

Schedule Similarity

Prerequisite for Use

This Preference requires that you have an initial customer schedule currently loaded.

Work-flow to Use Schedule Similarity

- » Use **Load Template** to set up and modify the preference for a variety of conditions
- » Repeat **Load Template** for additional instances of any template

Preference Overview

Using this preference, you can control the level of disruption to staff during a schedule change and indeed use it in stages to move from the supplied unoptimized schedule to a fully optimized schedule.

Optibus OnSchedule™ uses two criteria of similarity. The new schedule is similar to the previous one if one of the following holds:

- » **Trip ID similarity:** Consecutive trip IDs are substantially maintained
- » **Trip start time similarity:** Trip start times are substantially maintained

The idea of "substantially" is implemented by applying a cost penalty for deviations from the original schedule. Thus, if you impose a low penalty, you are effectively saying, "I would like the new schedule to be similar, but similarity is less important than my other preferences ." In this case, The optimized schedule may be quite different from the original. If on the other hand, you impose a high penalty for deviations, you are effectively saying, "I would like the new schedule to be similar to the original, if necessary at the expense of my other preferences ." In this case, the optimized schedule may not look very different from the original.

To demonstrate the concept, we will use the fourth template below, **Schedule Similarity - by trip id**. It is the simplest to understand: It sets out to maintain Trip ID similarity. Its only parameter is the penalty. Here are results of setting increasing penalties as expressed by several KPIs:

Table 1-1: Schedule Similarity - KPI Partial Comparison for various penalties

KPI	Customer Schedule	First Optimization	Penalty			
			5	30	50	100
Duties	173	153	153	166	168	171
Vehicles	95	87	87	87	87	90

KPI	Customer Schedule	First Optimization	Penalty			
			5	30	50	100
Vehicle Similarity	N/A	N/A	2%	29%	54%	78%
Total Cost	268,959	246,189	246,532	254,551	257,375	261,614



These results are for a specific schedule and are indicative only.

Templates Available from Optibus

Table 1-2: Templates Summary

Template Name	Purpose	Reference
Schedule Similarity - by route group & trip id	Create a new schedule similar to the supplied schedule with respect to trip ID, restricted to a nominated route group.	Schedule Similarity - by route group & trip id
Schedule Similarity - by route group & time	Create a new schedule similar to the supplied schedule for the nominated route group while attempting to prevent trip start time deviations of more than the specified time.	Schedule Similarity - by route group & time
Schedule Similarity - by route & time	Create a new schedule similar to the supplied schedule for the nominated route while attempting to prevent trip start time deviations of more than the specified time.	Schedule Similarity - by route & time
Schedule Similarity - by trip id	Create a new schedule similar to the supplied schedule for the nominated trip ID.	Schedule Similarity - by trip id

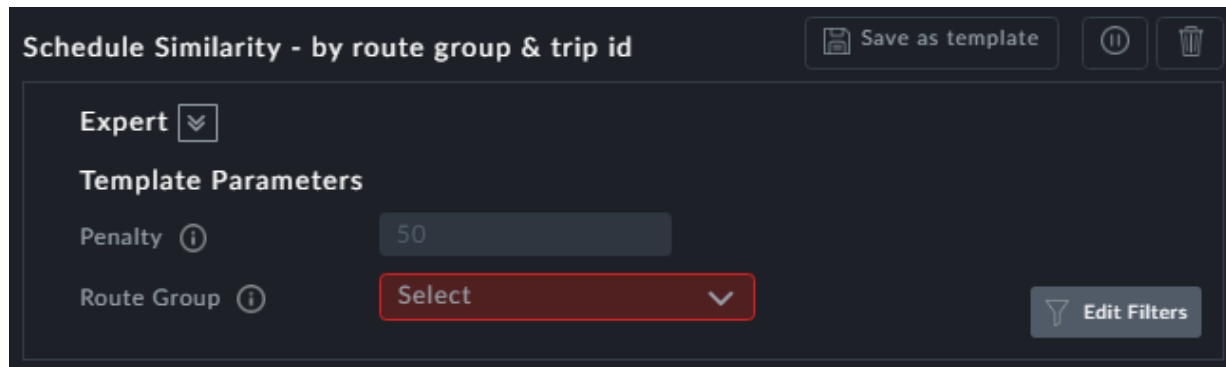
Schedule Similarity - by route group & trip id

Purpose:

Create a new schedule similar to the supplied schedule with respect to trip ID, restricted to a nominated route group.

Prerequisites: You should have already defined your route groups. See Miscellaneous Assignments, [Route Groups](#).

Opening Dialog:



The screenshot shows a dark-themed dialog box titled "Schedule Similarity - by route group & trip id". At the top right, there are three buttons: "Save as template" (with a floppy disk icon), a pause button (with a double vertical bar icon), and a trash button (with a trash can icon). Below the title bar, there is a section labeled "Expert" with a dropdown arrow. Underneath, the "Template Parameters" section contains two rows. The first row is "Penalty" with an information icon (i) and a text input field containing the value "50". The second row is "Route Group" with an information icon (i) and a dropdown menu showing "Select" with a downward arrow. To the right of these parameters is a button labeled "Edit Filters" with a funnel icon.

Points to note:

- » The **Route Group** field is mandatory
- » Load this template again to for additional route groups

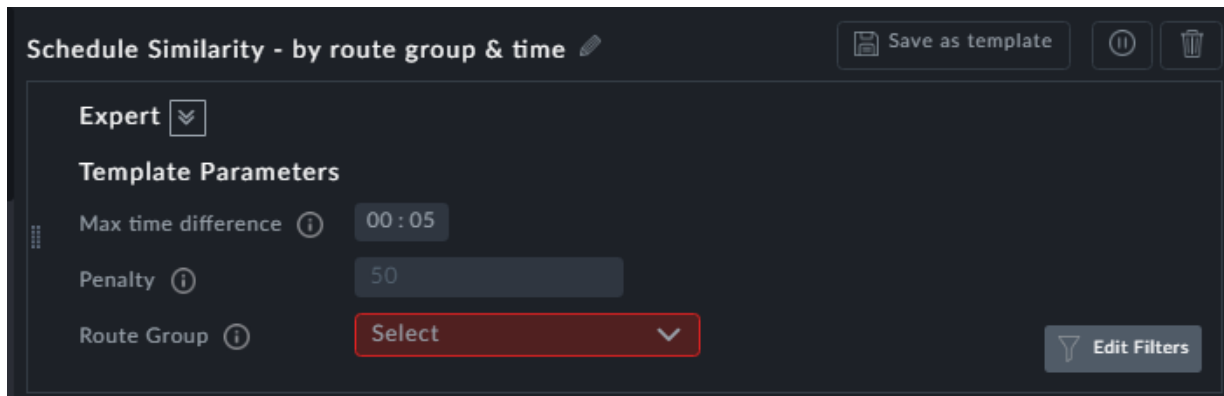
Schedule Similarity - by route group & time

Purpose:

Create a new schedule similar to the supplied schedule for the nominated route group while attempting to prevent trip start time deviations of more than the specified time.

Prerequisites: You should have already defined your route groups. See Miscellaneous Assignments, [Route Groups](#).

Opening Dialog:



The screenshot shows a dark-themed dialog box titled "Schedule Similarity - by route group & time" with a pencil icon. At the top right are three buttons: "Save as template" (with a floppy disk icon), a pause button, and a trash icon. Below the title bar is a section labeled "Expert" with a dropdown arrow. Underneath is the "Template Parameters" section, which contains three rows of controls: "Max time difference" with a value of "00 : 05", "Penalty" with a value of "50", and "Route Group" with a "Select" dropdown menu. Each parameter has an information icon (i) to its right. To the right of the "Route Group" dropdown is an "Edit Filters" button with a funnel icon. A vertical ellipsis menu icon is located to the left of the parameter labels.

Points to note:

- » The Route Group field is mandatory
- » Load this template again to for additional route groups

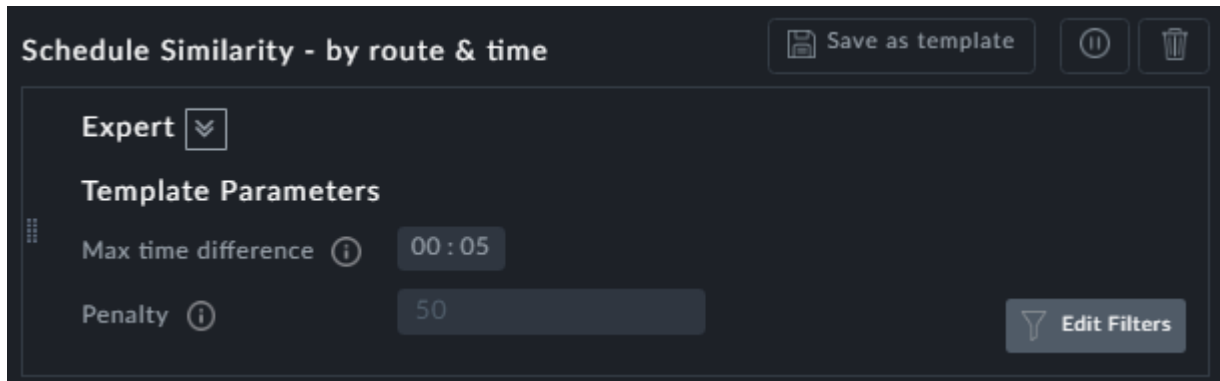
Schedule Similarity - by route & time

Purpose:

Create a new schedule similar to the supplied schedule for the nominated route while attempting to prevent trip start time deviations of more than the specified time.

Prerequisites: None.

Opening Dialog:



The screenshot shows a dark-themed dialog box titled "Schedule Similarity - by route & time". At the top right, there are three buttons: "Save as template" (with a floppy disk icon), a pause button (with a double vertical bar icon), and a delete button (with a trash can icon). Below the title bar, there is a section labeled "Expert" with a dropdown arrow. Underneath, the "Template Parameters" section is visible. It contains two parameters: "Max time difference" with a value of "00 : 05" and an information icon, and "Penalty" with a value of "50" and an information icon. To the right of these parameters is a button labeled "Edit Filters" with a funnel icon.

Points to note:

You can create additional instances of this template using Edit Filters to differentiate between them.

Example:

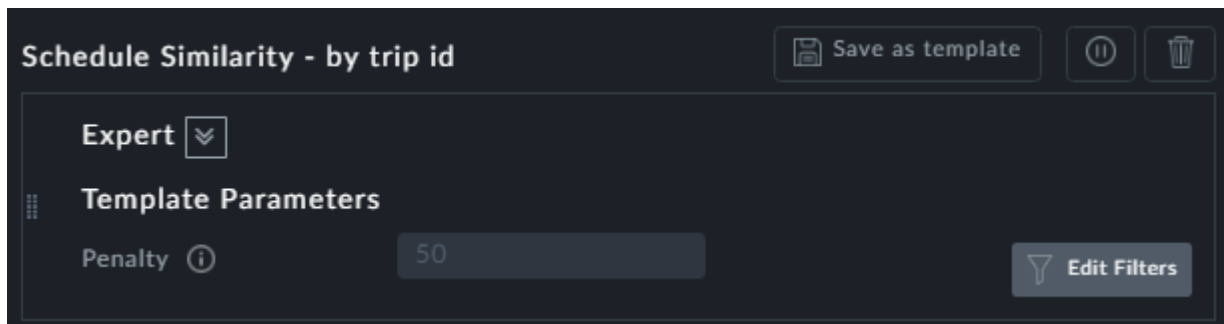
Schedule Similarity - by trip id

Purpose:

Create a new schedule similar to the supplied schedule for the nominated trip ID.

Prerequisites: None.

Opening Dialog:



The screenshot shows a dark-themed dialog box titled "Schedule Similarity - by trip id". At the top right, there are three buttons: "Save as template" (with a floppy disk icon), a pause button (with a double vertical line icon), and a delete button (with a trash can icon). Below the title bar, there is a section labeled "Expert" with a dropdown arrow. Underneath, the "Template Parameters" section is visible, containing a "Penalty" parameter with an information icon (i) and a value of "50" in a text input field. To the right of the input field is an "Edit Filters" button with a funnel icon.

Points to note:

You can create additional instances of this template using Edit Filters to differentiate between them.