

**Client** General Directorate of Highways

**Work Period** 02.06.2016 - ongoing

**Services provided** Geodesy services  
Highway design  
Design of engineering structures  
Tunnel design  
Feasibility and research studies  
Traffic design  
Project info file  
Preparation of final report

**Technical Details** 49 km long route between Vezirköprü-Duragan consists of 15 level junctions, 1 multi-level interchange, 13 bridges with total L=2820 m [4 bridges (each L=100m), 2 bridges (each L=50m), 1 bridge (L=500m), 1 bridge (L=120m), 2 bridges (each L=125m), 1 bridge (L=450m), 1 bridge (L=150m), 1 bridge (L=850m)], 13 tunnels with total L=7647 m [tunnel (L=640m), tunnel (L=765m), tunnel (L=347m), tunnel (L=220m), tunnel (L=890m), tunnel (L=1140m), tunnel (L=445m), tunnel (L=900m), tunnel (L=1045m), tunnel (L=335m), tunnel (L=430m), tunnel (L=180m), tunnel (L=310m)] design. The project covers the following design disciplines:

✍ **Geodesy works:** Determination of check-points and approval of the Client, Assign of check-points and related measurements, calculations. Calculations for coordinate transformation and submittal of supervision reports to the Client, Land survey and to form digital geodesic model.

✍ **Highway design:** Design of geometrical components and preparation of the report, Hydraulic and hydra-geological surveys, Cross-section drawings, determination of retaining walls, cut-fill and bruckner calculations, Determination of intersections and connection ways, drawings of plan-profile and details, Drainage design and related drawings, Preparation of final report and quantity survey, Submittal of Final Design for the approval of the Client

✍ **Engineering Structures:** Preparation of preliminary and final design for bridges, flying-overs, underpasses, culverts, etc.

✍ **Tunnel Design:** Preliminary design, Geometric design of the highway tunnel, Final design

✍ **Feasibility and research studies:** Geological survey and report, Hydra-geological survey and report, Engineering geology survey and report, Geological-geotechnical research programme and applications, Geological-geotechnical survey and design report, Geotechnical design report, Superstructures survey and design report

✍ **Traffic design:** Traffic design report and quantity survey, submittal to the Client

✍ **Project info file:** Decision for the necessity of Environmental Impact Assessment

