Concepts and Terminology

Most of the terminology in this manual is industry standard, however Optibus OnSchedule™ introduces some application specific concepts. This section provides a description of these concepts and how they tie into standard terminology.

For our purposes, an **Operator** operates a fleet of road vehicles to provide public transportation services. The Operator carries out scheduling based on the following standard data sources:

- » **Trips list**
- » **Stations list**
- » **Vehicle types list**
- » **Deadheads catalog**

We introduce here, the notion of a **Dataset**. A Dataset is a database that takes in these four standard data files. An Operator may this way, have several Datasets for different purposes. OnSchedule™ creates the Datasets from the four files, which the Operator supplies in Excel files in conjunction with Optibus. The content and layout of theses catalogs is described in TBD.

Basic terms such as **Deadhead, Depot**, **Pull in**, **Pull out**, **Split**, **Changeover** are standard.

A **Route** is a very specific: It is specified by a **Sign**, an **Alternative** (often abbreviated to **Alt**) and a **Direction**.

Similarly, a **Service trip** is also defined in a very specific way: It includes route information, eligible vehicle types and start-end times. After scheduling, it will be assigned a driver duty type
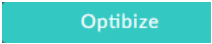
You can open a schedule from a Dataset in one of three ways:

- » You may choose one of list of existing schedules
- » Import a schedule from a source Excel file
- » Create a new schedule Using the Preferences and Optimization

The way in which the OnSchedule™ vehicle and driver displays are produced is largely dependent upon on the way in which the schedule was opened.

The vehicles are displayed in a **Vehicle Gantt** in which each **row** or **block** shows the trips allocated to a specific vehicle for a day's work.

The drivers are shown in a **Driver Gantt** in which each row shows the the trips allocatted to a specific driver for the day.

First **optimization** is carried out by simply pressing the [Optibize] button. The processing time depends on the size of the schedule but is generally of the order of minutes.

Drivers and Duties: In reality, OnSchedule™ deals with duties rather than with real drivers - personnel. The assignment of drivers to duties (dispatching) is outside the scope of OnSchedule™. Popular usage requires us to refer for example, to Vehicle Gantts and Driver Gantts rather than Duty Gantts.

Preferences for optimization: OnSchedule™ provides an extensive array of user preferences split into vehicle related, driver (duty) related, depotrelated and a miscellaneous section for everything else. The preferences reflect the diverse requirements of the industry, worldwide. New preferences are added from time to time in the wake of new customer requirements. These preferences affect the optimization outcome in a direct and visible way. Changing a preference generally requires re-optimizing

Strict and Flexible Preferences: A preference parameter can be entered as a **constraint**, being a fixed value or a fixed range of values. OnSchedule™ introduces something new: **Flexible preferences**. A value or range of values is still chosen but they are are "elastic". However, there is a financial **penalty** for violating them.This leads to a more realistic optimization. Flexible preferences may be available for items not governed by legislation or regulation.