

# INTRODUCTION TO SIDRA

## Online Training Program 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, India and UK.

### Preliminary Session

Familiarisation with Webex, virtual computer and SIDRA user interface

### Webex and Virtual Computers

Description of Webex. Logging in to Virtual Computers. Starting SIDRA INTERSECTION.

### SIDRA User Interface

Ribbon, Tabs, Project Pane and Display Pane. Accessing Site input dialogs. Saving project files and accessing pre-installed example files on Virtual Computer.

### SIDRA Input Using an Example

Creating a new Site. Viewing Layout. Using Intersection, Lane Geometry and Volumes dialogs to make various changes. Saving Project. Cloning and Deleting Sites and Folders.

### Processing and Output

Processing the Site. Selecting Site Report and Display tabs, opening Lane Summary and Movement Displays. Creating new Vertical Tab Group.

### Q & A

## **Module 1**

SIDRA Basics for New Users, Roundabouts, Signalised Intersections, Introduction to Networks

### **SIDRA Basics for New Users**

Projects, Sites, Networks, Routes, CCGs. User Guide and Help.

Where Is Input? Where Is Output?

SIDRA User Interface (Site, Network and Tools Tab Ribbons).

### **Intersection Analysis (Site Tab)**

Project Pane and Display Pane. Folders and Sites. Accessing Project, Folder and Site Menus. Site Input dialogs. Movement Classes and Site Movements. Lane Movements. Approach and Exit Lane Numbers.

### **Example 1 - Two-Lane Roundabout**

**Input Parameters:** Volume Data Settings and Volumes.

Roundabout geometry parameters. Strip islands and roundabout splitter islands.

Approach and Exit Short Lane Length. Grade data. Approach and Exit Distance.

**Entering Geometry and Volume data**

### **Q & A**

#### **Example beg1: Two-Lane Roundabout (continued)**

**Analysis:** Output for lanes and movements. Design Life Analysis.

### **Q & A**

### **Example 2 - Signalised Intersection**

Specifications, data entry, processing and output. Intersection geometry, Grade, Volumes, Pedestrians. Phasing & Timing. EQUISAT (Fixed Time / SCATS) Timing Analysis. Signal timing analysis output.

### **Q & A**

### **Introduction to SIDRA Network model**

SIDRA Network model main features. Network examples. SIDRA Network Templates.

## Practice Example

### Q & A

## Module 2

Sign Control, Roundabout Corridor and Signalised Network  
Modelling

### Example 3 - Stop-Sign Controlled T-Intersection

Geometry and Volume input. Sign Control Analysis report. Gap Acceptance Model (Apply TWSC Calibration. Critical Gap and Follow-up Headway). Pedestrians at Sign-Controlled Intersections. Degree of saturation, delay and back of queue for the critical movement.

### Q & A

### SIDRA Network Model Important Features

Network Analysis Settings. Network Connection: meaning and conditions. Network Tab Project Pane (Folders, Networks and Routes; Input dialogs).

### Example 4 - Roundabout Corridor with a Signalised Intersection

Configuring Network and Routes. Network Data, Approach Distances. Network Timing. Analysis Results: Network Summary, Approach Displays, Lane Displays, Movement Displays, Midblock Flows, Lane Changes, Lane Flows, Movement Flows. Extra Bunching.

### Q & A

### Example 5a - Two-Site Signalised Network

Configuring Network. Network Timing. Network Analysis results: Movement Flows, Midblock Flows, Blockage Probability. Capacity Reduction, Capacity Constraint.

### Q & A

### Signal Coordination

Input parameters relevant to Signal Coordination. Offset Definition. Platoon model using signal offsets. Arrival Types. Stoplevel Travel Time.

## **Example 5b - Two-Site Signalised Network: Signal Coordination**

Configuring Routes. Network Timing. Offset calculations for Routes. Signal Phase Timings. Time-Distance display for Routes. Interactive Offsets for Two-Way Progression. Route Travel Time and Level of Service.

### **Practice Example**

### **Q & A**

## **Module 3**

SIDRA Output, Calibration, Pedestrian Crossings, SIDRA Tools, Manage Output & User Interface

### **Pedestrians at Signalised Intersections**

Crossing options. Pedestrian Actuation. Minimum Pedestrian Time. Zebra Crossing on Slip Lane.

### **Example 6 - Midblock Signalised Pedestrian Crossing**

Input data entry, processing and output with and without Pedestrian Actuation effects. Lane Flows.

### **Example 7 - Midblock Unsignalised (Zebra) Pedestrian Crossing**

Input data entry, processing and output. Zebra Crossing gap acceptance model.

### **Q & A**

### **Tools and Manage Tabs, Input Comparison - Output Comparison**

Input Comparison: Site (Example 2).

Output Comparison: Network (Example 5 with User Offsets and Program Offsets).

### **Site, Network, Route Output tabs. Output dialogs.**

Site, Network, Route Output Tabs. Output Dialogs (Examples).

## Manage Output & User Interface Options

Examples: Customise Output, Displays, Output Parameters.  
User Interface and Layout options.

## Q & A

## SIDRA Output for Sites, Networks and Routes

### Example 4 (Roundabout Corridor)

Familiarise with output reports and displays.  
Intersection Summary. Fuel, Emission & Cost. Queue Analysis.  
Graphs and Variable Run. Lane LOS. Roundabout Analysis.  
Network Summary. Route Travel Performance.  
Midblock Flows. Lane Changes. Lane Flows, Movement Flows.  
Network Routes Output.  
Colour Codes in Output Displays for Sites, Networks and Routes.

## Site and Network Templates

**Site Templates** accessible via Add New Site under the Site Tab.

**Network Templates** accessible via Import from Template under the Network Tab.

## Model Calibration

Key parameters for model calibration. Queue Space.  
Saturation Flow Survey Method and SCATS MF.

### Example 8 - Saturation Flow Calibration

## Q & A

## Map Extract, User Reports, Output to PDF

Map Extract demo. Setting up and using User Report Templates for Site, Network and Route User Reports. Output to PDF.

## Category Setup, Project Summary

Category Setup and Select Category Dialog. Project Summary.

## **VOLUMES Utility**

### **Q & A**

### **Training Evaluation Survey**