

SIDRA FOR PROJECT MANAGERS & REVIEWERS

In-Person Training Workshop Contents

Left-Hand Traffic | Metric

The content of this training program has been prepared according to **driving on the left-hand side of the road** and **using Metric units** for countries such as Australia, New Zealand, South Africa, Malaysia, Singapore and India.

Scope

This SIDRA training workshop is for professionals who review SIDRA analyses rather than actually undertaking the analyses, as well as project managers who have little experience in modelling but make design and operation decisions based on review of SIDRA analyses. This workshop may also be of interest to transport planners who wish to increase their familiarity with detailed traffic models.

The workshop will include hands-on software use aiming at improved familiarity with the SIDRA user interface and focusing on input and output relevant to the review of SIDRA analysis results.

SIDRA MODEL FUNDAMENTALS online training is recommended for detailed coverage of SIDRA intersection and network models.

Topic 1: Local Guidelines and Modelling Process

AUSTROADS and local guidelines for SIDRA use; model categorisation and model choice; SIDRA Network size and type; different definitions of performance measures; User Software Setup for preferred local parameter values; importance of using the latest software version; consistency in analysis of alternative control types; modelling and assessing performance by Movement Class (LVs, HVs, Buses, Cyclists, Light Rail / Trams, Large Trucks); modelling Pedestrians.

Topic 2: User Interface and General Aspects of Input and Output

Basic navigation knowledge (main tabs, ribbon, project pane, display pane); preferred SIDRA output reports and displays for Intersections; Layout pictures; MANAGE tab options for customised output; SIDRA User Reports for customised output and PDF documents; Input Comparison and Output Comparison; Volume data; Demand flows vs Capacity flows; growth rates for Design Life analysis; Peak Flow Factor and Peak Flow (Analysis) Period; Variable Demand Analysis for congestion modelling; short lanes, slip lanes and importance of other lane-based geometry data.

Example pmr1 - A two-lane roundabout

Topic 3: Input and Output for Signalised Intersections

Appropriate signal analysis methods (EQUISAT (Fixed-Time / SCATS) and Actuated);
Common Control Groups (CCGs); signal sequences;
user-given and program-determined cycle times; relevance of "optimum" cycle time;
Important aspects of pedestrians in SIDRA analysis;
importance of pedestrian counts (pedestrian actuation, pedestrian interference to vehicle movements, pedestrian protection);
pedestrian crossing speeds; pedestrian analysis report for signals;
downstream short lane merge.

Example pmr2 - A signalised intersection

Topic 4: Input and Output for Unsignalised Intersections

Gap acceptance parameters;
SIDRA roundabout capacity model;
roundabout metering signals;
sign-controlled (stop and give-way) intersections;
Two-stage Crossing (seagull, etc) and Full Crossing at sign-controlled intersections;
Priorities.

Example pmr3 - A sign-controlled intersection

Q & A

Topic 5: Calibration

Calibration of model for the base case;
key input parameters for use in calibration; surveys for base model calibration;
Saturation Flow and SCATS MF;
recommended method for calibrating key input parameters;
checking calibration input for reasonable ranges.

Topic 6: Intersection, Route and Network Performance

Intersection, Route and Network performance measures (capacity, degree of saturation, practical capacity, delay, queue length, stops, travel time, average speed, speed efficiency);
level of service; fuel consumption, operating cost and emissions;
performance by Movement Class; pedestrian performance;
signal coordination;
Lane Blockage and Capacity Reduction in network analysis;
Network Model Variability and Diagnostics report;
Midblock Lane Changes and Lane Movements in network analysis; extra bunching.

Example pmr4 - A signalised diamond interchange with an adjacent intersection

Example pmr5 - Roundabout corridor with a signalised intersection

Topic 7: Mitigation Treatments

Design measures for improving performance (additional lanes, longer short lanes, slip lanes, etc); Project Summary report for performance comparison of all scenarios; assessment of design and operation scenarios to mitigate increased delays, queues and emissions due to development traffic increases and flow pattern changes.

Example pmr6 - A Traffic Impact Assessment example

Developing a Process for Reviewing SIDRA Project Reports

CASE STUDIES and Discussion of Workshop Effectiveness

Analysis of examples brought by users.

Workshop Evaluation Survey
