

Geometric Design of Roads (Theory and/or Hands-on)

Who should attend?

Government Agencies and Qualified Persons/ Traffic Consultants involved in road design, traffic and plan preparation for submission to LTA

Course highlights

- Statutory, regulatory & technical requirements for road development projects
- Fundamentals of road safety engineering
- Road horizontal and vertical alignment
- Road junctions and interchanges
- Traffic layout plan submission¹
- Hands-on session² for road geometric design and plan preparation

Dates & details

28-30 Oct 2024 (Theory)

4-5 Nov 2024 (Hands-on)^{2,3}

Venue:

LTA Corporate HQ, 1 Hampshire Road

Fees:

2-Day Theory¹ only : \$840/pax (before GST)

2.5-Day Theory only : \$1,120/pax (before GST)

2-Day Hands-on² only : \$840/pax (before GST)

Register!

To register your interest, scan the QR code or visit

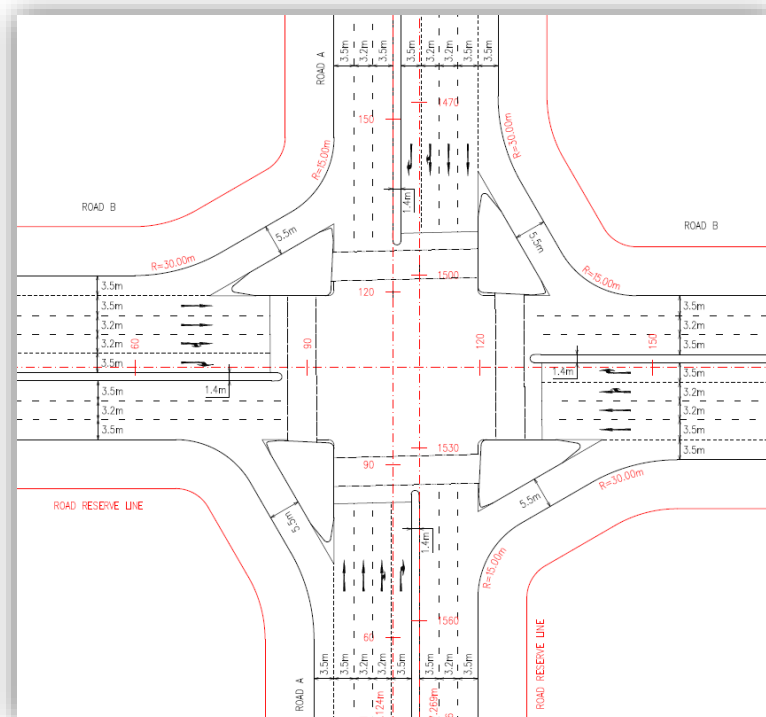
<https://go.gov.sg/dbc-RoadGeometric> or



<https://go.gov.sg/dbc-roadgeometric>

For further queries, you may contact:

LTA-Academy@lta.gov.sg



¹ The topic on Traffic layout plan is excluded in the 2-Day Theory only session.

² The hands-on session is intended for technical professionals who are involved in road design and submission plan preparation. It will be conducted using the following Autodesk software (version 2023) :

- Civil 3D
- Vehicle Tracking
- Infracore

Participants are required to bring along and use their own laptops during the hands-on session. Those who do not have the software may download a free 30-day trial version from Autodesk website.

³ Prerequisite for Hands-on session - completion of the Theory session.

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Synopsis

LTA is conducting a course on geometric design of roads to train professionals who are involved in designing roads and making submissions to LTA for approval. The course will cover LTA's requirements in terms of submission procedures, technical design considerations and the preparation of design plans.

The course will equip Government Agencies, Qualified Persons (QPs) and Design Consultants involved in the planning, design and construction of road infrastructure with the following knowledge:

- Statutory, regulatory and technical requirements for road development projects; and
- Fundamentals and requirements for a quality plan submission to LTA to facilitate timely review and approval.

Course participants who pass the written assessment at the end of the Theory course will receive a certification of achievement.

Course content

- Submission Requirements
- Fundamentals of Road Design
 - Road users and their characteristics
 - Design speed
 - Design vehicles
 - Swept path analysis
- Fundamentals of Road Safety Engineering
 - Human factor engineering
 - Road hazard definition
 - Principles of road safety engineering
 - Risk assessment
- Horizontal Alignment
 - Cross-section details
 - Types of horizontal curves
 - Superelevation / cross-section
 - Visibility
- Vertical Alignment
 - Critical grade length
 - Crest / sag curve
 - Riding comfort
 - Visibility requirement
- Roadside Design
 - Clear zone concept
 - Roadside hazard management
 - Road safety barrier
- Commuter Facilities
 - Bus-stop
 - Pedestrian overhead bridge
 - Linkways
 - Footpaths
 - Cycling paths
- Road Junction and Interchanges
 - Design principles
 - Horizontal and vertical alignment
 - Junction visibility
 - Turning movement
 - Pedestrians and road users
 - Other design considerations
 - Roundabout
 - Grade separation
- Traffic Layout Plan Submission*
 - Compliance to SDRE
 - Key traffic scheme features
 - Traffic lights
 - Sharing of case studies
- Hands-on session
 - Use of Computer-Aided Design (CAD) software for development of road alignment, corridor modelling and preparation of plan submissions to LTA

Past participants' feedback

"All topics are useful and interesting to learn. It will help on my LTA submission. Thank you."

"Trainer has shown his knowledge in the software and has shown us tips and tricks to getting certain process done easier or quicker. LTA Academy staff was well prepared in facilitating us with any issues be it technical or course wise"

"Good sharing session. This course is absolutely helpful for me to get better view of what LTA wants. Looking forward to see another training like this!"

"Presenters are very friendly and helpful. The case studies are very useful in helping understanding the principles and actual applications."