

# Road Design | Road Engineering

Applus+ has more than 30 years of experience in roads and highways, providing design and engineering services for all levels of Government as well as for the private industry. Our broad experience in road engineering, [road construction supervision](#), and operation and [road management](#) allows us to offer our clients sustainable and cost-effective road designs and advanced technological solutions.



## THE Applus+ SOLUTION

Road engineering design involves planning and creating roadways to ensure safe and efficient transportation. Applus+ provides a comprehensive service for road design from the planning phase to the operation and maintenance one, conducting these engineering works:

- Preliminary design
- Feasibility studies
- Detailed design projects
- Road safety audits
- As built projects
- Urban development plans
- Environmental impact assessments
- Expropriation projects

As a multidisciplinary company, we also offer:

- **Traffic Studies:** Analysis of the expected traffic volume and types
- **Alignment:** The road's horizontal and vertical alignment ensures safe and efficient navigation.
- **Cross section design**



- **Geometric design:** Sight distance, superelevation (banking in curves), and cross slope (for drainage) to enhance safety
- **Intersections and interchanges:** We design intersections and interchanges based on traffic flow and safety requirements
- **Pavement design:** Selection of appropriate materials and pavement thickness based on soil conditions and expected traffic loads
- **Drainage:** We implement effective drainage systems to manage water runoff and prevent flooding. This includes culverts, ditches, and stormwater management.
- **Safety features:** We design safety features such as guardrails, signage, and road markings to enhance driver safety
- **Environmental impact analysis:** Analysis of the environmental impact of the road design, including minimizing disruption to ecosystems and managing stormwater runoff
- **Utility relocation:** Plan for the relocation of utilities like power lines and pipelines
- **Cost estimates:** Develop cost estimates for construction, including materials, labor, and equipment.
- **Regulatory compliance:** We ensure the road design complies with local, state, and federal regulations and standards