centers will be possible for the prediction of weather 24 hours in advance of a situation that will require effective measures used against ice-snow in a safe and economical manner.

After examination of motorway, it will be decided where and what kind of meteorological detection is needed.

On the critical sections of the motorways, the following information should be collected and analyzed at control centers:

- 1) Air temperature
- 2) Relative humidity of air
- 3) Fog and it's density
- 4) The degree of dew (dew point)
- 5) Surface freezing
- 6) Temperature of the earth, 50 cm below the surface
- 7) Surface temperature
- 8) Speed and direction of the wind
- 9) Snow and rain, including rate of fall and accumulation.

This information will be accumulated and sent to the central computer. Meteorological software and data analysis will make it possible to warn drivers with changeable message signs.

## 2.3. EMERGENCY TELEPHONE SYSTEM

Emergency telephone units will be installed along the motorway at 2 km. intervals (both sides). The installation spacing of telephones can range from 1.5km to 2.5km because of field conditions which limit the visibility, use and safety of the telephone. Special motorway fences will be installed to protect telephone units.

Motorway emergency telephones will be of the design and type similar to the technical specifications prepared for the cabled system for Kinali-Sakarya motorway. Unit buttons will be installed for police, first aid, vehicle failure, and fire. Communication will be full duplex.

## 3. DATA COMMUNICATION SYSTEM

Emergency communications, changeable message signs, meteorological data systems, traffic detector systems, and computers at toll collection facilities will be connected by a cable system to the computers in the Main Control Centers. The system which provides communications to all the computer systems is called the "Data Communication System". The link

between this system and the hospital, fire-stations and police stations will be connected by utilizing the PTT.

The communication system which will be used should provide a link between maintenance centers and from maintenance centers to the Main center. The Data Communication System should be designed to allow the maintenance centers to take over operations if there is a problem at the Main Control Center.

#### 4. CONTROL CENTER AND MAINTENANCE CENTERS

Data will be accumulated at the maintenance centers and transferred to the control centers by way of the motorway data communication system. The control centers locations will be determined by KGM.

### DESIGN CRITERIA OF MOTORWAY ILLUMINATION AND ELECTRIC INSTALLATIONS

#### 1. THE CONTENT OF ILLUMINATION SYSTEM

1.1. The motorways will be illuminated to acceptable standards when they are passing through or around a city.

1.2. Interchanges

1.3. Fog areas

1.4. Parking, maintenance, and toll collection areas.

1.5. Tunnels

1.6. Bridges

1.7. Structures which closely follow each other like Tunnels- Viaduct-Tunnel

1.8. Motorway sections shorter than 1500 m. between illuminated areas.

1.9. After existing the tunnel, the distance that can be traveled by a car in 5 seconds will be illuminated during periods of darkness.

#### 2. ILLUMINATION CALCULATIONS

Illumination calculations for the motorways and toll collection areas will be carried out according to those standards required by the CIE (Commission of International Illumination) and the TSE (Turkish Institute of Standardization).

#### 3. ILLUMINATION PROJECTS

Approval of illumination projects will be valid if prepared according to the conditions of acceptance.

#### 4. GENERAL SUBJECTS

4.1. Tunnels will be evaluated individually and all systems used will be implemented in the same project.

4.2. After receiving approval by KGM, illumination of interchanges and motorways using high-mast lighting is acceptable.

4.3. Fulfilling the conditions and obtaining approval of the suppliers of electrical power for energy transfer and illumination projects will be the responsibility of project engineers.

4.4. On 10m wide motorways, illumination for viaducts and bridges shall be accomplished with concrete poles. If necessary, steel masts will be used after getting approval from the administration.

4.5. Electrical power will be determined by the project engineer.

#### I - TOLL COLLECTION STATIONS

I-1 Local conditions and the existing transportation network will help determine the most convenient areas for operations buildings and parking areas (accessibility to the motorway). Facilities that will be accommodated there are police and operations units.

I-2 The control centers (which will be in the operations building) and the ticket windows will face each other. The manual operation of the ticket windows will be easily controlled from the operations building.

I-3

I-4 The service passage between the ticket windows and operations building will be in the size of 2x2 m and will be air-conditioned and have sanitary installations.

I-5 There will not be any area available that will allow the free passage of vehicles in the operations area.

I-6 There will be adequate space for personnel to work and take breaks.

I-7 To determine the number of the ticket windows an estimate of traffic for the next 15 - 20 years will be necessary.

I-8 By taking into account the geometry of the highway, enough stopping distance will be provided while approaching the ticket window areas, after the second marking.

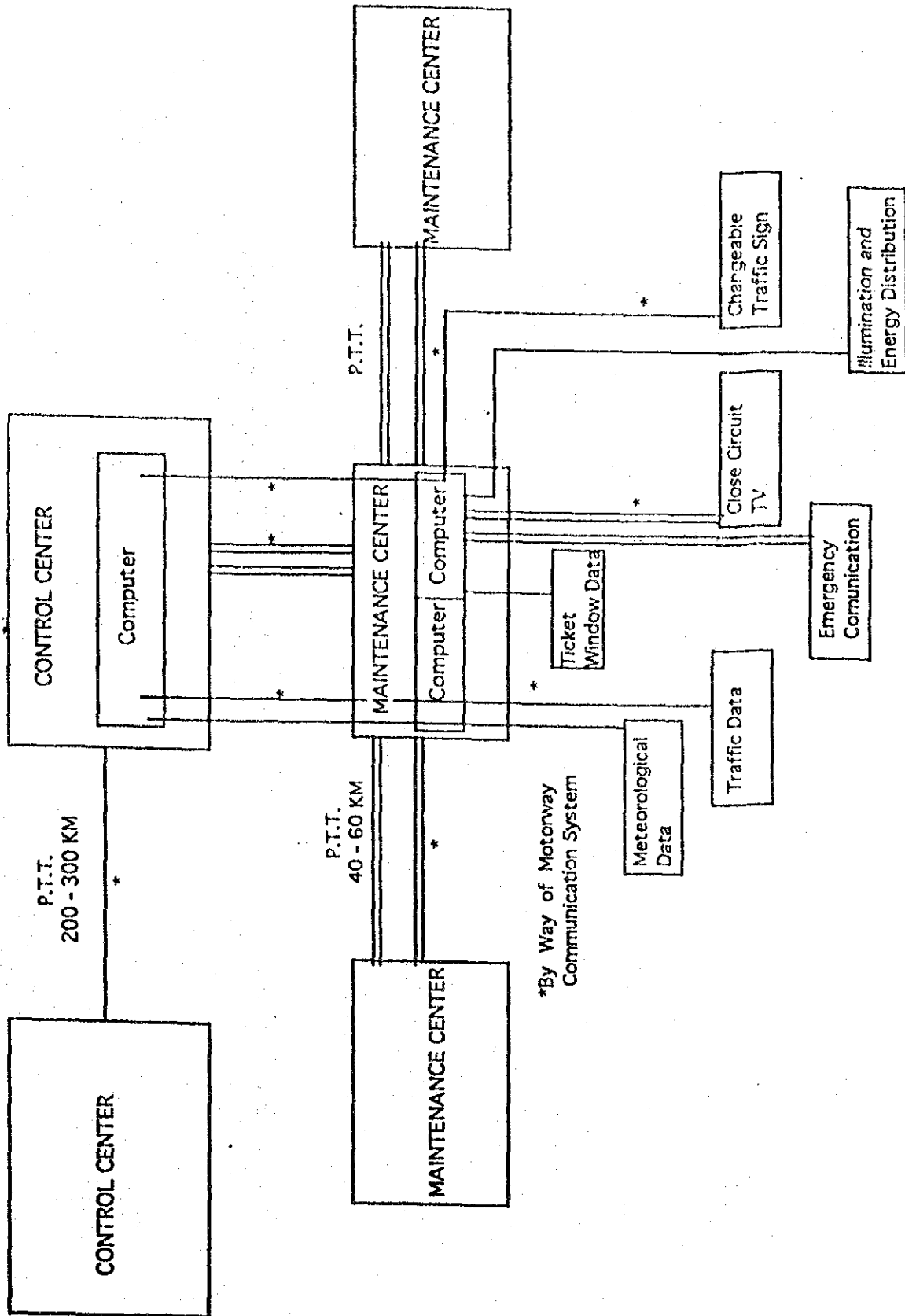
I-9 The toll collection system will be a "closed" system and will work with magnetic cards.

I-10 One or two exit ticket windows can be used as an entrance. Vehicles carrying special loads or wide vehicles will be processed through a special ticket window constructed for each direction.

I-11 At ticket windows, without interrupting the flow of traffic, electronic detectors will be placed to detect the height and weight of vehicles.

I-12 Data obtained from the toll collection windows will be sent to the maintenance centers and control centers.





	CONTROL CENTER		MAINTENANCE CENTER	
	CONTROL	TO VIEW	CONTROL	TO VIEW
Illumination and Energy Distribution Traffic Data	-	-	+	+
Meteorological Data	+	+	-	+
Emergency Telephone		+ *	+	+
Closed Circuit TV	-	+	+	+
Changeable Traffic Signs	+	+	- *	+
Ticket Window Data			+	+

\* IF THE CONTROL CENTER CANT CONTROL THE CHANGEABLE TRAFFIC SIGNS  
IN ANY CASE THAN MAINTENANCE CENTERS WILL TAKE OVER THE MISSION

"The Regulation on the Operation of Istanbul Bogazici (First) Bridge of Highways General Directorate"

Summary: This regulation deals with the authority of the Highways General Directorate to operate the Bogazici Bridge, personnel in charge of the collection of tolls and their responsibilities, and procedures to be followed during the toll collection process.



THE REGULATION ON THE OPERATION OF ISTANBUL BOGAZICI (FIRST)  
BRIDGE OF HIGHWAYS GENERAL DIRECTORATE

FIRST PART

General Provisions

ARTICLE 1: Scope of Regulation:

The procedure on the collection of the transition toll payments from the vehicles and their passengers crossing the Istanbul 17th Division Bosphorus Bridge and the operation of the maintenance elevators of the same bridge of the Highways General Directorate are carried out according to the provisions of this Regulation

ARTICLE 2: Implementation Organization:

The implementation organization of this Regulation is the Bogazici and Halic Bridges Directorate established in relation with the 17th Division of the Highways General Directorate.

ARTICLE 3: Personnel in Charge and Responsibilities:

The personnel in charge of collection procedures have the duties and responsibilities below.

a) The Director of Bogazici and Halic Bridges is the supervisor of implementation and is responsible to the Regional Directorate and General Directorate for implementation of this regulation and any necessary measures. He is called "Director" in the following regulation.

b) The Operations Chief is responsible for the collection of toll payments and operation of maintenance elevators and electronic control equipment used for registration and administration of the personnel in charge of collection of payments and he is responsible to carry out the work according to the provisions of this Regulation.

c) Operation Technical personnel are responsible for the duties given to him by the Operations Chief for work under his responsibility.

d) The Responsible Accountant is responsible for the accounting work in relation to evaluation and delivery to the Bank and collection of bridge crossing payments and elevator payments according to the provisions of this Regulation and laws in force.

e) The Calculations Chief and Technical Calculators are responsible for carrying out the procedures in relation to the collection of bridge crossing toll payments and elevator payments, including preparation of necessary documents, updating records (accounting books), doing the other work given to them by the responsible accountant and finishing the calculations and evaluations in time.

f) Head Controllers: are responsible of following up the work of personnel in charge of ticket windows, controllers, and personnel in charge of elevators, and controlling the recording procedures done according to the provisions of this Regulation and management of the electronic recording system. When the regular work hours are over they take over the administrative responsibilities.

g) Ticket window controllers are responsible for the followup of the work of personnel in charge of ticket windows, for carrying out the purchase of foreign currency according to the provisions of this Regulation, to control the turnover payments collected and bagged by personnel in charge of ticket windows and elevators, and to do the work described in other articles of this Regulation.

h) Personnel in charge of the ticket windows are personnel employed as laborer status according to Paragraph d, Article 4 of the State Employee Law No. 657. They are subject to the Guarantee Law No 2489, because they handle money, etc. They are responsible for collecting the bridge crossing payments at the ticket window they are in charge of, according to the provisions of this Regulation, to record information as necessary, to count the money collected, to bag the money collected, to prepare the necessary reports and memos, to deliver the money bags according to the cash law and to give documented accounts of their activities, based on the results obtained from the electronic recording system.

i) The personnel in charge of the elevators are personnel employed as laborers according to Paragraph d, Article 4 of the State Employee Law No. 657. They are subject to the Guarantee Law No. 2489, because they handle money, etc. They are responsible to operate the elevator they are in charge of, to collect the payments in return for a ticket, to bag the money they have collected and deliver them to the cash box and to give an accounting of the collections they have made according to the provisions of this Regulation.

#### ARTICLE 4: Presentation of Documents during inspection and providing information to official institutions:

Documents and books are shown to inspectors and controllers and those who are authorized to investigate by a court request at the time of demand. Certified copies of the documents demanded by the authorities will be provided. If the original copy has to be given, the certified copy is made and kept. Without the permission or acknowledgement of the Director, no information can be given to others, including documents and work under the authority of this Regulation.

#### ARTICLE 5: Confidentiality of Procedures and the Necessity to Give Notice of Irregularities:

Personnel on duty for the work described in this Regulation are required to keep the information secret they are aware of because of their work and they are required to inform their supervisor of any irregularity they observe.

ARTICLE 6: Other Subjects Not Covered in this Regulation:

For those subjects relating to accounting and not explained in this Regulation, the State According General and Commercial Transactions Regulations apply.

ARTICLE 7: Amendments and Supplements to the Regulation:

Amendments necessary for this Regulation can be accomplished with the approval of the Ministry of Public Works and Ministry of Finance.

ARTICLE 8: Banking Service:

Bank service in relation with the revenue obtained from the work under this Regulation will be conducted with the central Bank or through its approved correspondent bank according to Article 41 of "Turkish Republic Central Bank Law No. 1211" .





## **REFERENCE 2**

**Straight Diagram of Motorway with Facilities**





JICA