TRAFFIC STUDIO

TRAINING MATERIAL 2023

CONSAT Telematics

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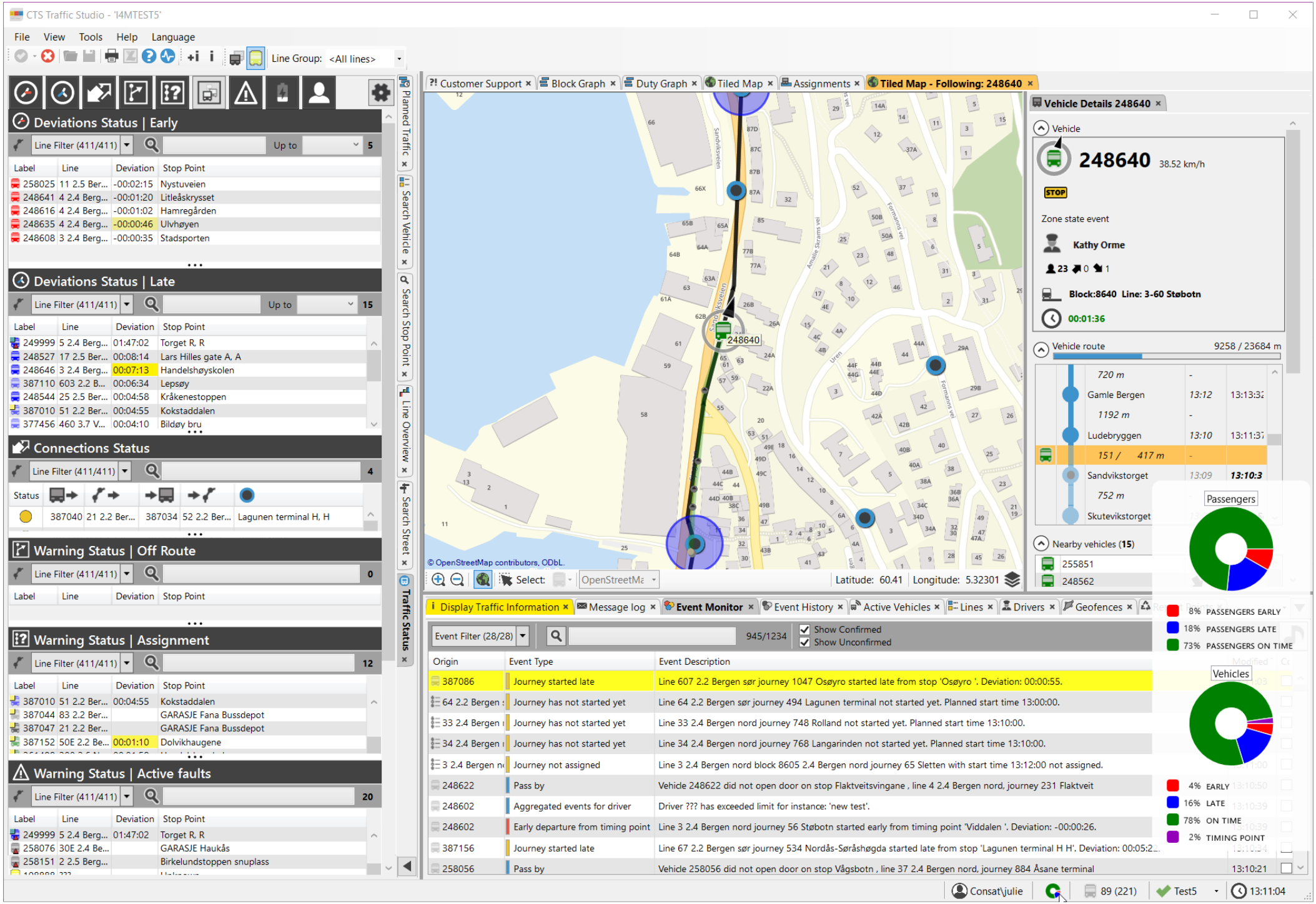
CTS Traffic Studio - 'I4MTEST5'
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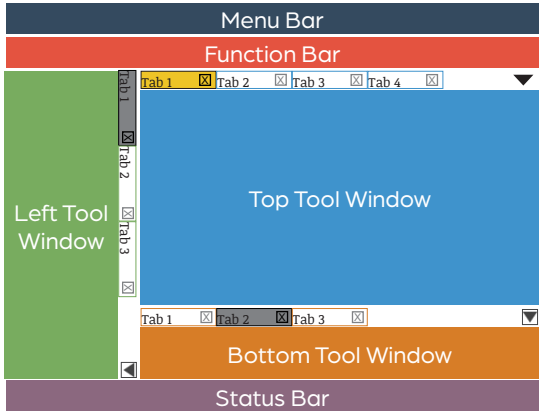
The main view of the application can be divided in 6 sections:



Menu Bar	Settings and features shared by the whole application
Function Bar	Common functions, specialized functions, often used tools.
Status Bar	Information about the user, fleet deviation, connection status
Tool Windows	Areas with tools/plugins

Each tool window has its own tabs with icon and name.

- The active tab is highlighted in **orange**. The visible, inactive tabs are **grey**.
- A tab with new information has a bright **yellow** background.
- Close a tab by clicking on the upper right **X**.
- A dark arrow ▾ in the tab bar means that there are more tabs than there is place. Click on the arrow to show a selectable list.
- Dock out a tool by left-clicking on its tab and holding down the button until it turns orange, then dragging it out. The tool becomes its own floating window which can be placed anywhere on your screen(s). Dock it back by clicking on the "Docking back" button.

The Left and Bottom Tool Windows have a grey arrow to minimize/maximize their contents to give more space to the Top Tool Window.

Disconnect

You need to disconnect to change settings. You can either...

- Menu Bar: File -> Disconnect
- Function Bar: Click on .

Connect

You can either...

- Menu Bar: File -> Connect.
- Function Bar: Click on .

Database Access

You can see your access to the databases in the right lower corner of the status bar.

Everything is great.

There is connection issues with at least one database.

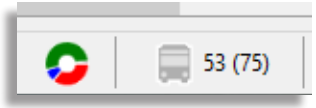
Create Diagnostics Zip

If you have a problem with Traffic Studio, click on the button Diagnostics in the Function Bar to create a diagnostics file set covering all relevant diagnostic logs.

You will be prompted to add a short description before creating the zipped file in a folder of your choice. Make sure to include it with your JIRA ticket.

Vehicle Counter

The Vehicle Counter shows two numbers ABC (XYZ). ABC (53) refers to the number of vehicles currently servicing a journey.



XYZ (75) refers to all active vehicles in the system having sent a vehicle report within 30* minutes (default settings), including ABC.

Turn Off Notifications (temporarily)

You can temporarily close notifications (popup in the right lower corner) via the Menu Bar. Click on View ->Disable Notifications, to close them until your next Traffic Studio session. You can select Configure Notifications if you only want to turn off specific types.

To turn them off for good, check out the plugin's own settings.

Time Tooltip

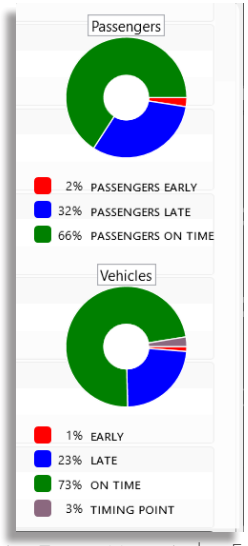
Hold your mouse over the clock & time in the lower right corner to show the system time, date and time zone.

Punctuality Overviews

There are two Punctuality overviews in the status bar. Bring your mouse pointer over the pie chart or the vehicle counter to see them.

The top wheel shows timetable deviation from the passengers' perspective (requires APC).

The bottom wheel shows the same, but from the vehicles' perspective.



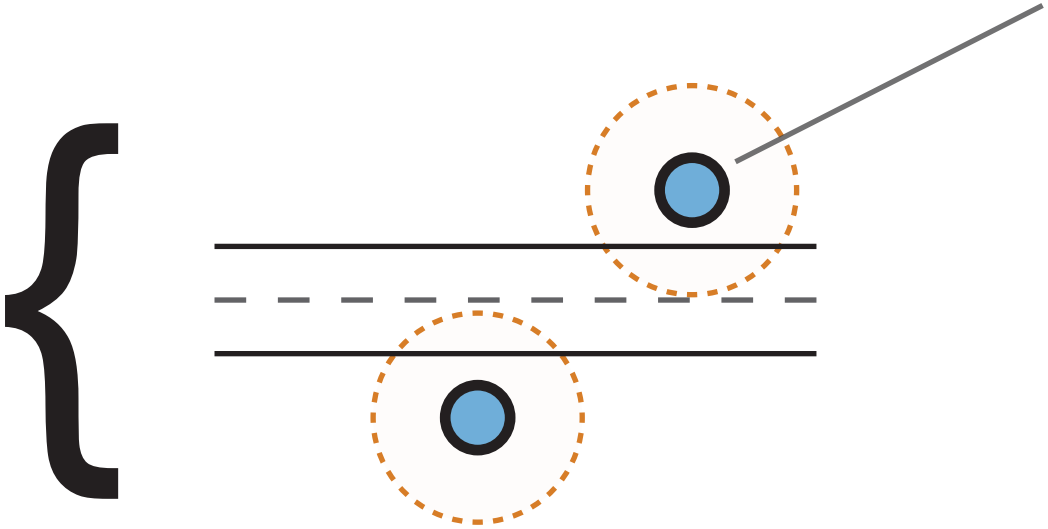
IMPORTANT! Traffic Studio uses Transmodel terminology, which can differ in different parts of the world. In this section, we have added other known variations within parenthesis. However, the rest of the manual will only be using TransModel.

What Do We Mean by That

Stop Area

A group of stop points located close to each other within the same area.

E.g. Central Station
Maple Street
Arena
Market Place



Stop Point

A point where passengers can board on/alight from vehicles.

E.g. Central Station A
Maple Street 2

Timing Point

A stop point usually used for regulating timetables.

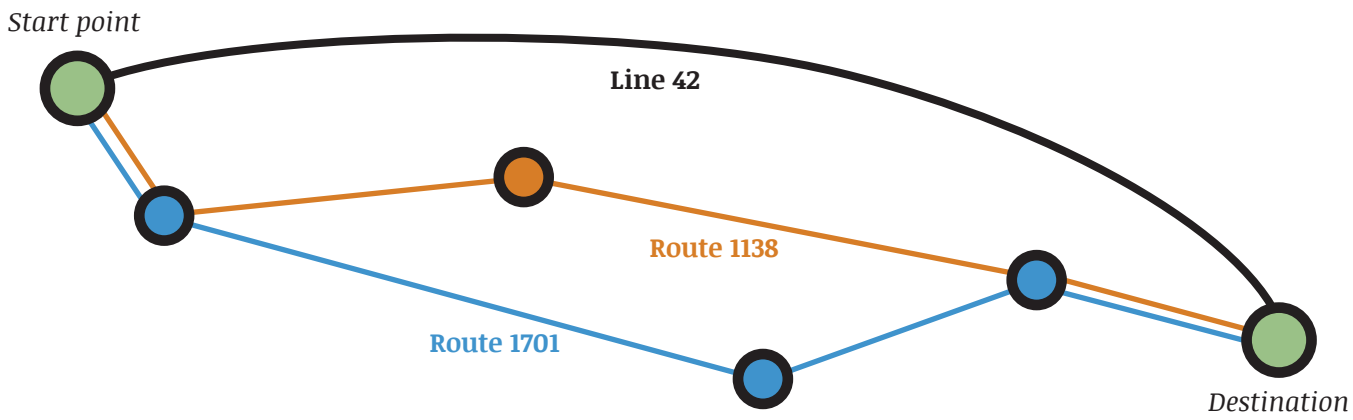
The vehicle **must** leave this stop point **on time (never earlier)**.

This information is available to the drivers through their interface.

Wait, what's that dotted circle?

I'm glad you asked! CTS uses a larger area around each stop point to help detecting various types of events, like arrivals, departures, pass-by, etc. The default value is 25 meter radius.

You can also use geofences to draw your own area, which can be useful for large terminals, long streets, etc.



Line 42 has 2 routes between *Start point* and *Destination*; **Route 1701 (blue)** & **Route 1138 (orange)**

- Journey AAA: 06.35 - 07.15, **Line 42**, **Route 1701**
- Journey CCC: 07:45 - 08.20, **Line 42**, **Route 1701**
- Journey UUU: 08:40 - 09:25, **Line 42**, **Route 1138**

Route (Route Variant)

An ordered list of stop points, links and destination. E.g. **Route 1701** and **Route 1138**.

Line (Route)

A group of routes with a designation. E.g. **Line 42** is made of both **Route 1701** and **Route 1138**.

Journey (Trip)

A route with a date, a start time and an end time. Each journey is unique and has its own ID.

Block (Run)

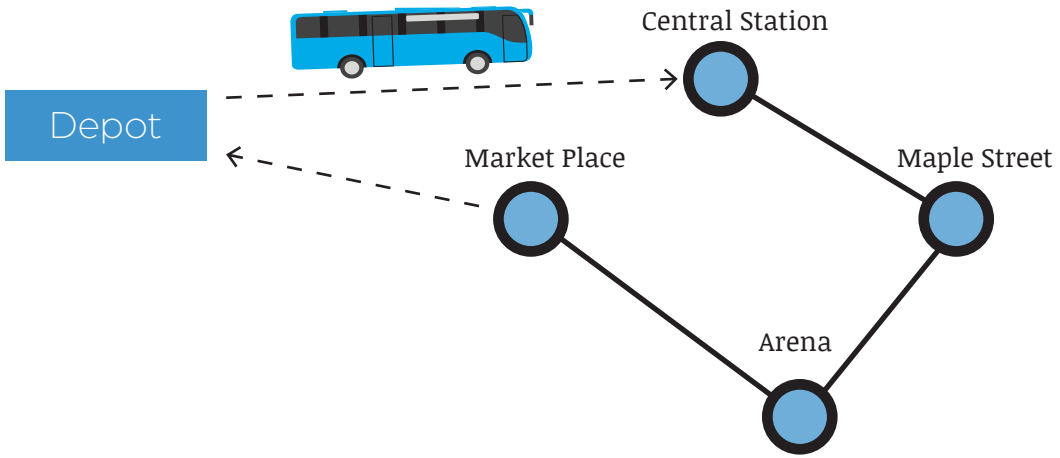
A collection of journeys assigned to a vehicle. They are unique and usually last one day.

E.g. This block is made of 3 journeys:

- Central Station from 9.10- Maple street at 10.05
- Maple Street from 10.25 - Arena at 11.20
- Arena from 12.00 - Market Place at 12.30

Duty (Shift)

A collection of journeys assigned to a driver. They are unique and usually last one day. A driver may change vehicles during a shift.



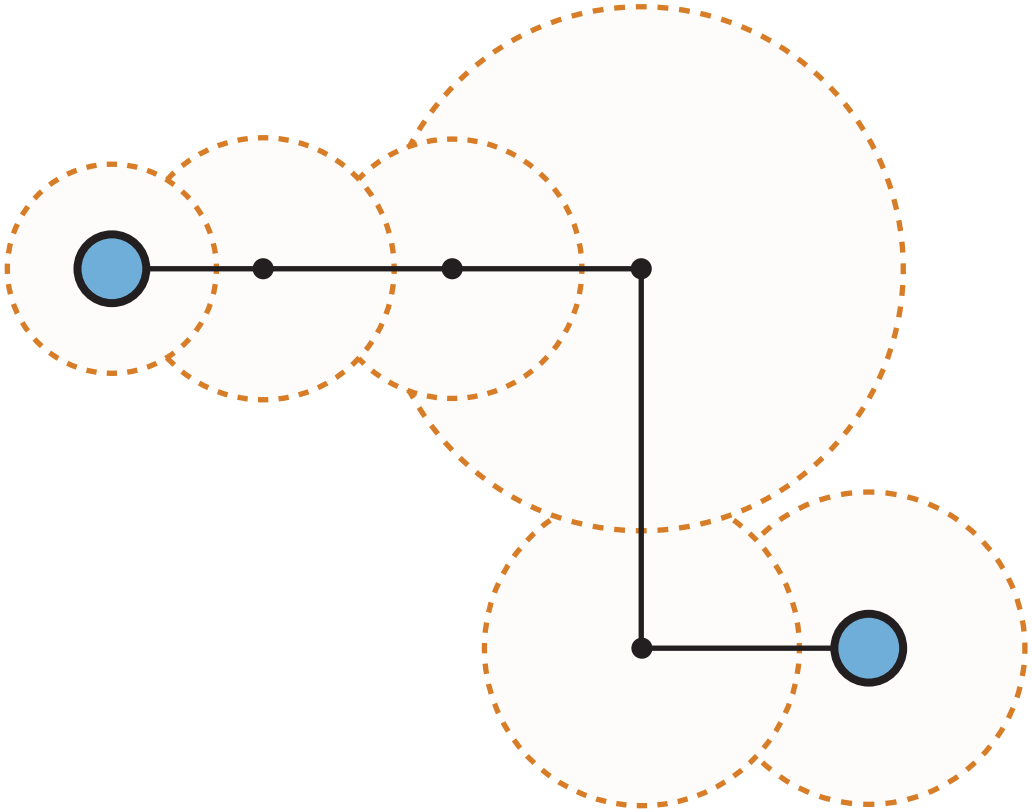
Note: Some blocks/duty can include journeys, often called empty runs, which are from and to the depot (dotted lines in the illustration).

Off Route

The vehicle is driving outside the radius of a link point.

Off route (and on route) is automatically detected by the system. While off route, the vehicle continues to report and can still be followed step-by-step in Traffic Studio.

Depending on your configuration, things such as forecasts and passenger information can behave differently.



Link

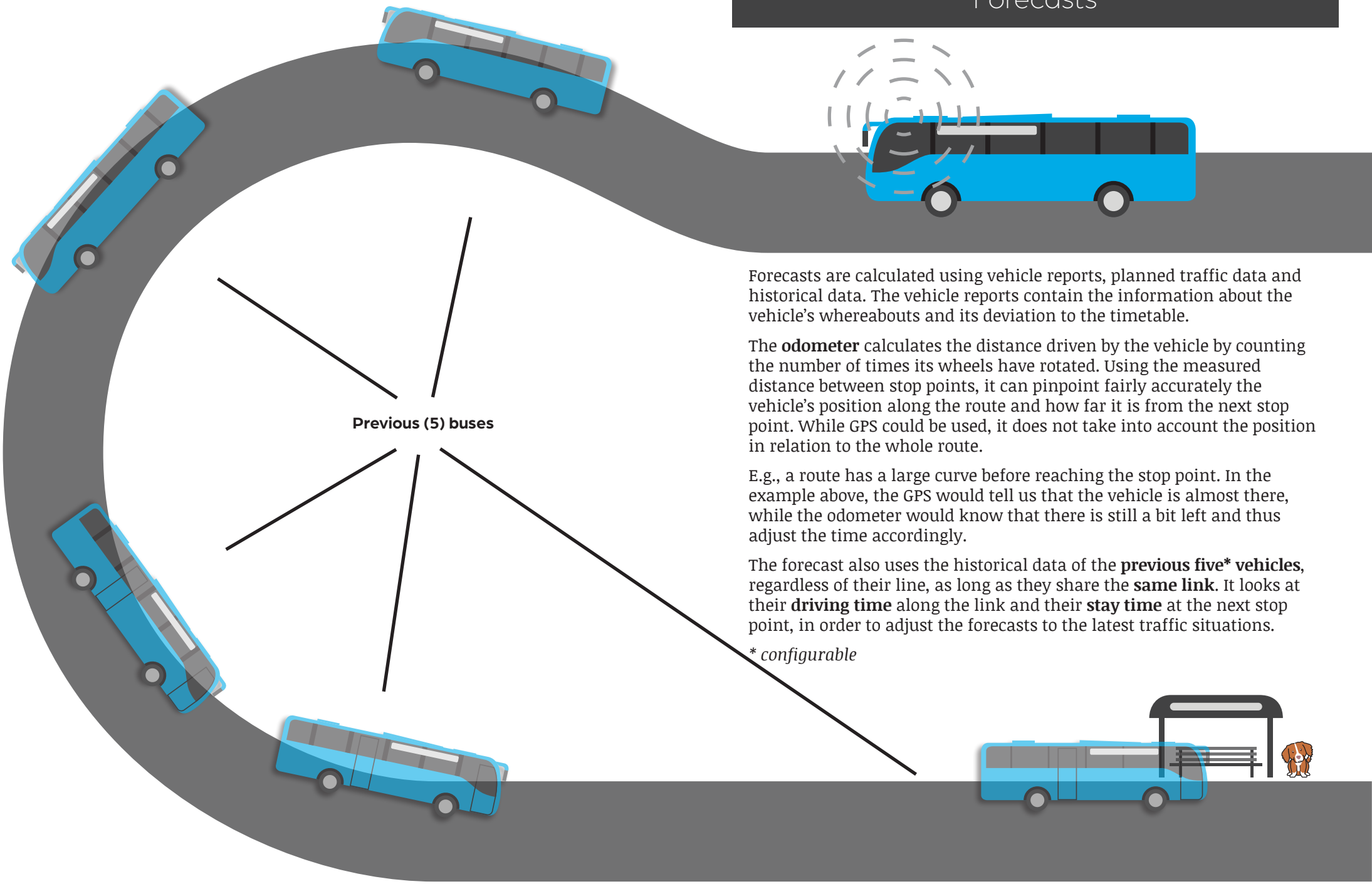
A link is the geography between two stop points.

It has a length in meters and is usually divided in points-in-link to increase its accuracy.

The default settings is 100 m between each point-in-link, but this varies greatly depending on the distance between the stop points. It can also be configured to another value.

Each point-in-link is in the middle of a circle with a radius equals to 70% of the distance between itself and the next point on the route. A vehicle is considered off route if it goes outside the radius.

Forecasts



Forecasts are calculated using vehicle reports, planned traffic data and historical data. The vehicle reports contain the information about the vehicle's whereabouts and its deviation to the timetable.

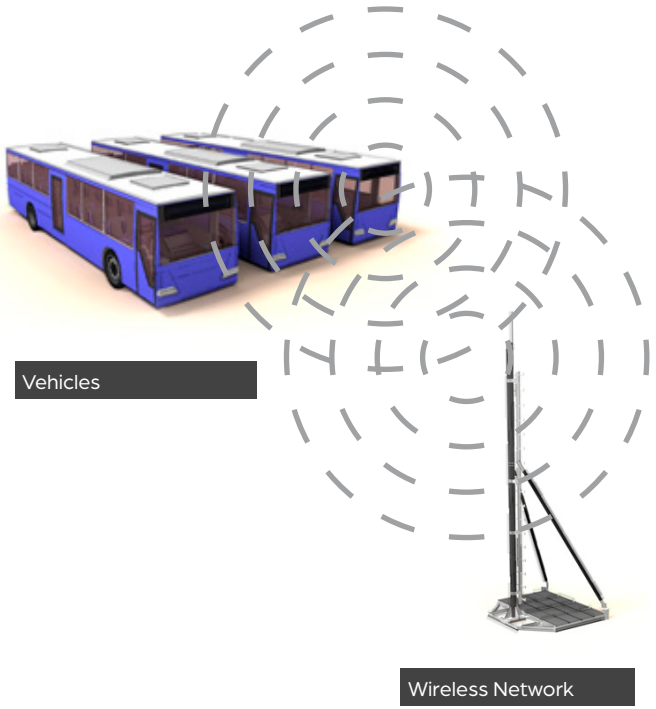
The **odometer** calculates the distance driven by the vehicle by counting the number of times its wheels have rotated. Using the measured distance between stop points, it can pinpoint fairly accurately the vehicle's position along the route and how far it is from the next stop point. While GPS could be used, it does not take into account the position in relation to the whole route.

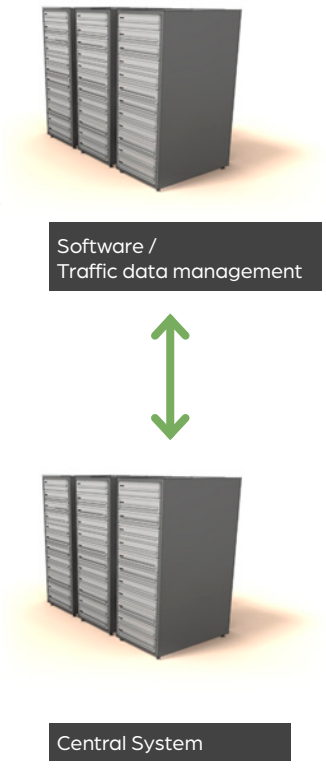
E.g., a route has a large curve before reaching the stop point. In the example above, the GPS would tell us that the vehicle is almost there, while the odometer would know that there is still a bit left and thus adjust the time accordingly.

The forecast also uses the historical data of the **previous five* vehicles**, regardless of their line, as long as they share the **same link**. It looks at their **driving time** along the link and their **stay time** at the next stop point, in order to adjust the forecasts to the latest traffic situations.

** configurable*

Communication





Equipped with GPRS devices, the vehicles use a wireless network to communicate back and forth with the Software/Traffic data management.

The Software/Traffic data management communicates with the Central System to relay the information received from the vehicles, but also to get updates on timetables and other traffic planning data.

The Central System gathers the information and sends it to the various users, i.e. the various displays at the stop points, the Control Centers where users are working with Traffic Studio, websites and mobile apps.

What kind of information can we expect from the vehicles?

Most tools, unless they are based on planned traffic data, require real-time data to provide you with information. To do so, each vehicle sends reports at predefined events. Is that often? It can be! Keep in mind that CTS monitors **over 200 different types of events**. Each time one of these happen, we get new information about the vehicle.

Examples of some predefined events:

- Arrive at stop point
- Door open
- Departure from stop point
- Pass by stop point
- Off route
- GPS direction
- Odometer value
- Manual repositioning
- Stop request from passengers

But... what happens if nothing happens?

We have thought about it and made it so that if we have not heard from the vehicle in 10* seconds, then the vehicle will send a report with its position.

The vehicle will also send a report each time its deviation from the timetable increases/decreases by 30* seconds.

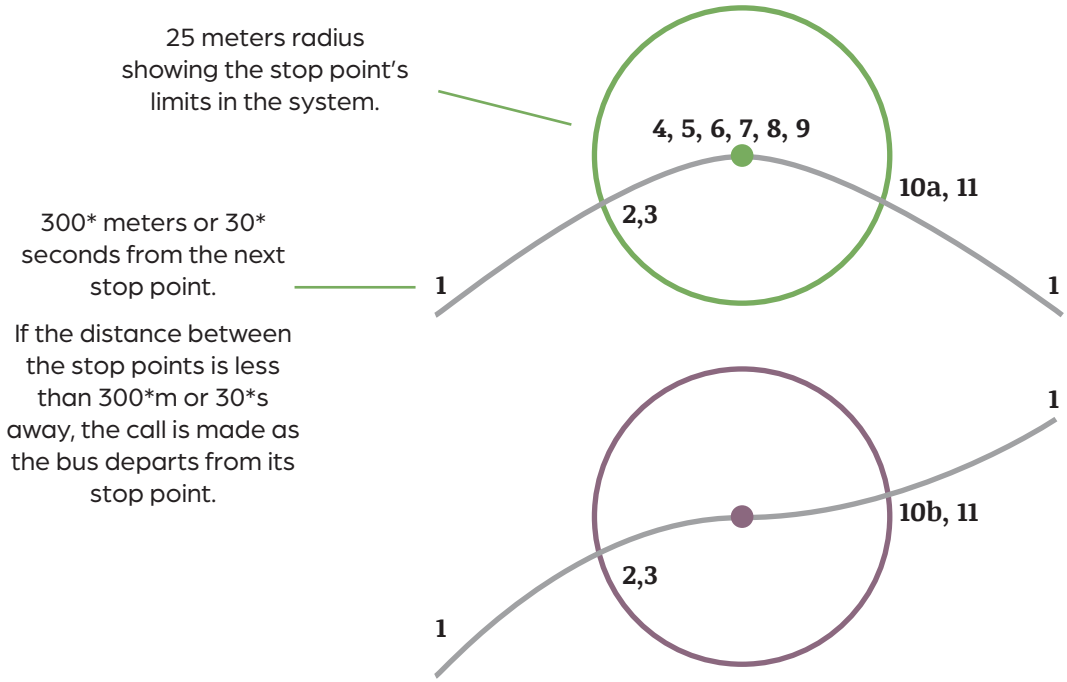
Active Vehicles

Real-time plugins only show active vehicles to avoid a clutter of inactive vehicles.

Vehicles are considered active **if they have sent a vehicle report within the last 30* minutes**. After that, they are hidden from plugins such as Map, Lines, Vehicles, Line Overview, Line Viewer, Traffic Status, etc.

You can always find inactive vehicles via Search Vehicles, Stop Point History, Customer Support, etc.

Vehicle Reports & Stop Points



Event Reports from the vehicle

1 Internal call An announcement is made through the vehicle's internal speakers.

2 At stop The vehicle enters the stop point's radius.

3, 6, 19, 11 Update displays The content of the internal displays is updated.

4 Door open The doors open.

5 Arrive at stop point When the vehicle is within the circle and has sent a Door open report.

7 External call An announcement is made through the vehicle's internal speakers.

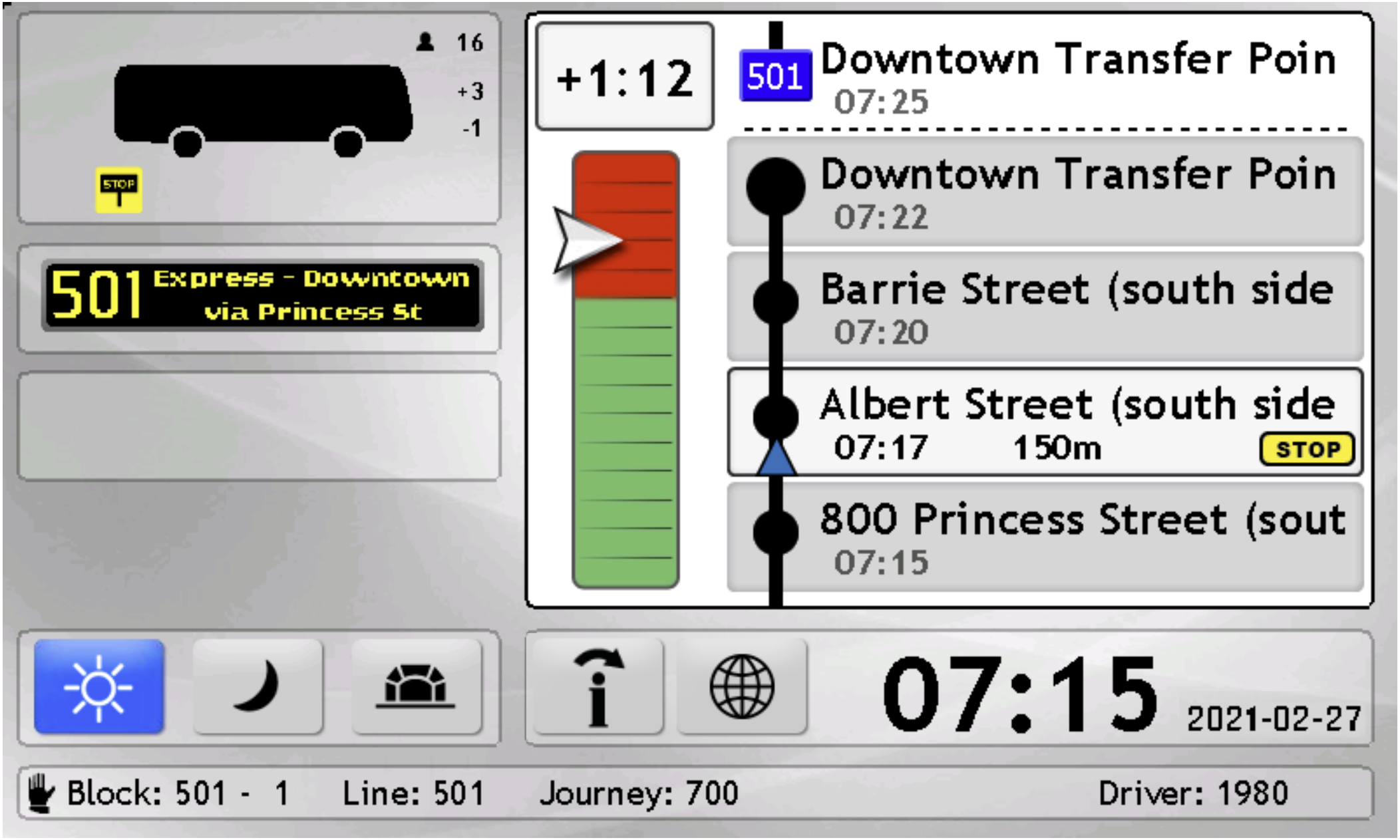
8 Door close The doors close.

10a Departure from stop point When leaving the stop point's radius, if **reports #4 & #5** were sent.

10b Pass by stop point When leaving the stop point's radius, if **no** reports #4 & #5 were sent.

** configurable*

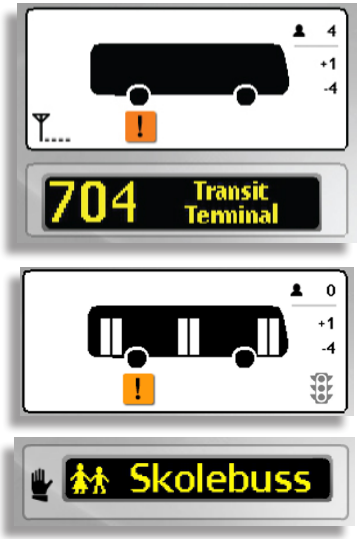
Driver Interface



The Driver Interface is shown via a touchscreen monitor installed on-board the vehicles. The screen is locked while the vehicle is in movement, for safety reasons.

The Driver Interface varies between systems as there are a multitude of functions to select, some basics and some optional.

Basic Information



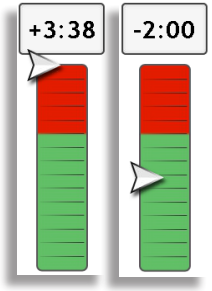
The vehicle icon field shows real-time information like stop request, passenger counter information, active faults, signal priority, signal strength, etc.

The destination sign is displayed below the vehicle icon, showing its exact content, which usually includes the line number, destination name and any via destination. It can also show symbols for school bus, airport coach, etc.

Assignment information, such as block, line, journey and driver ID/name, is displayed at the bottom of the screen.

Manual signage and assignment are denoted with a hand symbol to the left of their respective field.

Timetable Deviation Barometer



The barometer updates in real-time with the vehicle's current deviation to the timetable. The barometer has both the exact deviation in numbers, and a visual indicator with red (early) and green (on-time or late) areas.

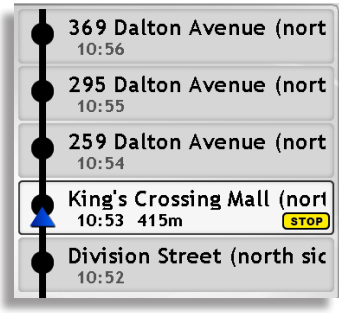
Driver Coaching and Map (options)

The Journey View and the Barometer can be replaced by a map, showing the planned route and the vehicle's position in real-time.

Driver Coaching events are displayed when they are triggered, informing the driver at the exact time and place where they did an action deemed contrary to acceptable driving behavior. It is also possible to monitor fuel consumption.

Such instant feedback is helpful for the driver to be able identify which behavior is problematic and what might be its cause, so they can learn and improve their driving skills for everyone's benefit.

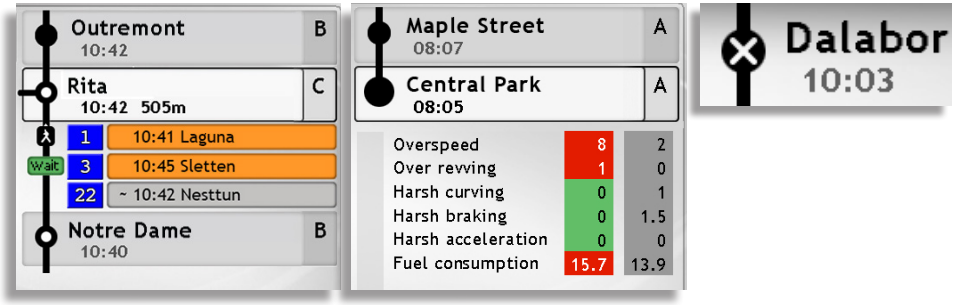
Journey View



The Journey View shows the next five stop points along the assigned route and the vehicle position (blue arrow). Each row shows a stop, with its planned departure time, the type of stop (normal, timing, interchange, cancelled, etc.), and the distance to the next stop as the vehicle travels.

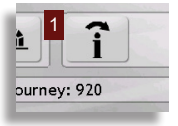
Optional information which can be displayed:

- When a STOP button is pressed (e.g., King's Crossing Mall)
- Interchange/connections at the next stop point (e.g., Rita)
- Driver Coaching summary at the end of a journey (e.g., Central Park)
- Cancelled stop point (x in the stop symbol, e.g., Dalabor)
- Stop point with only boarding/alighting (text next to the timetable text)
- Reinforcing vehicles (yellow arrows)

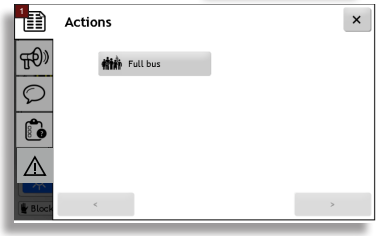


Notification Center

The Notification Center has various sections for text messages, traffic information meant for the driver and the passengers, traffic deviations and so-called “actions”, i.e., custom system functions used for interaction with traffic controllers, etc.



A red square appears whenever the Notification Center has new information for the driver, along with the number of messages/alerts.



Function Configure the content of labels and tooltips; various settings; the appearance of vehicle symbols; and create/manage line groups. **These settings affect only your account.**

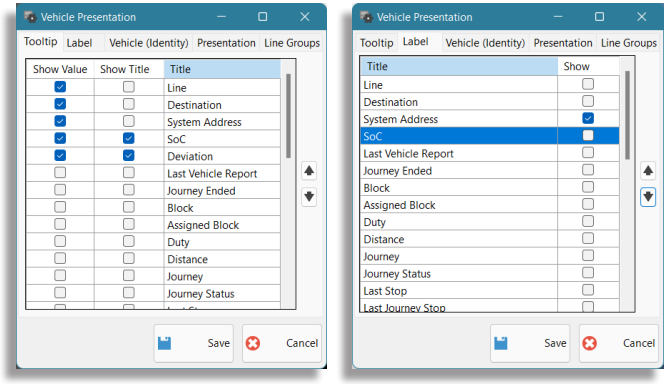
Access Disconnect
File –> Setup –> Vehicle Presentation

Vehicle Tooltip

Add information by ticking the relevant check boxes.

"Show title" will add its name, e.g., "Line 31" instead of just "31".

Use the grey arrows on the side to change their order.



Vehicle Label

Include information in a **label** by ticking the check box in the column to the right. There is no limit, but that can result in a very wide label box.

Presentation

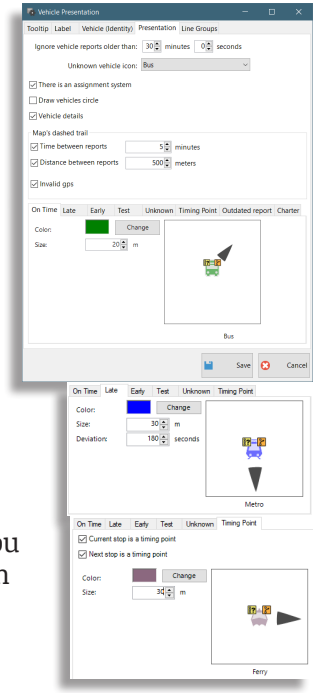
"**Ignore vehicle reports older than**" will change how long a vehicle is considered active in the system.

"**There is an assignment system**" is used for central assignment. When the box is ticked, the application will give a warning if the vehicle's assignment differs from the one made by the assignment system.

The dashed trail replaces the normal full path driven by a vehicle when there is a large gap between reports, either time-wise or distance-wise. It can also be used for invalid GPS-positions.

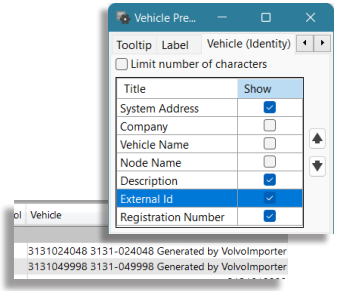
Tabs

Vehicles have different colors depending on their timetable deviations or status (training, charter, etc.). In these tabs, you can change the colour, size and time deviation limit for each category. The size is in meter and scales with the map.



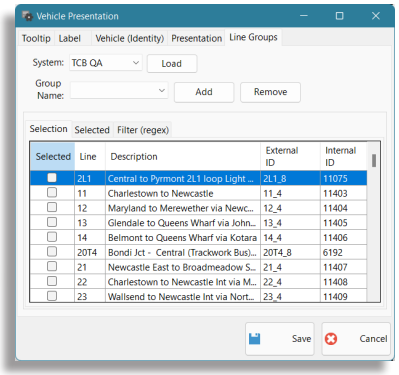
Vehicle (Identity)

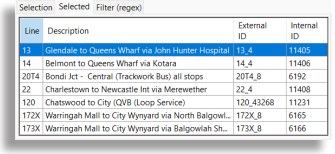
To include additional information for the vehicle in various plugins, e.g., "vehicle" in Vehicles.



Line Groups

Add, remove and edit line groups. It shows 3 tabs: Selected, Selection and Filter (regex). Please refer to the manual for more information about how to use regex in selecting lines.





How to add a group

1. Click on **Add**.
2. Name your group. The button **Add** will change to **Save.** Click on this **Save** button again (not the one at the bottom of the window).
3. Tick the check boxes in the **Selection** tab to include lines in your new group. You can check which lines are included in your group by looking at the tab **Selected**.
4. Create more groups, or click on **Save** at the bottom of the window to finish.

How to edit a group

1. Select a group under **Group name.**
2. In the Selection tab, add/remove lines from your group, then click on **Save** at the bottom of the window to finish.

How to remove a group

1. Select a group under **Group name.**
2. Click on **Remove**.
3. Click on **Save** at the bottom of the window to finish.

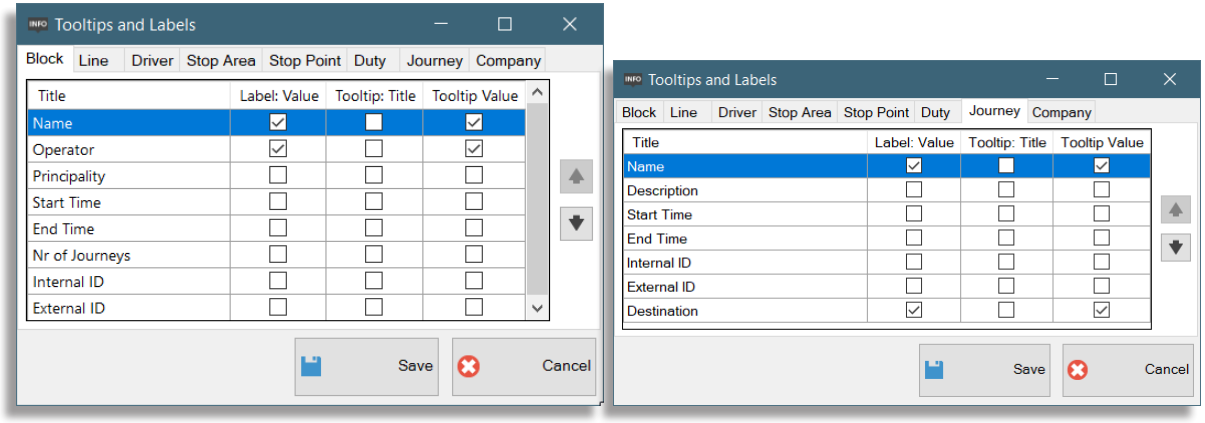
Function

Configure the information included in labels and tooltips for blocks/duties, lines, drivers, stop areas/points, journeys and Company.
These settings affect only your account.

Access

Disconnect
File –> Setup –> Tooltips and Labels

1. Select the relevant tab.
2. **Tick** the **Label: Value** box to include the information in tables, search criteria, etc.
3. **Tick** the **Tooltip: Value** and/or **Tooltip: Title** boxes to include the information in tooltips.
4. Use the grey arrows on the side to change the order of the content.
5. Click on **Save**. Note that this will close the window. We suggest that you do all the changes you need in all the tabs before saving to save yourself some time and hassle.



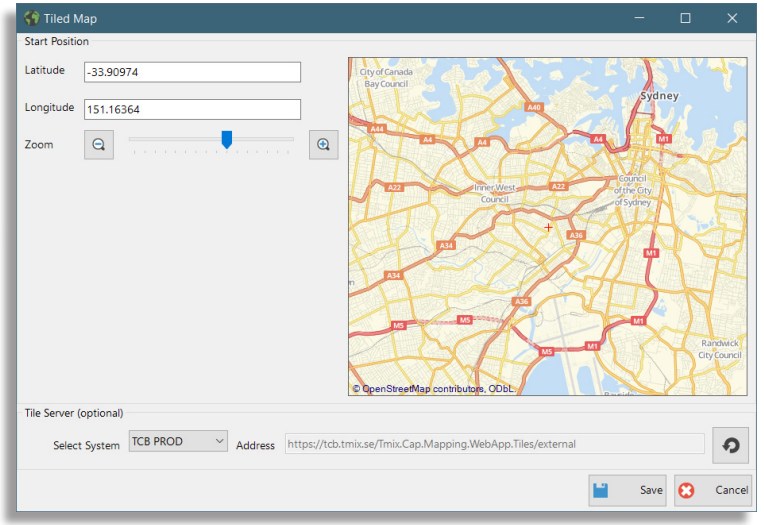
Function

Select the starting location and zoom level of your Tile Map.
These settings affect only your account.

Access

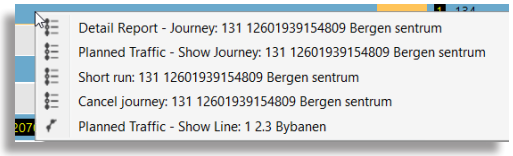
Disconnect
Go to File –> Setup –> Map

1. Set your position and zoom level.
   1.1 Use **latitude** and **longitude** coordinates
   1.2 Use the map on the right side to navigate to the desired location. You can zoom in and out to the level of your choice.
2. Click on **Save**.



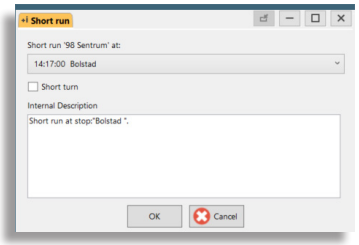
Shortcut Menu

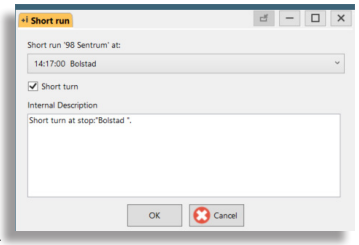
Right-click a journey in the Block/Duty Graph, Assignments, or access it via the Vehicle shortcut menu -> Journey/Next Journey.



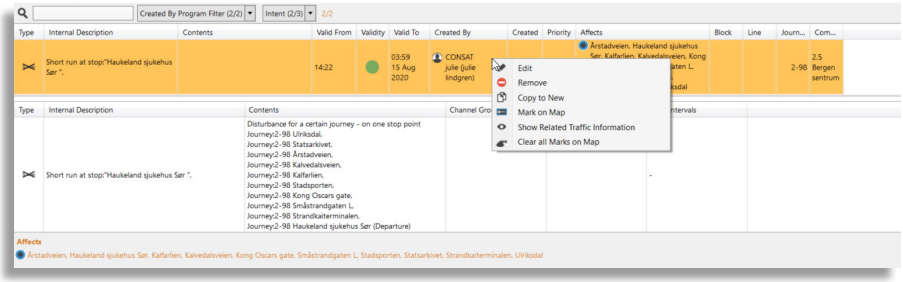
Short Run

A short run is when a journey ends at an earlier stop point than planned.





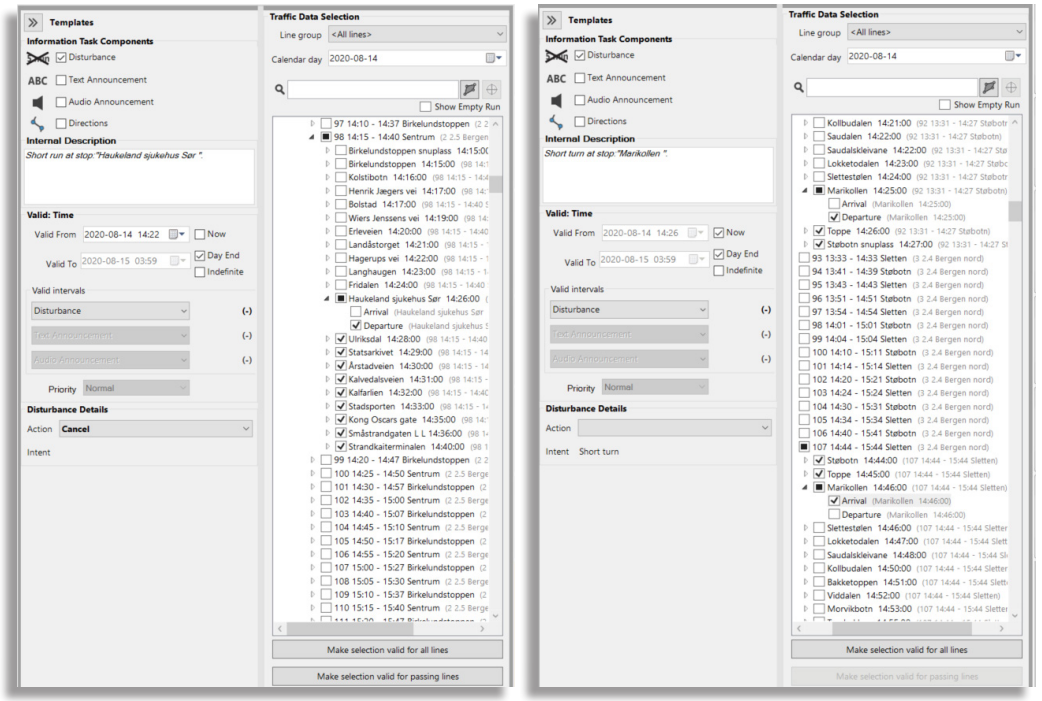
1. Journey's short cut menu -> **Short Run**. This will open a popup window.
2. Select at which stop area the journey will end.
3. Check this box **only** if you want to create a "**Short Turn**" from the same stop point. See the next section for more details.
4. A predefined text is filled for the internal description. You can modify it.
5. Click on **Ok**.
   - 5.1 If in **Traffic Controller** Mode: The task is automatically created and will show up in the "To be reviewed" tab of the tool **Traffic Tasks**.
   - 5.2 Else, the information will be shown in New Traffic Information where you can modify/add other components before clicking on **Publish**. See the section about **New Traffic Information** for more details.



Short Turn

A short turn is when a vehicle ends a journey prematurely at a specific stop area, and begins its next journey at the same stop area (usually at the opposite stop point). It requires that these two consecutive journeys share the same stop area.

You can create a Short Turn by selection the **Short Run** option from the journey's shortcut menu. When arriving at **step 3, tick the check box**. The noticeable differences will be the pre made internal definition in the popup window, and the journey/stop point selection shown at step 5.2.

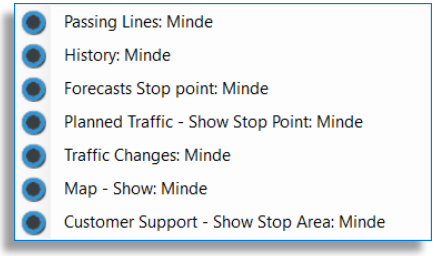


Non-Planned Reinforcement (only in Assignments plugin)

Fill in the block and journey fields with the current traffic data information.

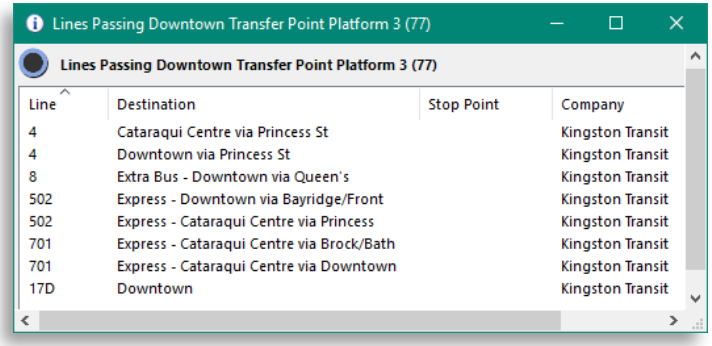
Shortcut Menu

Right-click a stop point symbol or stop point reference, or access it via the Vehicle shortcut menu -> Last/Next ...



Passing Lines

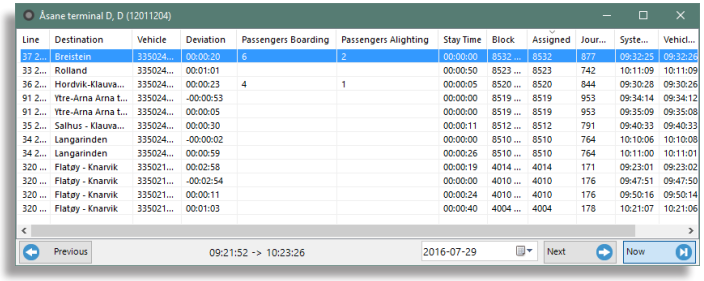
List of all the lines and destination servicing this stop point.



History

Show all departure and pass-by reports from vehicles traveling by the stop point.

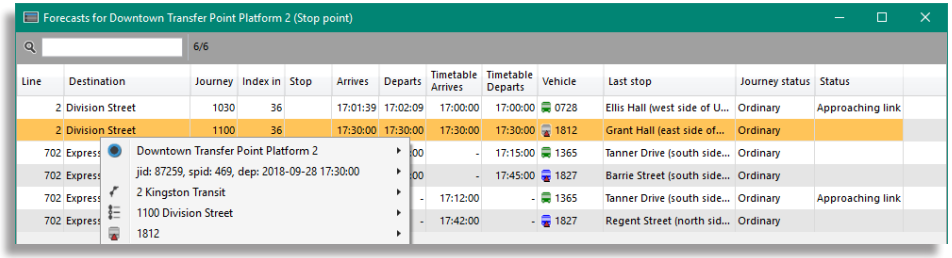
Click on a column header to sort the information by its content.



Forecasts

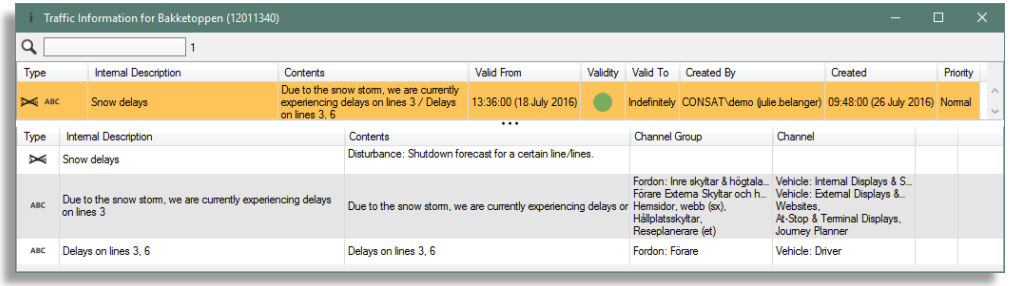
This window shows the information about the lines passing through this stop point, with actual arrival/departure times and planned time according to the timetable.

- The vehicle symbols provides access to the standard vehicle shortcuts.
- A free text filter allows you to quickly focus on the needed information.
- Right-click on a row to access the Forecasts History for this specific journey/vehicle (jid 87259, ...).



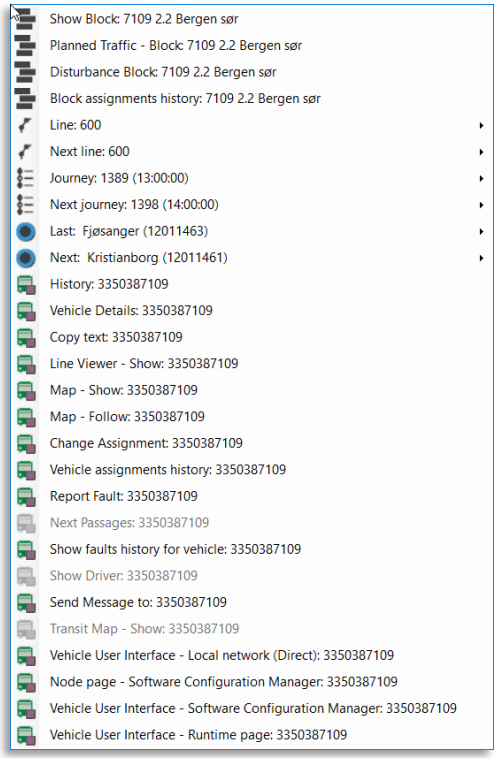
Traffic Changes

Show the traffic information for the stop point, i.e. any text announcement, disturbance and/or audio announcement involving the selected stop point.



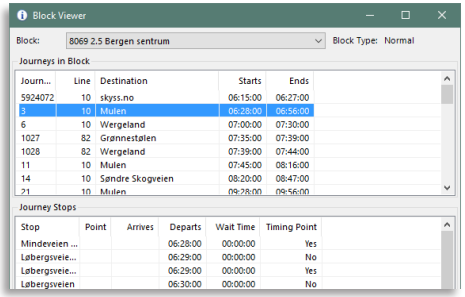
Shortcut Menu

The shortcut menu for vehicles is accessible by right-clicking most vehicle symbols or vehicle reference.



Block Viewer

Show all the planned journeys in the block with their start/ end times and destination. Click on a journey to show all its stop points and planned times in the lower section.



Vehicle Details

This opens both the Vehicle Details view on the right side of the Main Window, and a new map following that specific vehicle and showing its planned route in blue. It can only be opened for **one vehicle at a time**.

All the Vehicle Details sections can be minimized.

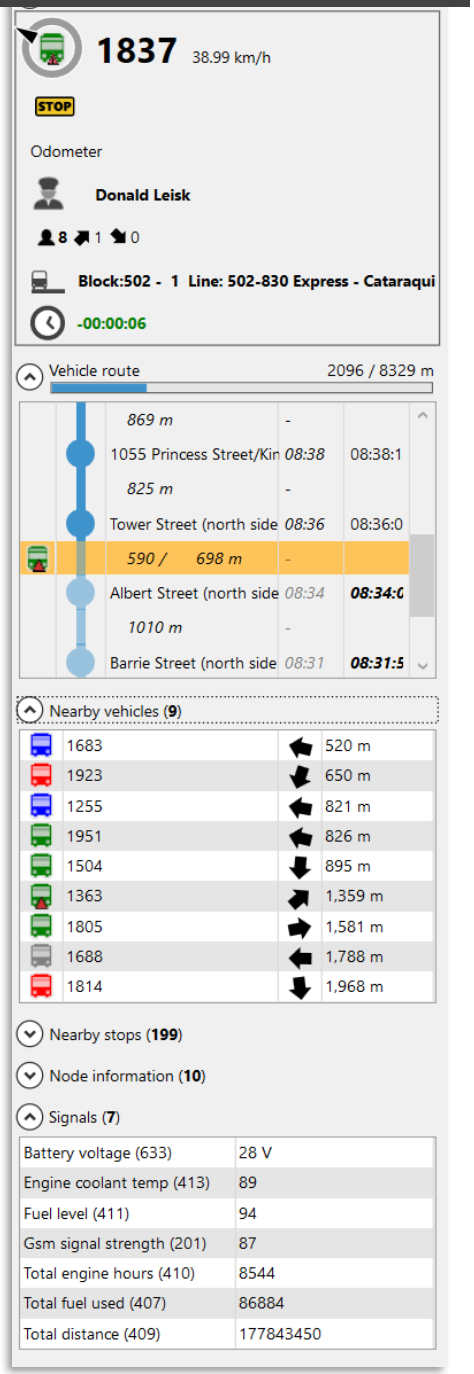
The **Vehicle** section provides information about the vehicle (ID, door open/stop button event, direction and speed), driver, passenger counter, assignment and deviation from timetable.

Vehicle route show the incoming stop points, with the vehicle's current position, the distance to the next stop, and both planned and estimated departure time from that stop point. A progress bar shows how far along the route the vehicle has travelled.

Nearby vehicles and **Nearby stops** list all vehicles/ stop points within 2 km, along with their position in regards to the selected vehicle.

Signals provides current information about the vehicle, e.g., fuel, weight per axle, battery voltage, State of Charge (SoC), temperatures, etc. The information shown here depends on the data received from the vehicle.

Note that Node information is only available to super and power users.



Shortcut Menu | Vehicle – Vehicle History

Function List all vehicle reports with comprehensive information. Draw the vehicle's logged trail on the map.

Access Via vehicle shortcut menu & Tools –> Vehicle History

The Vehicle History table is a sortable list of all reported vehicle reports for up to 4 hours. The trails on the map match the data shown in the table.

Change Date & Time

Use the date field to change date and/or time, then click on **Update** to fetch the data. Adjust the time span from 1 minute to 4 hours with the blue slider.

Double-click on a row to zoom to it and mark it on the map.

Toggle the button to get the row's Signals & Metadata information.

If the Follow button is activated, selecting a row will automatically move the focus of the map to the recorded event.

Filter

Use the free text filter to narrow down the list to everything matching a specific string of letters and/or numbers. You can also use the **Event Filter** which contains all reported types of events in your selection.

Vehicles

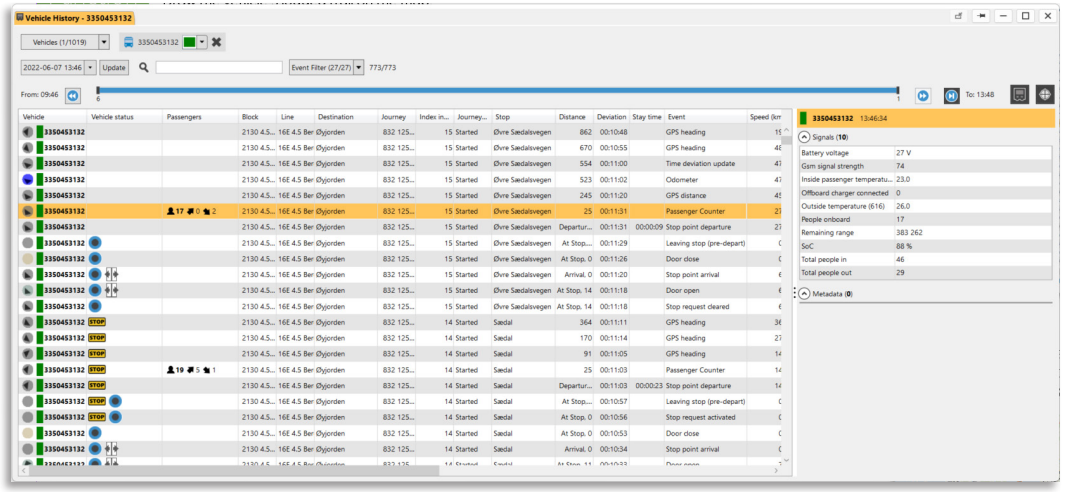
You can display up to 3 different vehicles at the same time, in the same window. Each will have its own colour to tell them apart on the map and in the table.

You can add a vehicle in two ways:

1. Via the Vehicle shortcut menu and select the option "**Add vehicle to History: xxxx**".
2. Use the drop-down menu in the top row of the Vehicle History to find your vehicle, then **tick** its box.

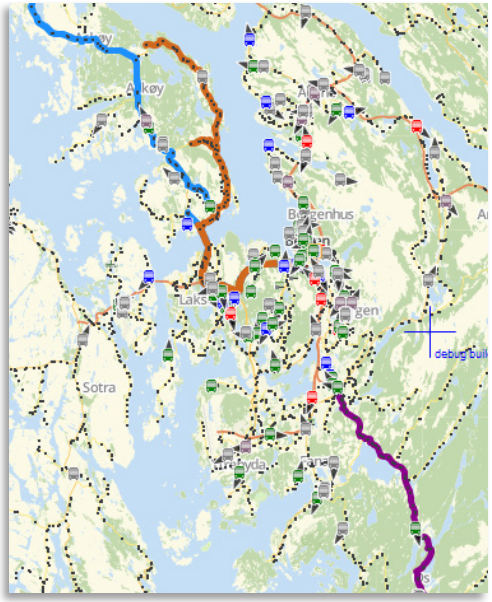
To remove a vehicle from Vehicle History, click on the X next to its "symbol-name-colour".

Each vehicle can have its own colour, which applies to both its rows in the table and its trail on the map.

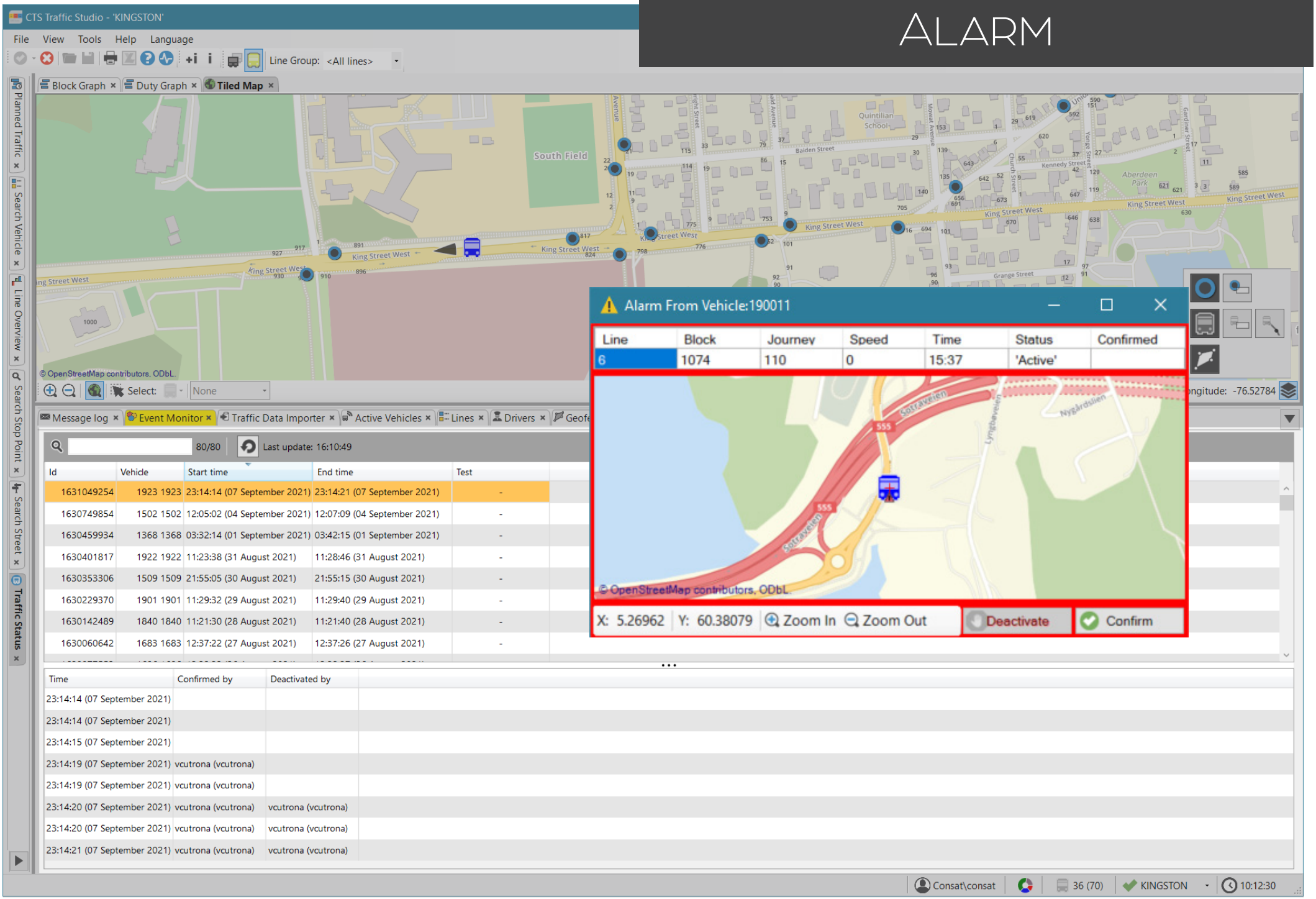


Vehicle Trail

Opening the history of a vehicle also displays its trail on the map. It also shows all its reports as small dots with the GPS-orientation arrow inside. Any gap between reports is shown as a dashed line.



ALARM


CTS Traffic Studio - 'KINGSTON'
File View Tools Help Language
Line Group: <All lines>
Block Graph
Duty Graph
Tiled Map
Planned Traffic
Search Vehicle
Line Overview
Search Stop Point
Search Street
Traffic Status
South Field
King Street West
© OpenStreetMap contributors, ODbL
Select: None
Alarm From Vehicle:190011
Line Block Journey Speed Time Status Confirmed
6 1074 110 0 15:37 'Active'
© OpenStreetMap contributors, ODbL
X: 5.26962 Y: 60.38079 Zoom In Zoom Out
Deactivate
Confirm
Message log
Event Monitor
Traffic Data Importer
Active Vehicles
Lines
Drivers
80/80
Last update: 16:10:49
Id Vehicle Start time End time Test
1631049254 1923 1923 23:14:14 (07 September 2021) 23:14:21 (07 September 2021) -
1630749854 1502 1502 12:05:02 (04 September 2021) 12:07:09 (04 September 2021) -
1630459934 1368 1368 03:32:14 (01 September 2021) 03:42:15 (01 September 2021) -
1630401817 1922 1922 11:23:38 (31 August 2021) 11:28:46 (31 August 2021) -
1630353306 1509 1509 21:55:05 (30 August 2021) 21:55:15 (30 August 2021) -
1630229370 1901 1901 11:29:32 (29 August 2021) 11:29:40 (29 August 2021) -
1630142489 1840 1840 11:21:30 (28 August 2021) 11:21:40 (28 August 2021) -
1630060642 1683 1683 12:37:22 (27 August 2021) 12:37:26 (27 August 2021) -
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23:14:14 (07 September 2021)
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23:14:21 (07 September 2021) vcutrona (vcutrona) vcutrona (vcutrona)
Consat\consat
36 (70)
KINGSTON
10:12:30

Function Alarm sent by the driver to the control center via the central system.

Access Activated by the driver
Tools –> Panic Alarm Log

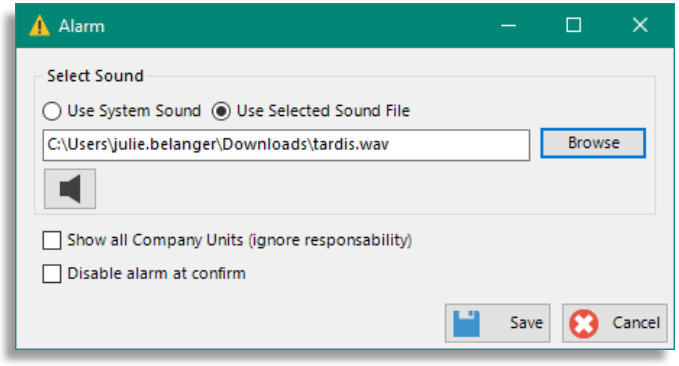
The driver activates the panic alarm by pushing on the hidden alarm button located by the driver's place / via their interface. While the alarm is active, the vehicle's position is continuously updated and displayed in a separate window.

The vehicle itself can update its external signs with "Call for help" or any requested message.

Setup

You can select the sound you will hear when receiving an alarm.

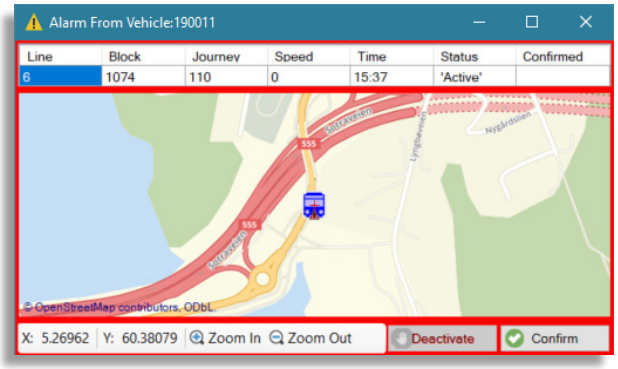
1. Disconnect ( ).
2. File -> Setup -> Alarm
3. Select which sound to use.
   - 3.1 Use the default sound by ticking **Use system sound.**
   - 3.2 Use your own sound by ticking **Use selected sound file.**
     - 3.2.1 Browse to the location of the file on your computer.
4. Click on the speaker icon to test your sound.
5. Click on **Save**.



Alarm Window

When a driver triggers the alarm, a red window appears on all the screens where this plugin is active and connected to the central system. The audio alarm is also activated.

The window shows a map with the distressed vehicle positioned in its center. It provides continuously updated information about the vehicle number, its assignment, its position, its speed, its direction and at what time the alarm was activated. It is also possible to zoom in and out.



When a user clicks on the **Confirm** button, the other users receive a confirmation that the alarm is being handled by someone else and the alarm stops ringing.

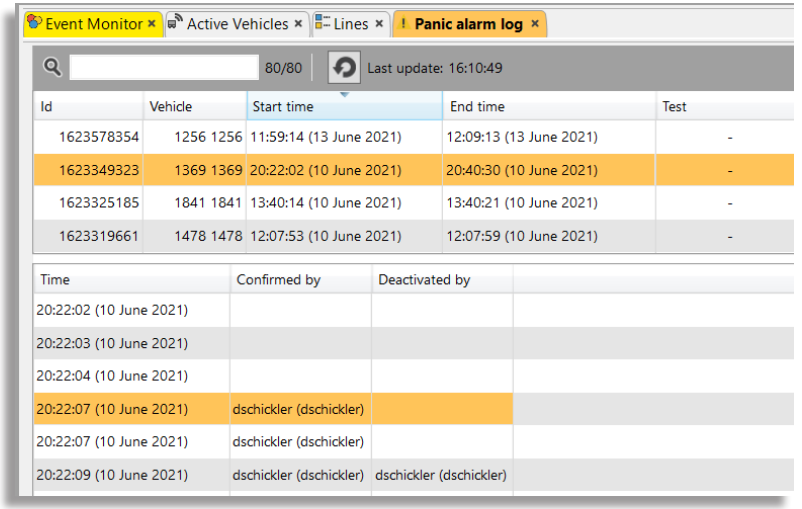
The user can also deactivate the alarm in cases where it is a false alarm or an ongoing test, by clicking on the **Deactivate** button.

The Alarm window will keep returning, even if it is closed, until an action is taken by a user.

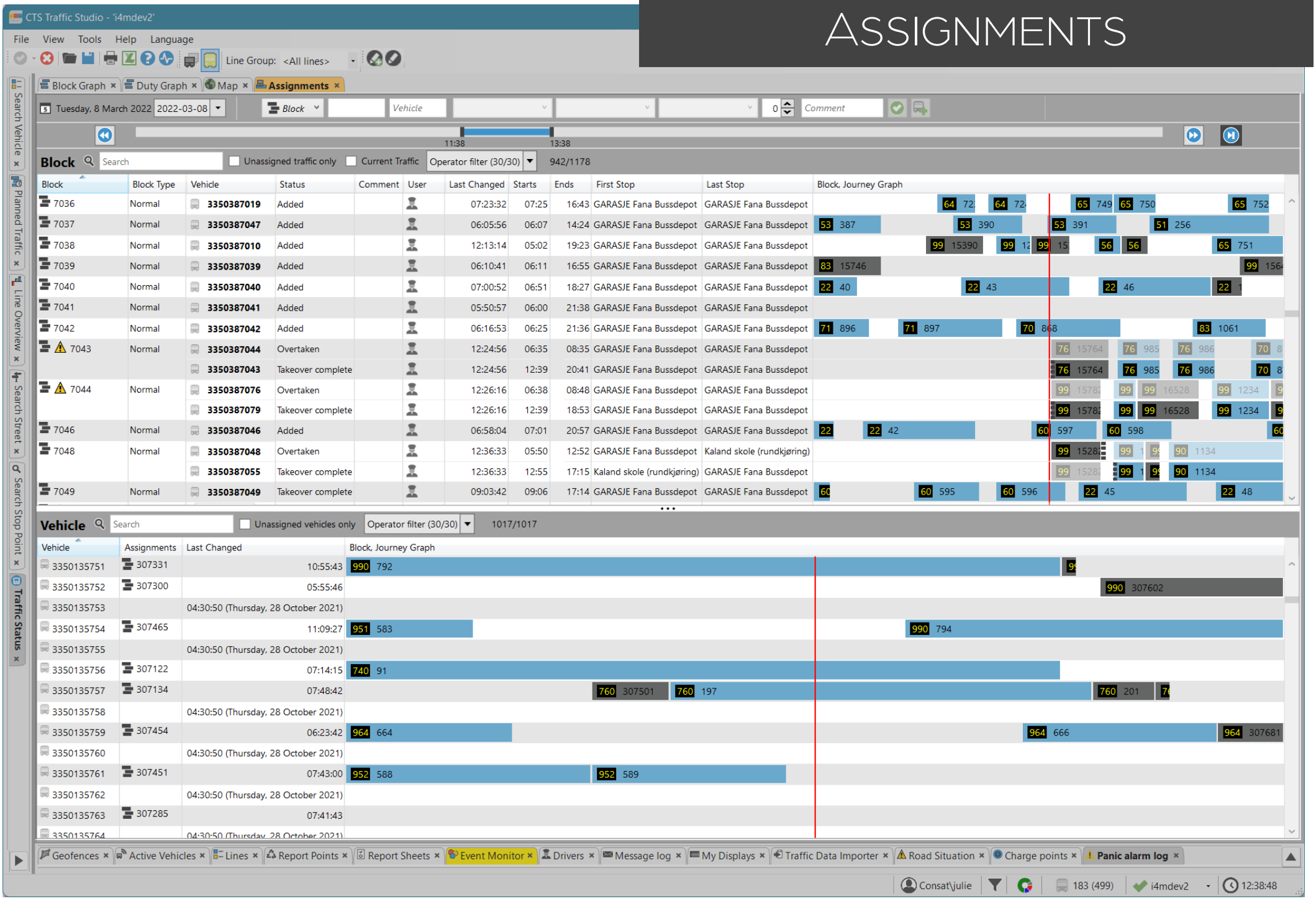
Panic Alarm Log

The Panic Alarm Log tool lists all logged alarms in the system, including test alarms, with active time periods and time stamps for each individual alarm update received.

- Filter the table for specific vehicles/ alarms with the **free text filter**.
- The list can be manually updated by clicking on the Update button, next to the timestamp of the last update.
- Click on a row in the top section to view a list with each individual logged (received) alarm update, including information about who confirmed/deactivated the alarm, and when.



ASSIGNMENTS



Function Create, edit or remove assignments for the vehicles.

Access Top Tool Window || Tools –> Assignments

Sections

The assignment plugin consist of many sections. *Note that changing the **Menu** can also change the default sections.

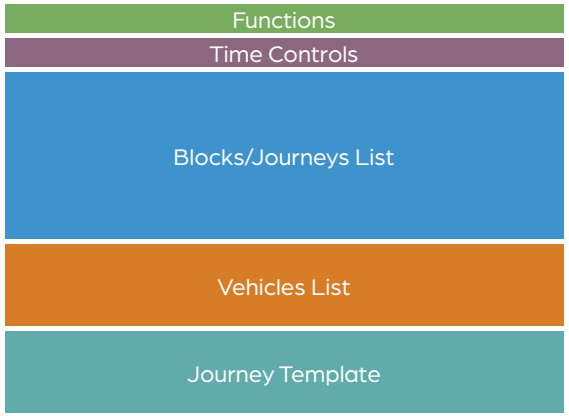
Functions All tools available for selecting traffic data and creating assignments, take-over and reinforcements.

Time Controls Time interval, with controls to move back and forth. It covers both lists.

Blocks/Journeys List All planned blocks/ journeys and current assignments (automatic and manual).

Vehicles List All available vehicles, both assigned and unassigned. A block graph can also be shown if needed (right-click the column headers).

Journey Template Only visible while selecting Dynamic in the menu. List of all journey templates, or patterns.



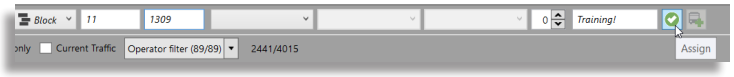
Assigning a Vehicle to a Block

There are a few ways to assign a vehicle.

- You can always clear the fields with ESC.
- You can change fields with the tab key.
- You can use the up & down arrows to change rows.

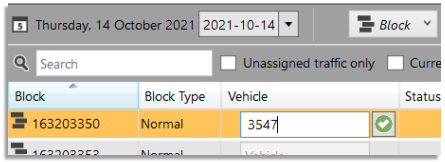
Method 1 || Functions

1. **Block number** - Type in the number, or click on a block in the **Blocks List.**
2. **Vehicle number** - Type in the number, or click on a vehicle in the **Vehicles List**.
3. If needed: Select a specific journey/stop point.
4. Press on **Enter** to assign, or click on the assignment button .



Method 2 || Blocks List

1. Click the vehicle field in the **Blocks List** to mark it.
2. Type in the number of the vehicle in the vehicle column.
3. Press on **Enter** to assign or the Assign button next to the vehicle number.



Method 3 || Drag and Drop

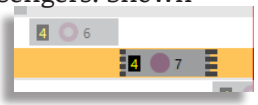
Click on the symbol left to a block name, hold the mouse's left button down, then drag it over the vehicle column in the **Vehicles List**.

Unlike the other methods, the assignment happens **automatically** as soon as you release the mouse button.

Other Types of Assignments

Some systems can have additional types of assignment. They can be selected via the drop-down menu. You can assign them vehicles the same ways as described for blocks, except for Dynamic. Note that they need to be imported with the planned traffic data to be available.

- **Line-Journey**: A single journey.
- **Planned Reinforcement**: Journeys with start time which can be activated when needed.
- **Replacement**: Replacing a vehicle with a new route. E.g., replacing a train with a bus. The stops, route and timetable will be different than the original.
- **On Demand**: Journeys with start time which can be activated when requested by passengers. Shown as grey with a purple circle when activated.



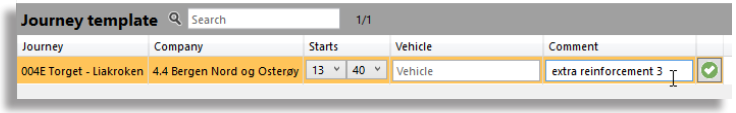
- **Dynamic**: Journey templates with routes, but no start time, which can be activated with a given time.

Dynamic Journeys

Choosing this option will open a third view below Vehicle List called **Journey Template**.

Journey templates are journeys without a start time, also called **journey patterns**.

1. Select **Dynamic** in the Menu drop down in **Functions**.
2. Select a journey pattern in **Journey Template**.
3. Set the start time in the **Starts** column.
4. Optional: Add a comment.
5. Optional: Assign a vehicle in the same action.
6. If you skipped 5, you can assign the new Journey in the **Journeys List** section with any of the 3 described assignment methods.



Reinforcement (unplanned)

Use **Method 1** up to step 3, then continue with the steps below.

4. **Journey field** - Select which journey to reinforce.
5. If needed:
   - Select a starting stop point.
   - Select an ending stop point, else it will end with the journey.
   - Select a time offset, before or after the planned departure.
6. Click on the **Reinforcement** button .

Break Block / Take Over

Use **Method 1** up to step 3, then continue with the steps below.

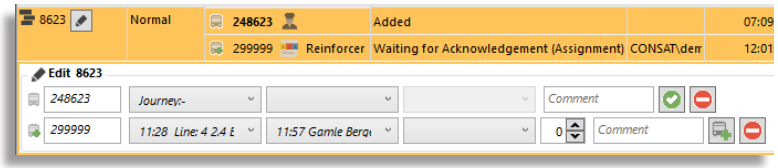
4. **Journey field** - Select the journey for the take over
5. If needed:
   - Select a stop point for the take over.
   - Select a stop point to end the assignment, else it will end with the block.
6. Press on Enter or click on the **Assignment** button .

Edit Assignment

You can edit an assignment, add a reinforcement vehicle or an extra wagon (tramway).

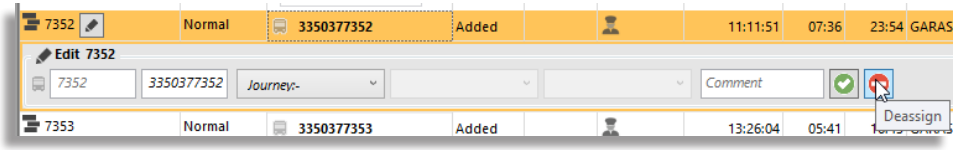
1. **Double-click** on a row in the block list to expand it and show the edit fields for every assigned vehicles.
2. Make the needed changes and click on the **OK/ reinforcement** button to save.

- Note: If you make changes to several vehicles for the same block, they will each have to be saved.



Remove Assignments

1. **Double-click** on a row in the block list to expand it and show the edit fields for every assigned vehicles.
2. Click on the **Remove** button . Note that there is no confirmation dialogue.

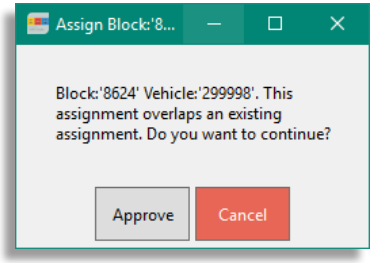


Assignment Conflict Notifications

From Traffic Studio

If you assign a block which already has a vehicle, you will be warned with a pop-up dialogue.

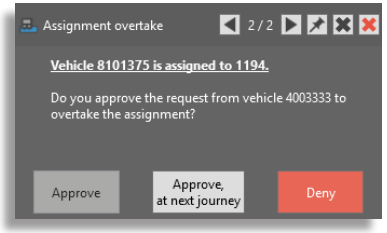
Click on **Approve** to overwrite the previous assignment.



From the Driver

You will get a notification message in the right bottom of your Traffic Studio application with the information about the block and involved vehicles (dark grey background).

You will get three options: **Approve**, **Approve at next journey** and **Deny**. If no decision is taken within 30 seconds, the take over will happen automatically. The initial driver will also get this choice in their interface.

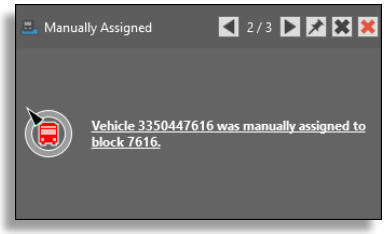


Traffic Control Pop-ups

Pop-ups are shown momentarily for 30 seconds in the lower right corner of the application.

You can choose to navigate through all open pop-ups (arrows), pin it to the screen (pin), close the current one (grey cross), or close all of them (red cross).

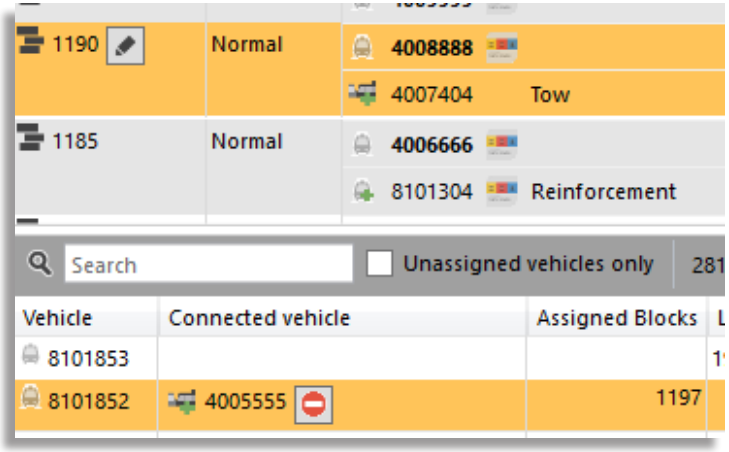
Clicking on the link will automatically select the assignment in question in the Assignments tool.



Couple Tow (Tramway Only)

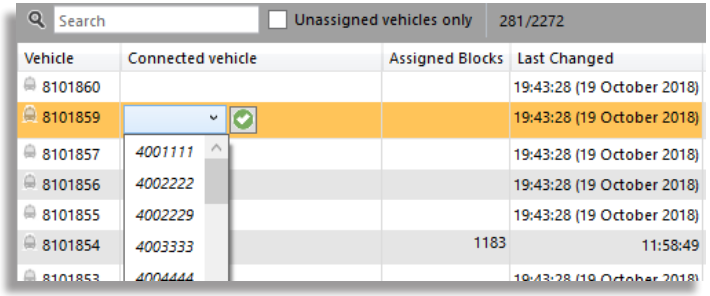
Method 1 || Functions

1. **Block number** - Type in the number, or click on a block in the **Blocks List**.
2. **Vehicle number** - Type in the number, or click on a vehicle in the **Vehicles List.**
3. **Tow number** - Type in the number of the tow vehicle in the Tow field.
4. If needed:
   - 4.1 Select the journey where the tow will be added.
   - 4.2 Select a time/stop point where the tow will be removed.
   - 4.3 Select a time/stop point where the tow will be removed.
5. Click on the **Tow** button .
6. The two will be displayed in the Tow column, with a tow symbol to the left of the vehicle number .



Method 2 || Vehicles List

1. Click on the row of the tow vehicle to select it in the **Vehicles List**. The tow vehicle menu will be visible in the Connected Vehicle column.
2. Select a two vehicle in the drop-down list (all available vehicles are listed).

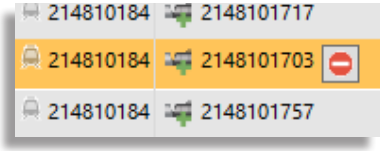


3. Couple the tow by clicking on the **green** button or press **Enter**.
4. The two will be displayed in the **Blocks List**, with a tow symbol to the left of the tow vehicle number .

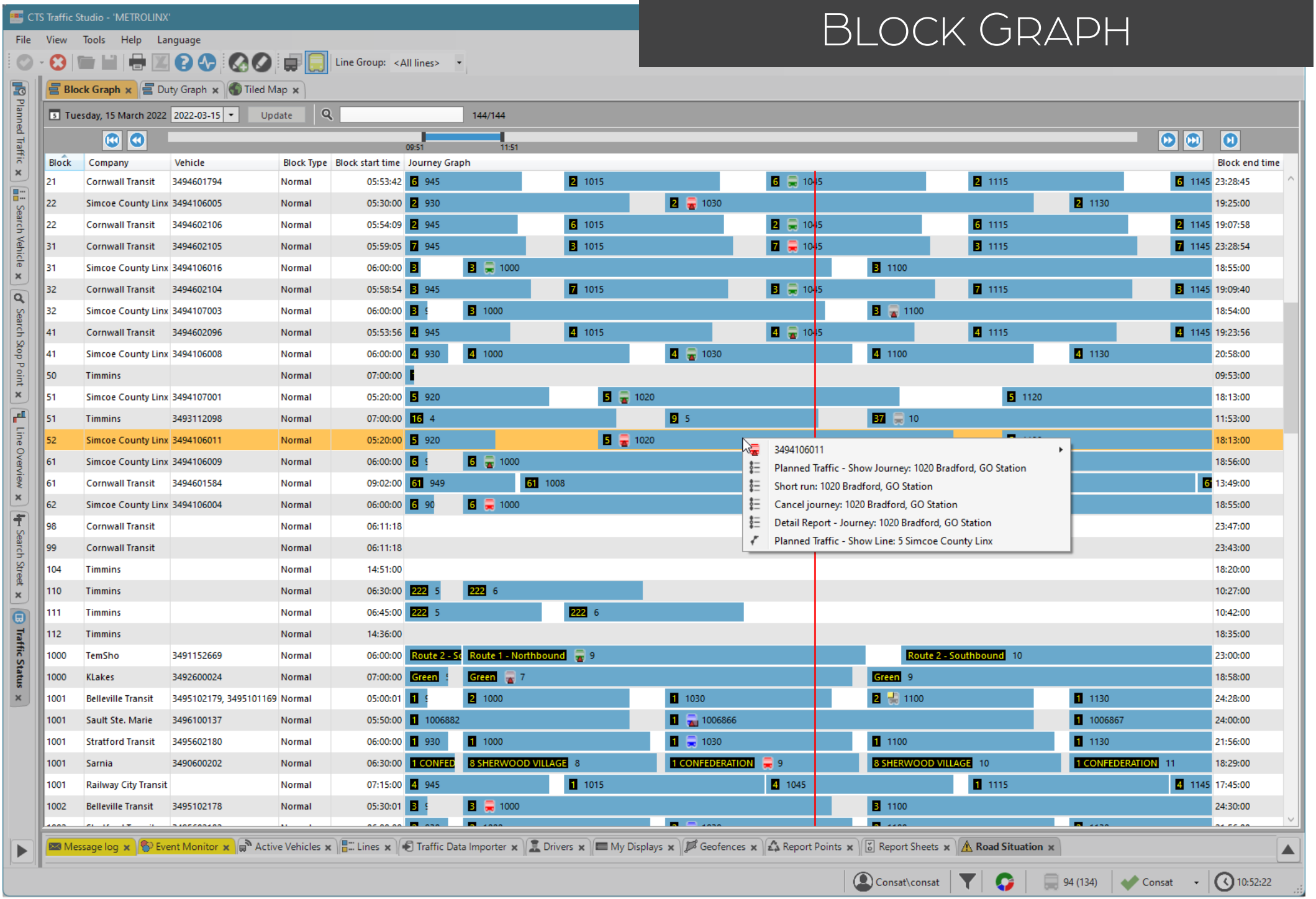
De-couple Tow (Tramway Only)

1. Click on the row to select it, the Remove button will show.
2. Click on the Remove button to de-couple the towed tram, and remove it from the current assignment, if applicable.

Note: You can edit an assignment including a towed vehicle just like other assignments, and that way remove the tow or change towed vehicle.



Block Graph


CTS Traffic Studio - 'METROLINX'
File View Tools Help Language
Line Group: <All lines>
Block Graph
Duty Graph
Tiled Map
Tuesday, 15 March 2022
2022-03-15
Update
144/144
09:51
11:51
Block
Company
Vehicle
Block Type
Block start time
Journey Graph
Block end time
3494106011
Planned Traffic - Show Journey: 1020 Bradford, GO Station
Short run: 1020 Bradford, GO Station
Cancel journey: 1020 Bradford, GO Station
Detail Report - Journey: 1020 Bradford, GO Station
Planned Traffic - Show Line: 5 Simcoe County Linx
Message log
Event Monitor
Active Vehicles
Lines
Traffic Data Importer
Drivers
My Displays
Geofences
Report Points
Report Sheets
Road Situation
Consat\consat
94 (134)
Consat
10:52:22

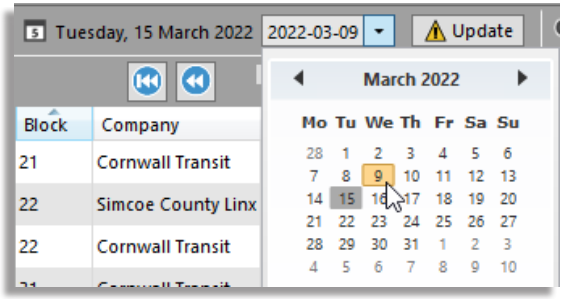
Function Graphical representation of each block and its journeys for the day.

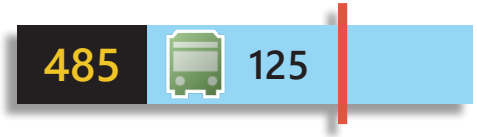
Access Tools –> Planned Traffic –> Block Graph

The Block Graph shows the current day's information.

To look at a past of future date, select it in the date field located in the upper left corner. You can manually enter the date or select it via the calender. Click the **Update** button to load the relevant data.

You can also use the free text field to filter the results.



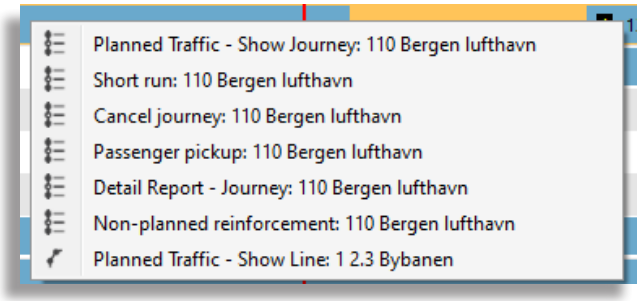


Each row represents a **block**.

- The yellow number is the **line** number *[485]*.
- The blue rectangle shows a journey. Its duration, start and end times are represented by the length of the rectangle.
  - Blue: Normal journey which is always active.
  - Dark grey: Empty run / journey that's never activated
  - Light grey: Specific journey that's manually activated or upon assignment.
- The **black** number in the blue rectangle is the **journey** number *[125]*.
- The Vehicle symbol/warning triangle is visible **only** for journeys currently running.
- The red vertical line is a visual indicator for the **actual time**.

Access to Shortcut Menus and Planned Traffic

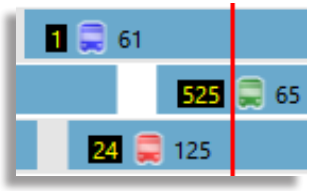
Right-clicking on a block, a specific journey or a vehicle icon to open the related shortcut menu(s).



Time Slider

Navigate through the day with the blue Time Slider located at the top of the Block Graph tool. You can adjust the displayed time interval between one to four hours, by dragging the dark grey edges of the Time Slider.

	Move to traffic day start
	Move backward one hour
	Move forward one hour
	Move to traffic day end
	Center graph around current time, with continuous update



Symbols

The vehicle symbols represent their deviation from the timetable.

If the symbol is only a yellow triangle ⚠, it means that journey has started, but no vehicle is assigned to it, or reporting.

Warning symbols are also shown with the vehicle symbol.

Yellow square: The vehicle is not properly assigned.

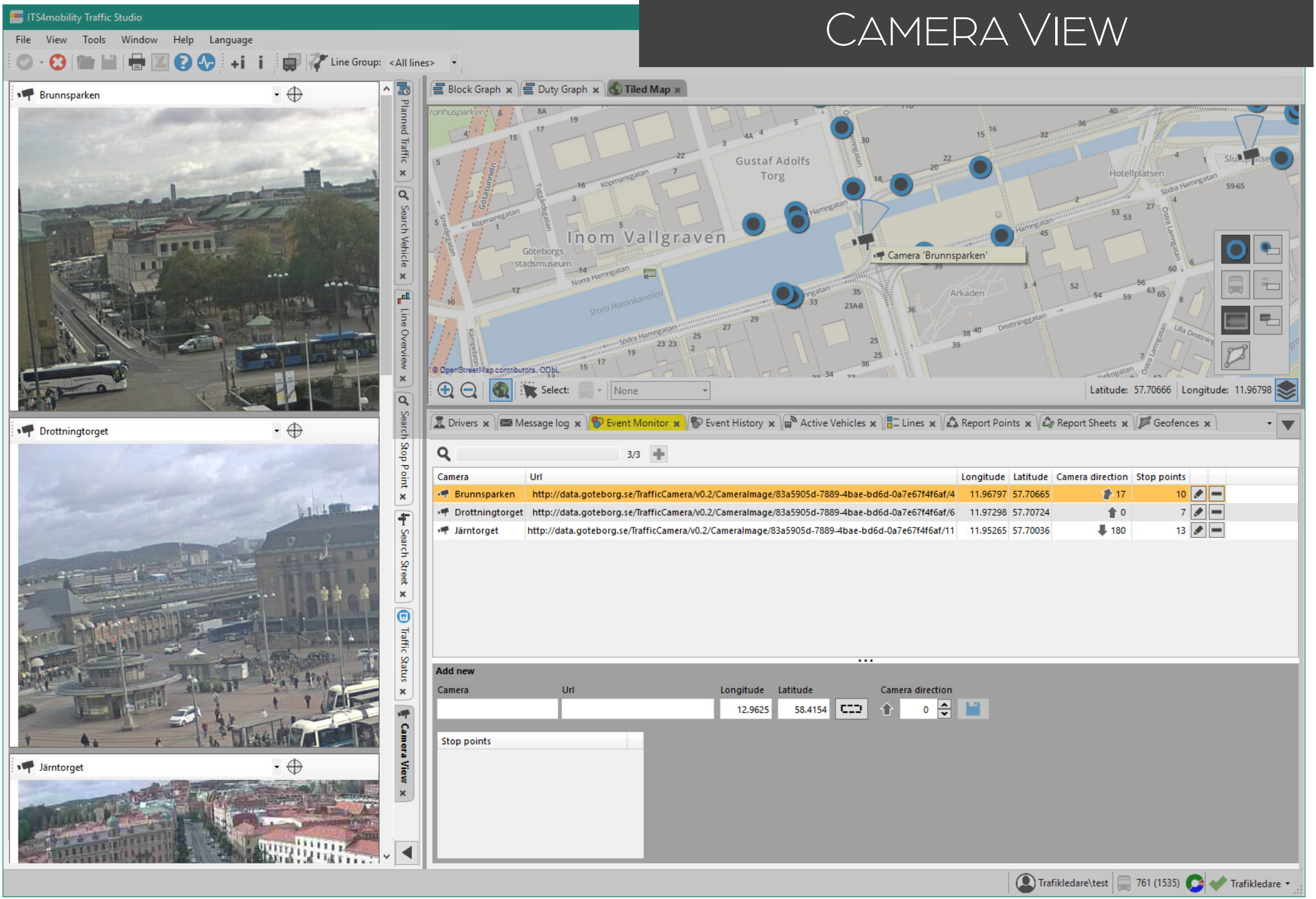
Orange square: The vehicle is off route.

Blue square: The vehicle is stuck in a traffic congestion.

Purple rectangle: Manual sign

Red triangle: Active vehicle fault

Camera View


ITS4mobility Traffic Studio
File View Tools Window Help Language
Line Group: <All lines>
Brunnsparken
Drottningtorget
Järntorget
Planned Traffic
Search Vehicle
Line Overview
Search Stop Point
Search Street
Traffic Status
Camera View
Block Graph
Duty Graph
Tiled Map
Gustaf Adolfs Torg
Inom Vallgraven
Göteborgs stadsmuseum
Stora Hamnkanalen
Hotellplatsen
Arkaden
Camera 'Brunnsparken'
© OpenStreetMap contributors, ODbL
Select: None
Latitude: 57.70666 Longitude: 11.96798
Drivers
Message log
Event Monitor
Event History
Active Vehicles
Lines
Report Points
Report Sheets
Geofences
3/3
Camera | Url | Longitude | Latitude | Camera direction | Stop points
Brunnsparken | http://data.goteborg.se/TrafficCamera/v0.2/CameraImage/83a5905d-7889-4bae-bd6d-0a7e67f4f6af/4 | 11.96797 | 57.70665 | 17 | 10
Drottningtorget | http://data.goteborg.se/TrafficCamera/v0.2/CameraImage/83a5905d-7889-4bae-bd6d-0a7e67f4f6af/6 | 11.97298 | 57.70724 | 0 | 7
Järntorget | http://data.goteborg.se/TrafficCamera/v0.2/CameraImage/83a5905d-7889-4bae-bd6d-0a7e67f4f6af/11 | 11.95265 | 57.70036 | 180 | 13
Add new
Camera Url Longitude Latitude Camera direction
12.9625 58.4154 0
Stop points
Trafikledare\test 761 (1535) Trafikledare

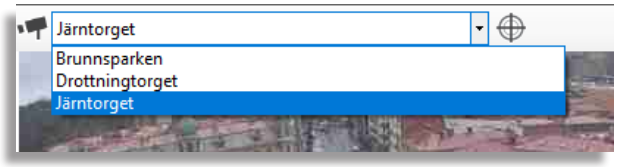
Function Display up to three surveillance cameras simultaneously.

Access Tools –> Camera View

- Web camera images are updated every 30 seconds.
- Select a camera for each of the three sections using the separate drop down camera view menus.
- Camera name, date and time stamp (last update) is indicated in each section.
- The selected camera in each section is saved between sessions.

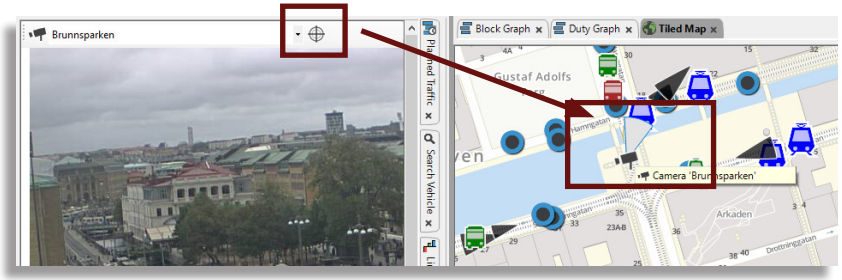
Select Camera

Click on the **camera view menu** to open the drop down menu with all available cameras. Scroll and select camera. The selected camera image will show immediately.



Zoom to Camera on Map

Click on the **Zoom to camera** button in a section to zoom the Map to this camera. Both location and direction of the camera is indicated by the symbol.

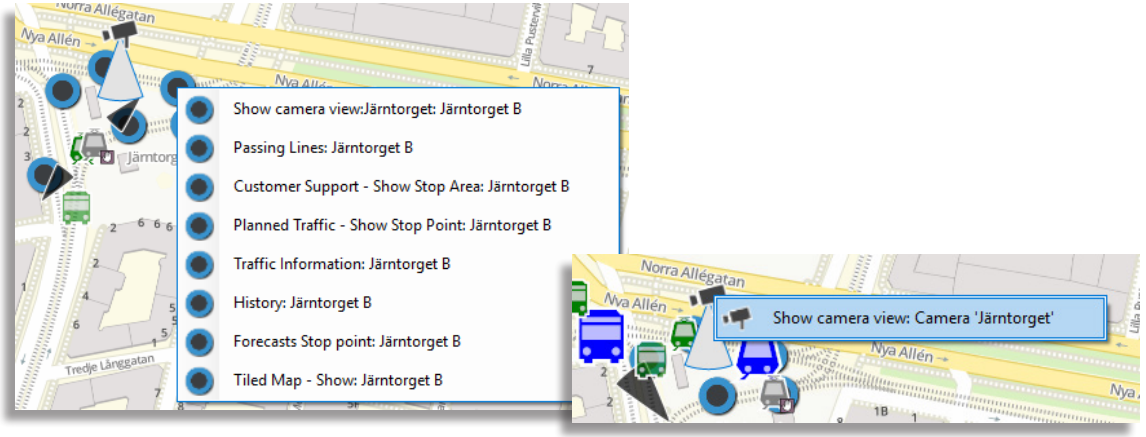


Stop Point Shortcut Menu

- Right-click on a stop point and select **Show Camera View:####**. Note that this menu option is only available for stop points configured as being visible from a camera.
- Camera View is opened if it was not already and the corresponding camera view opens in the top camera view section.

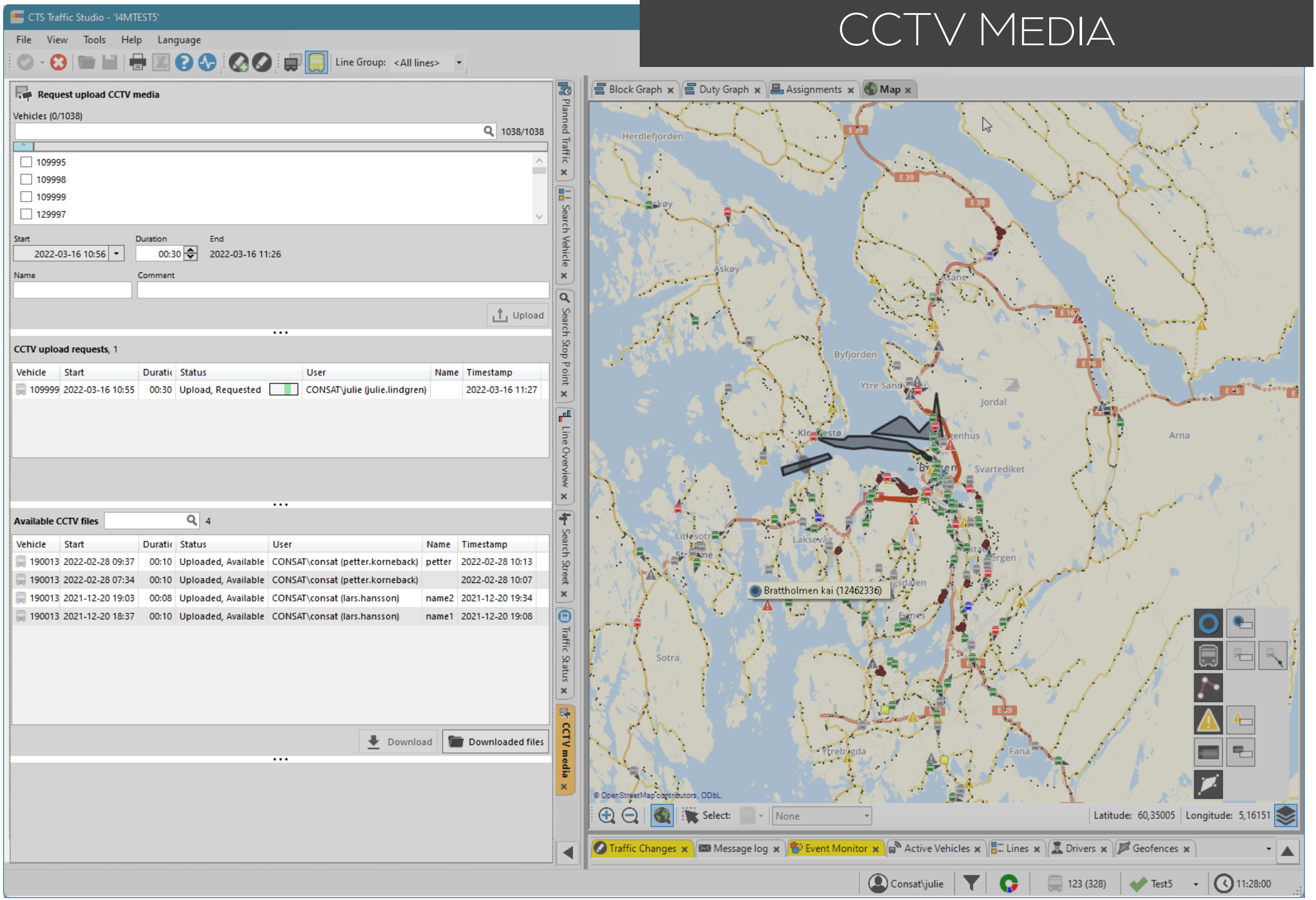
Camera Shortcut Menu

- Right-click on a camera symbol and select **Show Camera View:####**.
- Camera View is opened if it was not already and the corresponding camera view opens in the top camera view section.



Notes

CCTV MEDIA


CTS Traffic Studio - 'I4MTEST5'
File View Tools Help Language
Line Group: <All lines>
Request upload CCTV media
Vehicles (0/1038)
1038/1038
109995
109998
109999
129997
Start
2022-03-16 10:56
Duration
00:30
End
2022-03-16 11:26
Name
Comment
Upload
CCTV upload requests, 1
Vehicle Start Duratic Status User Name Timestamp
109999 2022-03-16 10:55 00:30 Upload, Requested CONSAT\julie (julie.lindgren) 2022-03-16 11:27
Available CCTV files 4
Vehicle Start Duratic Status User Name Timestamp
190013 2022-02-28 09:37 00:10 Uploaded, Available CONSAT\consat (petter.korneback) petter 2022-02-28 10:13
190013 2022-02-28 07:34 00:10 Uploaded, Available CONSAT\consat (petter.korneback) 2022-02-28 10:07
190013 2021-12-20 19:03 00:08 Uploaded, Available CONSAT\consat (lars.hansson) name2 2021-12-20 19:34
190013 2021-12-20 18:37 00:10 Uploaded, Available CONSAT\consat (lars.hansson) name1 2021-12-20 19:08
Download
Downloaded files
Planned Traffic
Search Vehicle
Search Stop Point
Line Overview
Search Street
Traffic Status
CCTV media
Block Graph
Duty Graph
Assignments
Map
Herdlefjorden
Askøy
Byfjorden
Ytre Sandviken
Jordal
Arna
Svartediket
Laksevåg
Sotra
Fana
Brattholmen kai (12462336)
© OpenStreetMap contributors, ODbL
Select:
None
Latitude: 60,35005
Longitude: 5,16151
Traffic Changes
Message log
Event Monitor
Active Vehicles
Lines
Drivers
Geofences
Consat\julie
123 (328)
Test5
11:28:00

Function Request CCTV uploads from selected vehicles to the central systems for review/analysis.

Access Tools –> CCTV Media

- Files might be encrypted. If so, you will need the correct application and encryption key to view them.
- Up to 15 vehicles can be selected for simultaneous media upload.

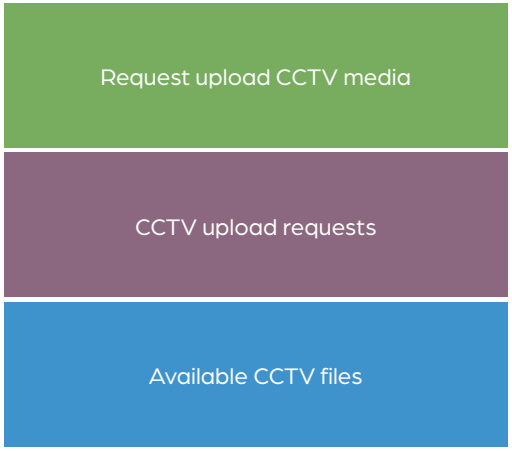
Sections

The CCTV plugin consist of three default sections.

Request upload CCTV media Select vehicle(s) for the CCTV files

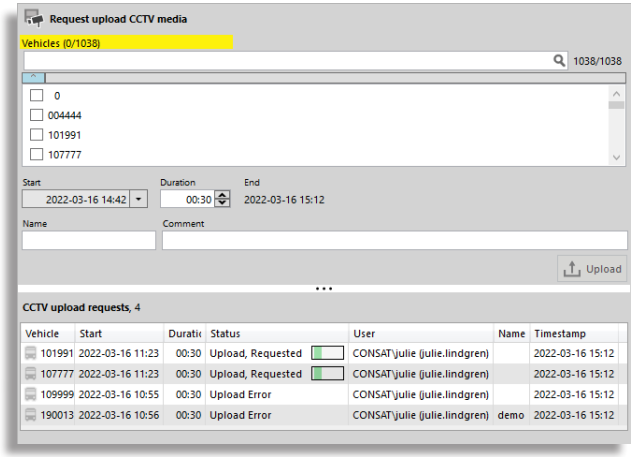
CCTV upload requests Upload status for the CCTV files. Once completed, they are moved to the last section.

Available CCTV files All available files ready for download via Traffic Studio.



Retrieving Files from Vehicle(s)

Start in the **Request upload CCTV media** section.



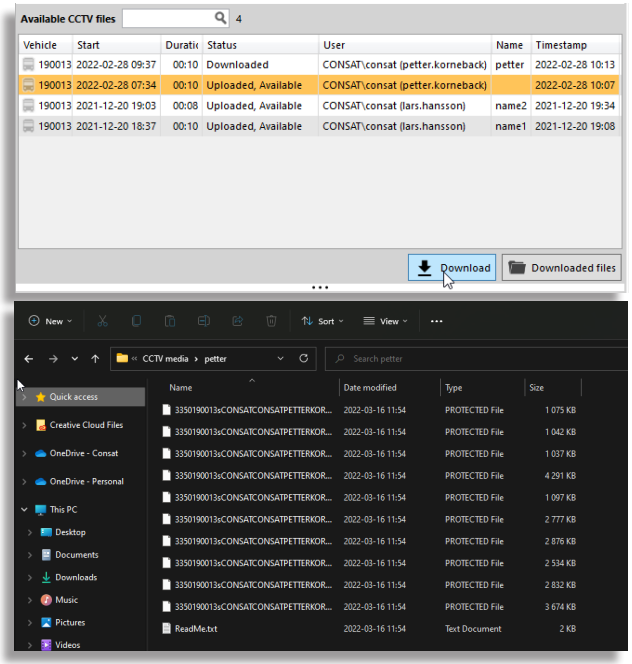
1. **Vehicles**: Select up to 15 vehicles. Use the search field to narrow the list.
2. **Start, Duration**: Select the date & time and duration for the files to retrieve.
3. **Name**: Give it a name. The downloaded files will be saved in a folder with that name. Unnamed files will end up in the main folder without grouping.
4. **Comment** (optional): Add a description, e.g., why the request is made.
5. Click on **Upload**.

Requests are listed in the **CCTV upload requests** section with a progress bar in the Status column and a descriptive text.

When the upload is done and successful, it will be moved to the **Available CCTV files** section.

Downloading Files

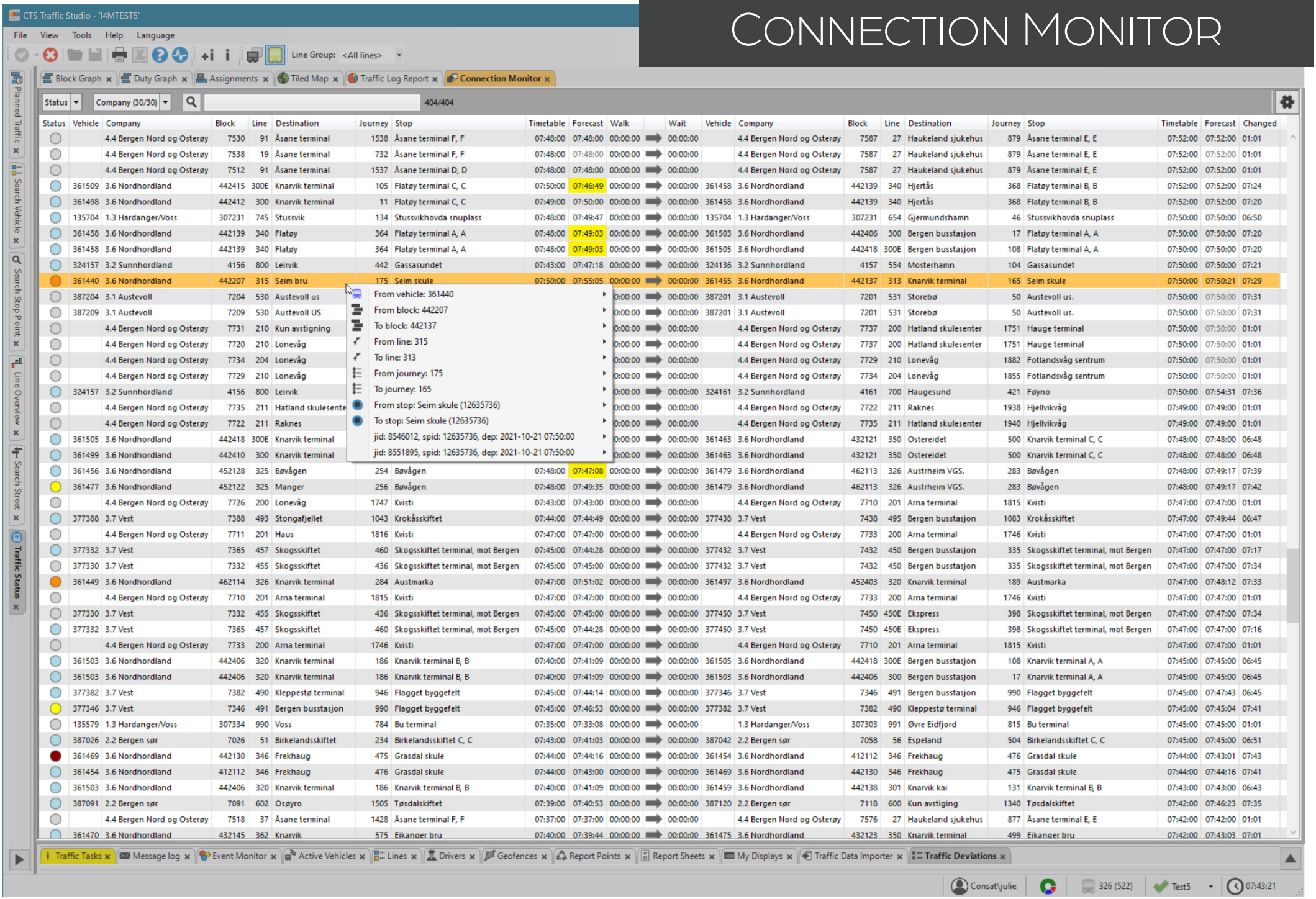
You can only download files once their status shows "Uploaded, Available". These files are listed in the **Available CCTV files** section.



1. Select a file by clicking on its row.
2. Click on **Download**.
3. To quickly access your files, you can click on "**Downloaded files**" which will open your Windows Explorer to the selected row's folder.

From there, you can navigate back to the main CCTV media folder to easily reach any other downloaded files.

Connection Monitor



Function List all past and incoming connections for the current traffic day with their connection status.

Access Tools –> Connection Monitor

Main View

A table lists all the past and future connections, with planned and forecast times for the two involved vehicles as well as the connection status for each of these connections.

The content can be filtered by types of connection status, companies and with a free text filter.

Tool Controls

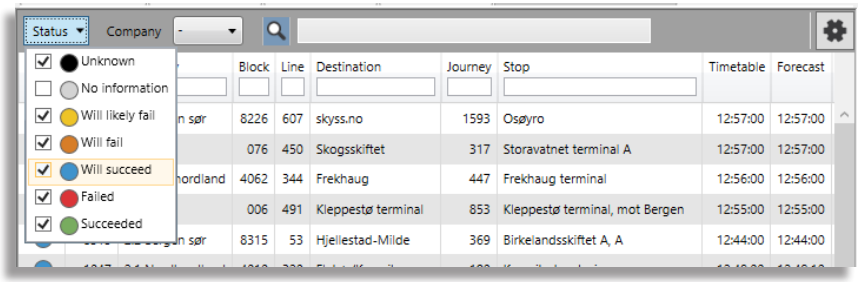
Status: Filter the status in the drop down menu.

Company filter: Narrow the table to specific companies.

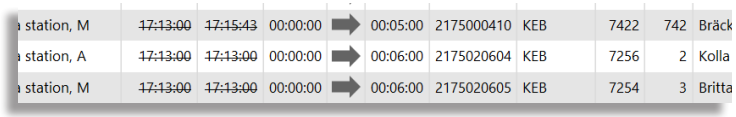
Free Text Field: Type letters and/or numbers and the table updates automatically.

- Click on the **Magnifier** image before the **Search Field** to activate the field for each column. Any information entered in those new fields will only apply to their own column.

Configuration: Change to the Configuration view where you can set time intervals and colors for the connections.



If a connection cannot be met because one of the journeys/arrivals/departures has been canceled, it will be indicated with crossed-out forecast and timetable times for that vehicle.



Connection Status

No information: The forecasts are missing for at least one vehicle, e.g., one vehicle is not reporting, a journey has not started yet, etc.

Will likely fail: The connection will likely fail as the margin is too small between forecasts, walking time and waiting time.

Will fail: The connection will fail as there is no margin between forecasts, walking time and waiting time.

Will succeed: The connection will succeed as there is a good margin between forecasts, walking time and waiting time.

Failed: Vehicle A arrived after Vehicle B had already departed the stop.

Succeeded: Vehicle A arrived in time to connect with Vehicle B.

Configuration View

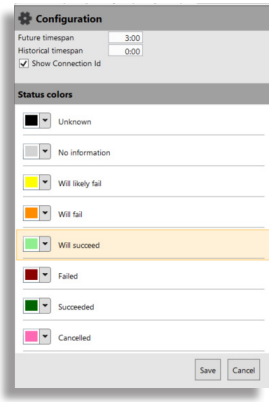
Settings for the time intervals and the status colors. Click on the Settings button .

To exit the Configuration View, click on **Save** to keep your modifications or **Cancel**.

Future timespan: How far ahead the connections are shown, in hh:mm.

Historical timespan: How far back the connections are shown in hh:mm.

Status Colors: Change the colors for each status.



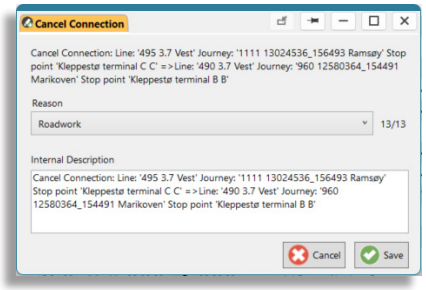
How to Change Colors

1. Click on the arrow next to the colour.
2. Select one of the a predefined colours.
3. Click on **Save**.

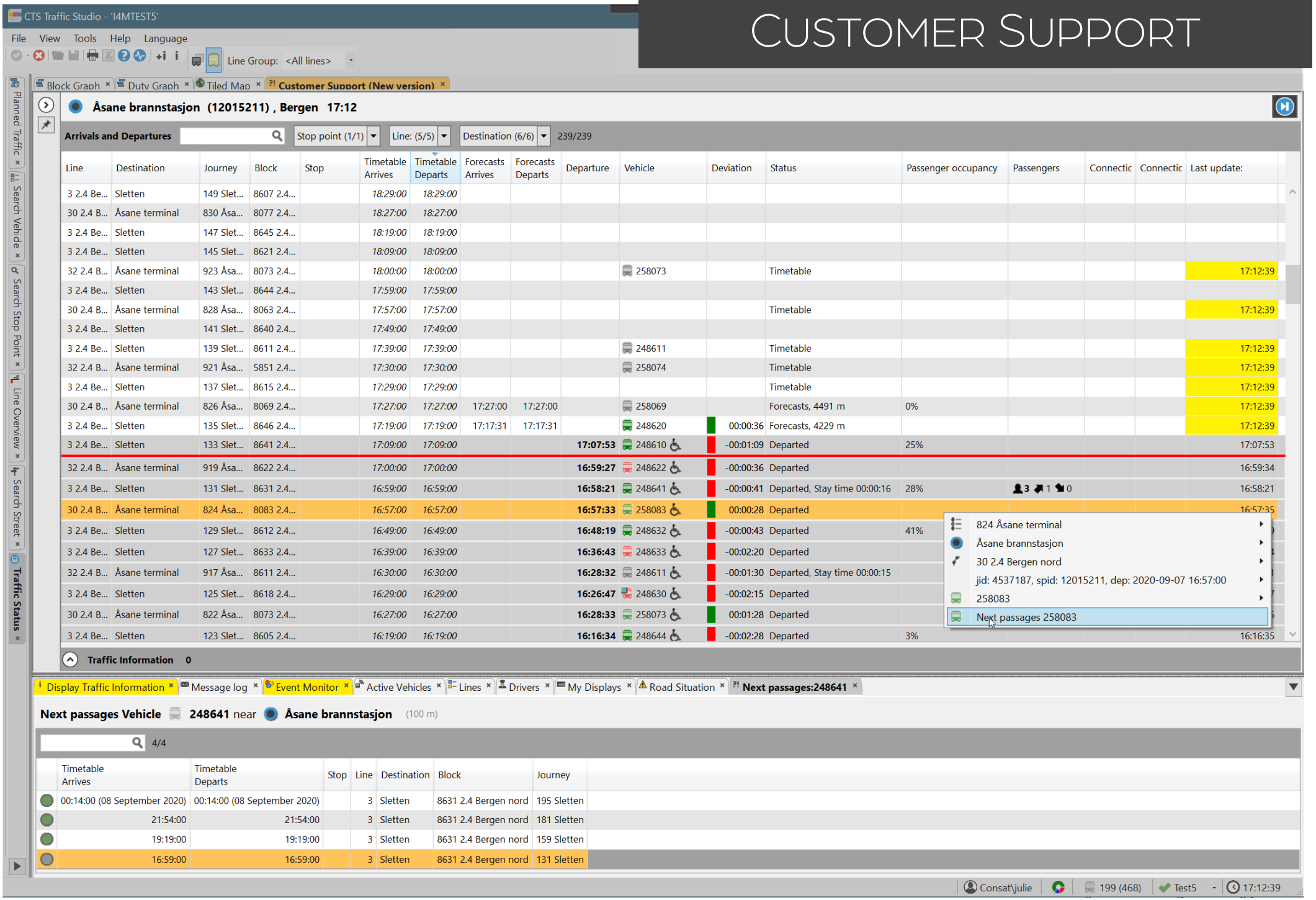
Cancel a Connection

Note: This option is not available to all systems.

1. Right-click on the connection's row.
2. Select "**Cancel Connection**" in the shortcut menu.
3. In the pop-up window, select a **reason**. You can also modify the internal description.
4. Click on **Save**.



CUSTOMER SUPPORT



Function List of every planned journeys at the stop, with forecasts, traffic information, APC, next passages, etc.

Access Tools –> Customer support

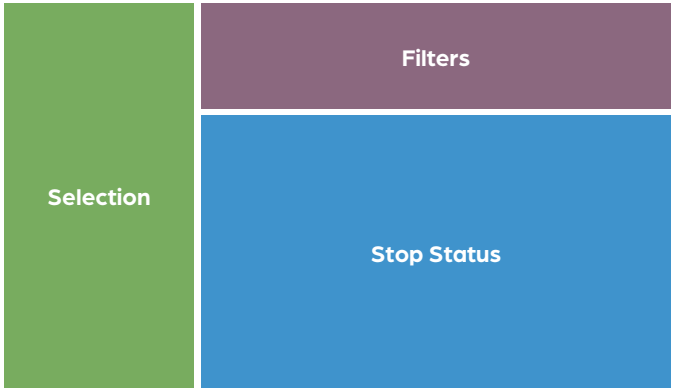
Sections

Customer support consists of three sections.

Selection Search criteria for date and stop area.

Filters The section with free text search, stop point, line and destination filters.

Stop Status Show timetables, forecasts and other traffic related information



How does it work?

Start by selecting search criteria in the **Selection** section.

1. Select a date. **Now** is selected by default.
   1.1 To choose your own date, **uncheck Now**. Enter the date yourself or select it via the calendar.
2. Select a stop area. Use the free text filter to filter the list.
3. Click on **Search** to generate results.

Filters

Narrow down the list by combining different filters.

- Text filter, e.g., 3442 for journeys related to vehicle 3442.
- Stop point filter, e.g., Central Station B, Maple Park 2.
- Line filter, e.g., only show journeys for line 3.
- Destination filter, e.g., only show journeys for all lines heading to Maple Park

Colour-Coding

- If using **Now**: The upper part of the table is not highlighted to show that these journeys have not yet departed from the stop according to the timetable. However, the vehicle might be early. Always check the **Status** column if in doubts.
- The bottom part of the table is greyed to show that these journeys should have already left the stop point according to the timetable. However, the vehicle might be late. Always check the **Status** column if in doubts.
- **Blue** vehicle icon means a late departure.
- **Red** vehicle icon means an early departure.

The list updates in real time.

Next Passages: Vehicle

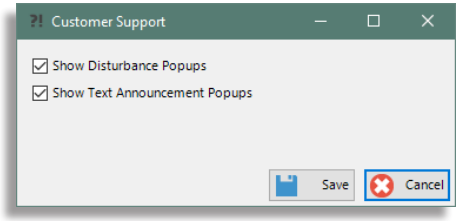
Right-click on a grey row and select the "Next passage" option.

A new tab will open in the bottom tool window with all planned passages at this stop point for the selected vehicle.

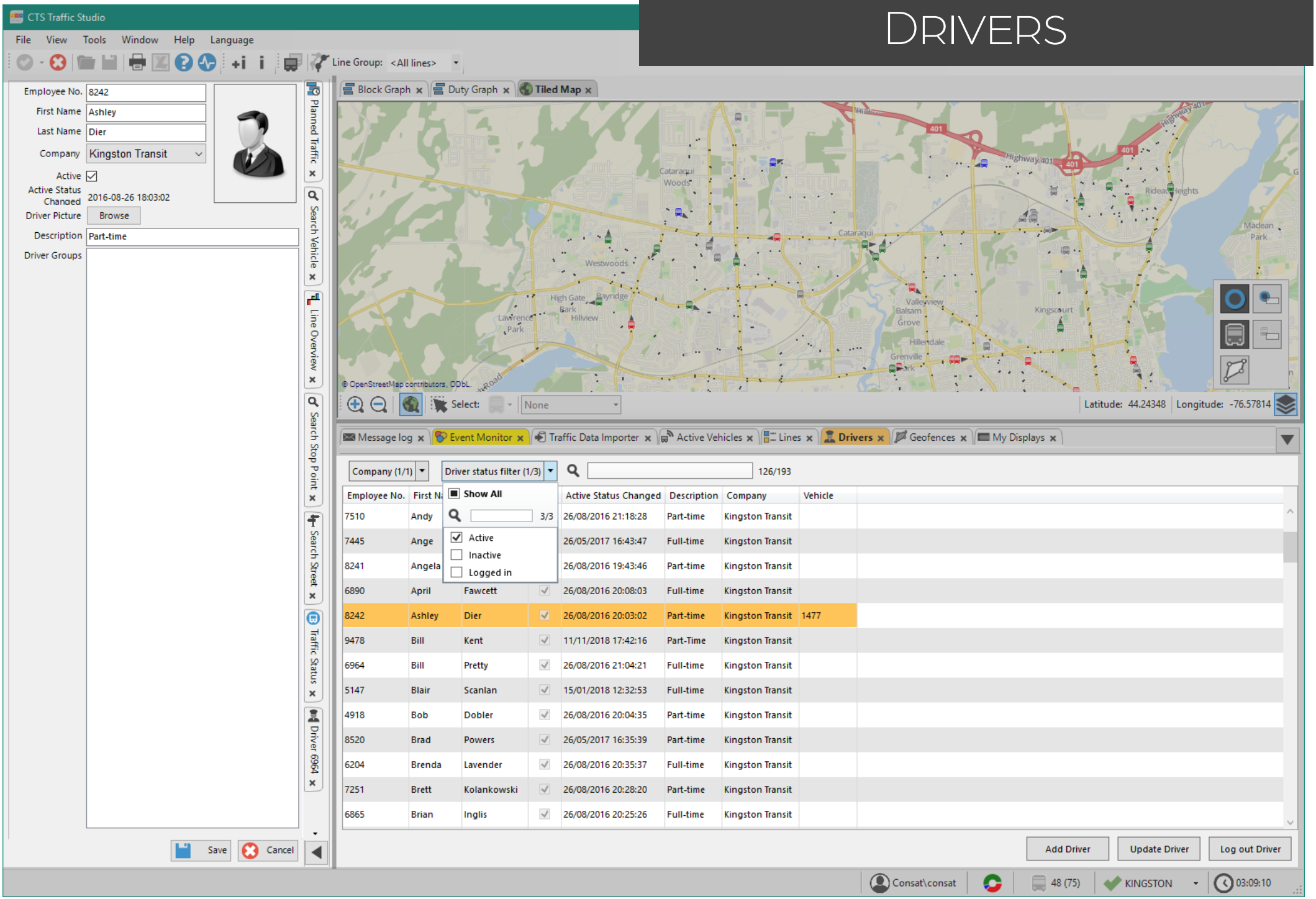
You can open multiple tabs for different vehicles.

Line	The line of the departing vehicle.
Destination	The journey destination.
Journey	The journey of the departing vehicle.
Block (optional)	The block of by the departing vehicle.
Stop	The stop point within the area.
Timetable Arrives	Scheduled arrival time of the vehicle.
Timetable Departs	Scheduled departure time of the vehicle.
Forecasts Arrives	Forecast arrival time of the vehicle.
Forecasts Departs	Forecast departure time of the vehicle.
Departure	Actual, reported departure (historical).
Vehicle	Vehicle number and icon.
Deviation	Time difference between scheduled and actual departure.
Last Stop	The previous stop visited by the vehicle.
Journey Status	Journey status, e.g. started, in-between.
Status	Timetable (not left yet), Departed (has left).
Passenger occupancy	Passenger occupancy in percent.
Passengers	Number of passengers onboard.
Connection From	Connection information.
Connection To	Connection information.

Tips You can disable the popup windows for free texts and/or disturbance. Start by disconnecting, then go to **File –> Setup –> Customer Support** and uncheck the options.



DRIVERS


CTS Traffic Studio
File View Tools Window Help Language
Line Group: <All lines>
Employee No. 8242
First Name Ashley
Last Name Dier
Company Kingston Transit
Active
Active Status Changed 2016-08-26 18:03:02
Driver Picture Browse
Description Part-time
Driver Groups
Save Cancel
Planned Traffic
Search Vehicle
Line Overview
Search Stop Point
Search Street
Traffic Status
Driver 6964
Block Graph Duty Graph Tiled Map
Cataraqui Woods
Westwoods
High Gate Park
Bayridge
Lawrence Park
Hillview
Cataraqui
Valleyview
Balsam Grove
Hillendale
Grenville Park
Kingscourt
Rideau Heights
Maclean Park
Highway 401
© OpenStreetMap contributors, ODbL.
Select: None
Latitude: 44.24348 Longitude: -76.57814
Message log Event Monitor Traffic Data Importer Active Vehicles Lines Drivers Geofences My Displays
Company (1/1)
Driver status filter (1/3)
126/193
Show All
3/3
Active
Inactive
Logged in
Employee No. First Name Active Status Changed Description Company Vehicle
7510 Andy 26/08/2016 21:18:28 Part-time Kingston Transit
7445 Ange 26/05/2017 16:43:47 Full-time Kingston Transit
8241 Angela 26/08/2016 19:43:46 Part-time Kingston Transit
6890 April Fawcett 26/08/2016 20:08:03 Full-time Kingston Transit
8242 Ashley Dier 26/08/2016 20:03:02 Part-time Kingston Transit 1477
9478 Bill Kent 11/11/2018 17:42:16 Part-Time Kingston Transit
6964 Bill Pretty 26/08/2016 21:04:21 Full-time Kingston Transit
5147 Blair Scanlan 15/01/2018 12:32:53 Full-time Kingston Transit
4918 Bob Dobler 26/08/2016 20:04:35 Part-time Kingston Transit
8520 Brad Powers 26/05/2017 16:35:39 Part-time Kingston Transit
6204 Brenda Lavender 26/08/2016 20:35:37 Full-time Kingston Transit
7251 Brett Kolankowski 26/08/2016 20:28:20 Part-time Kingston Transit
6865 Brian Inglis 26/08/2016 20:25:26 Full-time Kingston Transit
Add Driver Update Driver Log out Driver
Consat\consat 48 (75) KINGSTON 03:09:10

Function

List all drivers in the system. User can add/edit information, and log in/log out a driver on a vehicle.

Access

Tools –> Drivers

Bottom Tool Window

The Drivers tool lists all drivers, regardless of status. They are sorted by their employee numbers.

- Company filter: View drivers from selected companies
- Drivers Status filter: Focus on active/ inactive or logged in drivers.
- Free text filter: Narrow the list to only include rows with at least one matching cell.
- Click on a list row to select it/the driver.
- Press **Esc** to de-select the row/driver.
- The buttons **Add driver** and **Update driver** will open a new window in the Left Tool Window. You can also double-click on a row to open the driver's window in the Left Tool Window.

Left Tool Window

The Drivers tab in the Left Tool Window contains the same information as the one in the Bottom Tool Window, with the addition of a picture.

This is where you can modify a driver's information and/or create a new profile.

Information

Employee No.	A unique ID for each employee
First name	Driver's first name.
Last name	Driver's last name.
Active	Set active status for the driver (checked box)
Active Status Changed	Date and time when the active status of the driver was changed.
Description	Any comment or description
Company	The company the driver belongs to
Vehicle	The vehicle where the driver is currently logged-in.

Add Driver

1. Click on the **Add driver** button to open a new window in the Left Tool Window.
2. Enter all the information. Make sure to give your driver a **unique** ID number.
3. Optional: Click on the **Browse** button to add a picture and find the file on your computer.
4. Click on the **Save** button.

Update Driver

1. Select a driver in the Driver window and click the **Update driver** button.
2. Make the modifications.
3. Click on the **Save** button.

Log Out Driver

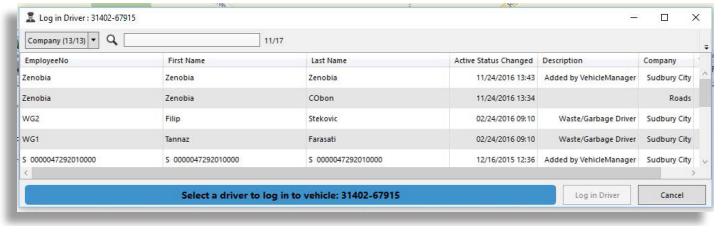
There are three ways to log out a driver:

- **Drivers Plugin:** Select the driver's row and click on the **Log out driver** button at the bottom .
- **Drivers Plugin: Right-click** on the vehicle cell to open its shortcut menu and select the **Log out driver** function.
- **Any vehicle icon, any plugin: Right-click** on the vehicle icon to open its shortcut menu and select **Log out driver**.

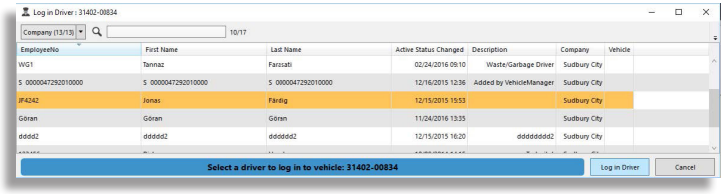
Log in Driver

You can remotely log in a driver to a specific vehicle via the vehicle shortcut menu. Note that the list only include **active** drivers who are **not logged in** to a vehicle. If you want to move a driver, you must first log them out (see Log Out Driver).

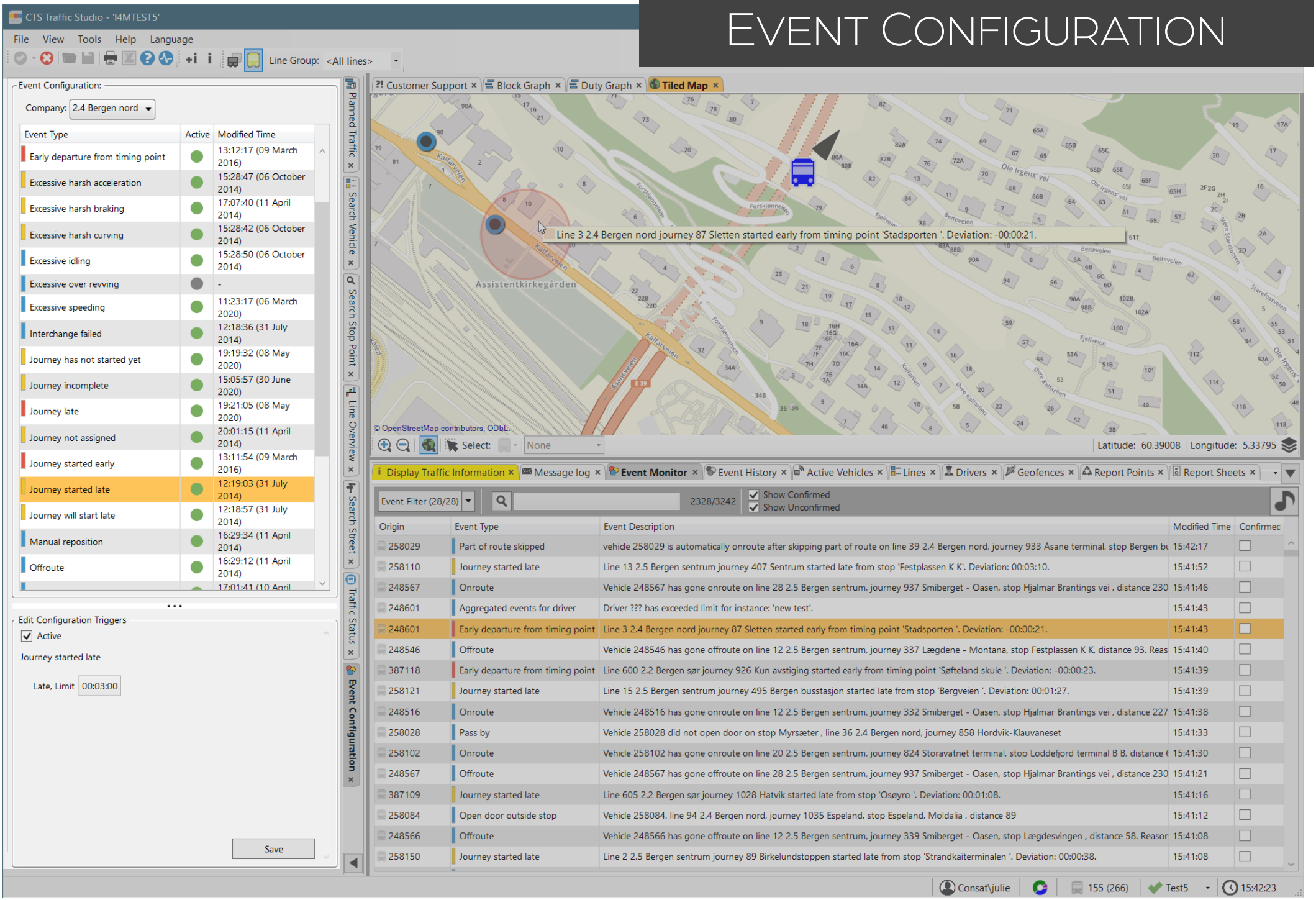
1. Right-click on the vehicle symbol for the particular vehicle anywhere in Traffic Studio and select **Log in Driver**.
2. The **Log in Driver** window will open on your screen. It is similar to the Drivers plugin, filtered to only active vehicles. The bottom part of the window is highlighted blue with instructions to follow.



3. Click on a row to select the driver.
4. Click on the **Log in Driver** button.



Event Configuration



Function

Settings view for Event types to active them, modify their triggers and create aggregated events for drivers.

Access

Tools –> Event Monitor –> Event Configuration

Symbols

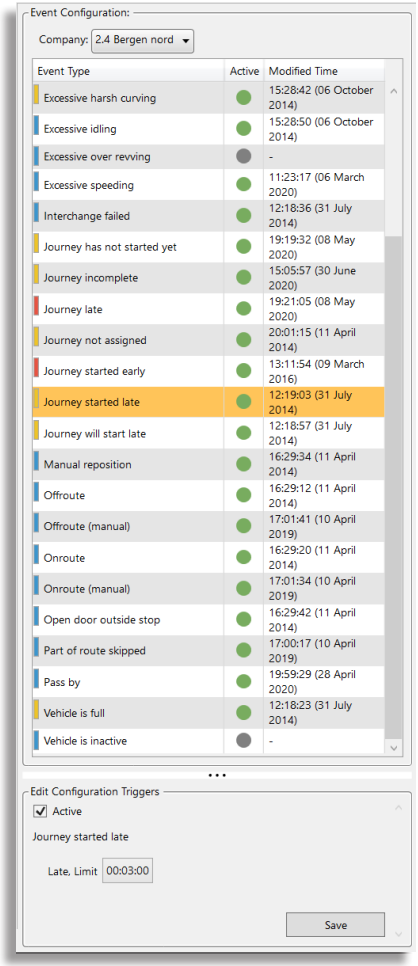
There are three colors associated to the event types; blue for information, yellow and red for severity.

How to activate/edit events

1. Select the **company**.
2. Click on the **event type** in the list to show its settings in the **Edit Configuration Triggers** section underneath the list.
3. Active the event type by checking its "**Is Active**" box.
4. Modify the trigger by typing the new value or using the arrows, when available.
5. Click on **Save** to keep the new changes.

Note that some events do not have triggers, such as "Buss is full" and "Interchange failed", as they are either true or false.

Note also that only activated event types are recorded and can be searched in Event History.



Advanced: Aggregated Events for Driver (A.E.D.)

An A.E.D. groups certain types of events and is recorded when the vehicle/driver reaches a sum of 100% for those. There are 3 things to consider: the time window, which events are part of the A.E.D. and their percent weight.

Percent Weight? What's that?

A.E.D. can be tricky the first few times so let's have a closer look based on the screenshot below.

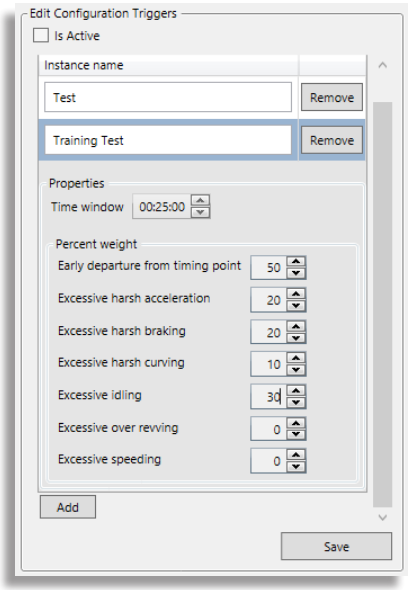
An A.E.D. shows up in Event Monitor only when the sum of all the reported events reaches 100% within its time window. In our example, as soon as one of the weighted event happens, the clock starts ticking. If enough events happen to add up to 100% before the time window runs out, then an A.E.D. will show up in Event Monitor with the name "Training Test" and that specific instance resets.

If it fails to reach 100% in 25 minutes, then it will forget the very first event and move to the next one, adjusting its timer accordingly.

E.g., Excessive Idling happened at 10:00. Excessive harsh braking happened at 10.15, then Excessive Idling happened again at 10.24. By 10.25, which is 25 minutes later, we have reach 30% + 20% + 30% = 80%, which falls short of 100%. The Training Test removes the first Excessive Idling, adjusts its sum to 50% (20% + 30%) and the timer's start is moved to at 10:15.

Create an Aggregated Events for Driver

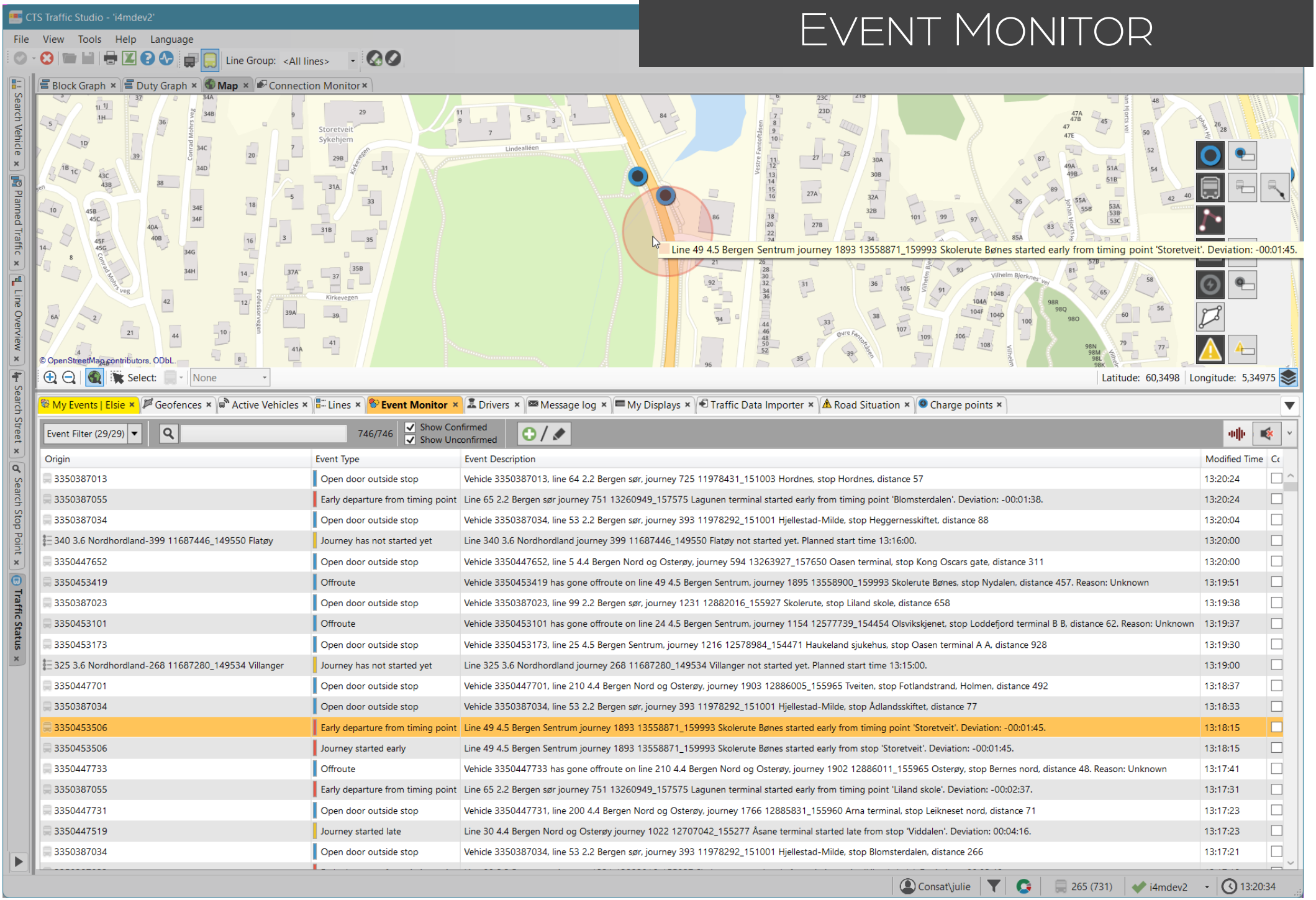
1. Select **Aggregated Events for Driver** in the list.
2. Check the "Is Active" box to enable all instances.
3. Click on the **Add** button.
4. Enter a name for the new instance.
5. Select a time window. The format is hh:mm:ss.
6. Enter a value for the events you wish to monitor. Note that the value is in % and needs to be within 0 and 100%, where 0 excludes the event from the instance. The sum of weights does not have to be 100%
7. Click on **Save** to save the instance.



Edit an Aggregated Events for Driver

1. Select **Aggregated Events for Driver** in the list.
2. Select the instance by clicking on it.
3. Make your modifications.
4. Click on **Save** to keep the changes.

Event Monitor



Origin	Event Type	Event Description	Modified Time	Cc
3350387013	Open door outside stop	Vehicle 3350387013, line 64 2.2 Bergen sør, journey 725 11978431_151003 Hordnes, stop Hordnes, distance 57	13:20:24	
3350387055	Early departure from timing point	Line 65 2.2 Bergen sør journey 751 13260949_157575 Lagunen terminal started early from timing point 'Blomsterdalen'. Deviation: -00:01:38.	13:20:24	
3350387034	Open door outside stop	Vehicle 3350387034, line 53 2.2 Bergen sør, journey 393 11978292_151001 Hjellestad-Milde, stop Heggernesskiftet, distance 88	13:20:04	
340 3.6 Nordhordland-399 11687446_149550 Flatøy	Journey has not started yet	Line 340 3.6 Nordhordland journey 399 11687446_149550 Flatøy not started yet. Planned start time 13:16:00.	13:20:00	
3350447652	Open door outside stop	Vehicle 3350447652, line 5 4.4 Bergen Nord og Osterøy, journey 594 13263927_157650 Oasen terminal, stop Kong Oscars gate, distance 311	13:20:00	
3350453419	Offroute	Vehicle 3350453419 has gone offroute on line 49 4.5 Bergen Sentrum, journey 1895 13558900_159993 Skolerute Bønes, stop Nydalen, distance 457. Reason: Unknown	13:19:51	
3350387023	Open door outside stop	Vehicle 3350387023, line 99 2.2 Bergen sør, journey 1231 12882016_155927 Skolerute, stop Liland skole, distance 658	13:19:38	
3350453101	Offroute	Vehicle 3350453101 has gone offroute on line 24 4.5 Bergen Sentrum, journey 1154 12577739_154454 Olsvikskjenet, stop Loddefjord terminal B B, distance 62. Reason: Unknown	13:19:37	
3350453173	Open door outside stop	Vehicle 3350453173, line 25 4.5 Bergen Sentrum, journey 1216 12578984_154471 Haukeland sjukehus, stop Oasen terminal A A, distance 928	13:19:30	
325 3.6 Nordhordland-268 11687280_149534 Villanger	Journey has not started yet	Line 325 3.6 Nordhordland journey 268 11687280_149534 Villanger not started yet. Planned start time 13:15:00.	13:19:00	
3350447701	Open door outside stop	Vehicle 3350447701, line 210 4.4 Bergen Nord og Osterøy, journey 1903 12886005_155965 Tveiten, stop Fotlandstrand, Holmen, distance 492	13:18:37	
3350387034	Open door outside stop	Vehicle 3350387034, line 53 2.2 Bergen sør, journey 393 11978292_151001 Hjellestad-Milde, stop Ådlandsskiftet, distance 77	13:18:33	
3350453506	Early departure from timing point	Line 49 4.5 Bergen Sentrum journey 1893 13558871_159993 Skolerute Bønes started early from timing point 'Storetveit'. Deviation: -00:01:45.	13:18:15	
3350453506	Journey started early	Line 49 4.5 Bergen Sentrum journey 1893 13558871_159993 Skolerute Bønes started early from stop 'Storetveit'. Deviation: -00:01:45.	13:18:15	
3350447733	Offroute	Vehicle 3350447733 has gone offroute on line 210 4.4 Bergen Nord og Osterøy, journey 1902 12886011_155965 Osterøy, stop Bernes nord, distance 48. Reason: Unknown	13:17:41	
3350387055	Early departure from timing point	Line 65 2.2 Bergen sør journey 751 13260949_157575 Lagunen terminal started early from timing point 'Liland skole'. Deviation: -00:02:37.	13:17:31	
3350447731	Open door outside stop	Vehicle 3350447731, line 200 4.4 Bergen Nord og Osterøy, journey 1766 12885831_155960 Arna terminal, stop Leikneset nord, distance 71	13:17:23	
3350447519	Journey started late	Line 30 4.4 Bergen Nord og Osterøy journey 1022 12707042_155277 Åsane terminal started late from stop 'Viddalen'. Deviation: 00:04:16.	13:17:23	
3350387034	Open door outside stop	Vehicle 3350387034, line 53 2.2 Bergen sør, journey 393 11978292_151001 Hjellestad-Milde, stop Blomsterdalen, distance 266	13:17:21	

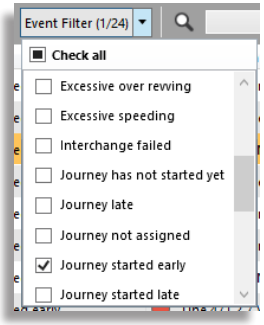
Function Real-time list of the events generated by vehicles, stop points and assignments in the last 24 hours.

Access Tools –> Event Monitor –> Event Monitor
(Tools –> Event Monitor –> My Events –> ...)

The list updates automatically as soon as events are reported.

We highly recommend that you use filters so that you can focus on the specific events you want to monitor, else they might get lost amongst everything else. As long as they are activated in Configuration, even if you filter them away, you will be able to see them again in both Monitor and History.

Event Filter



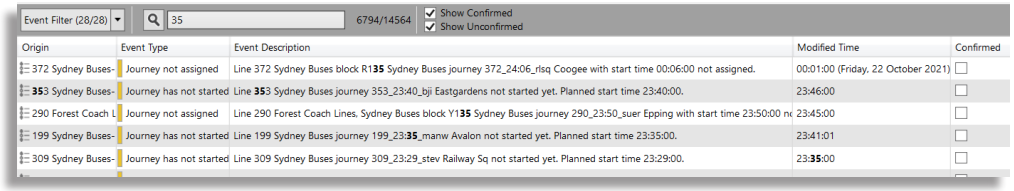
Filter the information in the table by event types. A small counter lets you know how many types are shown, e.g., (19/21).

1. Click on the **Event Filter** drop-down button.
2. Click on the **check box** to select or deselect its corresponding event. The table updates automatically.

Search Field

The search field helps to narrow the information and highlights in grey the cells including the search criteria. Type letters and/or numbers in the field. The table updates automatically.

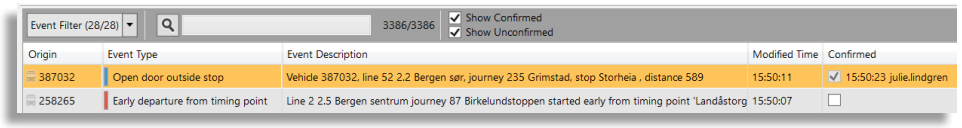
In the image below, the filter “35” flags Origin (line **35**3), Event Description (block Y**135**) and Created time (23:**35**:00).



Confirmed

You can confirm an event to let other users know that you are handling it.

To confirm an event, click on its check box in the Confirmed column. The time of the confirmation and your user name will appear next to the ticked check box. Note that you cannot undo a confirmation.



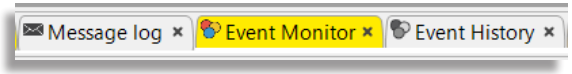
New Events

The latest event is added at the top of the table and highlighted in yellow for a few seconds to catch the attention of the user.

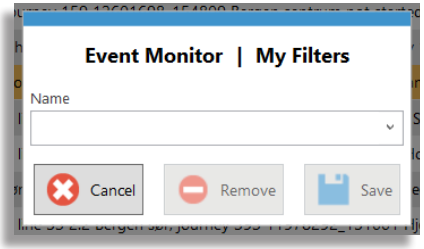
Notify

If Event Monitor is not the focused plugin (orange/grey tab), its tab will change to yellow to catch your attention.

You can turn on sound notification for every new event. Click on the audio notification button  to activate it, and select one of the three available sounds.



My Events



You can set up different instances of the Event Monitor tool, with different filter settings and notification sounds.

1. Click on the Add/Edit button  .
2. Enter a name.
3. Save.

You can always modify the filters/sound for each instance, Traffic Studio will remember each change.

Use the Pin button to open your instance(s) when you start a new Traffic Studio session.

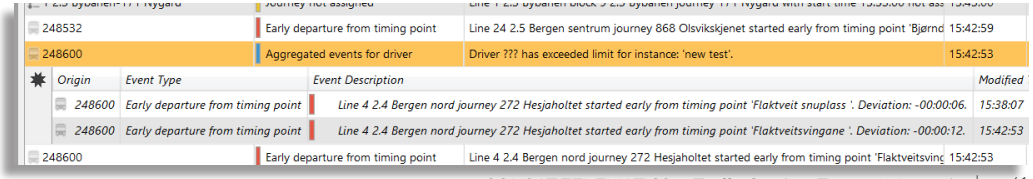
You can find all your instances under Tools -> Event Monitors -> My Events -> "list of all instances"

To remove an instance, use the Add/Edit button, select it in the Name drop down, and click on Remove.

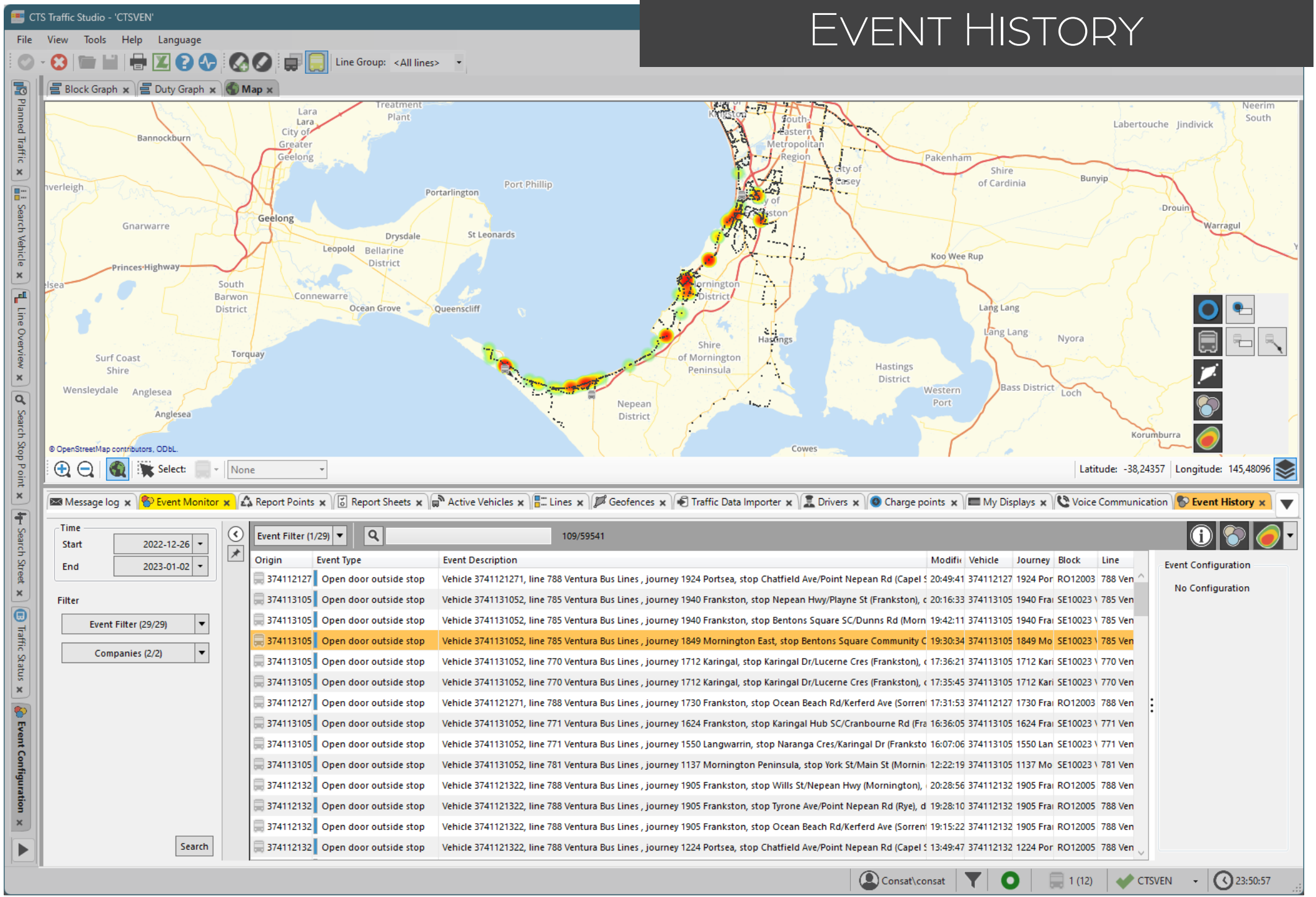
Aggregated Events for Driver

The Aggregated events for driver is listed with the name of the instance, in this case “Test”. Its creation date corresponds to the last recorded event.

Click on the row to open up a list of all events included in this specific A.E.D.



Event History



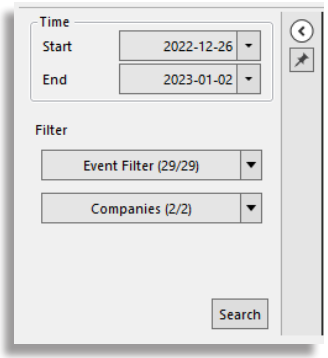
Function Historical list of the recorded events for a selected period. Heat Map function available.

Access Tools –> Event Monitor –> Event History

The events are initially listed chronologically from the most recent to the oldest.

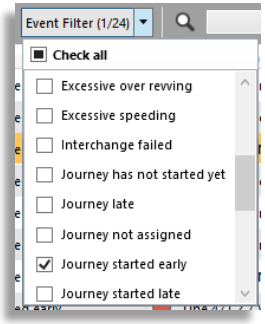
If you are using the Heat Map, we highly recommend that you use the filters, else the Heat Map will be more or less meaningless.

Generate Events



1. Select dates using the **Calendars**.
2. Optional, combine freely:
   2.1 Narrow the results with the **Event Filter**.
   2.2 Narrow the results with the **Company Filter.**
3. Click on **Search.**

Event Filter



If you selected more than one Event type in your search, you can continue to narrow down the information with the Event Filters in the result area. A small counter lets you know how many event types are shown, e.g. (2/28).

1. Click on the **Event filter** drop-down button.
2. Click on the **check box** to select or deselect its corresponding event. The table updates automatically.

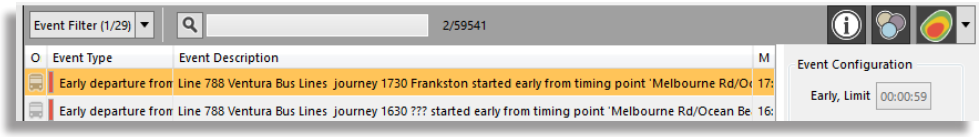
Search Field

The search field helps to further filter the table.

Type letters and/or numbers in the field. The table updates automatically.

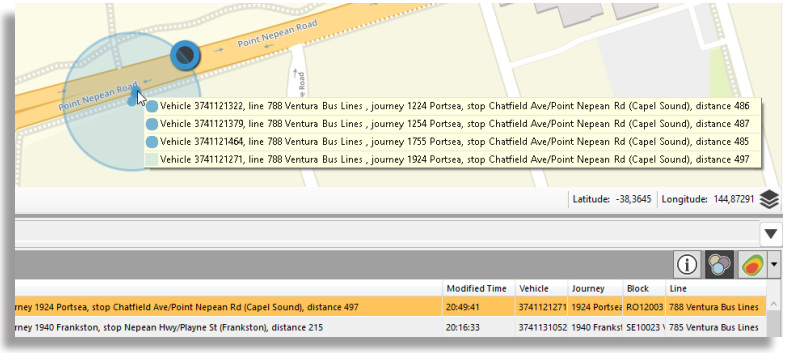
Event Details

Click on the Detail button in the upper right corner to enable the Details view. When selecting a row, the Detail view will provide the triggers for this specific event (if applicable).



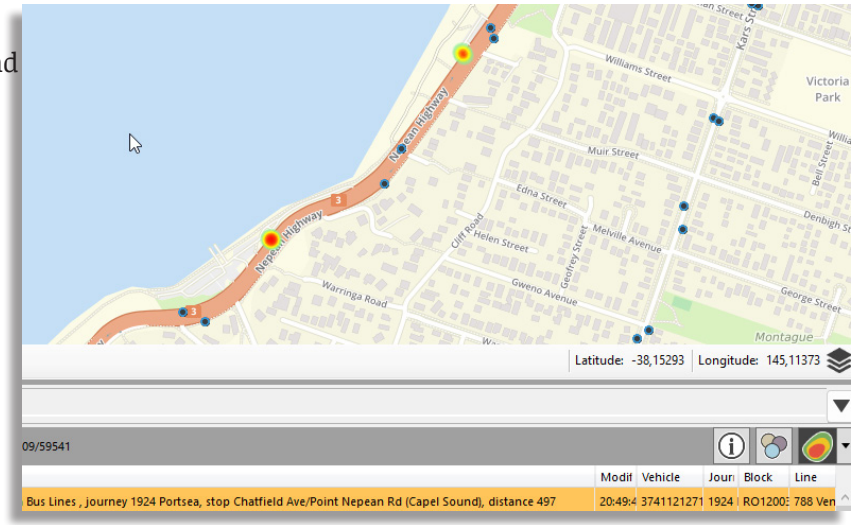
View Events on Map

Click on the **View Events on Map** button to show every event as individual dots on the map



Heat Map

The Heat Map graphically visualizes where events have occurred by color-coding areas according to their concentration of events. The filter options also apply to the Heat Map so you can focus on specific event types.

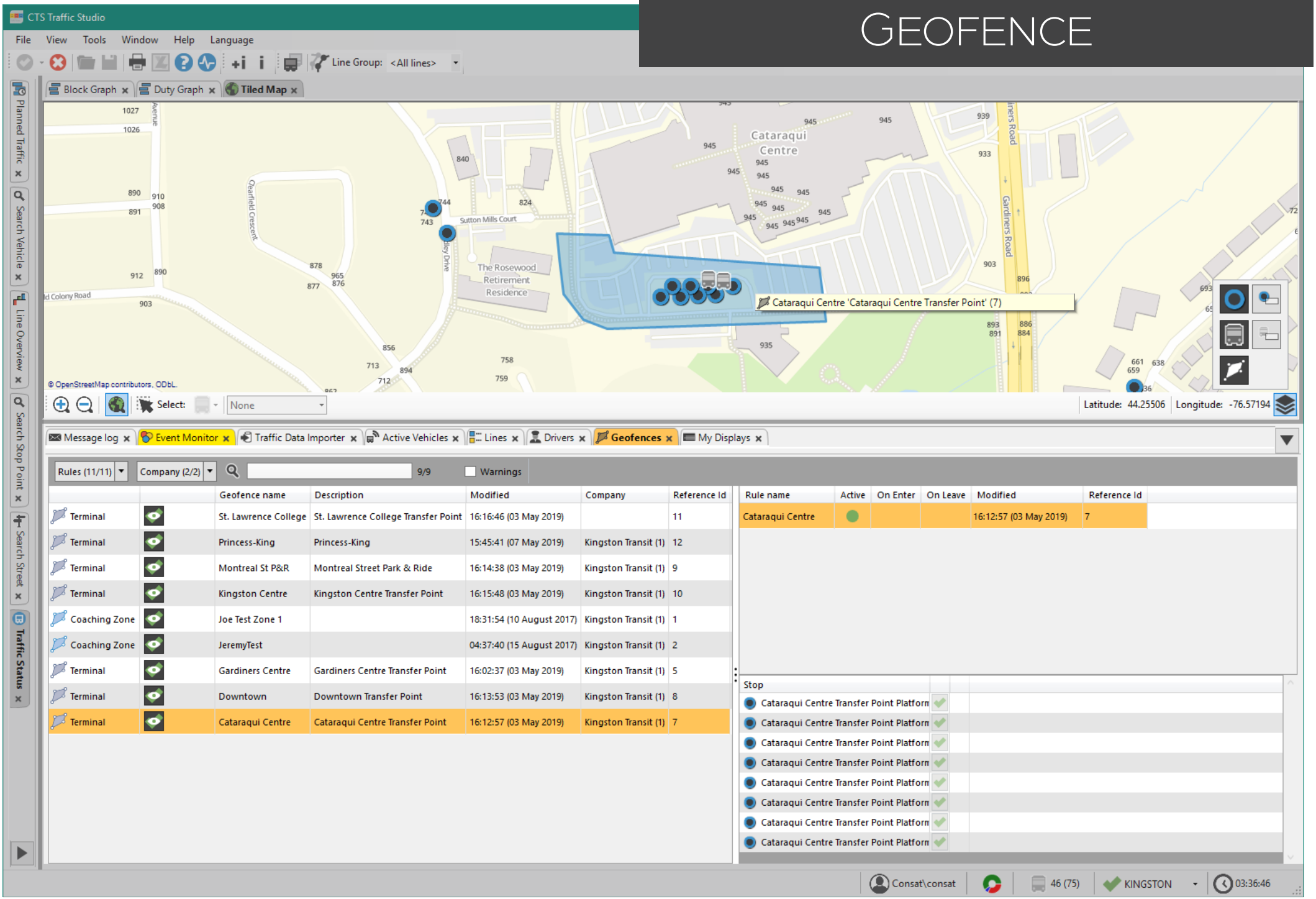


The colors range from green, yellow, orange and into red. Green denotes areas with few reports while red represents areas with the highest amount of reports.

Activate the Heat Map by clicking on the toggle button  in the upper right corner.

Heat Map has advanced controls. Please refer to the manual for more information.

GEOFENCE


CTS Traffic Studio
File View Tools Window Help Language
Line Group: <All lines>
Block Graph
Duty Graph
Tiled Map
Cataraqui Centre
Cataraqui Centre 'Cataraqui Centre Transfer Point' (7)
The Rosewood Retirement Residence
Sutton Mills Court
Gardiners Road
Clearfield Crescent
© OpenStreetMap contributors, ODbL.
Select: None
Latitude: 44.25506 Longitude: -76.57194
Message log
Event Monitor
Traffic Data Importer
Active Vehicles
Lines
Drivers
Geofences
My Displays
Rules (11/11)
Company (2/2)
9/9
Warnings
Geofence name | Description | Modified | Company | Reference Id
Terminal | St. Lawrence College | St. Lawrence College Transfer Point | 16:16:46 (03 May 2019) | | 11
Terminal | Princess-King | Princess-King | 15:45:41 (07 May 2019) | Kingston Transit (1) | 12
Terminal | Montreal St P&R | Montreal Street Park & Ride | 16:14:38 (03 May 2019) | Kingston Transit (1) | 9
Terminal | Kingston Centre | Kingston Centre Transfer Point | 16:15:48 (03 May 2019) | Kingston Transit (1) | 10
Coaching Zone | Joe Test Zone 1 | | 18:31:54 (10 August 2017) | Kingston Transit (1) | 1
Coaching Zone | JeremyTest | | 04:37:40 (15 August 2017) | Kingston Transit (1) | 2
Terminal | Gardiners Centre | Gardiners Centre Transfer Point | 16:02:37 (03 May 2019) | Kingston Transit (1) | 5
Terminal | Downtown | Downtown Transfer Point | 16:13:53 (03 May 2019) | Kingston Transit (1) | 8
Terminal | Cataraqui Centre | Cataraqui Centre Transfer Point | 16:12:57 (03 May 2019) | Kingston Transit (1) | 7
Rule name | Active | On Enter | On Leave | Modified | Reference Id
Cataraqui Centre | | | | 16:12:57 (03 May 2019) | 7
Stop
Cataraqui Centre Transfer Point Platform
Consat\consat
46 (75)
KINGSTON
03:36:46

Function List of geofences with their attributes. Also show them on the map.

Access Tools –> Geofences

Geofences is a tool for viewing geofences, which are virtual areas with assigned functionality in the system. The geofences are displayed on the map and are listed in a table with detailed information.

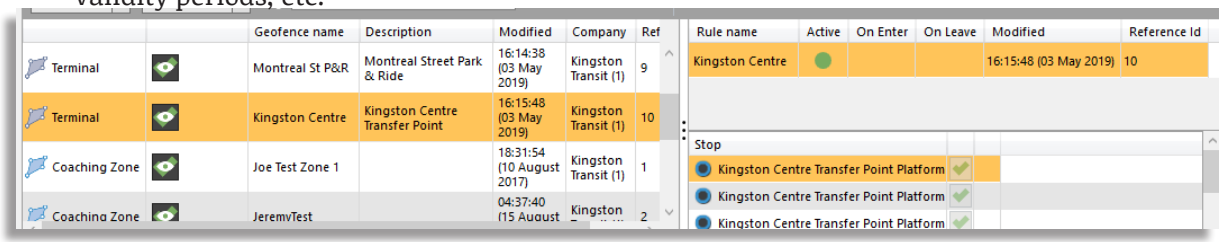
The geofences types are color-coded, both on the map and in the list presentation.

Geofence Types

- **Coaching zone** : Can be used for monitoring vehicles entering/exiting the zone, and/or for vehicles driving over the given speed limit.
- **Signal priority zone** : Signal priority zones are used for triggering traffic signal priority functionality (traffic lights). These zones also include a geoline, i.e. the vehicle triggers a priority request when passing the line in a set direction.
- **Terminal (multiple stops)** : A geofence area covering multiple stops placed too close together for reliable positioning, terminals with varying stop locations or multiple stop areas with unreliable GPS coverage. The Terminal area is considered a "one stop" by the system.
- **GPS** : This geofence area controls the way the vehicles report inside the zone. It can most notably be used to define "water passages", where buses or trams are loaded onto a ferry.
- **Road Limitation zone** : This geofence area triggers driver alerts ahead of road "limitations" like low tunnels, underpasses or narrow roads.

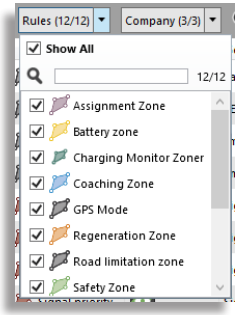
Overview

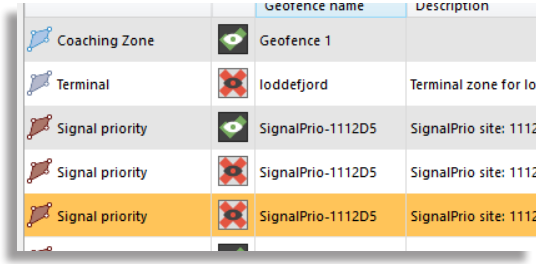
- All geofences in your system are presented in a table.
- **Click** on a geofence to view its details in the details field to the right. The field is split in 2 parts:
  - Upper part shows details of the geofence, e.g. if it's active, if enter/leave are enabled and when it was last modified.
  - Bottom part lists all affected stop points, triggers/thresholds for the geofence, validity periods, etc.



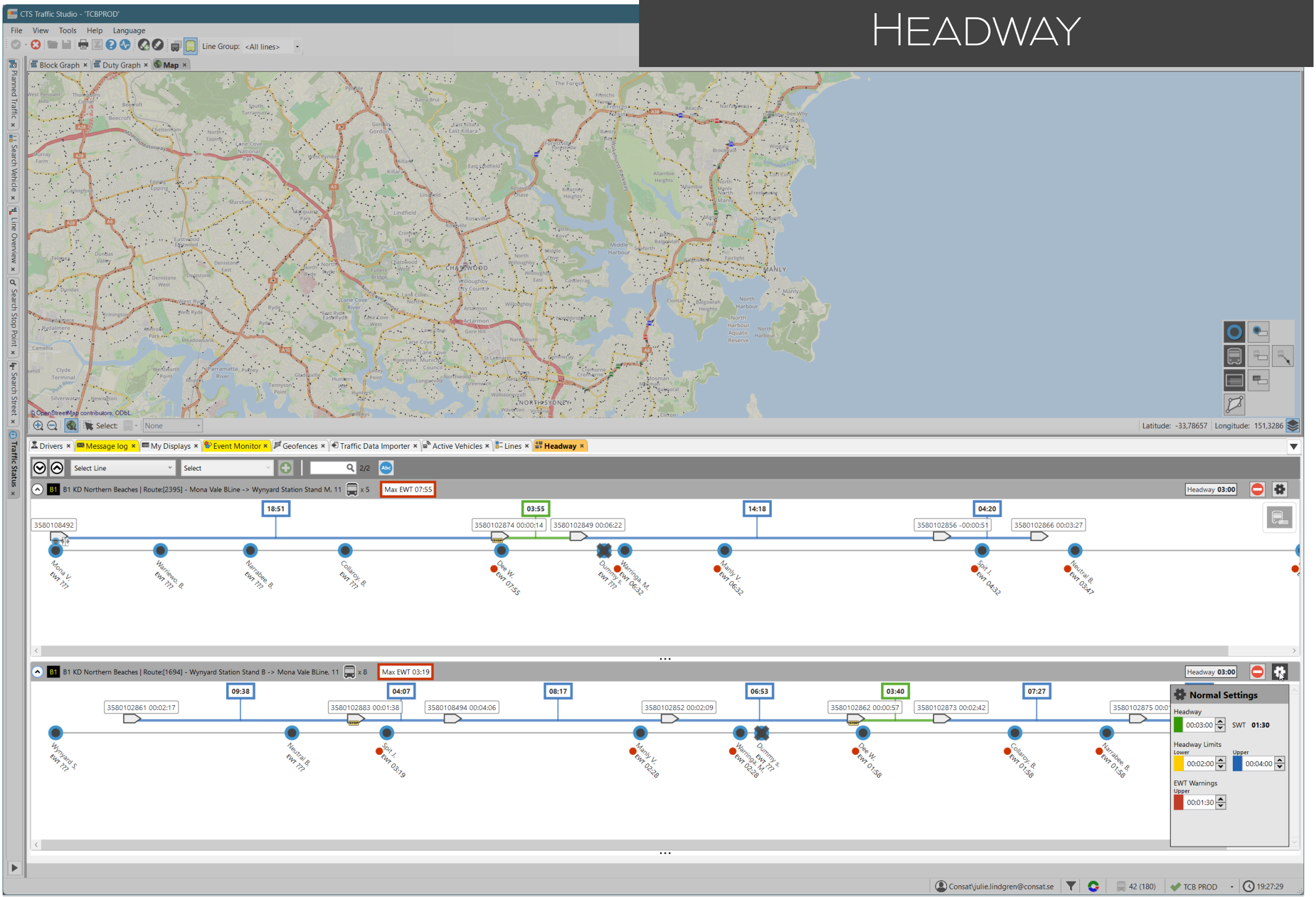
- **Double-click** on a geofence in the table to zoom to it on the map.
- **Right-click** on a geofence on the **Map** and select "**Show geofence details**" to select it in the Geofences tool list, and view its details in the details field.
- **Warnings**: Visible if traffic data has changed since a terminal geofence was created, e.g., stop were added/ removed from the area.

- Four filters can be used to narrow both table and map presentation:
  - Rules (Geofence types),
  - Company
  - Free text filter
  - Warning
- Specific geofences can also be displayed/hidden to lighten up the map. Click on the eye icon to display a geofence (default) or to hide it .





HEADWAY


CTS Traffic Studio - 'TCBPROD'
File View Tools Help Language
Line Group: <All lines>
Block Graph Duty Graph Map
Planned Traffic
Search Vehicle
Line Overview
Search Stop Point
Search Street
Traffic Status
© OpenStreetMap contributors, ODbL
Select: None
Latitude: -33,78657 Longitude: 151,3286
Drivers Message log My Displays Event Monitor Geofences Traffic Data Importer Active Vehicles Lines Headway
Select Line
Select
2/2
B1 KD Northern Beaches | Route:[2395] - Mona Vale BLine -> Wynyard Station Stand M, 11 x 5
Max EWT 07:55
Headway 03:00
18:51
03:55
14:18
04:20
3580108492
3580102874 00:00:14
3580102849 00:06:22
3580102856 -00:00:51
3580102866 00:03:27
Mona V. EWT ???
Warriewo. B EWT ???
Narrabee. B EWT ???
Collaroy. B EWT ???
Dee W. EWT 07:55
Dummy x. EWT ???
Warringa M. EWT 06:32
Manly V. EWT 06:32
Spit J. EWT 04:32
Neutral B. EWT 03:47
B1 KD Northern Beaches | Route:[1694] - Wynyard Station Stand B -> Mona Vale BLine, 11 x 8
Max EWT 03:19
Headway 03:00
09:38
04:07
08:17
06:53
03:40
07:27
3580102861 00:02:17
3580102883 00:01:38
3580108494 00:04:06
3580102852 00:02:09
3580102862 00:00:57
3580102873 00:02:42
Wynyard S. EWT ???
Neutral B. EWT ???
Spit J. EWT 03:19
Manly V. EWT 02:28
Warringa M. EWT 02:28
Dummy x. EWT ???
Dee W. EWT 01:58
Collaroy. B EWT 01:58
Narrabee. B EWT 01:58
Normal Settings
Headway
00:03:00
SWT 01:30
Headway Limits
Lower
Upper
00:02:00
00:04:00
EWT Warnings
Upper
00:01:30
Consat\julie.lindgren@consat.se
42 (180)
TCB PROD
19:27:29

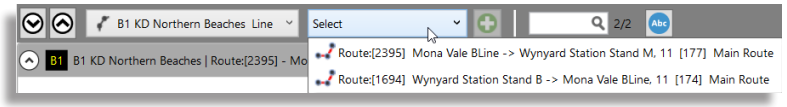
Function Graphic representation of a line, its stop points and all vehicles travelling on the main routes – headway.

Access Tools –> Headway

How to open a route

Headway remembers your routes and their order next time you start Traffic Studio.

1. Select a line in the first dropdown menu
2. Select a route in the second dropdown menu
3. Click on the add button



Colours

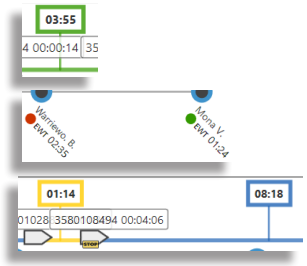
Headway times and EWT are colour-coded.

EWT

- Green: OK
- Red: Longer than OK

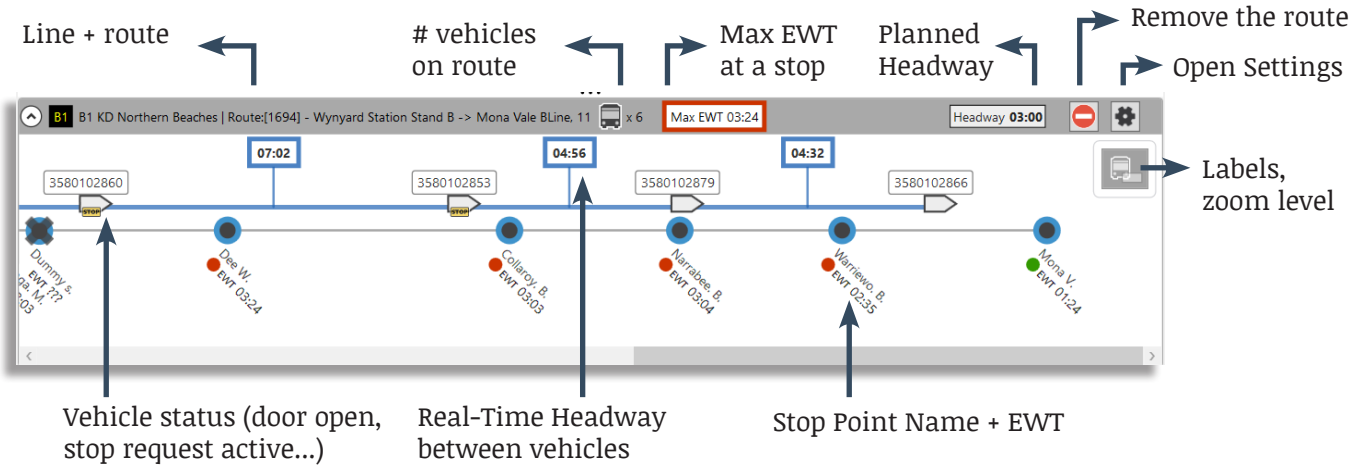
Headway

- Green: OK
- Yellow: Shorter than OK
- Blue: Longer than OK



Route section

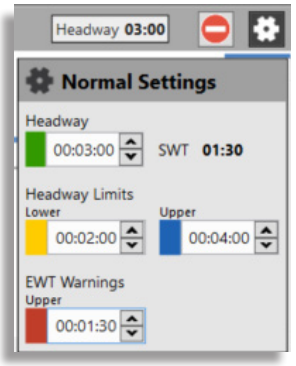
Distance is proportional between stops and vehicles.



Headway Settings

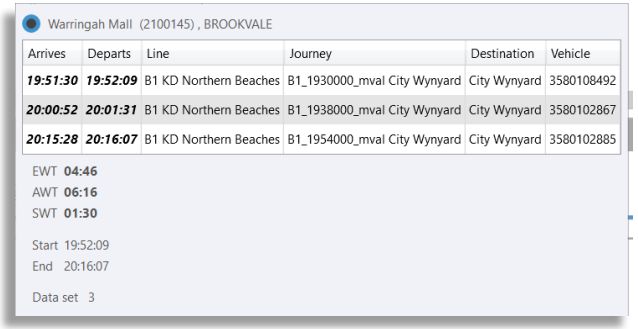
Each route has its own settings for Headway, Headways limits and EWT.

1. Click on the Settings button for your route.
2. Change any values. Note that they apply automatically.
3. Click on the Settings button again to close the view.



Stop Point Tooltip

EWT for each stop point is displayed under the stop point name in the route graph. The stop point tooltips also shows forecasts for the next vehicles/journeys, and the specific EWT, AWT and SWT values for this stop point.



How do we get all these numbers?

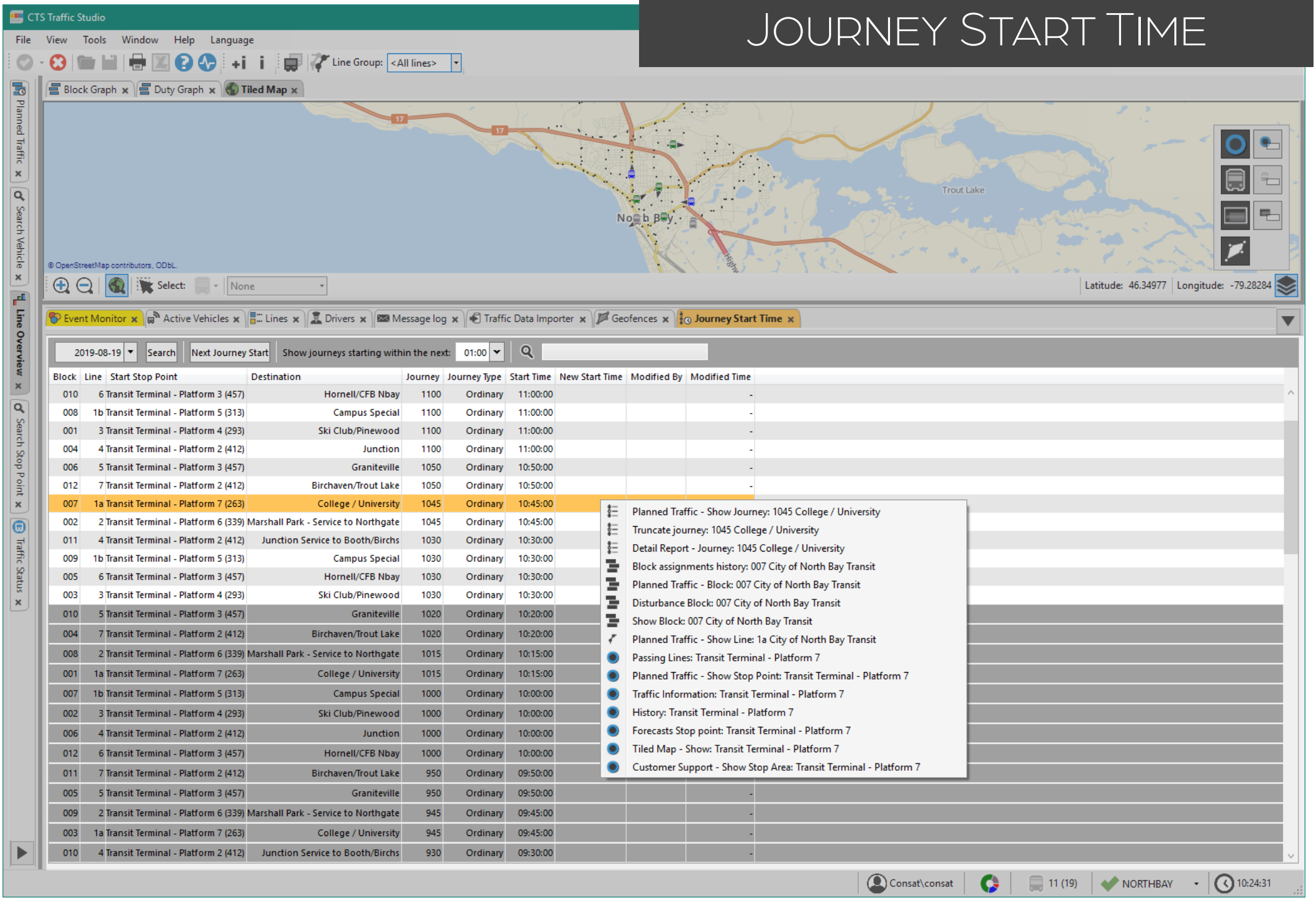
All calculations are based on the assumption that a passenger arrives at the stop point every minute and boards the next departing vehicle. If the **headway** is 10 minutes, the average wait time will then be 5 minutes (the headway/2).

SWT (Scheduled Wait Time) – The average wait time at a stop point if all vehicles drive according to headway.

AWT (Actual Wait Time) – The actual average wait time at a stop point

EWT (Excess Wait Time) – The difference between the SWT and the AWT, i.e how much longer, on average, a passenger has to wait at the stop point compared to the plan. A high EWT means that the planned service is not achieved.

Journey Start Time



Block	Line	Start Stop Point	Destination	Journey	Journey Type	Start Time	New Start Time	Modified By	Modified Time
010	6	Transit Terminal - Platform 3 (457)	Hornell/CFB Nbay	1100	Ordinary	11:00:00			-
008	1b	Transit Terminal - Platform 5 (313)	Campus Special	1100	Ordinary	11:00:00			-
001	3	Transit Terminal - Platform 4 (293)	Ski Club/Pinewood	1100	Ordinary	11:00:00			-
004	4	Transit Terminal - Platform 2 (412)	Junction	1100	Ordinary	11:00:00			-
006	5	Transit Terminal - Platform 3 (457)	Graniteville	1050	Ordinary	10:50:00			-
012	7	Transit Terminal - Platform 2 (412)	Birchaven/Trout Lake	1050	Ordinary	10:50:00			-
007	1a	Transit Terminal - Platform 7 (263)	College / University	1045	Ordinary	10:45:00			
002	2	Transit Terminal - Platform 6 (339)	Marshall Park - Service to Northgate	1045	Ordinary	10:45:00			
011	4	Transit Terminal - Platform 2 (412)	Junction Service to Booth/Birchs	1030	Ordinary	10:30:00			
009	1b	Transit Terminal - Platform 5 (313)	Campus Special	1030	Ordinary	10:30:00			
005	6	Transit Terminal - Platform 3 (457)	Hornell/CFB Nbay	1030	Ordinary	10:30:00			
003	3	Transit Terminal - Platform 4 (293)	Ski Club/Pinewood	1030	Ordinary	10:30:00			
010	5	Transit Terminal - Platform 3 (457)	Graniteville	1020	Ordinary	10:20:00			
004	7	Transit Terminal - Platform 2 (412)	Birchaven/Trout Lake	1020	Ordinary	10:20:00			
008	2	Transit Terminal - Platform 6 (339)	Marshall Park - Service to Northgate	1015	Ordinary	10:15:00			
001	1a	Transit Terminal - Platform 7 (263)	College / University	1015	Ordinary	10:15:00			
007	1b	Transit Terminal - Platform 5 (313)	Campus Special	1000	Ordinary	10:00:00			
002	3	Transit Terminal - Platform 4 (293)	Ski Club/Pinewood	1000	Ordinary	10:00:00			
006	4	Transit Terminal - Platform 2 (412)	Junction	1000	Ordinary	10:00:00			
012	6	Transit Terminal - Platform 3 (457)	Hornell/CFB Nbay	1000	Ordinary	10:00:00			
011	7	Transit Terminal - Platform 2 (412)	Birchaven/Trout Lake	950	Ordinary	09:50:00			
005	5	Transit Terminal - Platform 3 (457)	Graniteville	950	Ordinary	09:50:00			-
009	2	Transit Terminal - Platform 6 (339)	Marshall Park - Service to Northgate	945	Ordinary	09:45:00			-
003	1a	Transit Terminal - Platform 7 (263)	College / University	945	Ordinary	09:45:00			-
010	4	Transit Terminal - Platform 2 (412)	Junction Service to Booth/Birchs	930	Ordinary	09:30:00			-

Function List all journey departures. User can modify their starting time and keep track of who modified them.

Access Tools –> Journey Start Time

Rows have different colors to indicate their status.

Orange Current selection. Click on a row to mark it or on the button “Next Journey Start” to automatically select the next starting journey and focus on it.

Yellow Journey with a modified starting time.

Grey Journey which has already departed according to their planned starting time.

Provided information

The table provides data information about each past and incoming journey.

Block	Journey’s block
Line	Journey’s line
Start Stop Point	Journey’s first stop point
Destination	The journey’s destination. Will also show any "via destination" from traffic data.
Journey	Journey's number
Journey Type	Journey’s description, e.g., ordinary, in-between, etc.
Start Time	Journey’s planned starting time, cannot be modified.
New Start Time	Journey’s new starting time, empty unless modified by the user.
Modified by	User ID of who modified the starting time.
Modified time	Time when the modification was made.

Tool Controls

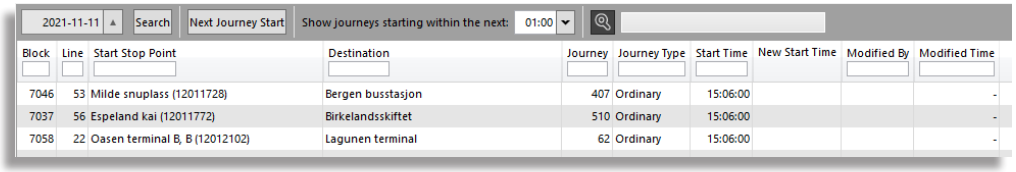
Date: Today's date. To change the date, pick a different one then click **Search** to generate the journeys for the new date.

Next Journey Start: Takes you to the row of the next journey starting according to the current time.

Show journeys starting within the next [xx:xx] : sets how far in the future you want to display journeys in a hh:mm format. The table updates automatically.

Search Field: Type letters and/or numbers in the field to automatically narrow the table.

- Note that by clicking on the **Magnifier** image before the **Search Field,** you can activate the search function for each column. Any information entered in those new fields will only apply to their respective column.

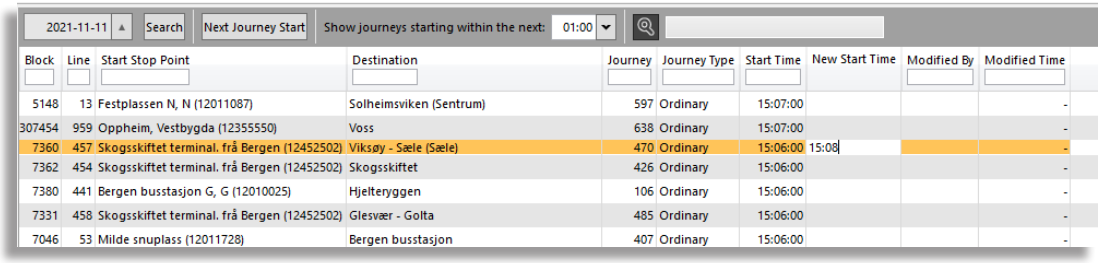


Block	Line	Start Stop Point	Destination	Journey	Journey Type	Start Time	New Start Time	Modified By	Modified Time
7046	53	Milde snuplass (12011728)	Bergen busstasjon	407	Ordinary	15:06:00			-
7037	56	Espeland kai (12011772)	Birkelandsskiftet	510	Ordinary	15:06:00			-
7058	22	Oasen terminal B, B (12012102)	Lagunen terminal	62	Ordinary	15:06:00			-

How to Change a Starting Time

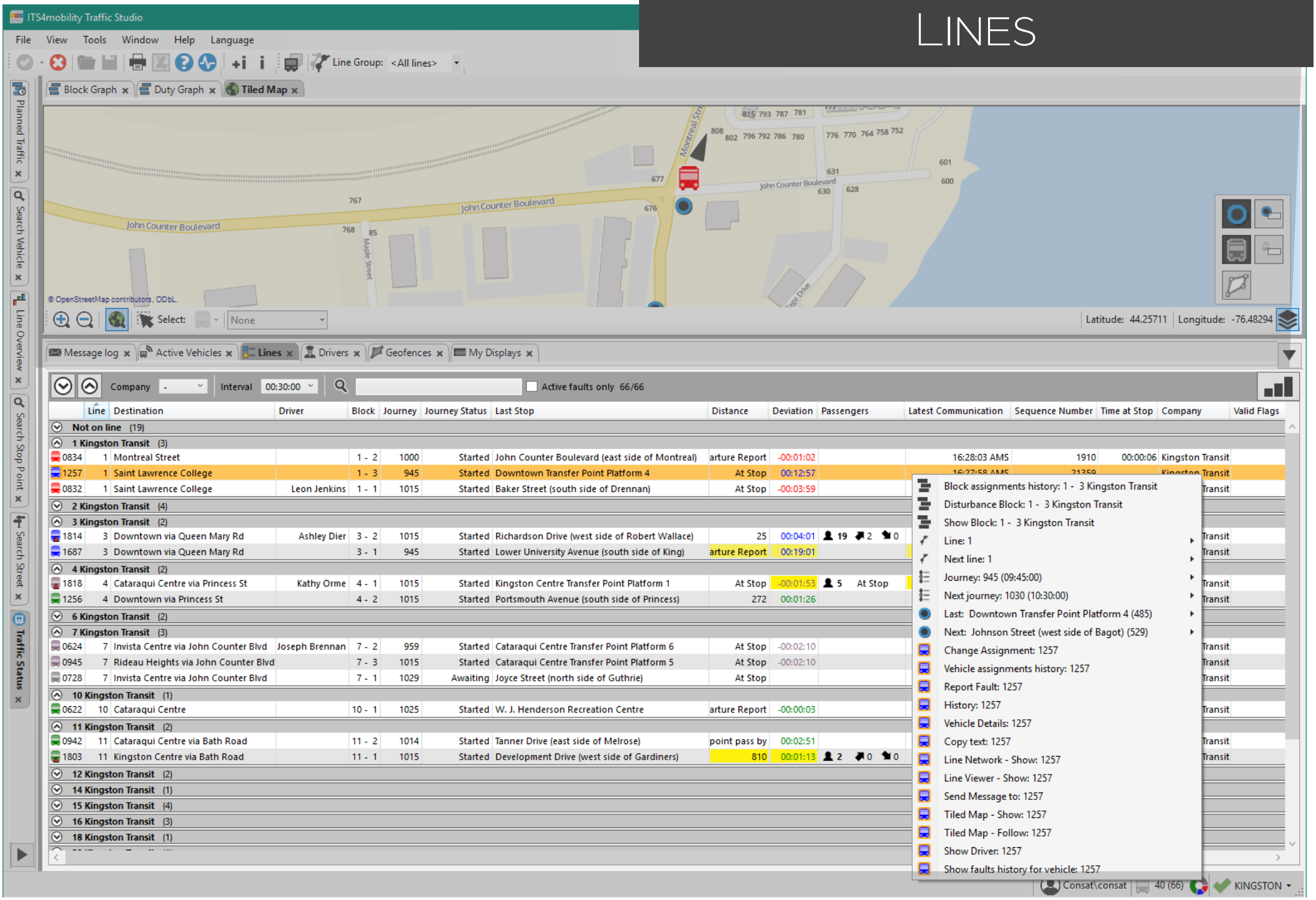
1. Click on the **New Start Time** cell of the journey of your choice.
2. Enter the new time in the **hh:mm** format and press **enter**. The row will turn orange and your user name will show in the “Modified By” column along with the time when you made the modification.

Note that you cannot modify the starting time of a journey which has already begun, i.e., is greyed out.



Block	Line	Start Stop Point	Destination	Journey	Journey Type	Start Time	New Start Time	Modified By	Modified Time
5148	13	Festplassen N, N (12011087)	Solheimsviken (Sentrum)	597	Ordinary	15:07:00			-
307454	959	Oppheim, Vestbygda (12355550)	Voss	638	Ordinary	15:07:00			-
7360	457	Skogsskiftet terminal. frå Bergen (12452502)	Viksøy - Sæle (Sæle)	470	Ordinary	15:06:00	15:08		-
7362	454	Skogsskiftet terminal. frå Bergen (12452502)	Skogsskiftet	426	Ordinary	15:06:00			-
7380	441	Bergen busstasjon G, G (12010025)	Hjelteryggen	106	Ordinary	15:06:00			-
7331	458	Skogsskiftet terminal. frå Bergen (12452502)	Glesvær - Golta	485	Ordinary	15:06:00			-
7046	53	Milde snuplass (12011728)	Bergen busstasjon	407	Ordinary	15:06:00			-

LINES


ITS4mobility Traffic Studio
File View Tools Window Help Language
Line Group: <All lines>
Block Graph Duty Graph Tiled Map
Planned Traffic
Search Vehicle
Line Overview
Search Stop Point
Search Street
Traffic Status
John Counter Boulevard
Montreal Street
Maple Street
© OpenStreetMap contributors, ODbL.
Select: None
Latitude: 44.25711 Longitude: -76.48294
Message log Active Vehicles Lines Drivers Geofences My Displays
Company - Interval 00:30:00 Active faults only 66/66
Line Destination Driver Block Journey Journey Status Last Stop Distance Deviation Passengers Latest Communication Sequence Number Time at Stop Company Valid Flags
Not on line (19)
1 Kingston Transit (3)
0834 1 Montreal Street 1 - 2 1000 Started John Counter Boulevard (east side of Montreal) arture Report -00:01:02 16:28:03 AMS 1910 00:00:06 Kingston Transit
1257 1 Saint Lawrence College 1 - 3 945 Started Downtown Transfer Point Platform 4 At Stop 00:12:57
0832 1 Saint Lawrence College Leon Jenkins 1 - 1 1015 Started Baker Street (south side of Drennan) At Stop -00:03:59
2 Kingston Transit (4)
3 Kingston Transit (2)
1814 3 Downtown via Queen Mary Rd Ashley Dier 3 - 2 1015 Started Richardson Drive (west side of Robert Wallace) 25 00:04:01 19 2 0
1687 3 Downtown via Queen Mary Rd 3 - 1 945 Started Lower University Avenue (south side of King) arture Report 00:19:01
4 Kingston Transit (2)
1818 4 Cataraqui Centre via Princess St Kathy Orme 4 - 1 1015 Started Kingston Centre Transfer Point Platform 1 At Stop -00:01:53 5 At Stop
1256 4 Downtown via Princess St 4 - 2 1015 Started Portsmouth Avenue (south side of Princess) 272 00:01:26
6 Kingston Transit (2)
7 Kingston Transit (3)
0624 7 Invista Centre via John Counter Blvd Joseph Brennan 7 - 2 959 Started Cataraqui Centre Transfer Point Platform 6 At Stop -00:02:10
0945 7 Rideau Heights via John Counter Blvd 7 - 3 1015 Started Cataraqui Centre Transfer Point Platform 5 At Stop -00:02:10
0728 7 Invista Centre via John Counter Blvd 7 - 1 1029 Awaiting Joyce Street (north side of Guthrie) At Stop
10 Kingston Transit (1)
0622 10 Cataraqui Centre 10 - 1 1025 Started W. J. Henderson Recreation Centre arture Report -00:00:03
11 Kingston Transit (2)
0942 11 Cataraqui Centre via Bath Road 11 - 2 1014 Started Tanner Drive (east side of Melrose) point pass by 00:02:51
1803 11 Kingston Centre via Bath Road 11 - 1 1015 Started Development Drive (west side of Gardiners) 810 00:01:13 2 0 0
12 Kingston Transit (2)
14 Kingston Transit (1)
15 Kingston Transit (4)
16 Kingston Transit (3)
18 Kingston Transit (1)
Block assignments history: 1 - 3 Kingston Transit
Disturbance Block: 1 - 3 Kingston Transit
Show Block: 1 - 3 Kingston Transit
Line: 1
Next line: 1
Journey: 945 (09:45:00)
Next journey: 1030 (10:30:00)
Last: Downtown Transfer Point Platform 4 (485)
Next: Johnson Street (west side of Bagot) (529)
Change Assignment: 1257
Vehicle assignments history: 1257
Report Fault: 1257
History: 1257
Vehicle Details: 1257
Copy text: 1257
Line Network - Show: 1257
Line Viewer - Show: 1257
Send Message to: 1257
Tiled Map - Show: 1257
Tiled Map - Follow: 1257
Show Driver: 1257
Show faults history for vehicle: 1257
Consat\consat 40 (66) KINGSTON

Function

List all active vehicles by line

Access

Tools –> Vehicles –> Lines

Filter the Selection

You can filter the table with company, interval, free text search and vehicles with active fault.

Filters and Search

The drop-down filters and check box automatically update the table.

Type numbers/text in the search field to update the table and highlight the cells containing these characters. Click on the magnifier icon to activate a search field for each column, independent of one another.

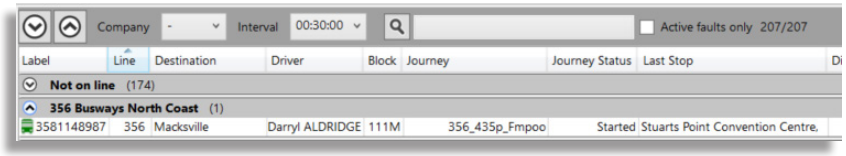


Table Content

The table provides real time information about each vehicle. New information is updated with a yellow fading background.

You can **expand/close** any line by using the arrow in the left corner of each line section. You can also expand/close ALL lines with the arrows located next to the Company filter.

Vehicles with the journey status "**Between**" show the information for the next journey with an arrow symbol (**->**) before line, destination and journey. Filter the table by using "dash" (-), immediately followed by "larger than" (>).

How long are vehicles considered active?

A vehicle is considered active and remains in the system for 30 minutes after sending its report. That means that even if the bus was shut down right after sending its last report, it will show up in the system for another 30 minutes.

Use the **Interval** filter if you want to modify that value only for the Line tool.

Note that 30 minutes is the default value and that it can be configured for your account, for all tools, under File -> Setup -> Vehicle Presentation.

Symbols

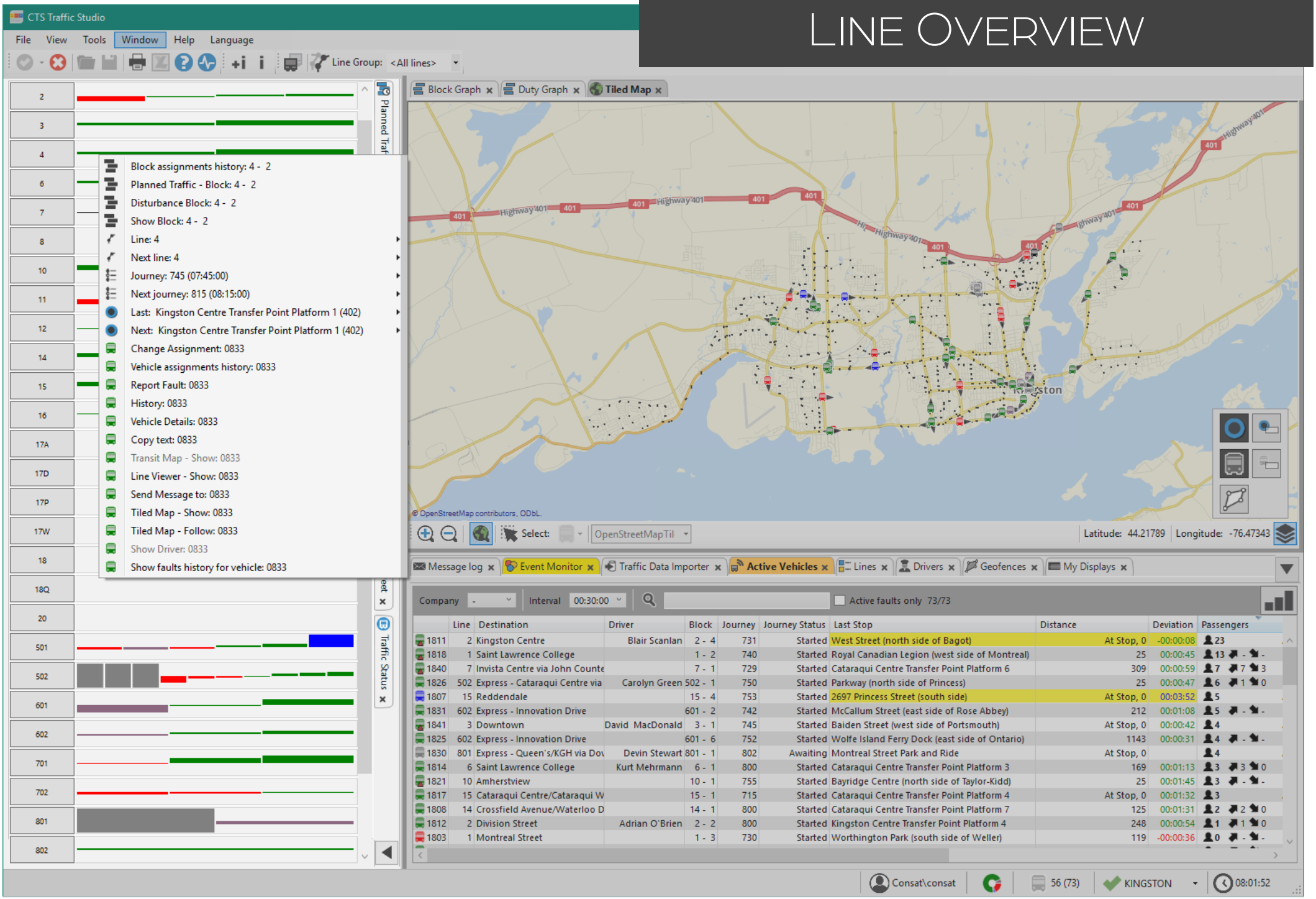
The vehicle's symbols represent their deviation from the timetable and status.

The colors, sizes and time intervals (late, on time, early) can be configured under **File -> Setup -> Vehicle Presentation.**

Tips

- Adjust the table to your preferences
  - Sort the table by clicking on the column of your choice.
  - Reorder the columns by dragging & dropping their header where you want them.
  - Add/remove columns by right-clicking anywhere on the headers and unchecking them in the list.
  - Traffic Studio will remember your configurations.
- An empty folder means that no vehicle are currently assigned on that specific line.
- A vehicle is considered departed when it leaves a radius of 25 meters around the stop point.
- Double-click on a row for the map to zoom in on the vehicle.
- Right-click on any row to open the vehicle shortcut menu.

Line Overview



Function Overview of all lines and their active vehicles.

Access Tools –> Line Overview

Graphic Presentation

Each bar represents one vehicle and its colour shows its deviation from the timetable.

Its size shows how far from the planned time it is, i.e. the higher it is, the more delayed/late the vehicle is.

The colors and time intervals (late, on time, early) can be configured under **File -> Setup -> Vehicle Presentation**.

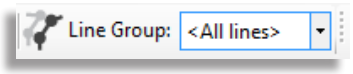
Journeys not yet started (gray bars)

The grey bars show vehicles that are assigned to the line, but are on an empty run or have not started their next journey (are between journeys). They are shown this way as to not influence the fleet's punctuality times.

Sorting with Line Groups

You can limit the amount of lines being shown by using Line groups.

You can access the Line group tool in the Function Bar. Note that sorting by groups in the Function Bar will influence all the realtime tools in the application.

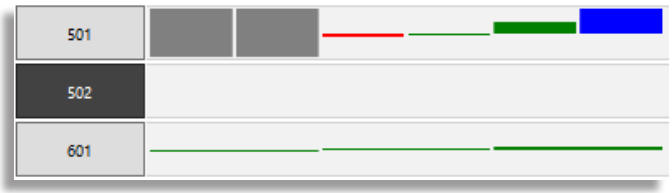


Hide/Show Lines

You can hide all vehicles on a line by clicking its number/name. To show them back, click on it again.

The background of an hidden line is dark grey and its vehicle section is empty.

Hiding a line affects the other tools and works like Groups in the Function bar. For example, if you have Text Messaging, you will not see any messages sent from vehicles on the hidden line.

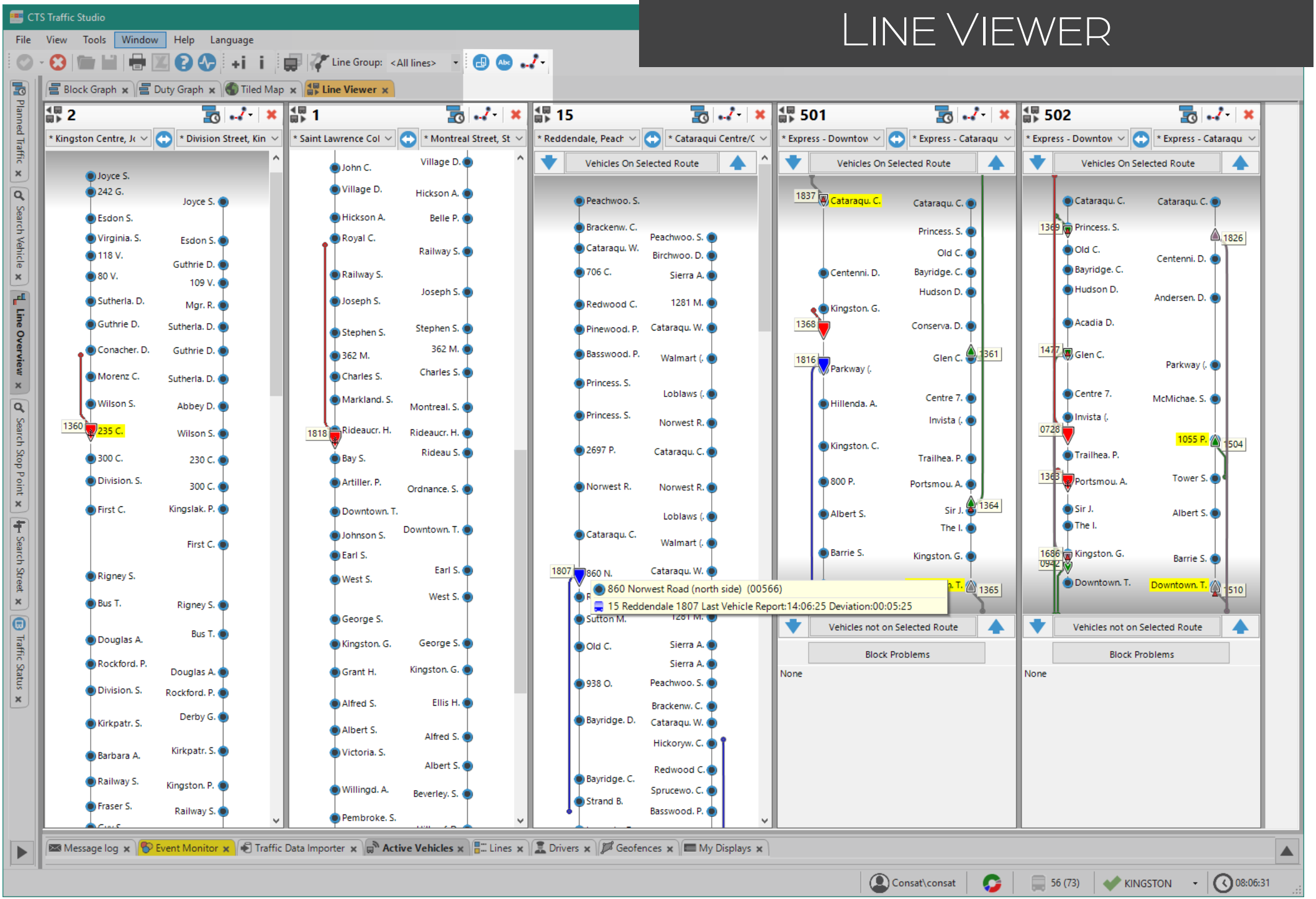


Tips

- Double-clicking on a bar or anywhere in the graph area will open its corresponding line in the Line Viewer plugin.
- Note that each bar works like a vehicle symbol. You can access its shortcut menu by right-clicking on it.
- Each bar also has its own tooltip.

Notes

LINE VIEWER


CTS Traffic Studio
File View Tools Window Help Language
Line Group: <All lines>
Block Graph Duty Graph Tiled Map Line Viewer
Planned Traffic
Search Vehicle
Line Overview
Search Stop Point
Search Street
Traffic Status
2
* Kingston Centre, Jc
* Division Street, Kin
Joyce S.
242 G.
Esdon S.
Virginia. S.
118 V.
80 V.
Sutherla. D.
Guthrie D.
Conacher. D.
Morenz C.
Wilson S.
1360
235 C.
300 C.
Division. S.
First C.
Rigney S.
Bus T.
Douglas A.
Rockford. P.
Division. S.
Kirkpatr. S.
Barbara A.
Railway S.
Fraser S.
Esdon S.
Guthrie D.
109 V.
Mgr. R.
Sutherla. D.
Guthrie D.
Sutherla. D.
Abbey D.
Wilson S.
230 C.
300 C.
Kingslak. P.
First C.
Rigney S.
Bus T.
Douglas A.
Rockford. P.
Derby G.
Kirkpatr. S.
Kingston. P.
Railway S.
1
* Saint Lawrence Col
* Montreal Street, St
John C.
Village D.
Hickson A.
Royal C.
Railway S.
Joseph S.
Stephen S.
362 M.
Charles S.
Markland. S.
1818
Rideaucr. H.
Bay S.
Artiller. P.
Downtown. T.
Johnson S.
Earl S.
West S.
George S.
Kingston. G.
Grant H.
Alfred S.
Albert S.
Victoria. S.
Willingd. A.
Pembroke. S.
Village D.
Hickson A.
Belle P.
Railway S.
Joseph S.
Stephen S.
362 M.
Charles S.
Montreal. S.
Rideaucr. H.
Rideau S.
Ordnance. S.
Downtown. T.
Earl S.
West S.
Kingston. G.
Ellis H.
Alfred S.
Albert S.
Beverley. S.
15
* Reddendale, Peach
* Cataraqui Centre/C
Vehicles On Selected Route
Peachwoo. S.
Brackenw. C.
Cataraqu. W.
706 C.
Redwood C.
Pinewood. P.
Basswood. P.
Princess. S.
Princess. S.
2697 P.
Norwest R.
Cataraqu. C.
1807
860 N.
Sutton M.
Old C.
938 O.
Bayridge. D.
Bayridge. C.
Strand B.
Peachwoo. S.
Birchwoo. D.
Sierra A.
1281 M.
Cataraqu. W.
Loblaws (.
Norwest R.
Cataraqu. C.
Norwest R.
Loblaws (.
Walmart (.
Cataraqu. W.
Sierra A.
Sierra A.
Peachwoo. S.
Brackenw. C.
Cataraqu. W.
Hickoryw. C.
Redwood C.
Sprucewo. C.
Basswood. P.
860 Norwest Road (north side) (00566)
15 Reddendale 1807 Last Vehicle Report:14:06:25 Deviation:00:05:25
Vehicles not on Selected Route
Block Problems
None
501
* Express - Downtow
* Express - Cataraqu
Vehicles On Selected Route
1837
Cataraqu. C.
Centenni. D.
Kingston. G.
1368
1816
Parkway (.
Hillenda. A.
Kingston. C.
800 P.
Albert S.
Barrie S.
Cataraqu. C.
Princess. S.
Old C.
Bayridge. C.
Hudson D.
Conserva. D.
Glen C.
1361
Centre 7.
Invista (.
Trailhea. P.
Portsmou. A.
Sir J.
1364
The I.
Kingston. G.
Downtown. T.
1365
Vehicles not on Selected Route
Block Problems
None
502
* Express - Downtow
* Express - Cataraqu
Vehicles On Selected Route
Cataraqu. C.
1369
Princess. S.
Old C.
Bayridge. C.
Hudson D.
Acadia D.
1477
Glen C.
Centre 7.
Invista (.
0728
Trailhea. P.
1363
Portsmou. A.
Sir J.
The I.
1686
Kingston. G.
0932
Downtown. T.
Cataraqu. C.
1826
Centenni. D.
Andersen. D.
Parkway (.
McMichae. S.
1055 P.
1504
Tower S.
Albert S.
Barrie S.
Downtown. T.
1510
Vehicles not on Selected Route
Block Problems
None
Message log
Event Monitor
Traffic Data Importer
Active Vehicles
Lines
Drivers
Geofences
My Displays
Consat\consat
56 (73)
KINGSTON
08:06:31

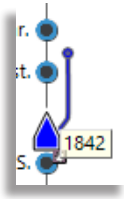
Function Graphic representation of a line, its stop points and all vehicles travelling on the main routes – timetables.

Access Tools –> Line Viewer or via the Vehicle Shortcut menu

Symbols | Vehicles

Each arrow represents one vehicle and its colour shows its punctuality.

The end of its tail shows where the vehicle should be if it were on-time according to the timetable.



The colors and time intervals (late, on time, early) can be configured under **File -> Setup -> Vehicle Presentation, Presentation**

Each vehicle has a label. Its content can be configured under **File -> Setup -> Vehicle Presentation, Label.**

Symbols | Stop points

Each stop point is shown as a circle. Stop point names are highlighted in yellow when one vehicle is there. If there are more than one vehicle, the stop point's name will be highlighted in orange.

Function bar

Three buttons become active when the Line views is open.

Toggle the window orientation between vertical and horizontal.

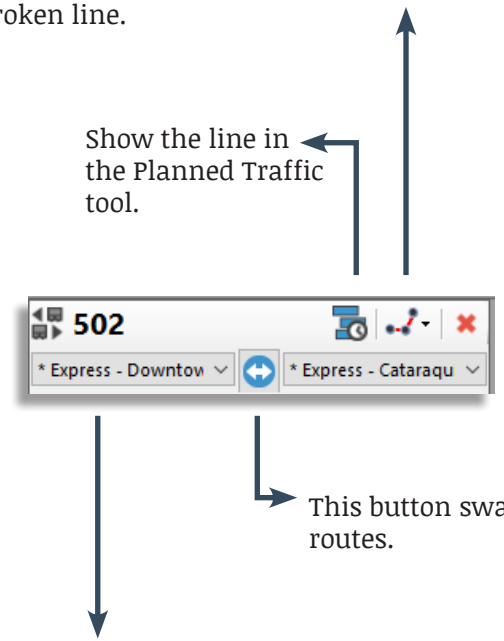
Sort the windows numerically, then alphabetically.

Toggle the even/proportional view for all lines.

Line window

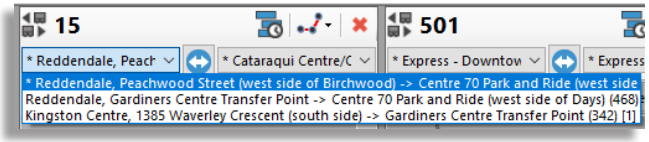
You can display the lines with even or proportional distance between the stop points. Click on the symbol to get a menu with the two choices.

Even distance mode is represented by a vertical line while proportional mode is represented by a broken line.



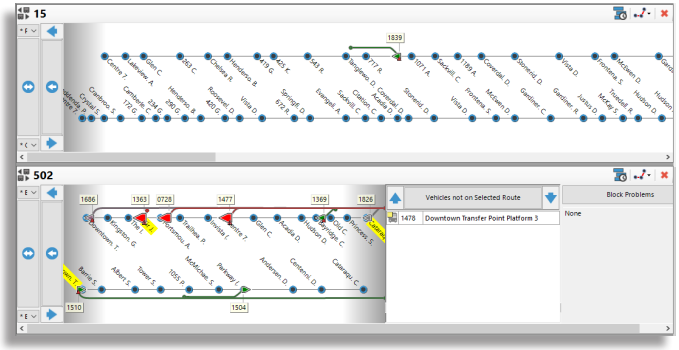
Select a route

Click to open a drop-down list of all routes for this line direction. The main route is marked by an asterisk (*) and selected by default. Select any route to change this view.



Window orientation

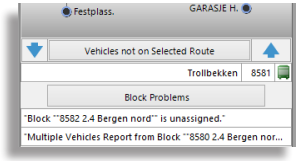
The Line views can be shown horizontally or vertically. To change the orientation, click on the button in the Function bar.



Vehicles not on selected route & Block problems

Vehicles listed under "Vehicles not on selected route" are not travelling on the main route, which means they can be at stop points not included in the main route. When that happens, they are placed in this section until their route matches the main route, i.e., they share the same stops and links.

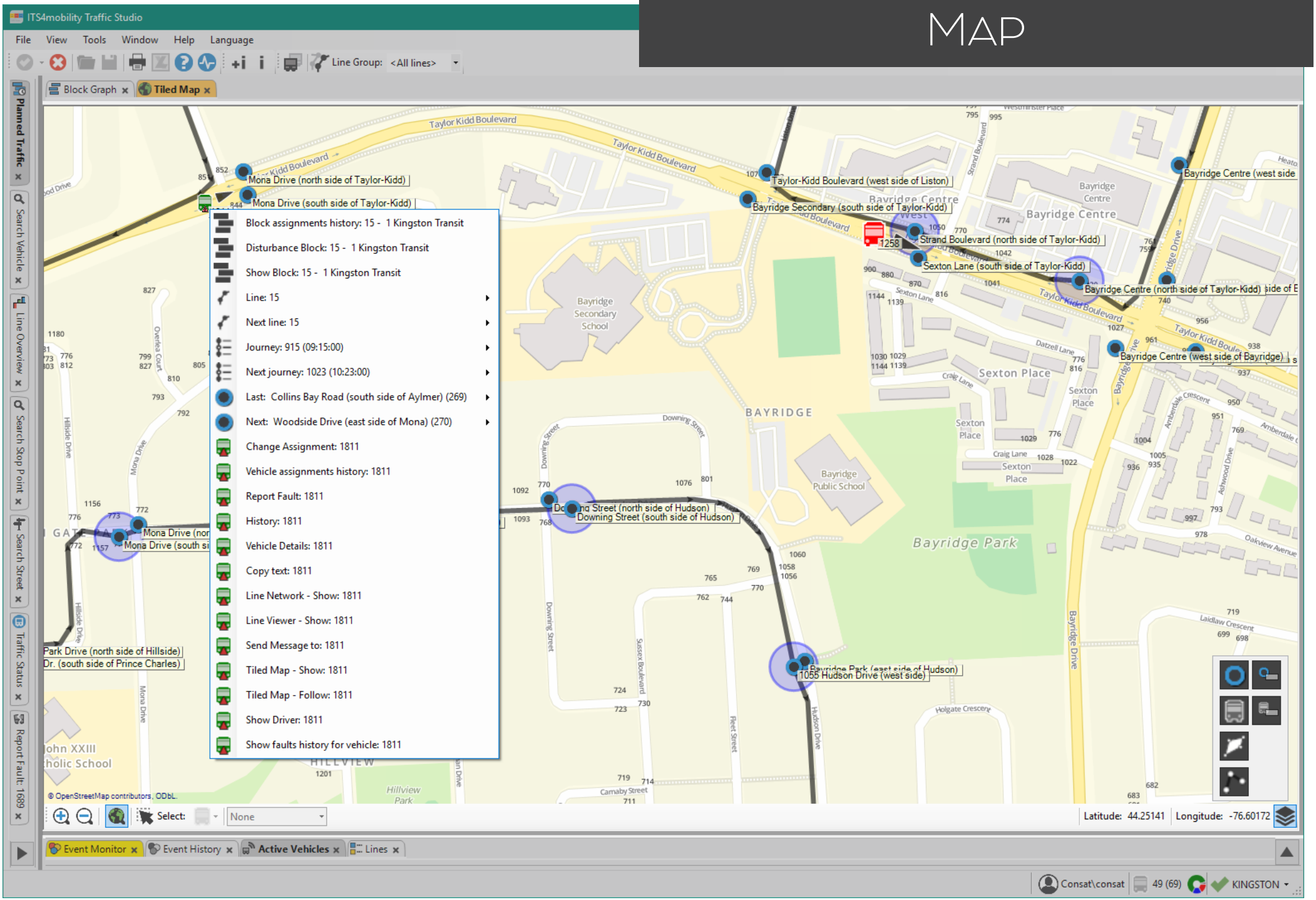
You can find them by displaying their route.



To show or hide the problems on the line, click on the Block Problems button. Possible problems are:

- No assignment for an active block
- No vehicle reporting to an active block
- Several vehicles reporting to the same active block

MAP


ITS4mobility Traffic Studio
File View Tools Window Help Language
Line Group: <All lines>
Block Graph
Tiled Map
Planned Traffic
Search Vehicle
Line Overview
Search Stop Point
Search Street
Traffic Status
Report Fault: 1689
Taylor Kidd Boulevard
Mona Drive (north side of Taylor-Kidd)
Mona Drive (south side of Taylor-Kidd)
Taylor-Kidd Boulevard (west side of Liston)
Bayridge Secondary (south side of Taylor-Kidd)
Strand Boulevard (north side of Taylor-Kidd)
Sexton Lane (south side of Taylor-Kidd)
Bayridge Centre (north side of Taylor-Kidd)
Bayridge Centre (west side
Bayridge Centre (west side of Bayridge)
Bayridge Secondary School
Bayridge Public School
Bayridge Park
Sexton Place
Downing Street (north side of Hudson)
Downing Street (south side of Hudson)
1055 Hudson Drive (west side)
Park Drive (north side of Hillside)
Dr. (south side of Prince Charles)
Block assignments history: 15 - 1 Kingston Transit
Disturbance Block: 15 - 1 Kingston Transit
Show Block: 15 - 1 Kingston Transit
Line: 15
Next line: 15
Journey: 915 (09:15:00)
Next journey: 1023 (10:23:00)
Last: Collins Bay Road (south side of Aylmer) (269)
Next: Woodside Drive (east side of Mona) (270)
Change Assignment: 1811
Vehicle assignments history: 1811
Report Fault: 1811
History: 1811
Vehicle Details: 1811
Copy text: 1811
Line Network - Show: 1811
Line Viewer - Show: 1811
Send Message to: 1811
Tiled Map - Show: 1811
Tiled Map - Follow: 1811
Show Driver: 1811
Show faults history for vehicle: 1811
© OpenStreetMap contributors, ODbL.
Select: None
Latitude: 44.25141
Longitude: -76.60172
Event Monitor
Event History
Active Vehicles
Lines
Consat\consat
49 (69)
KINGSTON

Function Vector map of the system with elements of the current traffic.

Access Tools –> Map

Navigation

Use your mouse to navigate around the map.

Zoom in/out: Scroll the wheel.

Move around: Hold down the left button and move the mouse around.

Map Tools

The map has useful tools located at its bottom.

Navigation

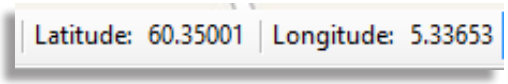
/ Zoom in / zoom out

Activate the **Navigate** mode (default mode).

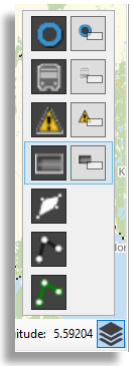
Activate the **Select** mode where you can select vehicles or stop points on the map. Toggle between the two in the drop-down menu. Select several units at a time by holding down the shift key.

Coordinates

The lower part of the map shows the coordinates of your mouse pointer or the last selected vehicle/stop point.



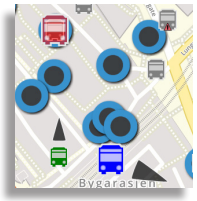
Map Object Layers



The Map has a layer selection for every component (vehicles, stop, etc.). Using the layer buttons, you can toggle on/off their visibility (left column) and/or their label (right column), which are turned off as default.

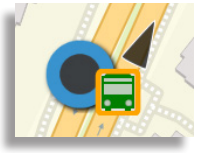
The Map Object Layers is located in the right lower corner of the Map.

Symbols



The vehicle symbols represent their deviation from the timetable.

The colors, sizes and time intervals can be configured in the settings.

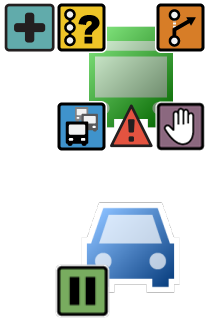


The GPS heading is indicated with an arrow.

Selecting a vehicle will surround it by an orange halo.

Stop points are shown with colored dots.

- Normal stop points are blue.
- A selected stop point is orange.



Warning symbols are shown on the vehicle symbol.

Yellow: Assignment issue.

Orange: The vehicle is off route.

Blue: The vehicle is stuck in a queue.

Purple: The signs are manually controlled.

Red: The vehicle has an active fault.

Teal: The vehicle is reinforcing a journey.

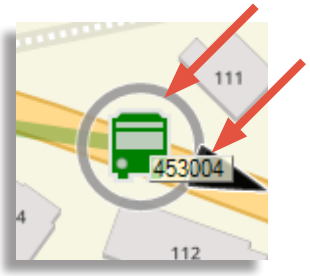
Green: The vehicle has been paused.

There are multiple types of vehicle icons, such as car, bus, tramway, train, ferry, snowplow, garbage truck, etc.

Map, follow vehicle

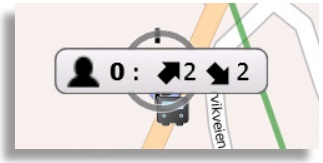
1. Right-click on a vehicle to open its shortcut menu and select **Map - Follow.**
2. A new map opens with your vehicle in focus. The map updates each time the vehicle sends a new vehicle report or new GPS coordinates.

The followed vehicle has a light grey circle to identify it as your target, and its label is visible.



Passenger Counter

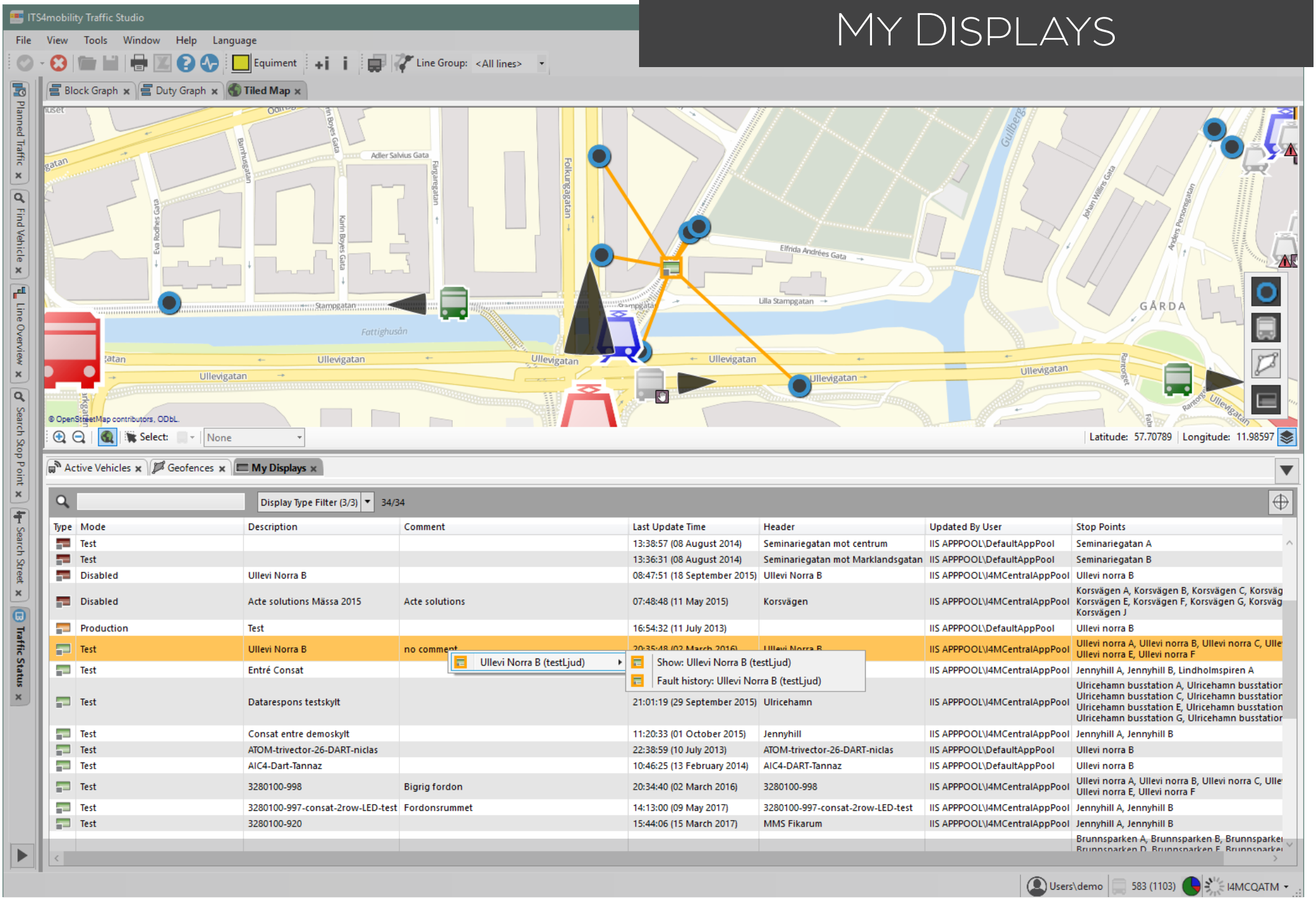
Passenger Counters are shown when using Route Checker and Vehicle History. They appear as an icon with the latest update of onboard passengers, how many passengers boarded the vehicle and how many passengers alighted at the latest stop point.



Tips

- You can open as many maps as you want. They're all independent of each other.
- Each "following vehicle" map will have the vehicle ID in its name.

My Displays



Type	Mode	Description	Comment	Last Update Time	Header	Updated By User	Stop Points
	Test			13:38:57 (08 August 2014)	Seminariegatan mot centrum	IIS APPPOOL\DefaultAppPool	Seminariegatan A
	Test			13:36:31 (08 August 2014)	Seminariegatan mot Marklandsgatan	IIS APPPOOL\DefaultAppPool	Seminariegatan B
	Disabled	Ullevi Norra B		08:47:51 (18 September 2015)	Ullevi Norra B	IIS APPPOOL\I4MCentralAppPool	Ullevi norra B
	Disabled	Acte solutions Mässa 2015	Acte solutions	07:48:48 (11 May 2015)	Korsvägen	IIS APPPOOL\I4MCentralAppPool	Korsvägen A, Korsvägen B, Korsvägen C, Korsväg Korsvägen E, Korsvägen F, Korsvägen G, Korsväg Korsvägen J
	Production	Test		16:54:32 (11 July 2013)		IIS APPPOOL\DefaultAppPool	Ullevi norra B
	Test	Ullevi Norra B	no comment	20:35:48 (02 March 2016)	Ullevi Norra B	IIS APPPOOL\I4MCentralAppPool	Ullevi norra A, Ullevi norra B, Ullevi norra C, Ulle Ullevi norra E, Ullevi norra F
	Test	Entré Consat				IIS APPPOOL\I4MCentralAppPool	Jennyhill A, Jennyhill B, Lindholmspiren A
	Test	Datarespons testskylt		21:01:19 (29 September 2015)	Ulricehamn	IIS APPPOOL\I4MCentralAppPool	Ulricehamn busstation A, Ulricehamn busstation Ulricehamn busstation C, Ulricehamn busstation Ulricehamn busstation E, Ulricehamn busstation Ulricehamn busstation G, Ulricehamn busstation
	Test	Consat entre demoskylt		11:20:33 (01 October 2015)	Jennyhill	IIS APPPOOL\I4MCentralAppPool	Jennyhill A, Jennyhill B
	Test	ATOM-trivector-26-DART-niclas		22:38:59 (10 July 2013)	ATOM-trivector-26-DART-niclas	IIS APPPOOL\DefaultAppPool	Ullevi norra B
	Test	AIC4-Dart-Tannaz		10:46:25 (13 February 2014)	AIC4-DART-Tannaz	IIS APPPOOL\DefaultAppPool	Ullevi norra B
	Test	3280100-998	Bigrig fordon	20:34:40 (02 March 2016)	3280100-998	IIS APPPOOL\I4MCentralAppPool	Ullevi norra A, Ullevi norra B, Ullevi norra C, Ulle Ullevi norra E, Ullevi norra F
	Test	3280100-997-consat-2row-LED-test	Fordonsrummet	14:13:00 (09 May 2017)	3280100-997-consat-2row-LED-test	IIS APPPOOL\I4MCentralAppPool	Jennyhill A, Jennyhill B
	Test	3280100-920		15:44:06 (15 March 2017)	MMS Fikarum	IIS APPPOOL\I4MCentralAppPool	Jennyhill A, Jennyhill B
							Brunnsparken A, Brunnsparken B, Brunnsparke

Function

List information about your displays, including which stop point(s) each display is configured to cover and its geographical location when provided.

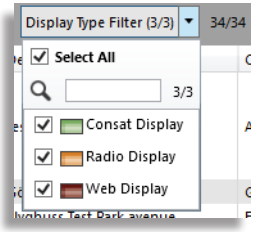
Access

Tools –> My Displays & Map

The table lists all the displays in the system, each stop points they cover and their geographical location. The displays are also shown on the map.

Filter

The display type filter lets you narrow the table on specific type(s). Use the free text filter to use keywords or look for something specific like a stop point. There are three display types:



- **Consat displays:** Standard at-stop/terminal display systems
- **Web displays**: Displays in regular browsers
- **Radio displays:** Receive forecasts and text announcements over low bandwidth FM radio.

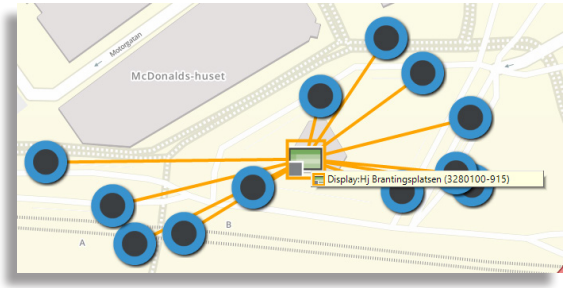
Note: Only web displays included and configured in the display data base are included. URL-configured displays are not included in the presentation.

View Selected Display on the Map

Double-click on a row to show this display on the map, and all the stop points it covers. The map will zoom in on the display symbol. Orange lines link the display to all stop points included in the display presentation.

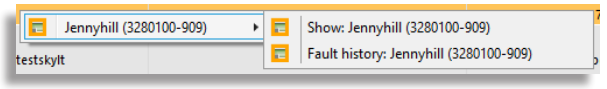
Note: Displays without data about geographical position have a grey square status icon on their display symbol. In theses cases, the position of the display on the map will be the geographical average of the included stops.

If you want the map to continually follow the current selection in the display list, activate the **View the selected display on map**-button by clicking on it  . You can now scroll through the display list using the arrow buttons and the map presentation will follow the selection.



Display Shortcut

The display symbols also provides access to the display shortcut menu. Note: Screenshot and Fault History are only available from Consat system's displays. For Web and radio displays, these menu choices will be greyed out.

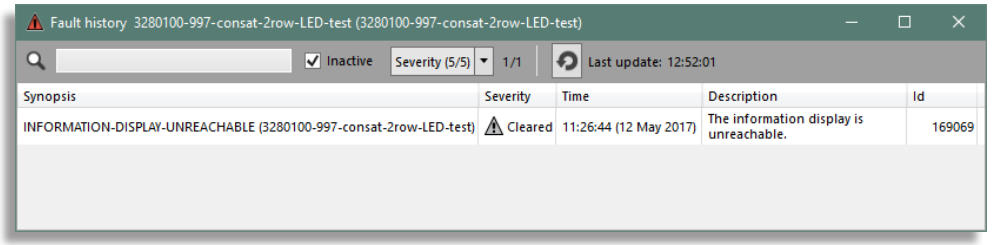


Show

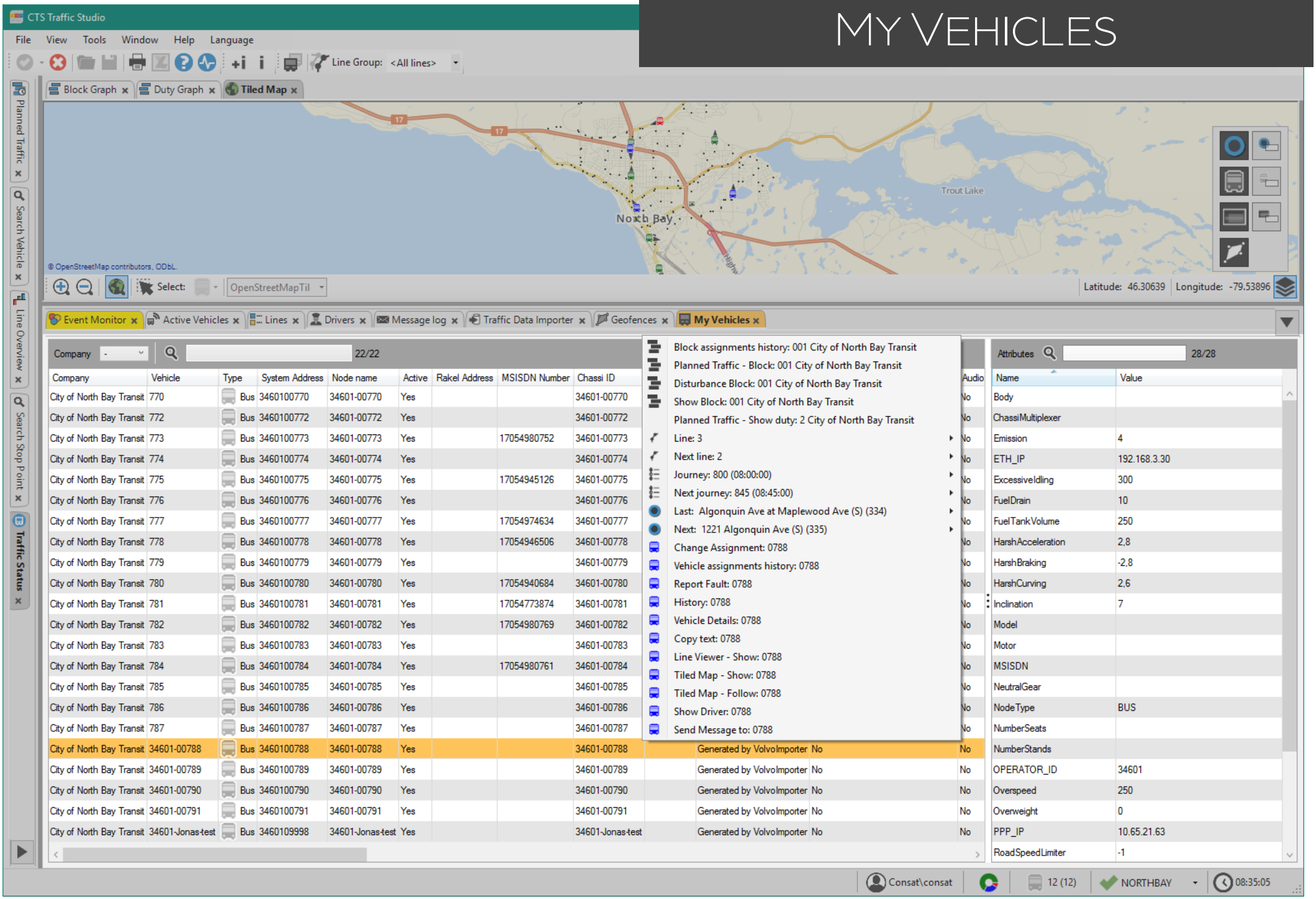
Right-click on a display and choose "**Show:**" to see an image of how the display looks like. Note that it is a visualization and not a real screenshot.

Fault History

Right-click on a display and choose "Show:" to open the display's Fault History window.



MY VEHICLES


CTS Traffic Studio
File View Tools Window Help Language
Line Group: <All lines>
Block Graph
Duty Graph
Tiled Map
North Bay
Trout Lake
© OpenStreetMap contributors, ODbL.
Select:
OpenStreetMapTil
Latitude: 46.30639
Longitude: -79.53896
Event Monitor
Active Vehicles
Lines
Drivers
Message log
Traffic Data Importer
Geofences
My Vehicles
Company
22/22
Company Vehicle Type System Address Node name Active Rakel Address MSISDN Number Chassi ID
City of North Bay Transit 770 Bus 3460100770 34601-00770 Yes 34601-00770
City of North Bay Transit 772 Bus 3460100772 34601-00772 Yes 34601-00772
City of North Bay Transit 773 Bus 3460100773 34601-00773 Yes 17054980752 34601-00773
City of North Bay Transit 774 Bus 3460100774 34601-00774 Yes 34601-00774
City of North Bay Transit 775 Bus 3460100775 34601-00775 Yes 17054945126 34601-00775
City of North Bay Transit 776 Bus 3460100776 34601-00776 Yes 34601-00776
City of North Bay Transit 777 Bus 3460100777 34601-00777 Yes 17054974634 34601-00777
City of North Bay Transit 778 Bus 3460100778 34601-00778 Yes 17054946506 34601-00778
City of North Bay Transit 779 Bus 3460100779 34601-00779 Yes 34601-00779
City of North Bay Transit 780 Bus 3460100780 34601-00780 Yes 17054940684 34601-00780
City of North Bay Transit 781 Bus 3460100781 34601-00781 Yes 17054773874 34601-00781
City of North Bay Transit 782 Bus 3460100782 34601-00782 Yes 17054980769 34601-00782
City of North Bay Transit 783 Bus 3460100783 34601-00783 Yes 34601-00783
City of North Bay Transit 784 Bus 3460100784 34601-00784 Yes 17054980761 34601-00784
City of North Bay Transit 785 Bus 3460100785 34601-00785 Yes 34601-00785
City of North Bay Transit 786 Bus 3460100786 34601-00786 Yes 34601-00786
City of North Bay Transit 787 Bus 3460100787 34601-00787 Yes 34601-00787
City of North Bay Transit 34601-00788 Bus 3460100788 34601-00788 Yes 34601-00788 Generated by VolvoImporter No No
City of North Bay Transit 34601-00789 Bus 3460100789 34601-00789 Yes 34601-00789 Generated by VolvoImporter No No
City of North Bay Transit 34601-00790 Bus 3460100790 34601-00790 Yes 34601-00790 Generated by VolvoImporter No No
City of North Bay Transit 34601-00791 Bus 3460100791 34601-00791 Yes 34601-00791 Generated by VolvoImporter No No
City of North Bay Transit 34601-Jonas-test Bus 3460109998 34601-Jonas-test Yes 34601-Jonas-test Generated by VolvoImporter No No
Block assignments history: 001 City of North Bay Transit
Planned Traffic - Block: 001 City of North Bay Transit
Disturbance Block: 001 City of North Bay Transit
Show Block: 001 City of North Bay Transit
Planned Traffic - Show duty: 2 City of North Bay Transit
Line: 3
Next line: 2
Journey: 800 (08:00:00)
Next journey: 845 (08:45:00)
Last: Algonquin Ave at Maplewood Ave (S) (334)
Next: 1221 Algonquin Ave (S) (335)
Change Assignment: 0788
Vehicle assignments history: 0788
Report Fault: 0788
History: 0788
Vehicle Details: 0788
Copy text: 0788
Line Viewer - Show: 0788
Tiled Map - Show: 0788
Tiled Map - Follow: 0788
Show Driver: 0788
Send Message to: 0788
Attributes
28/28
Name Value
Body
ChassiMultiplexer
Emission 4
ETH_IP 192.168.3.30
ExcessiveIdling 300
FuelDrain 10
FuelTankVolume 250
HarshAcceleration 2,8
HarshBraking -2,8
HarshCurving 2,6
Inclination 7
Model
Motor
MSISDN
NeutralGear
NodeType BUS
NumberSeats
NumberStands
OPERATOR_ID 34601
Overspeed 250
Overweight 0
PPP_IP 10.65.21.63
RoadSpeedLimiter -1
Consat\consat
12 (12)
NORTHBAY
08:35:05
Planned Traffic
Search Vehicle
Line Overview
Search Stop Point
Traffic Status

Function List of all available static information for the vehicles in the system.

Access Tools –> Vehicles –> My Vehicles

This table can include everything from chassis ID to Wheel chair capacity to Manufacturing date. The tool includes a company and a free text filter for narrowing down the presentation and functions for sorting the content.

Two Views

The **main** view is a table listing all vehicles and their information.

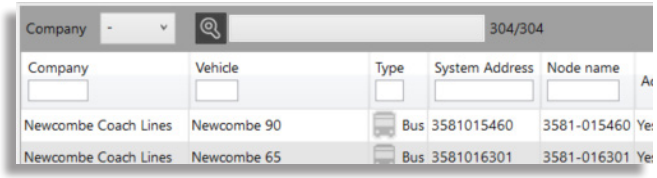
Click on a row to open the **detail** view. This view is only available if your system has additional information outside of those in the main view.

The contents of this section depends on the available data, e.g. Emission, Model, Motor, Number of Seats, etc. Note that information items presented in the **main** view may also be included in the **detail** view.

Company and Search

Company uses a drop-down menu to give you the choice to select a specific company.

The search field lets you input any text or numbers and automatically updates the content of the table to highlight the cells containing these characters. Click on the magnifier icon to enable a search field for each column, independent of one another.

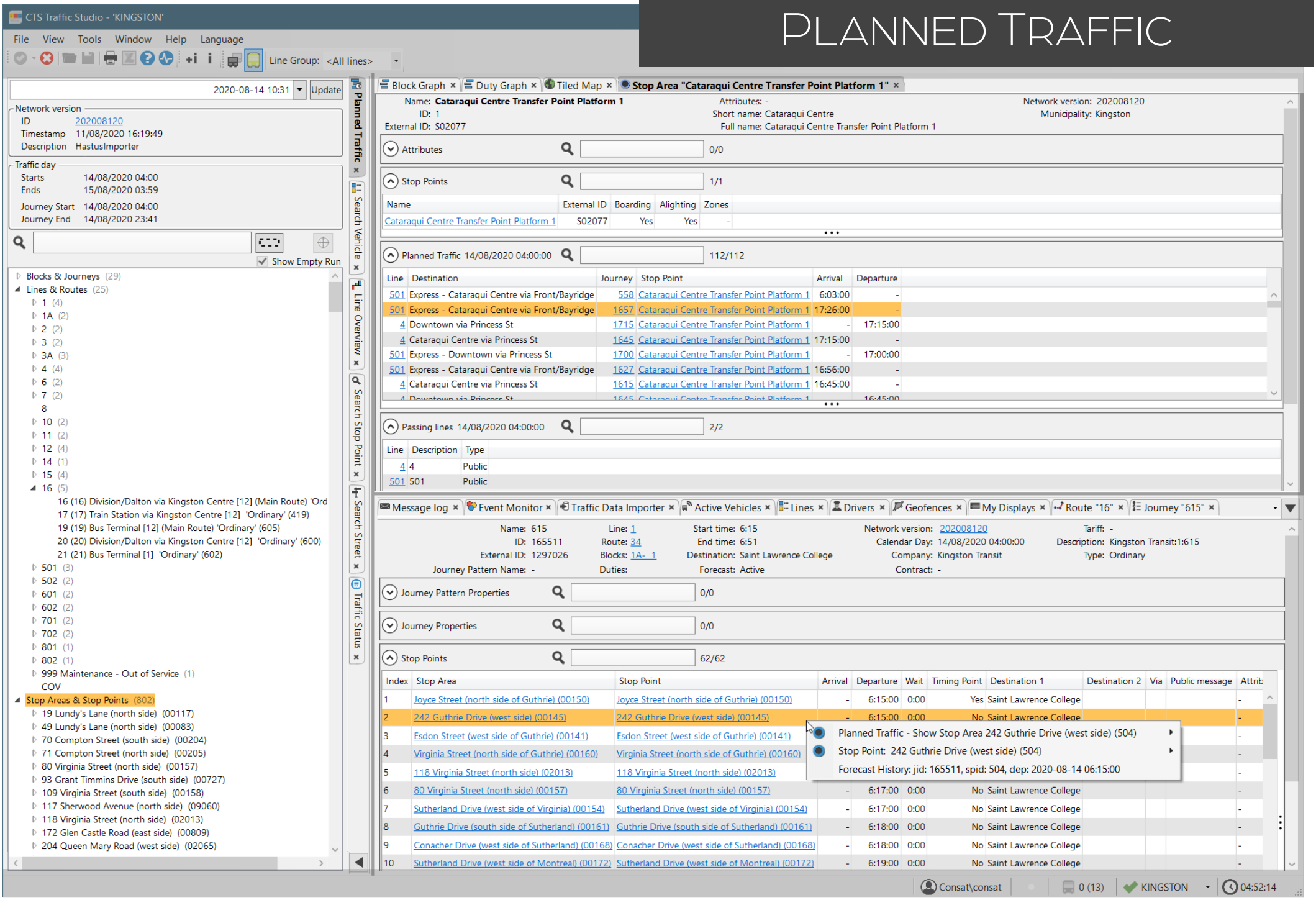


Provided information

The table provides real time information about each vehicle. The column order can be set by dragging and dropping the columns.

Company	Vehicle Operator/Company
Vehicle	Vehicle number
Type	The vehicle type, presented with the symbol used in the application and a type name (bus, tramway, ferry etc.).
System Address	Unique vehicle system address
Node Name	I4M System Node name.
Active	(Yes/No) If the vehicle is on active duty or not
Rakel Address	Rakel radio address
MSISDN	The "phone number" of the vehicle modem.
Chassis ID	Chassis number.
External ID	External Vehicle ID number.
Description	This data field shows the origin of the vehicle data.
Equipped for Wheel Chair Transport	(Y/N) Vehicle is equipped for wheel chair transport.
Audio Information	(Y/N) Vehicle is equipped for audio information broadcast.
Ramp or Lift	(Y/N) Vehicle has ramp/lift for disabled passengers.
Handicap Accessible	(Y/N) Handicapped equipped vehicle
Low Entry	(Y/N) Vehicle has low entry doors.
Low Floor	(Y/N) Vehicle has low floor.
Stroller Space	(Y/N) Vehicle has space for stroller
Toilet	(Y/N) Vehicle is equipped w toilet.
Visual Information	(Y/N) Vehicle is equipped w information displays.
Suitable for Wheel Chairs	(Y/N) Vehicle has room and is equipped for passengers in wheelchairs.
Wheel Chair Places	The number of wheel chair spaces.
Commissioned	The time and date the vehicle was commissioned.
Manufactured	The time and date the vehicle was manufactured.
Modified	The time and date the vehicle was last modified.
Road Speed Limiter	Road Speed Limiter threshold (km/h)
Overspeed Limit	Overspeed threshold (km/h)
RPM Economy Lower	Lower RPM economy range threshold
RPM Economy Upper	Upper RPM economy range threshold
Over Weight	Over Weight threshold
Harsh Acceleration	Harsh Acceleration threshold
Harsh Braking	Harsh Braking threshold
Harsh Curving	Harsh Curving threshold
Inclination	Inclination threshold
Fuel Drain	Fuel Drain threshold (l)
Excess Idling	Excess Idling threshold (s)
Seated	The number of passenger seats
Standing	The allowed number of passengers standing

PLANNED TRAFFIC



Function

All planned traffic data for a past, present or future calendar date. The information is shown in a tree structure.

Access

Tools –> Planned Traffic–> Planned Traffic

The content is displayed in a tree structure. Each category has roots (first name) and subroots (second name). E.g., Blocks & Journeys list all blocks. When expanded, it shows all the block's journeys.

Each top category as a number within parenthesis to says how many sub-components it has. E.g., Line 2 (8) has 8 different routes.

The traffic data shown is for the current calendar day. To look for a different one, select a calender day (24 hours), then click on the **Update** button to get your results.

You can search data via a **text field**.

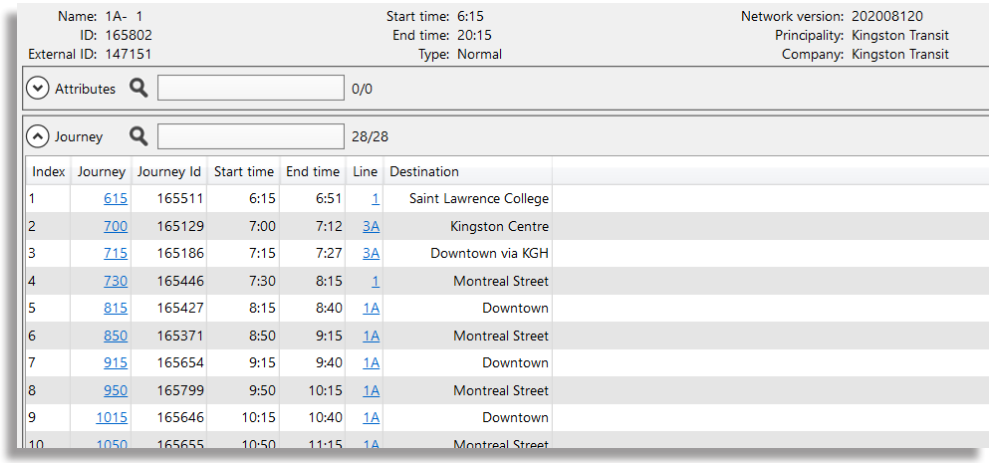
You can also draw an area on the map to filter all data geographically. To activate it, click on the **Area Search** button, switch the map mode to **Select** and draw a rectangle with the left mouse button.

Some views have links to quickly reach other types of information, such as journeys from a specific route. These links are blue and underlined.

Blocks & Journeys

Blocks & Journeys shows all blocks and their journeys.

Double-click on a block to open a new detailed tab in the bottom tool window.



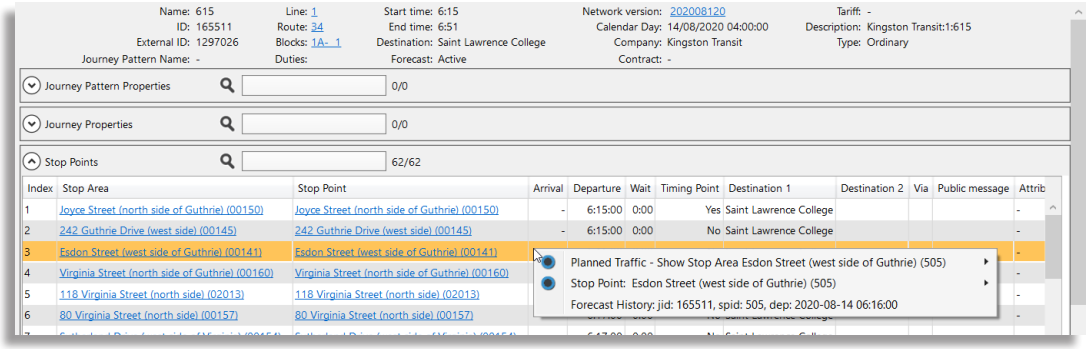
Index	Journey	Journey Id	Start time	End time	Line	Destination
1	615	165511	6:15	6:51	1	Saint Lawrence College
2	700	165129	7:00	7:12	3A	Kingston Centre
3	715	165186	7:15	7:27	3A	Downtown via KGH
4	730	165446	7:30	8:15	1	Montreal Street
5	815	165427	8:15	8:40	1A	Downtown
6	850	165371	8:50	9:15	1A	Montreal Street
7	915	165654	9:15	9:40	1A	Downtown
8	950	165799	9:50	10:15	1A	Montreal Street
9	1015	165646	10:15	10:40	1A	Downtown
10	1050	165655	10:50	11:15	1A	Montreal Street

Journey

Double-click on a journey to open a new detailed tab in the bottom tool window. Click once to select a journey and visualize its route on the Map.

In the Journey window, right-click anywhere in the information area to open a shortcut menu. You can select to see more information about the block containing the journey, but also which line it services and even its specific route.

There is also a shortcut menu for each row with option to see more information about the stop point and stop area.



Index	Stop Area	Stop Point	Arrival	Departure	Wait	Timing Point	Destination 1	Destination 2	Via	Public message	Attrib
1	Joyce Street (north side of Guthrie) (00150)	Joyce Street (north side of Guthrie) (00150)	-	6:15:00	0:00	Yes	Saint Lawrence College				-
2	242 Guthrie Drive (west side) (00145)	242 Guthrie Drive (west side) (00145)	-	6:15:00	0:00	No	Saint Lawrence College				-
3	Esdon Street (west side of Guthrie) (00141)	Esdon Street (west side of Guthrie) (00141)									
4	Virginia Street (north side of Guthrie) (00160)	Virginia Street (north side of Guthrie) (00160)									
5	118 Virginia Street (north side) (02013)	118 Virginia Street (north side) (02013)									
6	80 Virginia Street (north side) (00157)	80 Virginia Street (north side) (00157)									

Lines & Routes

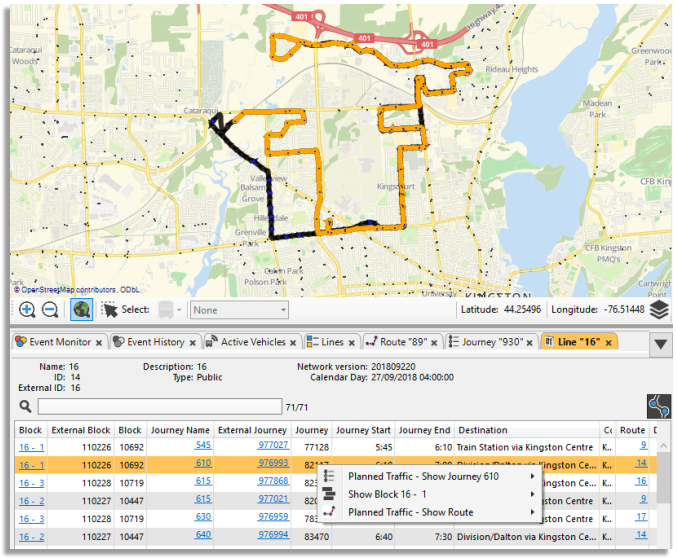
When expanded, each route provides information about its classification (main route) and type (ordinary, empty, etc.). The number of journeys servicing a specific route is shown within [brackets] after the its name.

Note that any Empty Runs/In Between routes are grouped in their own subcategory "**Empty**".

Double-click on a line to open its own tab in the bottom tool window.

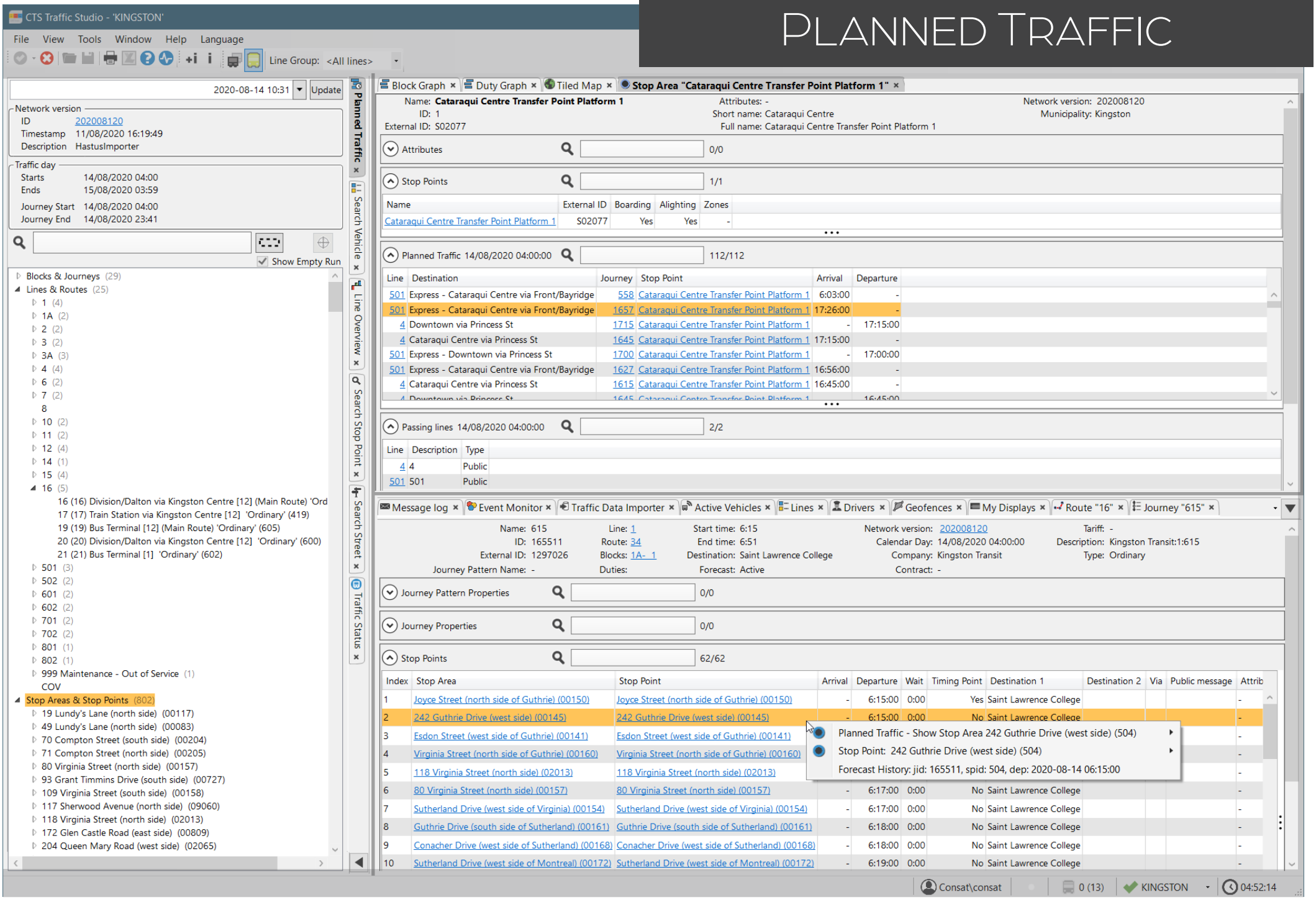
Click on the "Display routes" button  to display all routes included in the line (black lines).

Click on a block-journey route row in the list to select it and view it on the map highlighted in **orange**.



Block	External Block	Block	Journey Name	External Journey	Journey	Journey Start	Journey End	Destination
16 - 1	110226	10692	545	977027	77128	5:45	6:10	Train Station via Kingston Centre
16 - 1	110226	10692	610	976993	82			
16 - 3	110228	10719	615	977868	83			
16 - 2	110227	10447	615	977021	82			
16 - 3	110228	10719	630	976959	78			
16 - 2	110227	10447	640	976994	83470	6:40	7:30	Division/Dalton via Kingston Ce...

PLANNED TRAFFIC

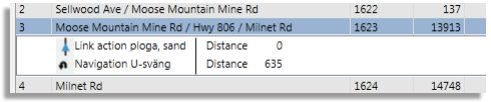


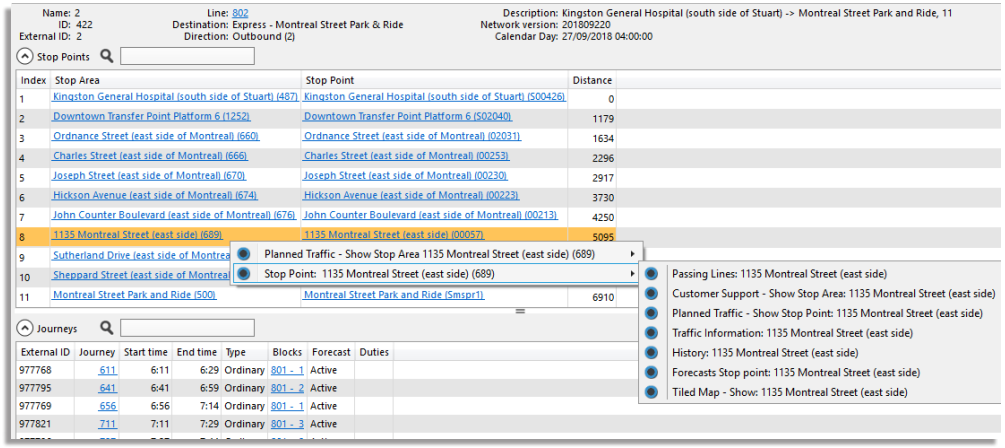
Routes

Select a route to highlight it on the map and zoom to it (grey/blue).

Double-click on a route to open its own tab in the Bottom Tool Window. It shows 2 sections; an ordered list of stop points and a list of all journeys servicing it.

If your system uses navigation hints and link work action, they will be visible when you click on a stop point in the list.

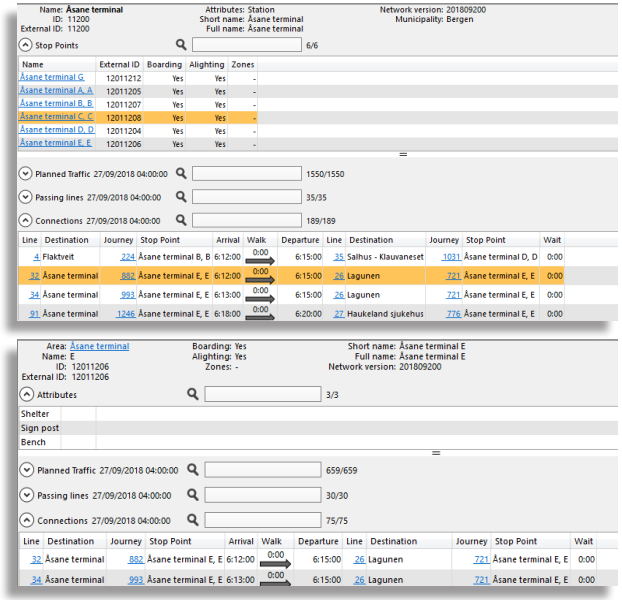




Stop Areas & Stop Points

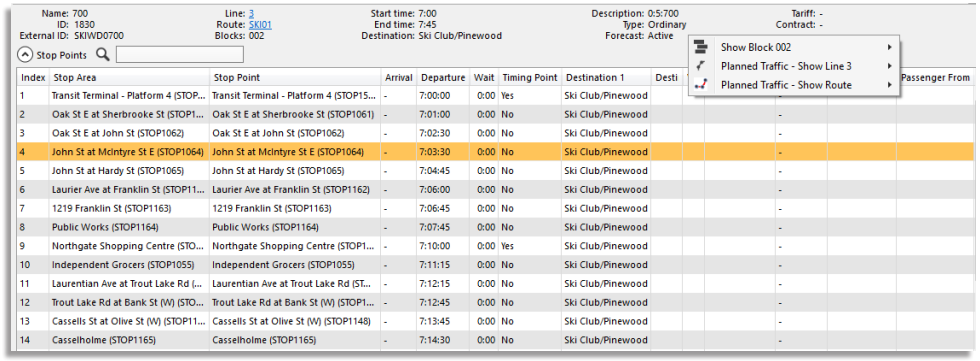
Select a stop area to zoom to it on the map and see it highlighted with its 50-meter radius.

Double-click on a stop area to open its tab in the Top Tool Window. It shows connected stop points, planned traffic, passing lines, and connections according to the timetable.



Duties (optional)

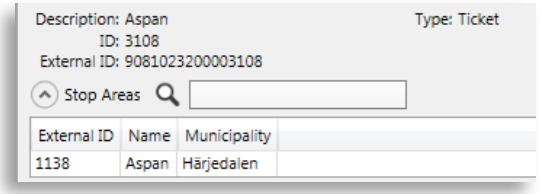
In systems using duties, these are presented in the main list under a separate Duties section. Expand it and double-click on a duty to open its own Duty detail window in the Bottom Tool Window.



Zones (optional)

In systems using zones, these are presented in the main list under a separate Zone section.

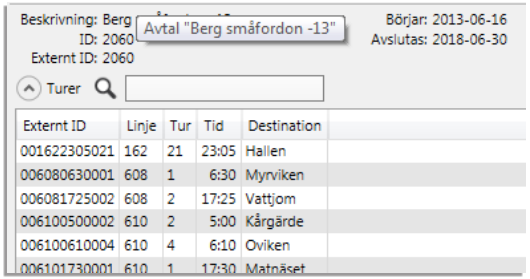
Expand it and double-click on a zone to open its own tab.



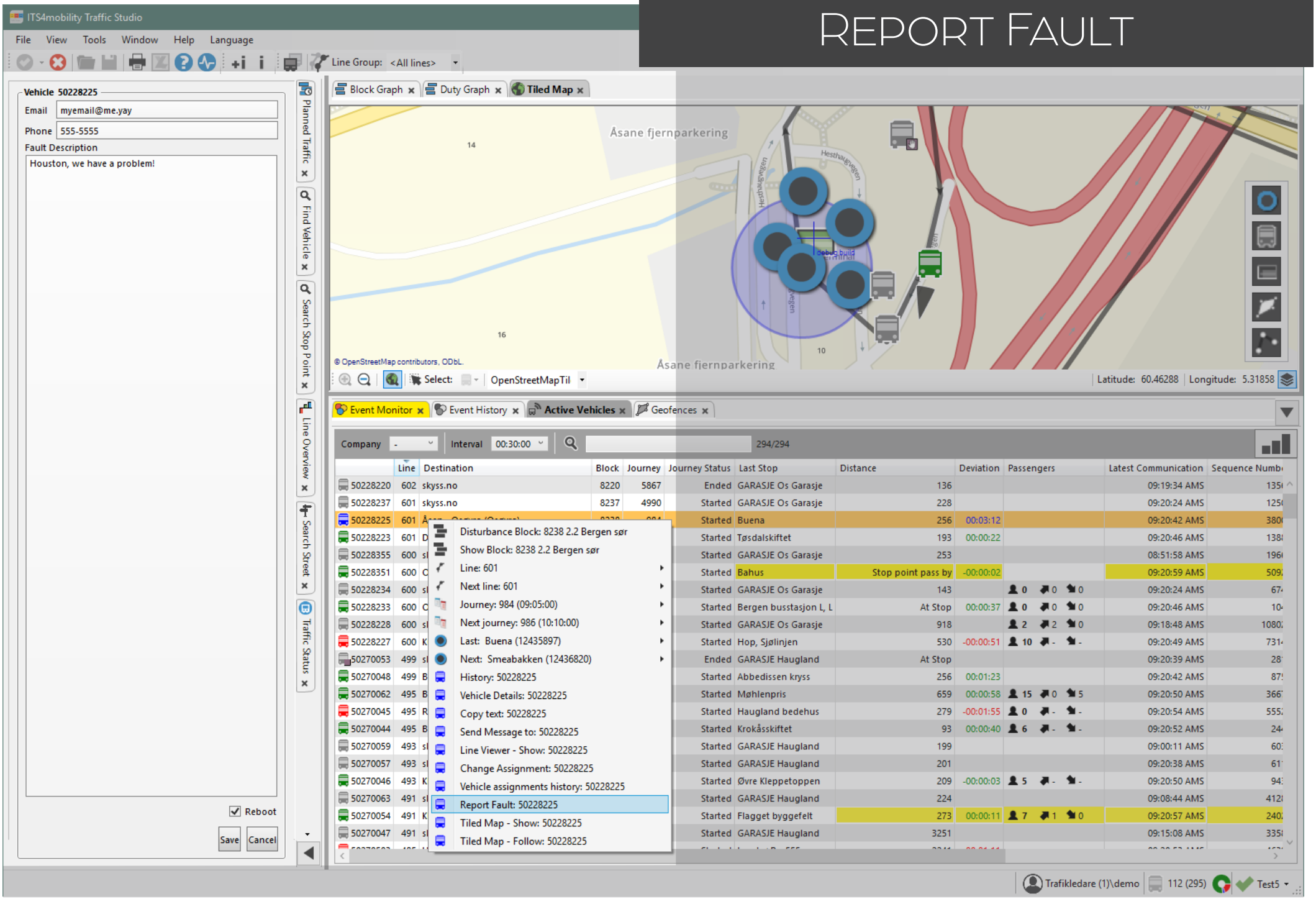
Contracts (optional)

Contracts are “journey groups” assigned to, and serviced by, operators. Contracts can be listed under a separate section in Planned Traffic.

Expand the node and double-click on a contract to view a detail window with contract details and a list of all journeys included in the contract.



Report Fault



Function Troubleshooting tool to report a vehicle fault, upload the diagnostic log and even request a remote restart of the vehicle computer.

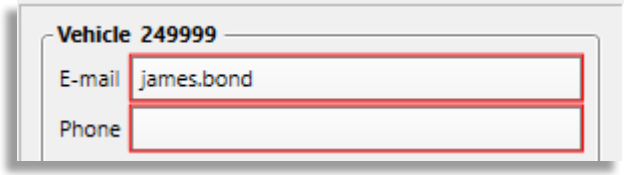
Access Vehicle shortcut menu & Assignment –> right-click on a row

This tool lets you report a fault in the vehicle. When you save, your input is sent forward and a diagnostic log is also uploaded from the vehicle to the central system for further troubleshooting.

There is also an option to request a restart of the vehicle computer if needed.

How to Report a Fault

1. Right-click on a vehicle's symbol to open the shortcut menu and select **Report Fault** in the list.
2. The Report Fault tool will open in the Left Tool Window.
3. All fields **must be filled** with the proper information; complete e-mail address, phone number and description. Failure to do so will be flagged in red as a reminder.

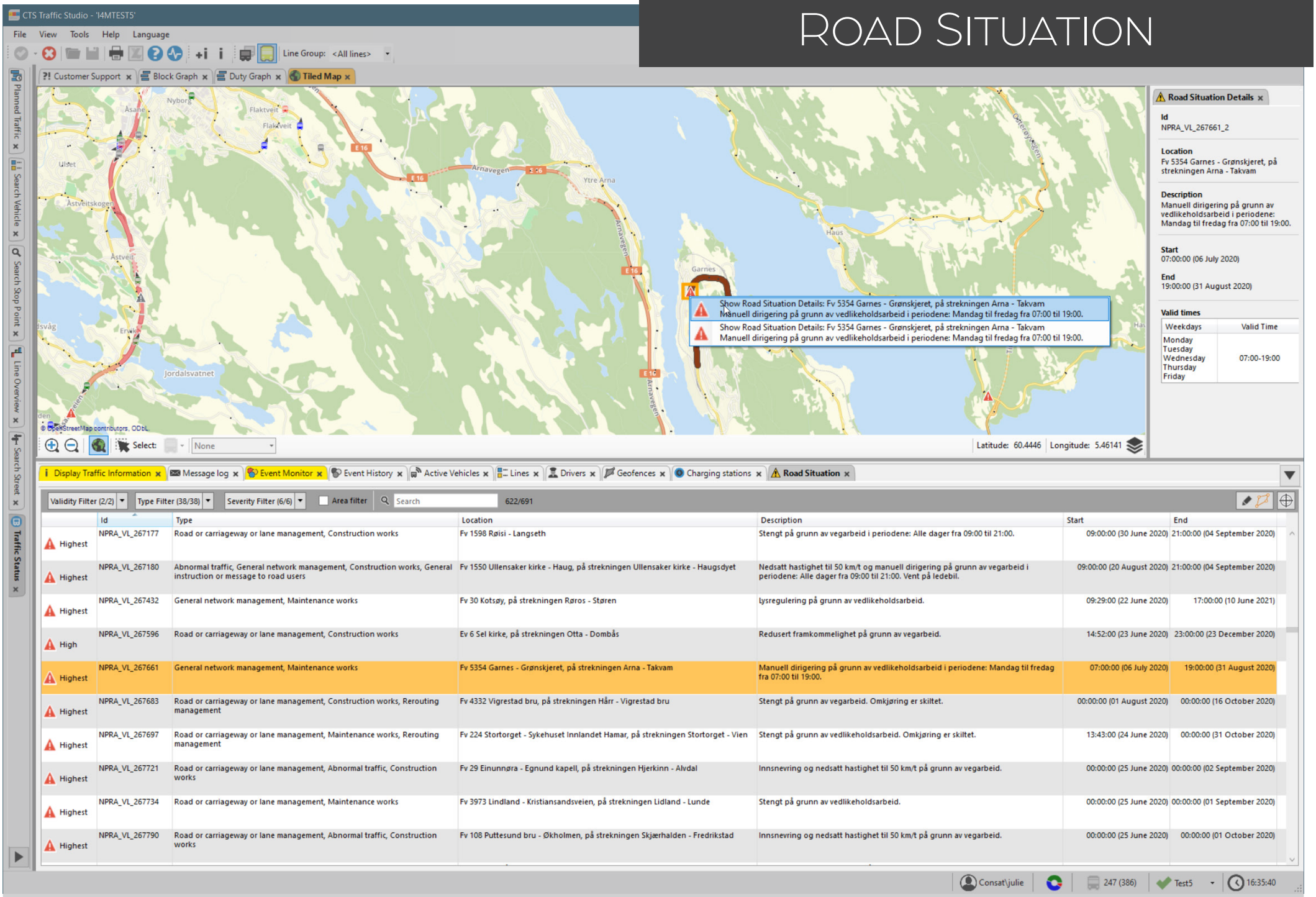


- Optional: To restart the vehicle computer remotely, tick in the **Reboot** box below the **Fault Description** field. The **Reboot** is an optional function and not required.

4. Click on **Save** to begin uploading the diagnostic log from the vehicle to the central system, as well as initiating the reboot if applicable. Click on **Cancel** to close the window without sending the log/reboot request.

Notes

Road Situation



Function

Show externally generated information about road work, changed speed limits, closed roads, etc. that may affect the planned traffic

Access

Tools –> Road Situation

Road Situation lists all active/planned road situation information items, with its own separate map object layer for all items and a detailed view for the selected road situation.

- The map shows road situation information that may be relevant for the lines/routes you are overseeing/controlling.
- Use the area filter to define and monitor the road situation within a specific area. The filter you define is saved for your role/user for the next time you open the tool.
- Note: Valid weekdays information/multiple valid periods are shown in the Road Situation Details window, but not in the Road Situation list.

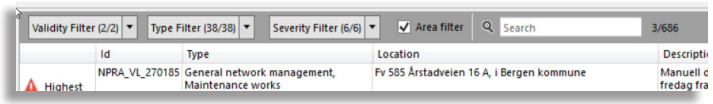
Filters

Validity: Select between Valid (currently in use) and Future (planned, but not yet applicable).

Type: Select the type(s) of road situations to monitor, e.g., accident, animal presence, construction work, etc.

Severity: Select the level of severity, ranging from Highest to Lowest.

Free text filter: Enter text and/or number to filter the information.



Details

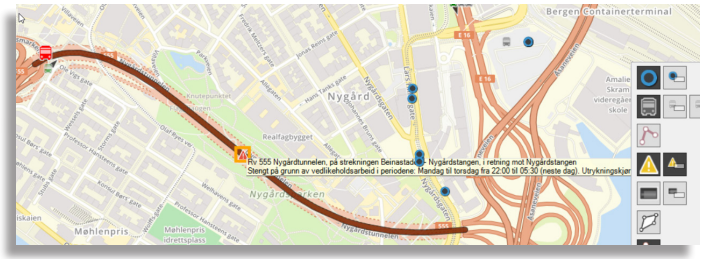
Double-click on a row in the table, or right-click on a road situation icon on the map and select it, to open its Details view.

Table & Map

Road Situation lists road situation information items, including active period.

Double-click on a row to zoom in on the item on the map, or click on the "Show Selected" button for the map to follow the row selection.

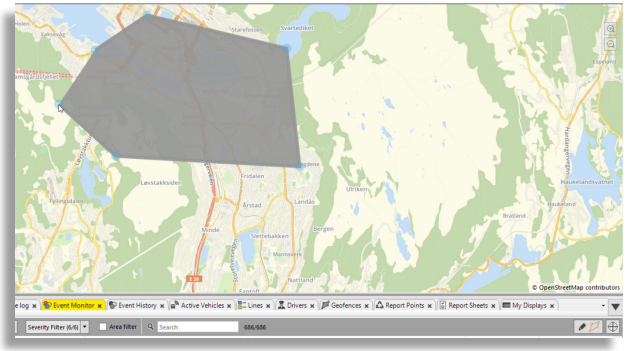
All road situation symbols can be toggled on/off via their own map layer, including their label.

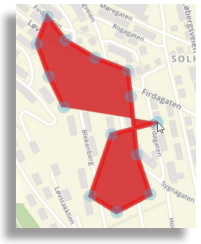


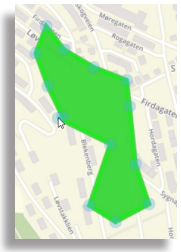
Severity symbol	Red: Active road situation, severity Highest or High Yellow: Active road situation, severity Medium, Low or Lowest Grey: Inactive (future/planned) road situation
Id	Unique ID for road situation item
Type	The type of disturbance/road situation information, system-dependent alternatives.
Location	Street, location description
Description	Descriptive text/content
Start	Timestamp: Time, (date)
End	Timestamp: Time, (date)

Area Filter

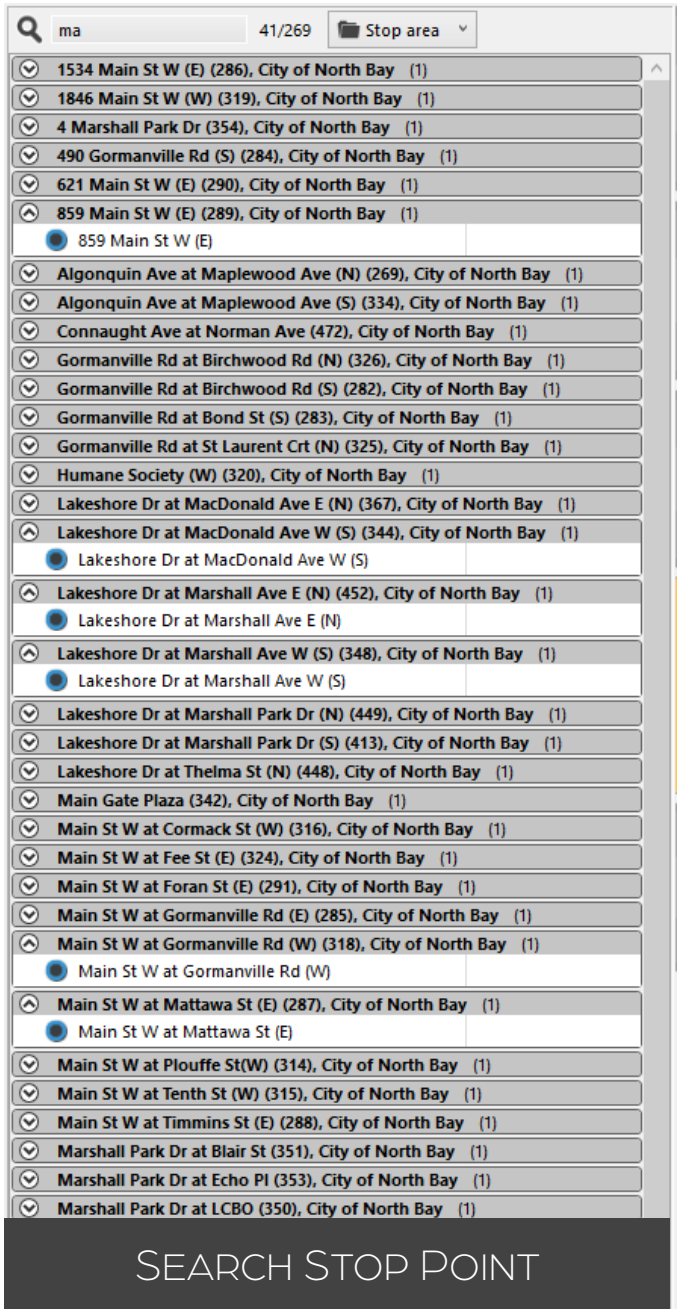
1. Click on the **Area Filter** button at the right end of the tab. A new map tab will open.
2. Pan/zoom to the right area.
3. Right-click to draw an area. If you try to create an impossible shape, the grey area will turn red. You can always press ESC to start over.
4. Complete your shape by either bring your cursor over your first point until your shape turns green, or pressing Enter.
5. To use a different area, repeat the steps above. Note that you can only use one Area Filter at the time.
6. To turn it off, uncheck the **Area Filter** check box next to the filters.



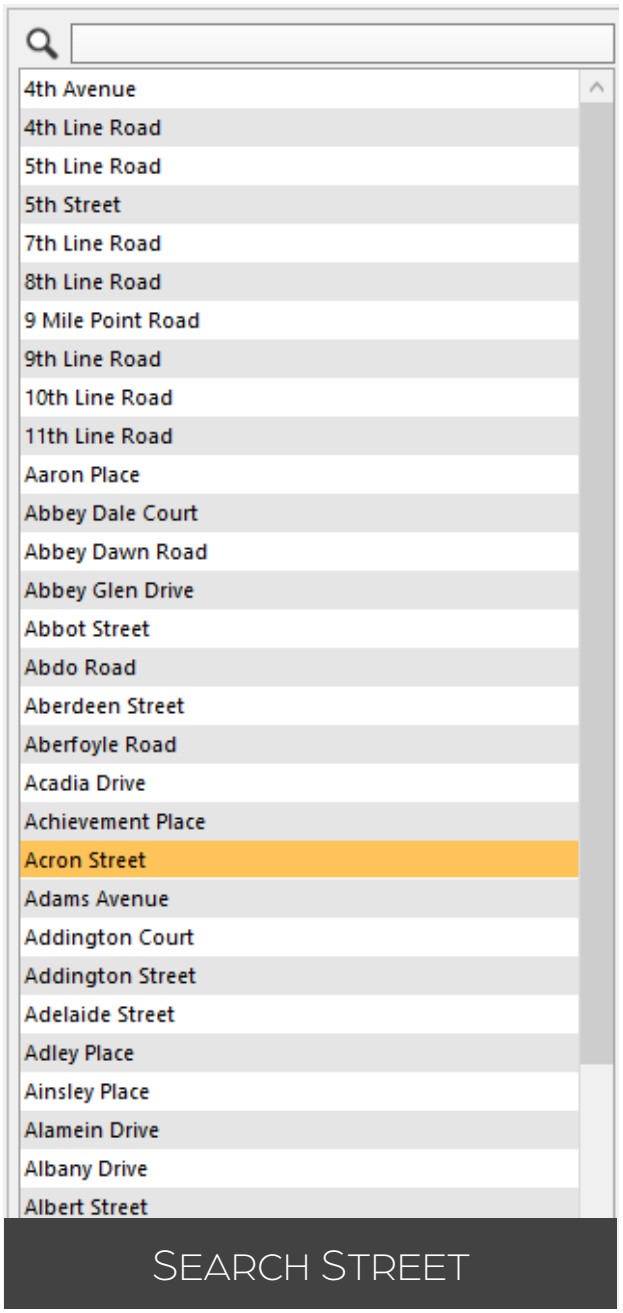




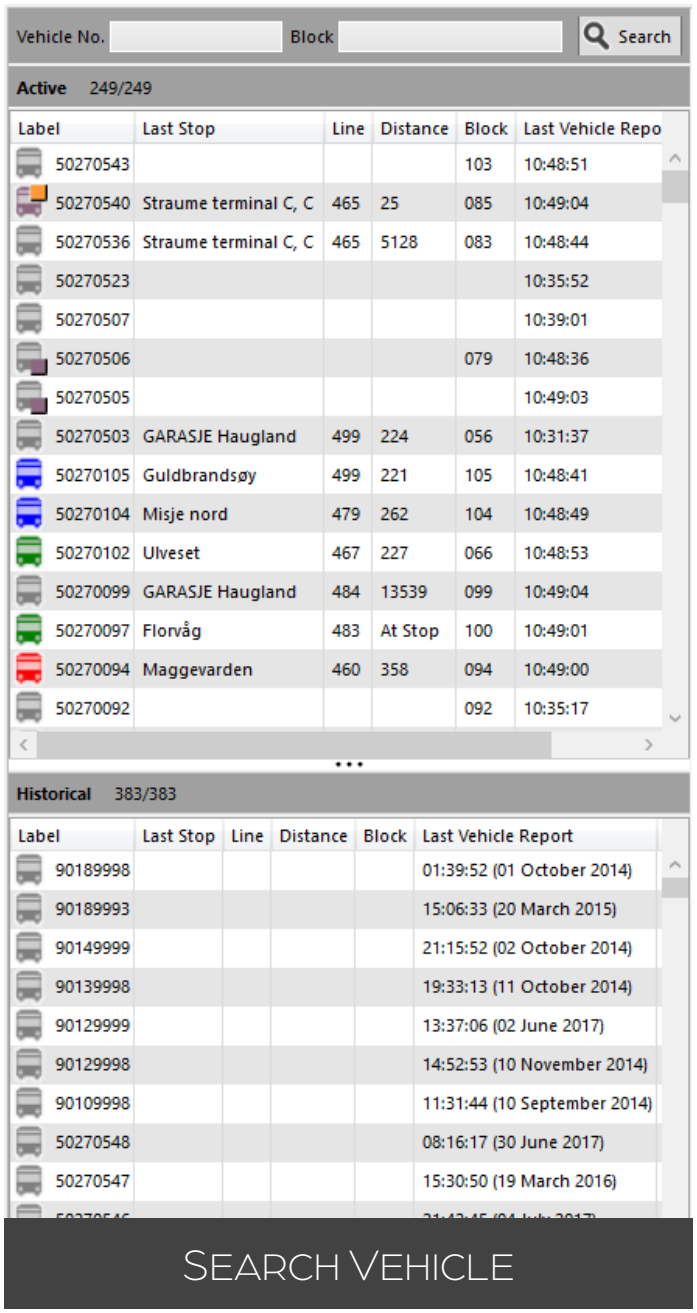
Search Functions



Search Stop Point



Search Street



Search Vehicle

Function

Locate a stop point in the system by typing in their name or part of their name.

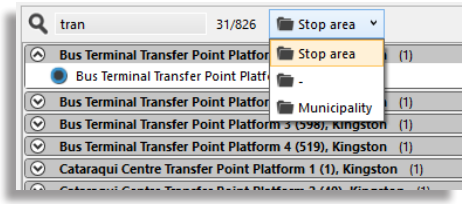
Access

Tools –> Search Stop Point

How does it work?

1. Type all or parts of the stop point to update the list automatically with all the stop points with a name fulfilling at least partially the search criterion.
2. Add more letters to narrow your search results if necessary.

E.g., If you enter **ter**, you will get a list with stop points such as Lancas**ter**, Coun**ter**, Cas**ter**ton, Wa**ter**loo and **Ter**minal. Add a **m (term)** and the list will shrink to Bus **Term**inal Transfer Point.



Tips

- Right–click on a stop point to access its shortcut menu.
- Double–click on a stop point to zoom to it on the map.

Function

Locate a street in the system by typing in their name or part of their name.

Access

Tools –> Search Street

How does it work?

1. Type all or parts of the street name to update the list automatically. You will get all the streets with a name fulfilling at least partially the search criterion.
2. Add more letters to narrow your search results if necessary.

E.g., If you enter **ron**, you will get a list with stop points such as Aa**ron** Place, Armst**rong** Road, Came**ron** Street and Co**ron**ation Blvd. Add a **t (ront)** and the list will shrink to F**ront** Rd, F**ront**enac Street and To**ront**o Street.

Function

Locate a vehicle or a block in the system by typing in their number or part of their number.

Access

Tools –> Search Vehicle

How does it work?

1. Type all or parts of the vehicle number or block number.
2. Click on the **Search** button.

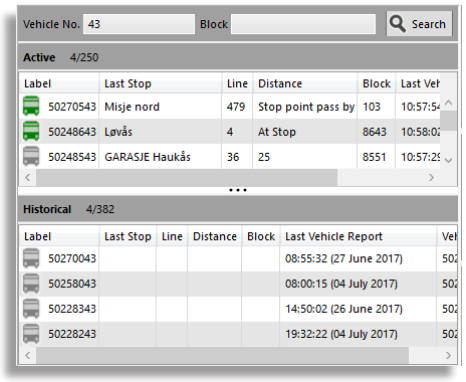
You will get all the vehicles, both past and active, with a number containing or corresponding to the search criterion.

E.g. If you enter 3 in the vehicle field, you will get a list with vehicles **3**, 5**3**, **33**3, 6**3** and every other vehicle with at least one “3” in its number.

Active and Historical Vehicles

The results will list both active and past vehicles (vehicles that have completed their routes). The vehicles are sorted according to their last report.

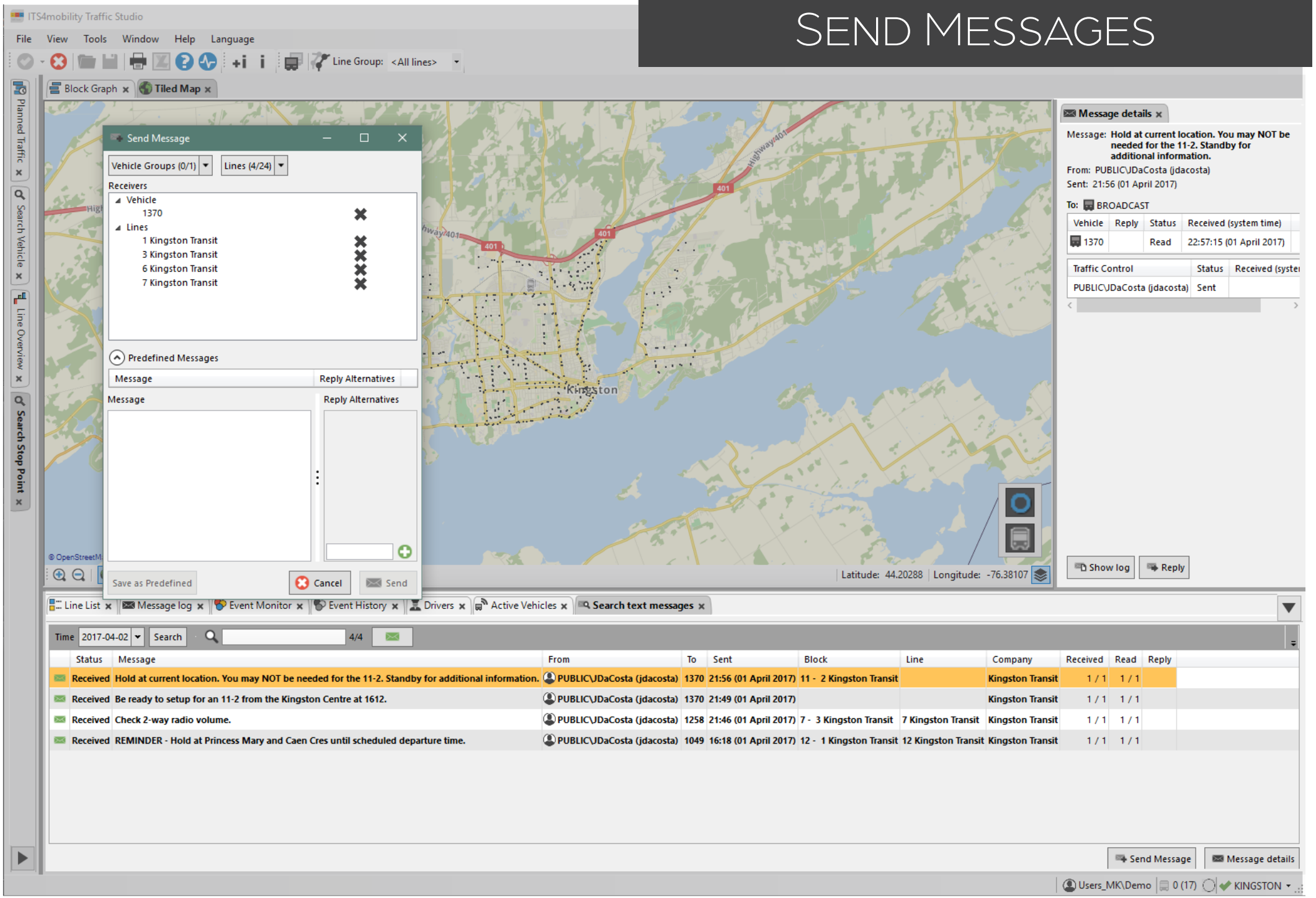
Each category has a counter showing how many vehicles are displayed / total of vehicles. Using the filter will affect the first number.



Tips

- Do an empty search to get all vehicles in the system. All you need to do is to only click on **Search**.

SEND MESSAGES



Function Communication tool between you and the drivers via text messages.

Access Via vehicle shortcut menu // Tools –> Text Messaging –> Send Messages

Send message

Right-click on a vehicle in any of the tools and select the **Send Message to** option from its shortcut menu. You can also click on a message in the **Text Message log** and click on **Reply**.

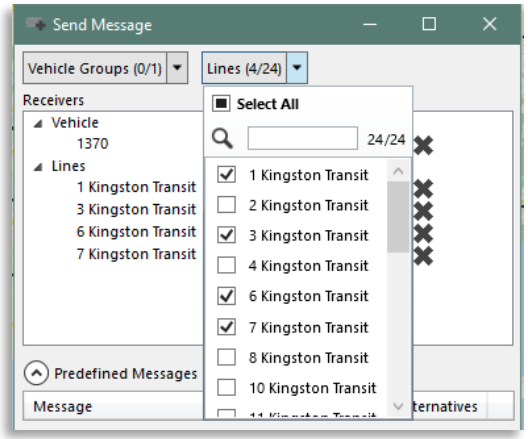
A new window will open where you can select a predefined message, type your own. and even provide reply alternatives to the drivers. Click on **Send** to send the message.

Send to multiple vehicles, vehicles groups, lines

You can use the Map to manually select multiple vehicles in an geographical area. Use SHIFT or CTRL to add more vehicles to your initial selection. All those selected (orange) will show under the sub-category Vehicles and can be added/removed by clicking on the grey X.

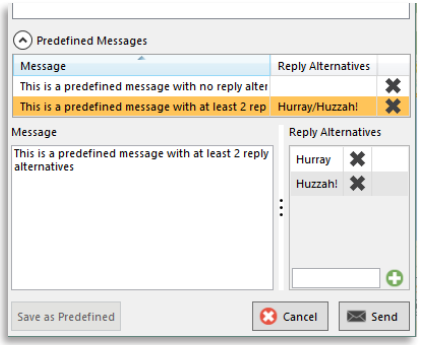
You can also select **Vehicle Groups**, which can be created via Tools -> Vehicles -> Vehicle Groups.

You can also send messages to all vehicles currently driving on **specific lines** via the Line's drop-down option.



Predefined Messages (Templates)

You can create predefined messages directly in Send Message. Write down your message and click on the **Save as Predefined** button. Note that you can always modify the content and save new versions. To delete a predefined message, simply click on the **X**.



Reply Alternatives

You can add reply alternatives to your messages, so the drivers will only be able to select from these choices when replying. To add alternatives, type them in the text field and click on the green + button. Note that you need at least 2 alternatives to be able to send your message.

Message Log

Message log is found as a tab in the **Lower Tool Window**. It lists all sent and received messages. Double-click on a row to open the **Message Details** view in the right side of Traffic Studio.

You can acknowledge messages, letting the driver and other traffic controllers know that you have read the message. You can also sort the list between all messages and only "non-acknowledged" messages.

You can see how many drivers have received a sent message, how many have read and how many have replied.

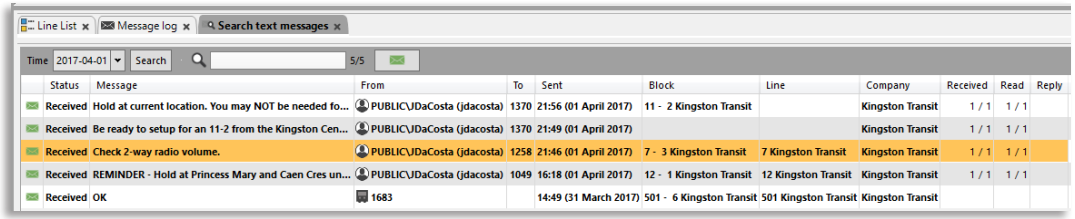
Message Details

Message Details opens in the right side of Traffic Studio by either selecting a message and clicking on the Message Details button, or double-clicking on a message row. It includes additional information such as a list of all recipients and their read/reply status. If reply alternatives have been provided, it breaks down the number of answers by alternatives.

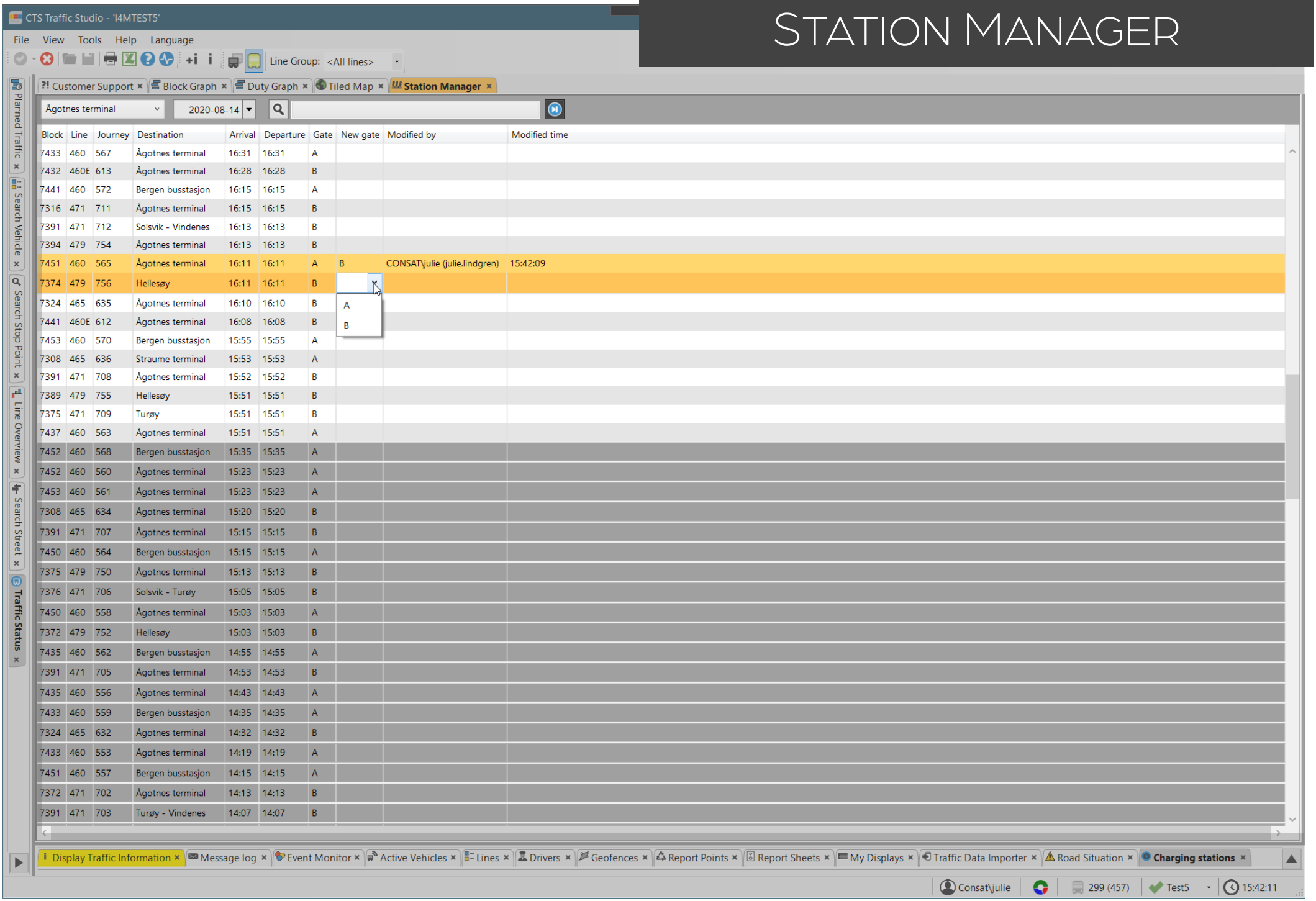
Search Text Messages

You can access this via Tools -> Text Messaging -> Search Text Messages.

1. Enter a date in the new window.
2. Click on **Search** to generate all the messages sent and received on that particular day.



STATION MANAGER



Block	Line	Journey	Destination	Arrival	Departure	Gate	New gate	Modified by	Modified time
7433	460	567	Ågotnes terminal	16:31	16:31	A			
7432	460E	613	Ågotnes terminal	16:28	16:28	B			
7441	460	572	Bergen busstasjon	16:15	16:15	A			
7316	471	711	Ågotnes terminal	16:15	16:15	B			
7391	471	712	Solsvik - Vindenes	16:13	16:13	B			
7394	479	754	Ågotnes terminal	16:13	16:13	B			
7451	460	565	Ågotnes terminal	16:11	16:11	A	B	CONSAT\julie (julie.lindgren)	15:42:09
7374	479	756	Hellesøy	16:11	16:11	B			
7324	465	635	Ågotnes terminal	16:10	16:10	B			
7441	460E	612	Ågotnes terminal	16:08	16:08	B			
7453	460	570	Bergen busstasjon	15:55	15:55	A			
7308	465	636	Straume terminal	15:53	15:53	A			
7391	471	708	Ågotnes terminal	15:52	15:52	B			
7389	479	755	Hellesøy	15:51	15:51	B			
7375	471	709	Turøy	15:51	15:51	B			
7437	460	563	Ågotnes terminal	15:51	15:51	A			
7452	460	568	Bergen busstasjon	15:35	15:35	A			
7452	460	560	Ågotnes terminal	15:23	15:23	A			
7453	460	561	Ågotnes terminal	15:23	15:23	A			
7308	465	634	Ågotnes terminal	15:20	15:20	B			
7391	471	707	Ågotnes terminal	15:15	15:15	B			
7450	460	564	Bergen busstasjon	15:15	15:15	A			
7375	479	750	Ågotnes terminal	15:13	15:13	B			
7376	471	706	Solsvik - Turøy	15:05	15:05	B			
7450	460	558	Ågotnes terminal	15:03	15:03	A			
7372	479	752	Hellesøy	15:03	15:03	B			
7435	460	562	Bergen busstasjon	14:55	14:55	A			
7391	471	705	Ågotnes terminal	14:53	14:53	B			
7435	460	556	Ågotnes terminal	14:43	14:43	A			
7433	460	559	Bergen busstasjon	14:35	14:35	A			
7324	465	632	Ågotnes terminal	14:32	14:32	B			
7433	460	553	Ågotnes terminal	14:19	14:19	A			
7451	460	557	Bergen busstasjon	14:15	14:15	A			
7372	471	702	Ågotnes terminal	14:13	14:13	B			
7391	471	703	Turøy - Vindenes	14:07	14:07	B			

Function All past and future journeys arrivals and departures at a stop point area. You can reassign the vehicle to different gates.

Access Tools –> Station Manager

Table Description

Rows have different colors to indicate their status.

Orange Current selection. Click on a row to mark it or click on the button “Now” to automatically select the next starting journey and focus on it.

Yellow Journey with a modified arrival gate.

Grey Journey which has already departed according to their planned starting time.

Block	Journey’s block
Line	Journey's line
Journey	Journey's number
Destination	The journey’s destination. Will also show any "via destination" from traffic data.
Arrival	Journey’s planned time of arrival.
Departure	Journey’s planned time of departure.
Gate	Journey’s gate according to planned data.
New Gate	Journey’s new gate, modified by user.
Modified by	Name of the user who modified the gate.
Modified Time	Time when the modification was made.

Tool Controls

Stop Area: The first stop area in the list is automatically select by alphabetic order. Click on the arrow to open the drop down list and pick another one.

Date: Today's date. To change the date, pick a different one then click **Search** to generate the journeys for the new date.

Next Journey Start: Takes you to the row of the next journey starting according to the current time.

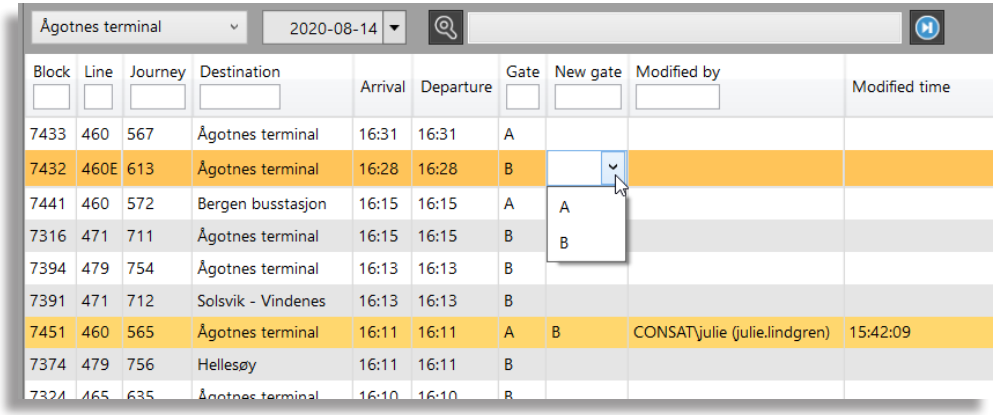
Search Field: Type letters and/or numbers in the field to automatically narrow the table.

- Note that by clicking on the **Magnifier** image before the **Search Field,** you can activate the search function for each column. Any information entered in those new fields will only apply to their respective column.

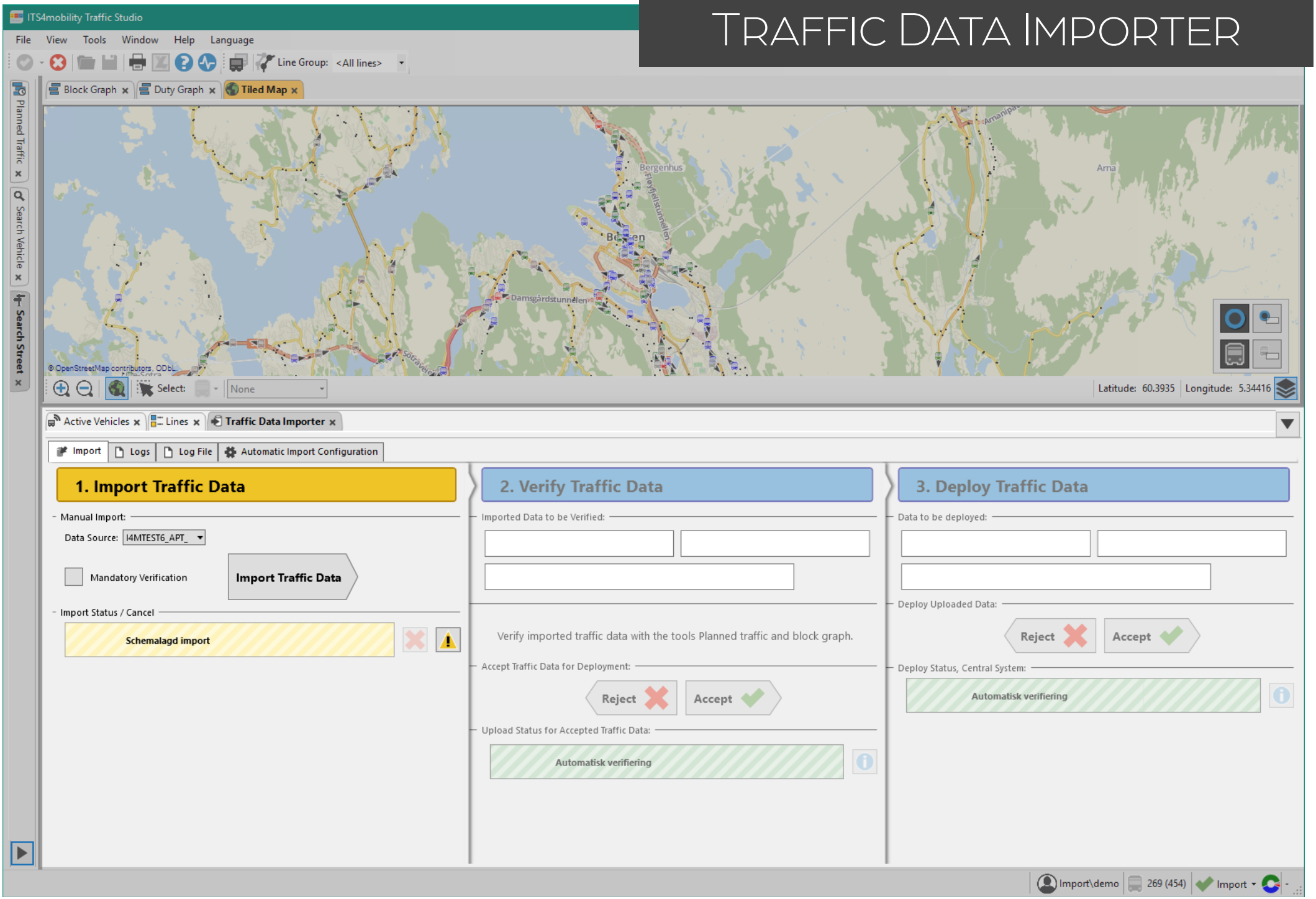
 **(now):** Click on Now to move the selection row to the next planned journey in the table according to the current time.

How to Change a Gate

1. Find your journey and click on the **New Start Time** cell in the same row.
2. Select the new gate in the drop down list. The row will turn orange and your user name will show in the “Modified By” column along with the time when you made the modification.



Traffic Data Importer



Function Import, verify and deploy traffic data to the Consat Telematics System.

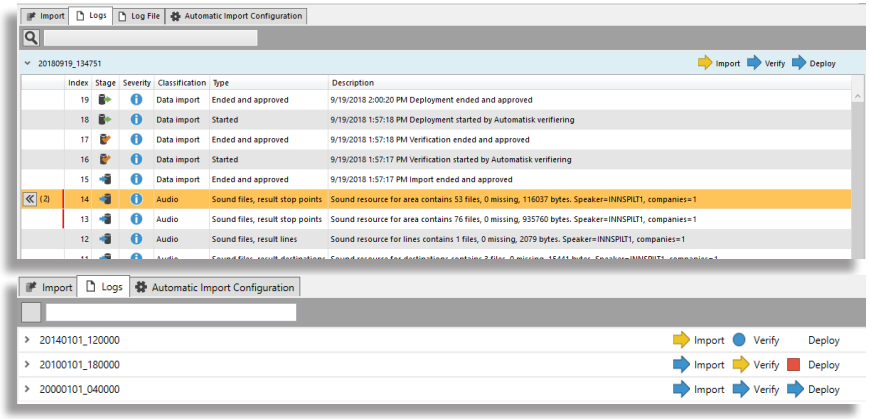
Access Tools –> Traffic data importer

The import process is divided into three stages: Import, Verify and Deploy. It can be done manually or automatically.

Logs Tab

Logs are available for current and previous imports.

- Import tab: Access the current log from an ongoing import stage by clicking on the log button.
- An overview status is located to the right in every log field and shows the individual stage progress for the particular data set.
- Problems of the same type are grouped for a simpler overview. Expand each group to view all these problems.



Import Stage Symbols

Import

Verify

Deploy

Overview Status

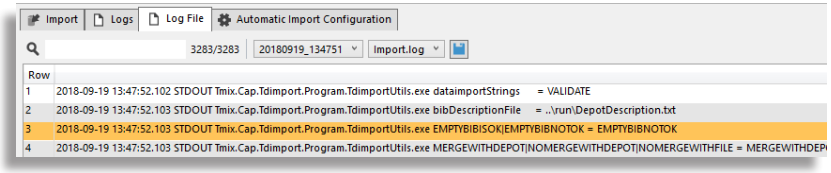
Completed step without issue

Completed step with warning(s)

Failed step due to critical error. The process is stopped.

Log File Tab

The Log File tab provides access to a number of log files, usually used by advanced users for troubleshooting. Contact Consat Telematics for the description of these log files.



Logs Severity Symbols

These symbols indicates the level of severity of the recorded log entry.

Information: No error or warnings in the log.

Warning: The log contains a warning. There are three types of warnings:

- Assignment removed (block)
- Overlapping journeys
- Missing destination

Critical error: The log contains a critical error, the process is **interrupted**.

The errors and their descriptions are taken from Windows' own error handler.

Critical Error During Upload

Critical errors interrupt the upload. The progress bar will turn red and the log button will show a red warning icon. Go to the Logs tab for more details about the cause of the critical error(s).

Manual Restart of the Upload upon Critical Error

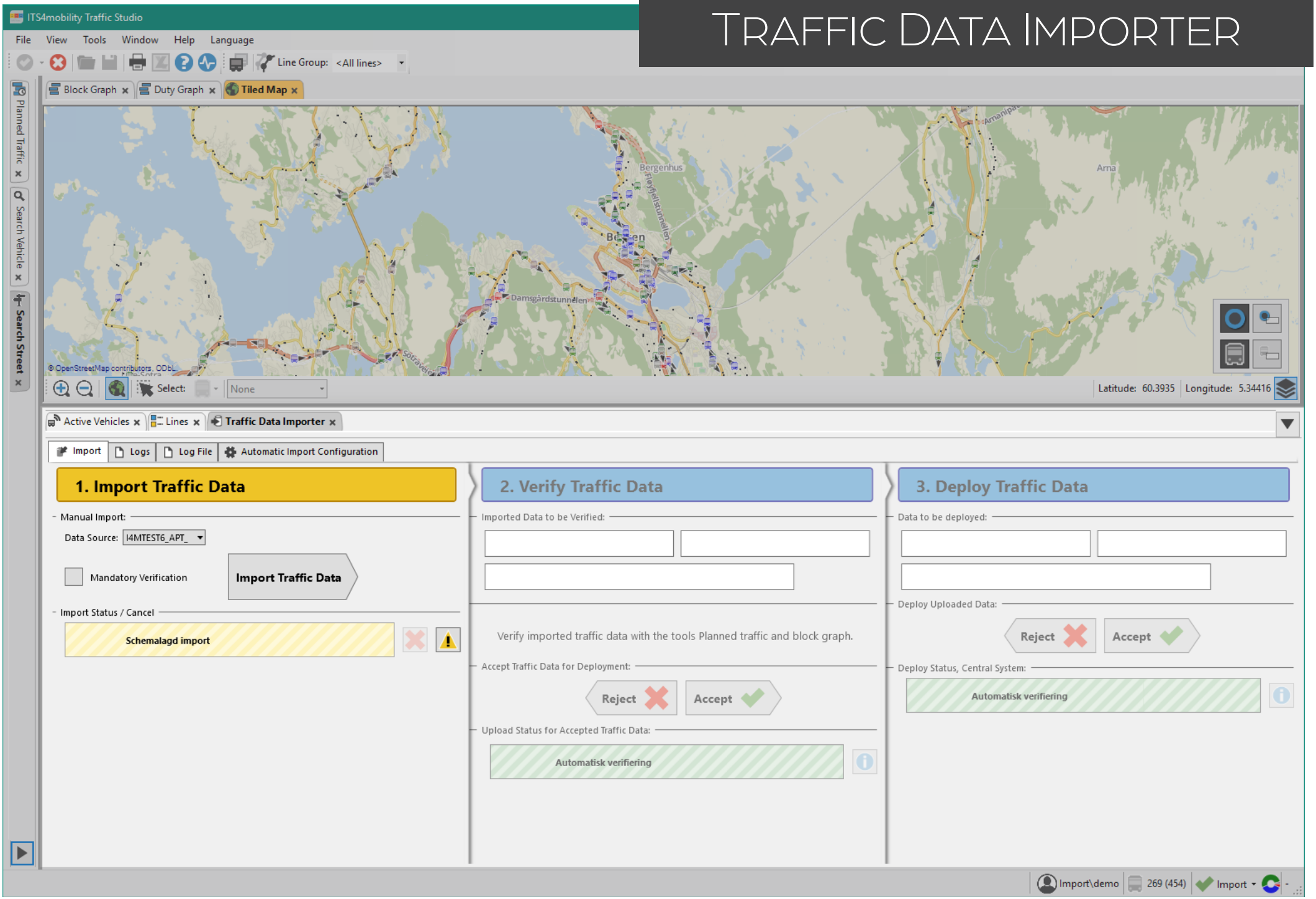
A temporary communication issue can be the cause of a failed upload, which leads to a critical error. In this case, try to start the upload manually.

1. Go to the **Logs tab** to look the reason for the interruption and failure of the upload.
2. Fix the issue.
3. Start the import again.

Critical Error During Deployment

- A critical error will interrupt the upload or the deployment of traffic data.
- A red warning symbol will show up on the log button and the progress bar will turn red.
- Such an error is unusual, but if it happens, you should contact your support.

Traffic Data Importer

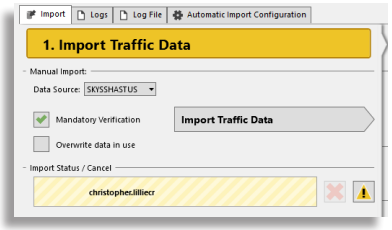


Manual Import - Tab

Step 1: Import Traffic Data

Import

The import begins whenever you start it, either manually or according to schedule, as long as it is not already in progress. Step 1 and/or 2 might not be available depending on your configurations.



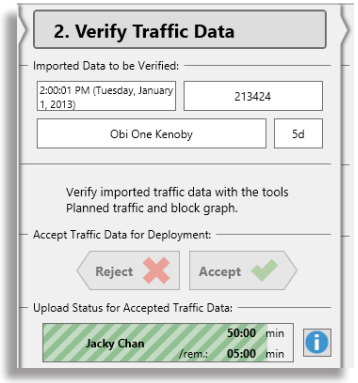
1. * Select the **data source.**
2. * Select the **time period**.
3. Option: Enable the mandatory verification by ticking the check box.
4. Check "Overwrite data in use" when data must be modified **immediately**. Note that doing so can lead to parts of the system to be out of synch for a period.
5. Click on the arrow button **Import Traffic Data**.

Import Progress

The progress is shown with a progress bar, with the elapsed and the estimated remaining times.

- Click on the red cross button to cancel the import.
- Click on the blue information button to check the import's log.

Step 2: Verify Traffic Data



The top area of the second step shows information about the import's data set.

- **No Mandatory Verification**

  The process continues automatically by uploading the traffic data and then moving to Step 3.

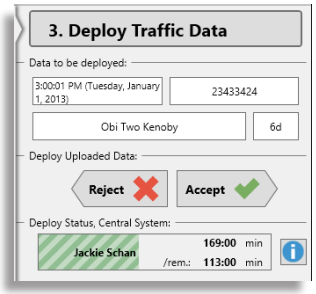
- **With Mandatory Verification**

  The process pauses until you click on **Deny** or **Accept**. You can use **Planned Traffic** and **Block Graph** to verify that the traffic data is consistent with the planned traffic.

Deny: The process resets back to Step 1.

Approve: The process moves on to upload the traffic data and is shown with a progress bar, with the elapsed and the estimated remaining times. Note that you **cannot** interrupt the upload.

Step 3: Deploy Traffic Data



The top area of the third step shows information about the data set of the latest upload.

Once the traffic data is uploaded, click on **Deny** or **Accept** to deploy the data. There is no popup window asking you to confirm your choice.

Deny: The process resets back to Step 1 where you need to import new data.

Approve: The process moves on to deploy the traffic data. It is shown with a progress bar, with the elapsed and the estimated remaining times. Note that you **cannot** interrupt the deployment.

Automatic/Scheduled Import - Tab

The third tab is where you can configure the process to be automatic, according to a schedule of your choosing. Note that while the import happens daily, the deployment happens only during the selected days under Deploy.

Step 1: Import Traffic Data

Enable the automatic process by ticking the check box, then select the time period for the data and the scheduled time for the import.

Step 2: Verify Traffic Data

If automatic, the process continues on its own.
If manual, it stops the process and requires you to complete Steps 2 and 3 in the Import Tab.

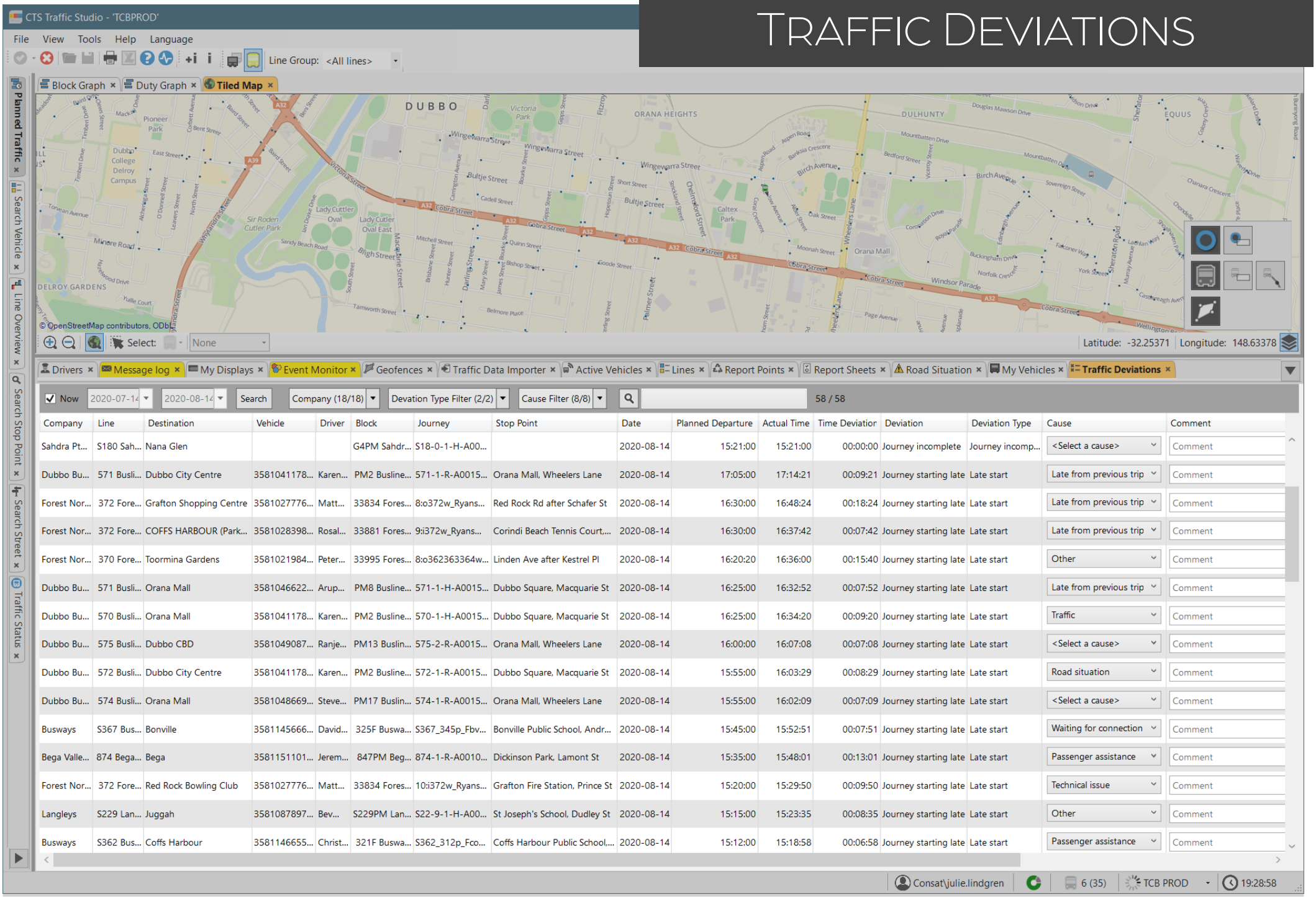
Thresholds are used to stop the import or to exclude data from it, based on the % difference between the newly imported traffic data and the latest deployed traffic data. If data is excluded for one operator and the deployment process goes through, the specific operator will continue using the previous deployed traffic data while the other operators will have the newly deployed traffic data.

Step 3: Deploy Traffic Data

This option is only available if Verify is also automatic. However, it can be done manually by deactivating the scheduled deployment.

Deployment can be done during one or multiple days. It happens immediately after Steps 1 and 2 are automatically completed.

Traffic Deviations



Company	Line	Destination	Vehicle	Driver	Block	Journey	Stop Point	Date	Planned Departure	Actual Time	Time Deviation	Deviation	Deviation Type	Cause	Comment
Sahdra Pt...	S180 Sah...	Nana Glen			G4PM Sahdr...	S18-0-1-H-A00...		2020-08-14	15:21:00	15:21:00	00:00:00	Journey incomplete	Journey incomp...	<Select a cause>	Comment
Dubbo Bu...	571 Busli...	Dubbo City Centre	3581041178...	Karen...	PM2 Busline...	571-1-R-A0015...	Orana Mall, Wheelers Lane	2020-08-14	17:05:00	17:14:21	00:09:21	Journey starting late	Late start	Late from previous trip	Comment
Forest Nor...	372 Fore...	Grafton Shopping Centre	3581027776...	Matt...	33834 Fores...	8:o372w_Ryans...	Red Rock Rd after Schafer St	2020-08-14	16:30:00	16:48:24	00:18:24	Journey starting late	Late start	Late from previous trip	Comment
Forest Nor...	372 Fore...	COFFS HARBOUR (Park...	3581028398...	Rosal...	33881 Fores...	9:i372w_Ryans...	Corindi Beach Tennis Court,...	2020-08-14	16:30:00	16:37:42	00:07:42	Journey starting late	Late start	Late from previous trip	Comment
Forest Nor...	370 Fore...	Toormina Gardens	3581021984...	Peter...	33995 Fores...	8:o362363364w...	Linden Ave after Kestrel Pl	2020-08-14	16:20:20	16:36:00	00:15:40	Journey starting late	Late start	Other	Comment
Dubbo Bu...	571 Busli...	Orana Mall	3581046622...	Arup...	PM8 Busline...	571-1-H-A0015...	Dubbo Square, Macquarie St	2020-08-14	16:25:00	16:32:52	00:07:52	Journey starting late	Late start	Late from previous trip	Comment
Dubbo Bu...	570 Busli...	Orana Mall	3581041178...	Karen...	PM2 Busline...	570-1-H-A0015...	Dubbo Square, Macquarie St	2020-08-14	16:25:00	16:34:20	00:09:20	Journey starting late	Late start	Traffic	Comment
Dubbo Bu...	575 Busli...	Dubbo CBD	3581049087...	Ranje...	PM13 Buslin...	575-2-R-A0015...	Orana Mall, Wheelers Lane	2020-08-14	16:00:00	16:07:08	00:07:08	Journey starting late	Late start	<Select a cause>	Comment
Dubbo Bu...	572 Busli...	Dubbo City Centre	3581041178...	Karen...	PM2 Busline...	572-1-R-A0015...	Dubbo Square, Macquarie St	2020-08-14	15:55:00	16:03:29	00:08:29	Journey starting late	Late start	Road situation	Comment
Dubbo Bu...	574 Busli...	Orana Mall	3581048669...	Steve...	PM17 Buslin...	574-1-R-A0015...	Orana Mall, Wheelers Lane	2020-08-14	15:55:00	16:02:09	00:07:09	Journey starting late	Late start	<Select a cause>	Comment
Busways	S367 Bus...	Bonville	3581145666...	David...	325F Buswa...	S367_345p_Fbv...	Bonville Public School, Andr...	2020-08-14	15:45:00	15:52:51	00:07:51	Journey starting late	Late start	Waiting for connection	Comment
Bega Valle...	874 Bega...	Bega	3581151101...	Jerem...	847PM Beg...	874-1-R-A0010...	Dickinson Park, Lamont St	2020-08-14	15:35:00	15:48:01	00:13:01	Journey starting late	Late start	Passenger assistance	Comment
Forest Nor...	372 Fore...	Red Rock Bowling Club	3581027776...	Matt...	33834 Fores...	10:i372w_Ryans...	Grafton Fire Station, Prince St	2020-08-14	15:20:00	15:29:50	00:09:50	Journey starting late	Late start	Technical issue	Comment
Langleys	S229 Lan...	Juggah	3581087897...	Bev...	S229PM Lan...	S22-9-1-H-A00...	St Joseph's School, Dudley St	2020-08-14	15:15:00	15:23:35	00:08:35	Journey starting late	Late start	Other	Comment
Busways	S362 Bus...	Coffs Harbour	3581146655...	Christ...	321F Buswa...	S362_312p_Fco...	Coffs Harbour Public School,...	2020-08-14	15:12:00	15:18:58	00:06:58	Journey starting late	Late start	Passenger assistance	Comment

Function — Show driven journeys with traffic deviations and the reason behind it.

Access — Tools –> Report Sheet –> Traffic Deviations

Traffic Deviations is built on deviation reports from the vehicle.

When a deviation report is triggered in the vehicle, the driver is prompted to explain the deviation by selecting one of a predefined set of causes. There can be multiple monitored situations, such as journey incomplete, late start, journey not driven, etc.

All provided causes can be modified by the traffic controller at any time.

Filter the Report List

Narrow your selection with filters:

- Time interval,
- Deviation Type filter,
- Cause Filter,
- Free text filter.

Time Interval

Check "now" to show the latest 24 hours, or select your own time interval with the from-to calenders.

Deviation Type Filter

Display specific deviation types. A counter tells you how many deviation types are currently used, e.g., (2/3).

Cause Filter

Display specific causes provided by the driver/traffic controller. A counter tells you how many reasons are currently used, e.g., (4/8).

Free text filter

The free text filter can be used to narrow the list of reports to a specific vehicle, a certain address, a particular street, etc.

The list will be immediately filtered to only include rows with at least one matching cell. Click on the magnifying glass button to open a filter specific to each column.

The number to the right of the free text filter show how many reports are displayed out of the total number of reports (the numbers will differ only if you are using a form of filter).

Time Interval: Real-Time and Historical Modes

The Traffic Deviations tool has two view modes:

- **Real-time:** Show all cause reports from the latest 24 hours. The table updates in real-time every time a new report comes in.
- **Historical:** You can manually select the time interval to list all the cause reports during that period.

Check the **Now** box to use the Real-time mode.

Uncheck the **Now** box to select your own time interval, then click on **Search** to generate the table.

Traffic Deviations

There are currently four supported types of traffic deviations.

- Late departure (more than 15 min. late).
- Early journey start (more than 5 min. early).
- Late journey start (more than 5 min. late).
- Incomplete journey.

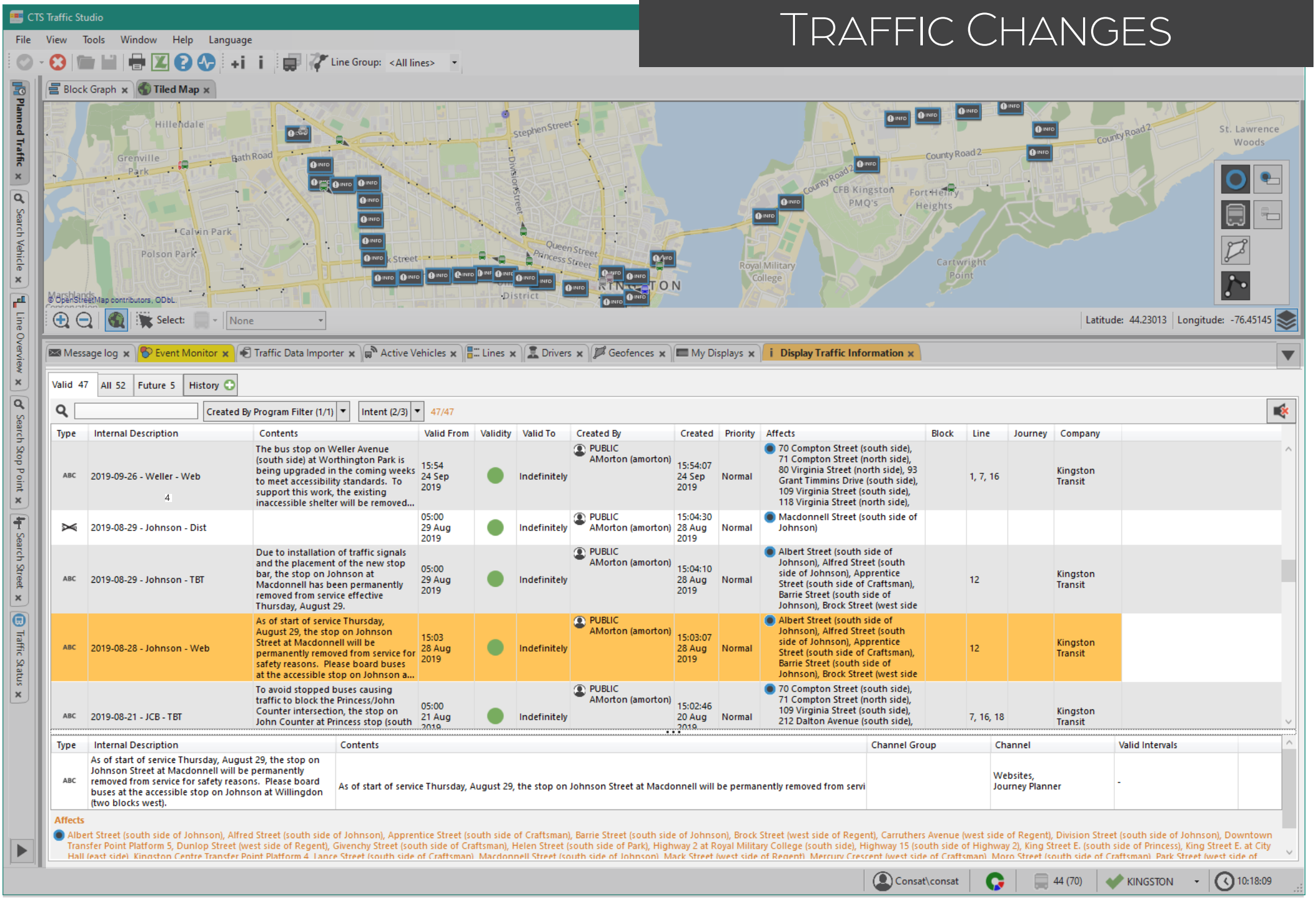
Causes

Examples of possible causes:

- Road conditions
- Technical faults on the vehicle
- Delay from the previous journey
- Waiting for Interchange
- Accident
- Passenger support
- Staff shortage
- Other

Notes

Traffic Changes



Type	Internal Description	Contents	Valid From	Validity	Valid To	Created By	Created	Priority	Affects	Block	Line	Journey	Company
ABC	2019-09-26 - Weller - Web 4	The bus stop on Weller Avenue (south side) at Worthington Park is being upgraded in the coming weeks to meet accessibility standards. To support this work, the existing inaccessible shelter will be removed...	15:54 24 Sep 2019		Indefinitely	PUBLIC AMorton (amorton)	15:54:07 24 Sep 2019	Normal	70 Compton Street (south side), 71 Compton Street (north side), 80 Virginia Street (north side), 93 Grant Timmins Drive (south side), 109 Virginia Street (south side), 118 Virginia Street (north side),		1, 7, 16		Kingston Transit
	2019-08-29 - Johnson - Dist		05:00 29 Aug 2019		Indefinitely	PUBLIC AMorton (amorton)	15:04:30 28 Aug 2019	Normal	Macdonnell Street (south side of Johnson)				
ABC	2019-08-29 - Johnson - TBT	Due to installation of traffic signals and the placement of the new stop bar, the stop on Johnson at Macdonnell has been permanently removed from service effective Thursday, August 29.	05:00 29 Aug 2019		Indefinitely	PUBLIC AMorton (amorton)	15:04:10 28 Aug 2019	Normal	Albert Street (south side of Johnson), Alfred Street (south side of Johnson), Apprentice Street (south side of Craftsman), Barrie Street (south side of Johnson), Brock Street (west side		12		Kingston Transit
ABC	2019-08-28 - Johnson - Web	As of start of service Thursday, August 29, the stop on Johnson Street at Macdonnell will be permanently removed from service for safety reasons. Please board buses at the accessible stop on Johnson a...	15:03 28 Aug 2019		Indefinitely	PUBLIC AMorton (amorton)	15:03:07 28 Aug 2019	Normal	Albert Street (south side of Johnson), Alfred Street (south side of Johnson), Apprentice Street (south side of Craftsman), Barrie Street (south side of Johnson), Brock Street (west side		12		Kingston Transit
ABC	2019-08-21 - JCB - TBT	To avoid stopped buses causing traffic to block the Princess/John Counter intersection, the stop on John Counter at Princess stop (south	05:00 21 Aug 2019		Indefinitely	PUBLIC AMorton (amorton)	15:02:46 20 Aug 2019	Normal	70 Compton Street (south side), 71 Compton Street (north side), 109 Virginia Street (south side), 212 Dalton Avenue (south side),		7, 16, 18		Kingston Transit

Type	Internal Description	Contents	Channel Group	Channel	Valid Intervals
ABC	As of start of service Thursday, August 29, the stop on Johnson Street at Macdonnell will be permanently removed from service for safety reasons. Please board buses at the accessible stop on Johnson at Willingdon (two blocks west).	As of start of service Thursday, August 29, the stop on Johnson Street at Macdonnell will be permanently removed from servi		Websites, Journey Planner	-

Affects

Albert Street (south side of Johnson), Alfred Street (south side of Johnson), Apprentice Street (south side of Craftsman), Barrie Street (south side of Johnson), Brock Street (west side of Regent), Carruthers Avenue (west side of Regent), Division Street (south side of Johnson), Downtown Transfer Point Platform 5, Dunlop Street (west side of Regent), Givenchy Street (south side of Craftsman), Helen Street (south side of Park), Highway 2 at Royal Military College (south side), Highway 15 (south side of Highway 2), King Street E. (south side of Princess), King Street E. at City Hall (east side), Kingston Centre Transfer Point Platform 4, Lance Street (south side of Craftsman), Macdonnell Street (south side of Johnson), Mark Street (west side of Regent), Mercury Crescent (west side of Craftsman), Moro Street (south side of Craftsman), Park Street (west side of

Function Display past, current and future traffic information tasks.

Access Tools –> Traffic Changes & via Function Bar

Types of Information

Disturbance: Forecasts will be cancelled for one or many information points.

ABC Text Announcement: A text message.

Audio Announcement: An audio announcement that can be recorded or created via Text-to-Speech.

Directions: A simple "drawn" line/graph on the map showing an assigned/recommended route.

The columns provide information about the type of information, its internal description, its duration, its validity, who created it, its priority level and which information points are affected (vehicles, stops, lines, blocks).

Validity

Color coded icon showing the validity status of the information task.

- Valid (currently active)
- Future (not yet active)
- Historical (no longer active)

Five validity tabs

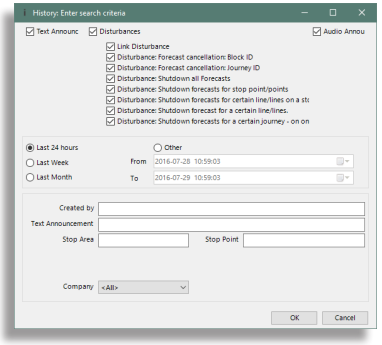
To be reviewed: Tasks in need of approval, e.g., short run for journeys. This tab is visible for system with "Traffic Controller" mode.

Valid: Tasks currently active.

All: Current, future and past tasks within the last 24 hours.

Future: Tasks which are planned but not yet active.

History: The tab opens a popup with many search options where you can pick the time interval, the type of information, stop areas, author, etc.



Information Task Details

Clicking on a row opens a section below with detailed information about the task. That information is separated into the individual task components (disturbance, text announcement, audio announcement and directions).

Note: several text announcement alternatives will be presented on separate rows.

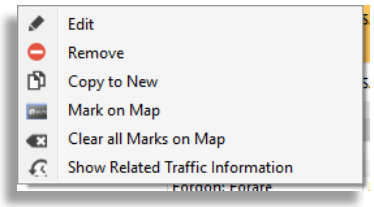
Shortcut menu

Right-clicking on a row to open the shortcut menu specific to Traffic Tasks.

Edit (Show if the task needs reviewal)

Opens the selected entry in the **New Traffic Changes** tab in the **Left Tool Window**.

1. Click on a row to select the information entry.
2. Right-click to open the shortcut menu.
3. Select **Edit**.
4. The task will open in **New Traffic Tasks** where you can modify it and save/publish it.



Remove

Immediately removes and deactivates the selected task.

1. Click on a row to select the information entry.
2. Right-click to open the shortcut menu.
3. Select **Remove**.

Copy to New

It can be easier to create a new task by copying an existing one.

1. Click on a row to select the information entry.
2. Select **Copy to New.**
3. The task will open in **New Traffic Changes** where you can modify it and save it as a new one.

Mark on Map

Marks all related locations for this specific task on the map with an INFO symbol.

To activate the symbols, right-click on the row and select **Mark on map**.

Clear all marks on map

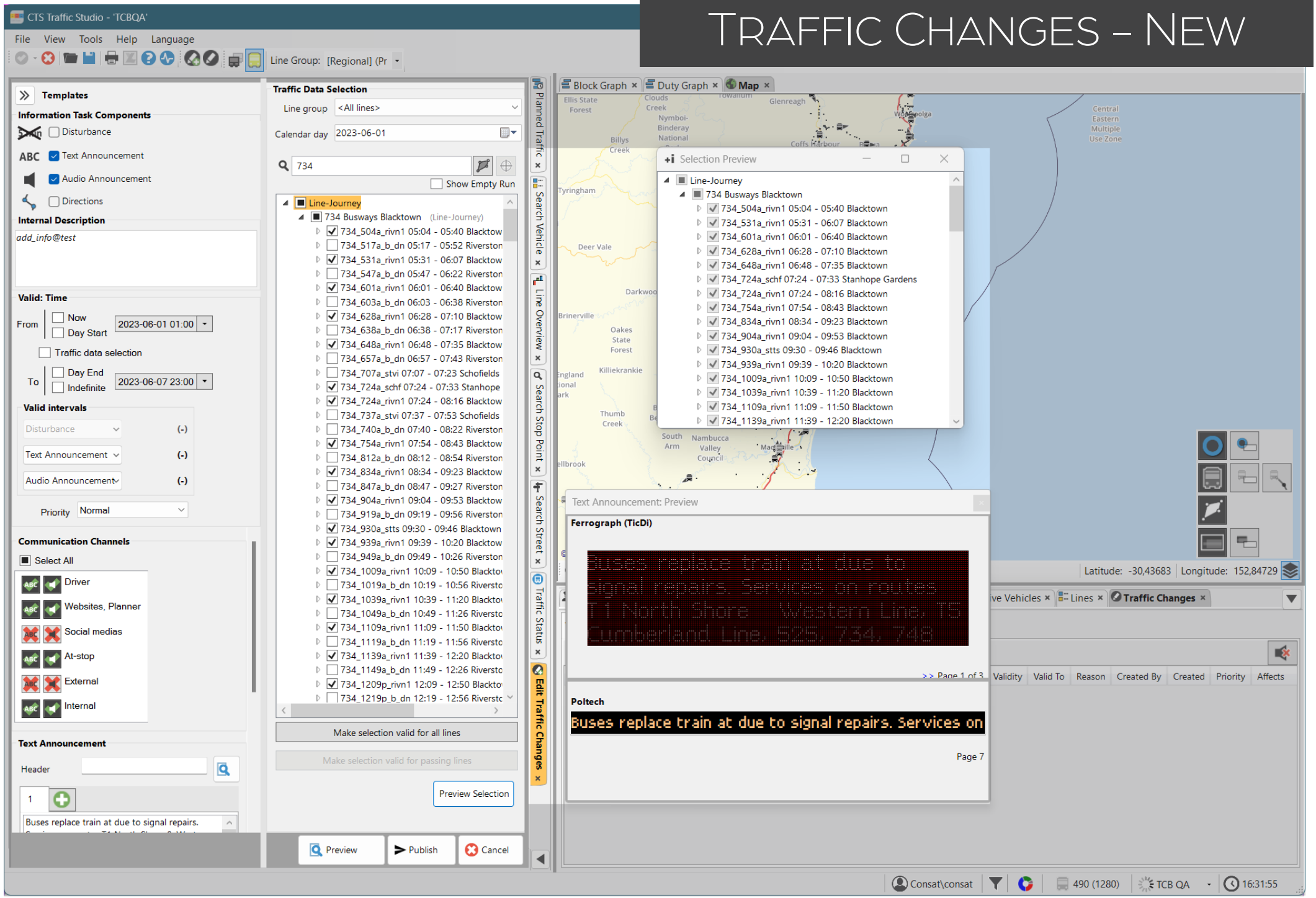
1. To remove the INFO symbols, right-click on any row.
2. Select the option **Clear all marks on map**.

Show Related Traffic Tasks

When information tasks are cloned and edited it may be useful to be able to view the history of a task.

1. Right-click on any row.
2. Select **Show Related Traffic Changes**. A new tab opens showing the selected task and all its previous versions. Close the tab by clicking on the "X" button in its upper right corner.

Traffic Changes – New



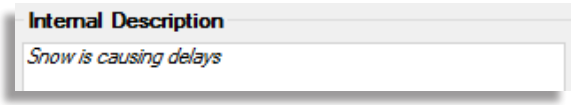
Function	Create/edit traffic information tasks to inform passengers, drivers, etc.
Access	Tools –> New Traffic Changes & via Function Bar

1. Types of Information

	Disturbance: Forecasts will be cancelled for one or many information points.
ABC	Text Announcement: A text message.
	Audio Announcement: An audio announcement that can be recorded or created via Text-to-Speech.
	Directions: A "drawn" line/graph on the map showing an assigned/recommended route.

2. Internal Description (optional)

An internal description/comment to the task, only visible by other Traffic Studio users.



3. Valid: Time

Select the starting time and duration of the task. You can always edit it later on.

1. From
   - 1.1 Now: Active from the actual time
   - 1.2 Day start: Active from the start of the traffic day
   - 1.3 Manual: Select date&time yourself
2. To
   - 2.1 Day end: Active to the traffic day's end
   - 2.2 Indefinite: Active until you edit it.
   - 2.3 Manual: Select date&time yourself
3. Traffic data selection: Check to let the traffic data selection define the valid time (see step 6).

Valid Intervals: Choose which days and/or times the traffic task is active for each type of information, independently of one another.

4. Communication Channels (option)

Selection of broadcast channels for text/audio announcements.

Click on (text) (audio) to select the channel, else click on (text) (audio) to remove it.

5. Types of information

5.1 Disturbance

Turn off forecasts for the selected traffic data nodes (stops, blocks, journeys, lines, routes, etc.).

5.2 Text announcement

Use a predefined template or write your own.

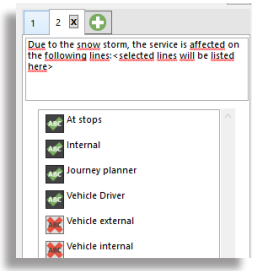
Enter an optional header in the separate header field. This header can be used by web travel planners, etc.

You can use **Text Variables** which will automatically be replaced with your own selection. Right-click in the text field to bring up the four options: lines, lines with destination, stop areas, and stop points.

Different texts for different channels (option)

1. Write your first announcement in tab 1.
2. Click on the button to the right of tab 1 to create tab 2 with a copy of the message and a list of channels below the text field.
3. Change the text message for the new variation. Activate the communication channel(s) for this tab with the green checker buttons. You can only have one message per channel, but you can have several channels for one message.
4. Add more variations if needed.
5. Delete a variation by clicking on the tab's X next to its number.

Note: Tab 1 will automatically select the channels that are not covered by the other tabs.



5.3 Audio Announcement - Recording

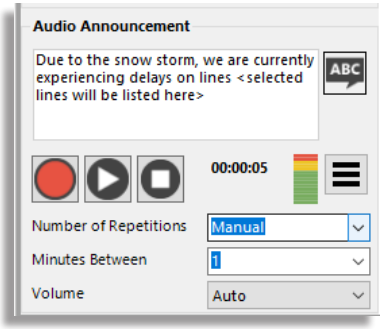
1. Click on to begin the recording.
2. Click on to end the recording.
3. Click on to play the recording.
4. Enter the rest of the information like the number of repetitions, the minutes in between each broadcast and the volume level.
5. Select the volume level between Day (loudest), Night (quiestest) and Automatic (the volume adjusts depending on the time of day)

Audio Announcement - Text to Speech

1. Enter the message in the text field below **Audio Announcement**.
2. Click on the Text-to-Speach button and create a new audio file. Click on to listen to it.
3. See steps 4 & 5 from Recording.

Audio Announcement - Pre-Recorded File

1. Move/save your audio file to your template folder.
2. Click on the menu icon and select the file in the list.
3. See steps 4 & 5 from Recording.

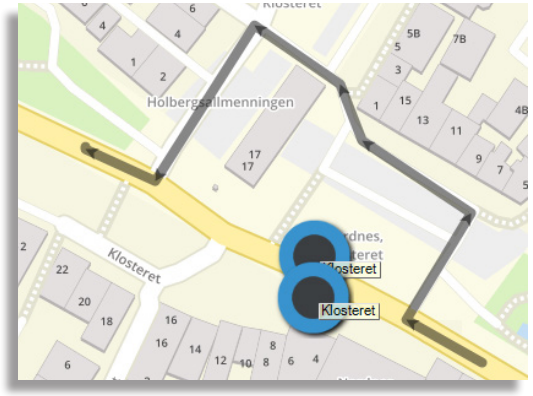


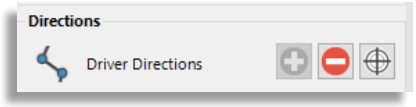
5.4 Directions

1. Click on the Add button ⊕ to open a **Edit Directions** map window.
2. Draw your directions line by **right-clicking** a series of waypoints, from start to finish. The final route will display driving direction.

- If you make an error, press **Esc** to start over.

3. When you are finished, press **Enter** to save directions and close the **Edit Direction** window. The direction will be shown in grey with driving direction arrows on the regular map.
4. The Directions section now reads as **Driver Directions**. Note that you can only have one Direction by traffic task.





⊕	Open Edit Directions.
⊖	Remove the Driver Directions from the task.
⊕	On the map, zoom to the drawn route.

6. Traffic Data Selection

List of all available selection nodes for your traffic tasks.

Line group	Optional, filter the traffic data by Line Group.
Calendar day	Select the traffic data calendar day (current day is the default selection).
Free text	Type in numbers/text to view matching first-level nodes. Multiple entries can be entered with a comma.
(area)	Draw an area on the map to only include related nodes.
(zoom)	Zoom to the drawn area above.
Show Empty Run	Check/uncheck box to show/hide empty runs.

Selection Categories

You can select any combination of the following nodes. Some nodes can be expanded into many sub-categories. Note that some selections can overlap.

- **Line-Journey:** Line -> Journey -> Departure
- **Lines:** Line -> Line w. destination -> Main Route -> Stop + Other Stops -> Stop
- **Blocks:** Block -> Journey -> Departure
- **Stop Areas:** Stop area -> Stop

Another way to look at them, to help your selection, is what they cover and if they are tied to timetables or not.

- **Line-Journey:** Assignments - tied to timetables
- **Lines:** Geography - not related to timetables
- **Blocks:** Assignments - tied to timetables
- **Stop Areas:** Geography - not related to timetables

A ticked box in the tree indicates that this node and all underlying nodes will be affected by the announcement.

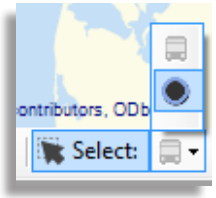
A filled box means that the related node is only partially affected as not all the underlying nodes have been selected.

You can double-check your selections by clicking on **Preview Selection** located under the list.

Select on the Map

You can select stop points directly on the Map.

1. Activate the **Selection** mode in the Map.
2. Hold down the **right** mouse button to select stop(s) by drawing a rectangle over it/them.
3. Hold **shift** if you wish to add more stop(s) while drawing new rectangles.



Make Selection Valid for...

To make a selection for specific line(s)/ journey(s), into a selection for all lines passing affected stop points, click on **Make selection valid for all lines**.

To make a selection for specific stop(s), into a selection for all affected lines, click on **Make selection valid for passing lines**.

7. Save and Publish

Click on the **Preview** button Preview below the Information Points section to open a new window showing all the details of your information task, including the selection.

Review the various parts. When satisfied, click on **Save** and your task will be added to the system.

8. Templates

You can use templates to fill in various steps above. You can combine multiple steps, e.g., text announcement and traffic data selection.

Templates are available on a separate expandable section in the upper left side of Traffic Information, with its own free text filter, sorted in categories.

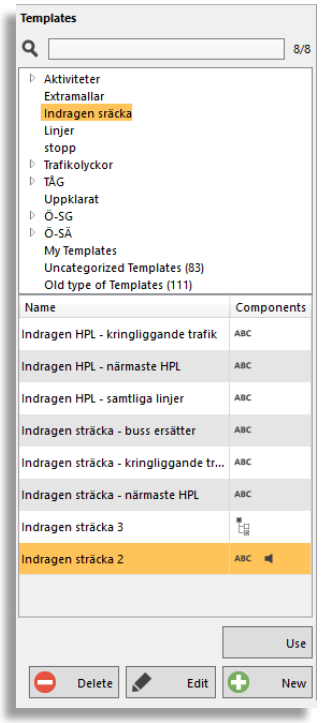
Only super users can create/edit templates.

Select a Template

1. Browse through the list and/or use the text filter to find categories.
2. **Click** on the category/sub-category to select it and display all its templates in the area below. A summary of its component(s) is shown in the right column with icons corresponding to the information types.
3. Click on a template to select it.
4. **Double-click** the template row, or click on the **Use** button, to load the selected template's content into the respective sections of **New Traffic Tasks**.

- You can repeat this step for additional template, e.g., combining a template for text announcement and a template for selection nodes.

5. Verify the task content and make any needed changes or additions before you publish the new task.



Tips & Tricks

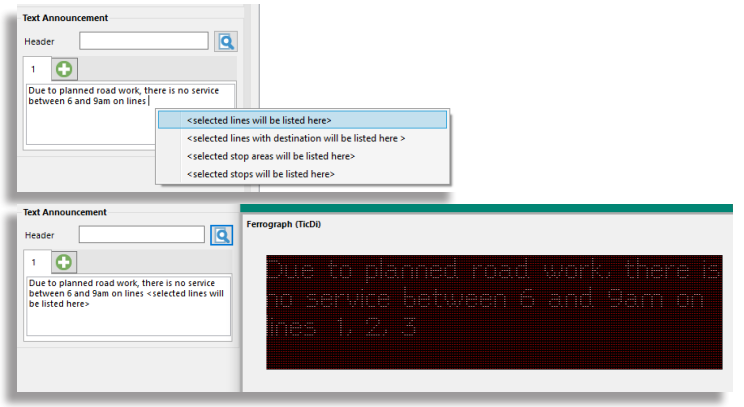
Texts: When creating a text announcement and/or a text template, remember that you can use the Text Variables by right-clicking in the text field.

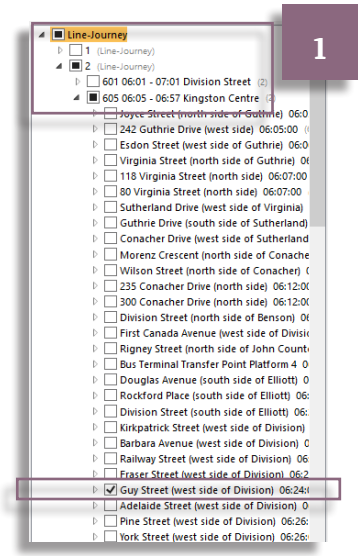
Selection: Picking the right selection category can be a little confusing sometimes, but it's all about what you want to affect.

E.g., You want to remove forecasts and add a text message at the **stop point** "Guy Street".

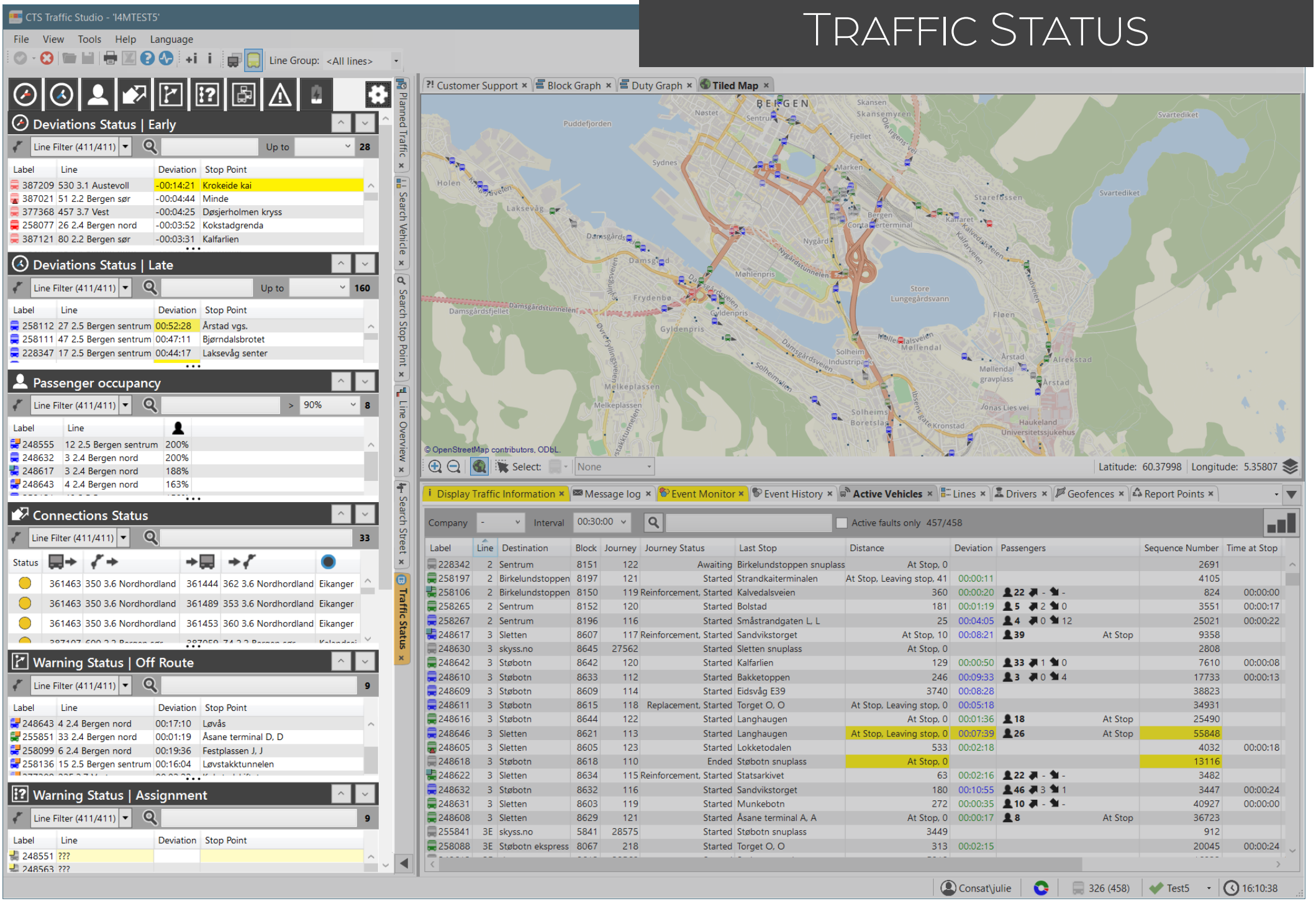
Do you want to affect ...

1. **... only a specific journey?**
   - 1.1 Use **Line-Journey**.
   - 1.2 Find your line and expand it.
   - 1.3 Find your journey and expand it.
   - 1.4 Check the box next to Guy Street.
   - 1.5 Repeat for any additional journey.
2. **... only a specific line?**
   - 2.1 Use **Lines**.
   - 2.2 Find your line and expand it.
   - 2.3 Expand the right direction.
   - 2.4 Expand Main Route (unless it's a stop not usually on it).
   - 2.5 Check the box next Guy Street.
   - 2.6 Repeat for the other direction if that applies, or for more lines.
3. **... all lines?**
   - 3.1 Use **Stop Areas**.
   - 3.2 Find Guy Street. You can use the text filter to quickly narrow the list to it.
   - 3.3 Expand it if you use stop areas to select the right direction. Check the box of the stop point(s) or the whole stop area.





Traffic Status



Function

A real-time dashboard highlighting traffic and servicing problems.

Access

Tools -> Traffic Status

Sections

Each section is independent with its own filters. They can be hidden and repositioned.

	Early vehicles		Vehicles in queue
	Late vehicles		Vehicles with active fault(s)
	Connection issues		State of Charge
	Vehicles off route		Passenger Occupancy
	Vehicles with assignment issues		Dynamic Journeys

Filters

Each section has its own filters, with at least a Line Filter and free text filter.

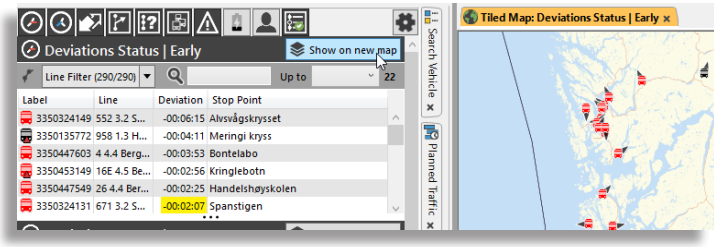
The total amount of results is shown at the end of the filter row, and will adjust to your filtering.

Show/Hide Sections

Use the buttons in the top row to show/hide the related sections. A dark grey button means the section is visible, while light grey indicates that the section is hidden.

Show on new map

Click on this button to open a new map tab showing **only** the vehicles in this specific section, e.g., a new map showing only early vehicles.



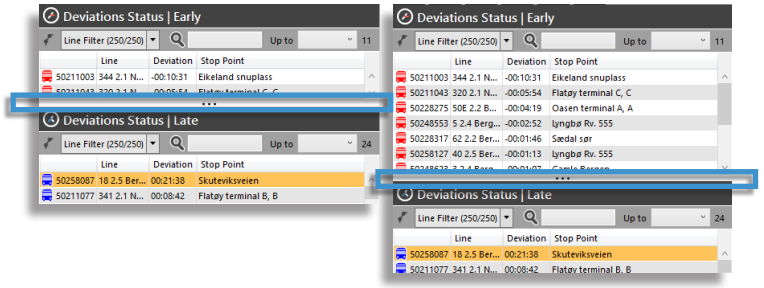
Reposition Sections

Click and hold the mouse button down on the section header to **drag and drop** it wherever you want in the whole list.

You can also click on the **Setting Icon** at the top right to show arrows for each section, which you can then use to move up or down the different sections.

Adjustable Height

Drag up/down the splitter bar to change the height of each section (3 dark dots on white background). Each section also has its own scrollbar.



Tips

- Right-click on any header within a section to add/remove columns, e.g., journey progress, SoC, passenger occupancy, etc.

Sections in Details

Deviations

Two sections for vehicles with early or late deviation from the timetable.

Connections Status

This section shows the connections which have a risk of failing. It is limited to two status:

- Will probably fail
- Will fail

Warning Status

- **Off Route**: all vehicles not following their planned route
- **Assignment**: all vehicles with assignment problem
- **Queue**: all vehicles stuck in a queue
- **Active Faults:** all vehicle with an active fault

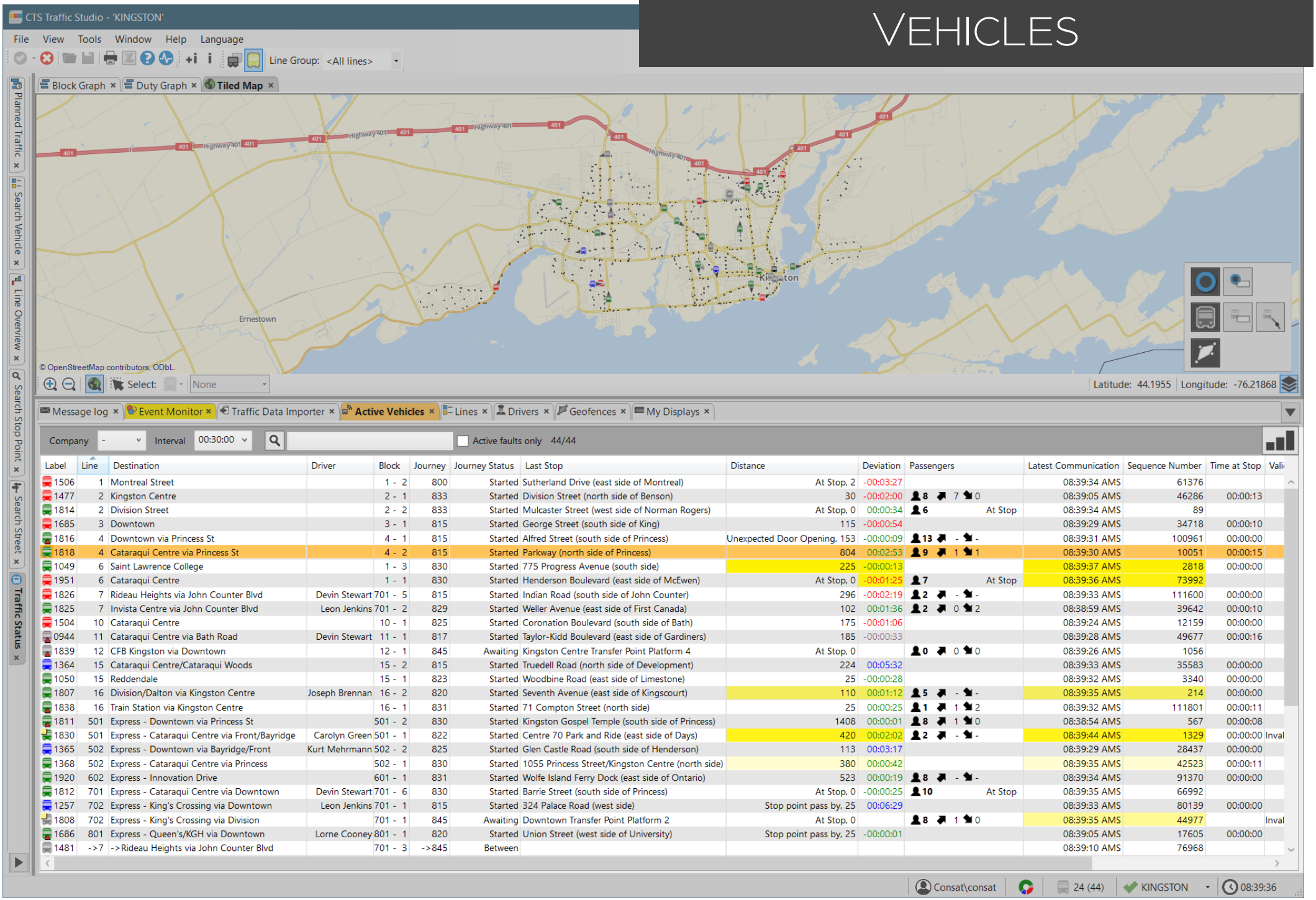
Information & Warning

Some sections can be set to show **all** vehicles by setting the filter to the max.

- SoC: Set the filter "up to" to 100%.
- Passenger: Set the filter ">" to 0%.

- **State of Charge**: all electrical/hybrid vehicles with a low battery
- **Passenger Occupancy**: vehicles with passenger counters and available information about passenger capacity.
  - Vehicles whose drivers have selected "full bus" in their interface are listed as 200%.
  - 100% occupancy: # of passengers onboard = # of seats.
  - 200%: # of passengers onboard = # of seat + # of standing places.
- **Dynamic Journeys**: vehicles servicing a dynamic journey (created from journey template or pattern).

VEHICLES


CTS Traffic Studio - 'KINGSTON'
File View Tools Window Help Language
Line Group: <All lines>
Block Graph × Duty Graph × Tiled Map ×
Planned Traffic × Search Vehicle × Line Overview × Search Stop Point × Search Street × Traffic Status ×
Highway 401
Ernestown
© OpenStreetMap contributors, ODbL.
Select: None
Latitude: 44.1955 Longitude: -76.21868
Message log × Event Monitor × Traffic Data Importer × Active Vehicles × Lines × Drivers × Geofences × My Displays ×
Company - Interval 00:30:00 Active faults only 44/44
Label Line Destination Driver Block Journey Journey Status Last Stop Distance Deviation Passengers Latest Communication Sequence Number Time at Stop
1506 1 Montreal Street 1 - 2 800 Started Sutherland Drive (east side of Montreal) At Stop, 2 -00:03:27 08:39:34 AMS 61376
1477 2 Kingston Centre 2 - 1 833 Started Division Street (north side of Benson) 30 -00:02:00 8 7 0 08:39:05 AMS 46286 00:00:13
1814 2 Division Street 2 - 2 833 Started Mulcaster Street (west side of Norman Rogers) At Stop, 0 00:00:34 6 At Stop 08:39:34 AMS 89
1685 3 Downtown 3 - 1 815 Started George Street (south side of King) 115 -00:00:54 08:39:29 AMS 34718 00:00:10
1816 4 Downtown via Princess St 4 - 1 815 Started Alfred Street (south side of Princess) Unexpected Door Opening, 153 -00:00:09 13 - - 08:39:31 AMS 100961 00:00:00
1818 4 Cataraqui Centre via Princess St 4 - 2 815 Started Parkway (north side of Princess) 804 00:02:53 9 1 1 08:39:30 AMS 10051 00:00:15
1049 6 Saint Lawrence College 1 - 3 830 Started 775 Progress Avenue (south side) 225 -00:00:13 08:39:37 AMS 2818 00:00:00
1951 6 Cataraqui Centre 1 - 1 830 Started Henderson Boulevard (east side of McEwen) At Stop, 0 -00:01:25 7 At Stop 08:39:36 AMS 73992
1826 7 Rideau Heights via John Counter Blvd Devin Stewart 701 - 5 815 Started Indian Road (south side of John Counter) 296 -00:02:19 2 - - 08:39:33 AMS 111600 00:00:00
1825 7 Invista Centre via John Counter Blvd Leon Jenkins 701 - 2 829 Started Weller Avenue (east side of First Canada) 102 00:01:36 2 0 2 08:38:59 AMS 39642 00:00:10
1504 10 Cataraqui Centre 10 - 1 825 Started Coronation Boulevard (south side of Bath) 175 -00:01:06 08:39:24 AMS 12159 00:00:00
0944 11 Cataraqui Centre via Bath Road Devin Stewart 11 - 1 817 Started Taylor-Kidd Boulevard (east side of Gardiners) 185 -00:00:33 08:39:28 AMS 49677 00:00:16
1839 12 CFB Kingston via Downtown 12 - 1 845 Awaiting Kingston Centre Transfer Point Platform 4 At Stop, 0 0 0 0 08:39:26 AMS 1056
1364 15 Cataraqui Centre/Cataraqui Woods 15 - 2 815 Started Truedell Road (north side of Development) 224 00:05:32 08:39:33 AMS 35583 00:00:00
1050 15 Reddendale 15 - 1 823 Started Woodbine Road (east side of Limestone) 25 -00:00:28 08:39:32 AMS 3340 00:00:00
1807 16 Division/Dalton via Kingston Centre Joseph Brennan 16 - 2 820 Started Seventh Avenue (east side of Kingscourt) 110 00:01:12 5 - - 08:39:35 AMS 214 00:00:00
1838 16 Train Station via Kingston Centre 16 - 1 831 Started 71 Compton Street (north side) 25 00:00:25 1 1 2 08:39:32 AMS 111801 00:00:11
1811 501 Express - Downtown via Princess St 501 - 2 830 Started Kingston Gospel Temple (south side of Princess) 1408 00:00:01 8 1 0 08:38:54 AMS 567 00:00:08
1830 501 Express - Cataraqui Centre via Front/Bayridge Carolyn Green 501 - 1 822 Started Centre 70 Park and Ride (east side of Days) 420 00:02:02 2 - - 08:39:44 AMS 1329 00:00:00 Inval
1365 502 Express - Downtown via Bayridge/Front Kurt Mehrmann 502 - 2 825 Started Glen Castle Road (south side of Henderson) 113 00:03:17 08:39:29 AMS 28437 00:00:00
1368 502 Express - Cataraqui Centre via Princess 502 - 1 830 Started 1055 Princess Street/Kingston Centre (north side) 380 00:00:42 08:39:35 AMS 42523 00:00:11
1920 602 Express - Innovation Drive 601 - 1 831 Started Wolfe Island Ferry Dock (east side of Ontario) 523 00:00:19 8 - - 08:39:34 AMS 91370 00:00:00
1812 701 Express - Cataraqui Centre via Downtown Devin Stewart 701 - 6 830 Started Barrie Street (south side of Princess) At Stop, 0 -00:00:25 10 At Stop 08:39:35 AMS 66992
1257 702 Express - King's Crossing via Downtown Leon Jenkins 701 - 1 815 Started 324 Palace Road (west side) Stop point pass by, 25 00:06:29 08:39:33 AMS 80139 00:00:00
1808 702 Express - King's Crossing via Division 701 - 1 845 Awaiting Downtown Transfer Point Platform 2 At Stop, 0 8 1 0 08:39:35 AMS 44977 Inval
1686 801 Express - Queen's/KGH via Downtown Lorne Cooney 801 - 1 820 Started Union Street (west side of University) Stop point pass by, 25 -00:00:01 08:39:05 AMS 17605 00:00:00
1481 ->7 ->Rideau Heights via John Counter Blvd 701 - 3 ->845 Between 08:39:10 AMS 76968
Consat\consat 24 (44) KINGSTON 08:39:36

Function Table with all active vehicles with real-time updates.

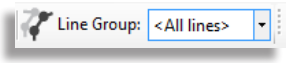
Access Tools –> Vehicles –> Vehicles

Filter the Selection

Filter the table with global line group, company, interval, free text search, active fault and vehicle groups.

Line Group

The Line Group is located in the Function bar. You can create more groups under Setup -> Vehicle Presentation.

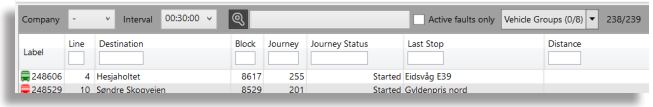


Filters and Search

The drop-down filters and check box automatically update the table.

Type numbers/text in the search field to update the table and highlight the cells containing these characters.

Click on the magnifier icon to activate a search field for each column, independent of one another.



Symbols

The vehicle's symbols represent their deviation from the timetable and status.

The colors, sizes and time intervals (late, on time, early) can be configured under **File -> Setup -> Vehicle Presentation.**

Table Content

The table provides real time information about each vehicle. New information is updated with a yellow fading background.

Vehicles with the journey status "**Between**" show the information for the next journey with an arrow symbol (**->**) before line, destination and journey. Filter the table by using "dash" (-), immediately followed by "larger than" (>).

Tips

- Adjust the table to your preferences
  - Sort the table by clicking on the column of your choice.
  - Reorder the columns by dragging & dropping their header where you want them.
  - Add/remove columns by right-clicking anywhere on the headers and unchecking them in the list.
  - Traffic Studio will remember your configurations.
- Double-click on a row for the map to zoom in on the vehicle.
- Right-click on any row to open the vehicle shortcut menu.

Bar Graph

The bar graph shows the amount of communicating vehicles, split by category; AMS and NVS.

Each bar represents the number of reports received over an interval of 15 minutes, for the current calendar day (00:00 to 23:59).

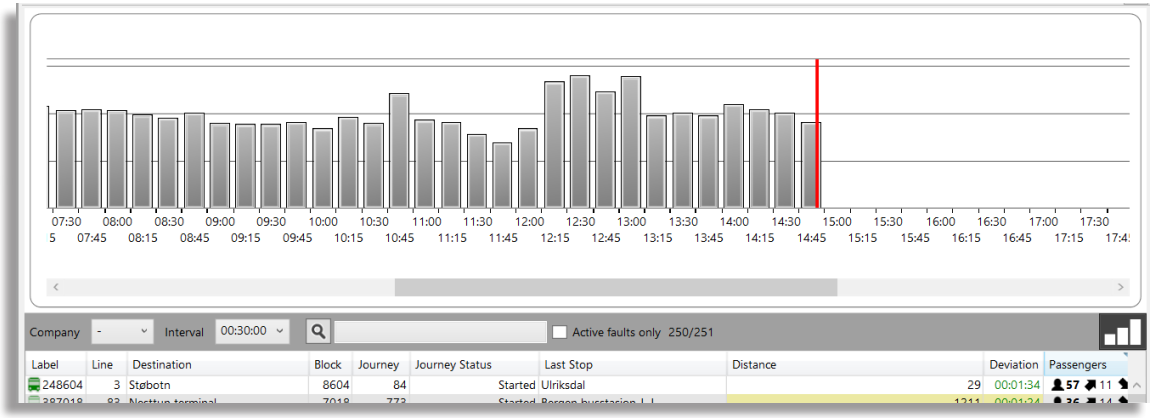
The bar graph is minimized by default. Click on the chart button to maximize it in the Vehicles plugin.

The horizontal red line indicates the current time and moves accordingly.

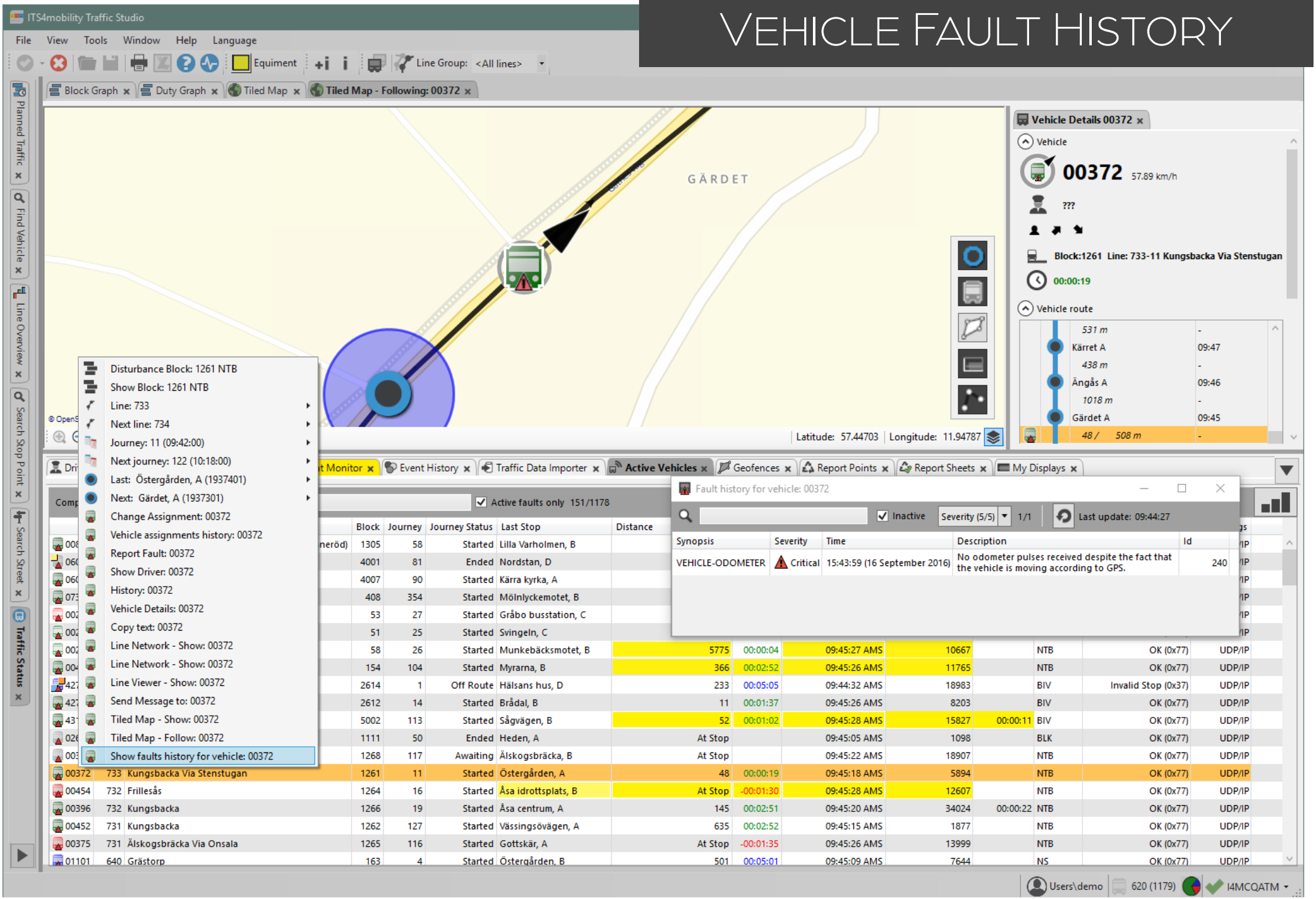
Communication Categories

AMS reports are related to positions, door opening, deviations, etc. Most reports are in this category.

NVS reports are related to the vehicle asking the depot about its software version.



VEHICLE FAULT HISTORY



Function List of current/active faults and cleared (historical) faults, reported by the vehicle or display.

Access Vehicle / display shortcut menu –> Show fault history for

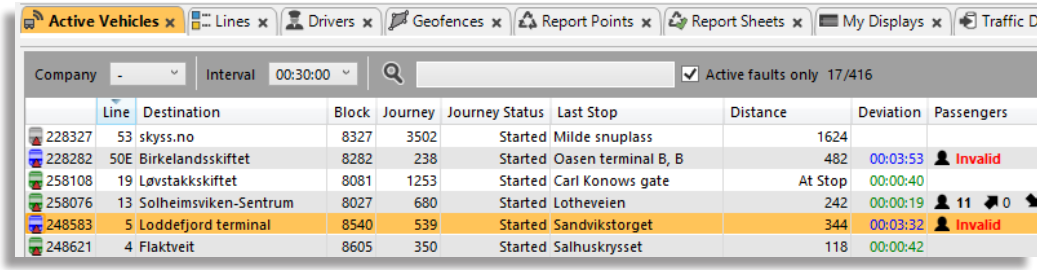
Active Fault Status Icon (Vehicles only)

In systems with the fault service active, all vehicles with active faults are displayed with an active fault status icon, a red triangle with an exclamation point.

Find Vehicles with Active Faults

To find vehicles with active faults, you can use:

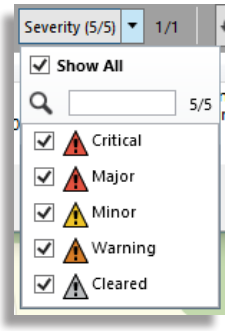
- **Vehicles**. Check the "**Active faults only**" filter check box next to the free text filter to filter the list.
- **Traffic Status**. Look at the section **Warning Status | Active Faults**.



Overview

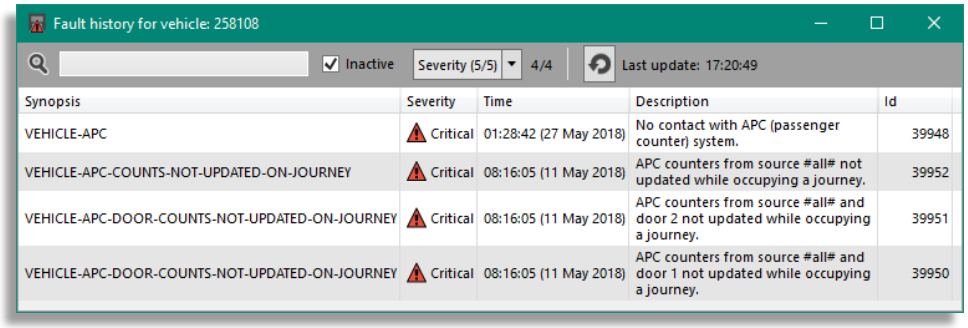
The popup lists all active fault codes. Use any of the three filters to narrow the list.

- The free text filter lets you view only rows with at least one cell with matching content.
- Check the **inactive filter** check box to view all faults, including cleared (inactive) faults.
- The **Severity filter** allows you to view only faults with selected severity levels. Check the boxes of the severity levels you want to include.



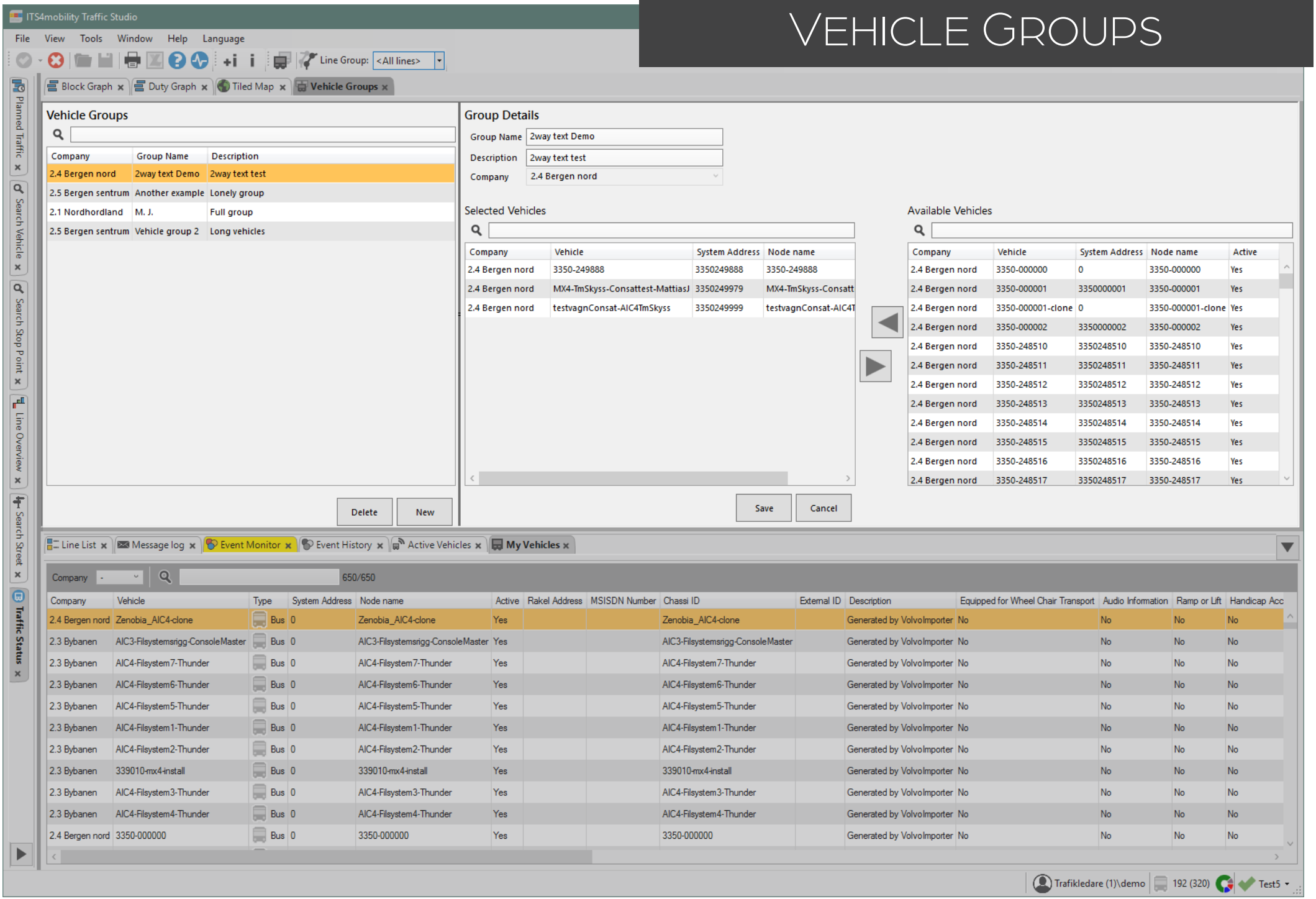
Columns

Synopsis	Fault "Name"/Synopsis for quick identification.
Severity	The severity of the fault, including the status "cleared", meaning that the fault instance is no longer active.
Time	The time and date when the fault was triggered (in the vehicle system).
Description	The fault description text, as reported by the fault management system. This is usually an easy to read description of the problem.
Id	The unique fault Id.



Notes

VEHICLE GROUPS



Function

Management tool for vehicle groups. They can be used in the Voice Communication and Text Messaging tools.

Access

Vehicles –> Vehicle Groups

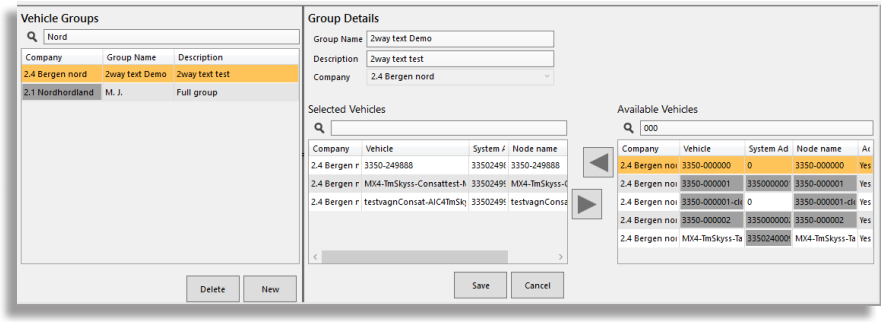
Sections

- **Vehicle Groups (left):** List of all current vehicle groups. Can create and delete groups.
- **Group Details (right):** Editable fields for the selected (or new) vehicle group.

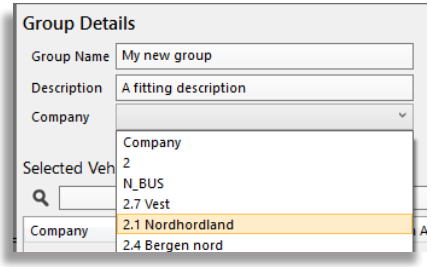
Search

The search fields filter the data displayed in their own list. Every cell matching the filter content is highlighted in grey to make them easier to notice. Only the rows with matching cells are included in the list.

The list is automatically updated as you enter information in the filter field.



Create a Vehicle Group



1. Click on the **New** button.
2. Enter the information under **Group Details**, such as **Name** and **Description** (optional).
3. Select the group's **company** via the drop-down menu to generate the list of Available Vehicles list to the right. Note that once the group is saved, the company selection will be locked.
4. Select the vehicles in the Available Vehicles list to the right.
   - Double-click on a vehicle or select a vehicle then click the upper arrow  .
   - Select multiple vehicles at the same time by using SHIFT and/or CTRL when selecting vehicles, then click on the upper arrow  .
   - Remove vehicle(s) from the Selected Vehicles list by double-clicking on a vehicle, or selecting it and clicking on the bottom arrow  .
5. Click on **Save** to save your group. The orange row will update with the group information.

Edit a vehicle group

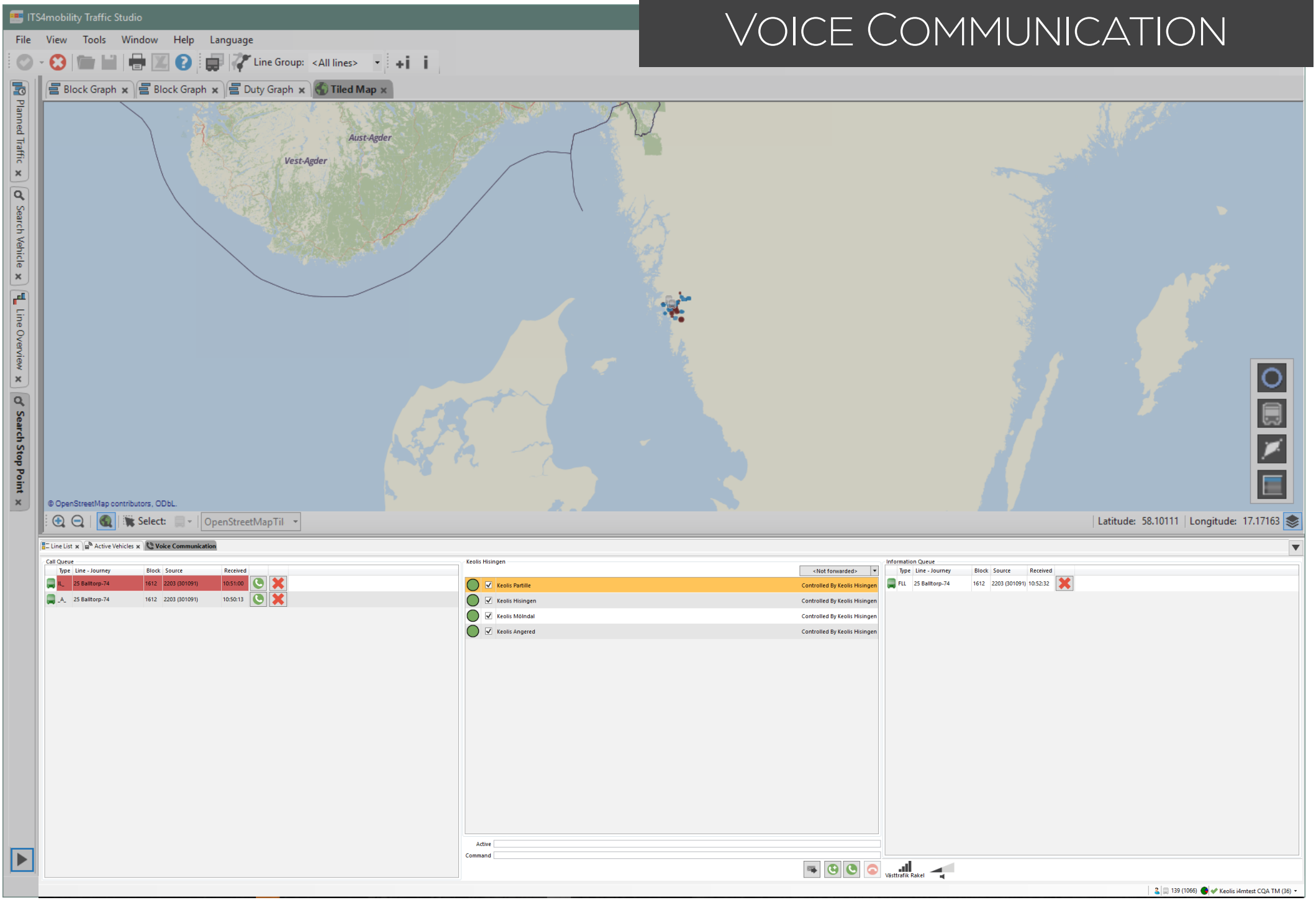
1. Select a group in the Vehicle Groups list. Its properties automatically appear in the Group Details window. Note that you cannot modify its company.
2. Modify the name, description and/or the vehicles selection.
3. Click on **Save** to keep the changes.

Delete a vehicle group

1. Select a group in the Vehicle Groups list. Its properties automatically appear in the Group Details window.
2. Click on **Delete** to remove it from the list. Note that you will not be asked to confirm the deletion, nor can you undo it.

Notes

Voice Communication



Function	Manage voice calls, messaging and alarm with the drivers.
Access	Tools –> Voice Communication –> Voice Communication

Sections & popup

Call Queue: All call requests sorted in order of their priority level and time stamp.

Responsibility: Optional, for shared responsibility between traffic centers, forward to hand units, etc.

Selection & Details: Select who to call, which then shows details about that unit during the call.

Command Field: View entered key commands.

Information Queue: All messages and alarms from drivers.

Communication: Volume level, signal's strength and current communication status.

Alarm: Incoming alarms open in a pop window at all the stations equipped with Voice Communication.

Responsibility/Forwarding (option)

In the responsibility field, all responsibility areas/control centers are listed with symbols showing their responsibility status. The name of your command center is displayed at the top left of the responsibility field.

All areas have a red status if no one has taken their responsibility.

Note! Call requests/messages to the areas with no designated responsibility will be forwarded to a pre-configured unit.

	Someone has taken responsibility for the area
	No one has taken responsibility for the area
	Responsibility status unknown/not functional – database connection not established.
	Responsibility for area forwarded to (hand) radio unit

Responsibility: Accept for one or many areas

1. Click in the corresponding check box.
2. In the confirmation dialog shown, click **Yes**
3. When your responsibility is established by the central system, the status indicator will switch to show a green dot symbol.

Responsibility: Forward Incoming Call Requests/Information Messages

In cases where you must leave your workstation, you might need to forward incoming messages to a (pre-configured) radio unit.

To forward the calls to an area, select a unit in the Forward drop-down menu, then confirm your choice.

The status symbols for the areas you have responsibility will change to show the forwarding symbol(s). While the calls are forwarded, all incoming messages and calls in the queue lines will be greyed out.

When you return to your workstation, select "**Not Forwarded**" in the menu to stop forwarding the incoming call requests/ messages.

Commands

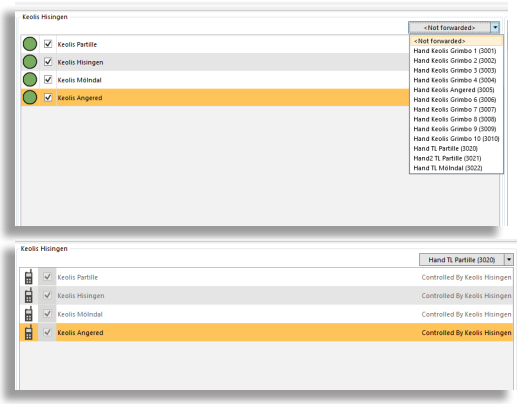
These buttons mirror the basic command keys.

	Send Messages. Same as **F10**.
	Call Group. Same as **Home**.
	Call. Same as **+**.
	End Call. Same as **-**.

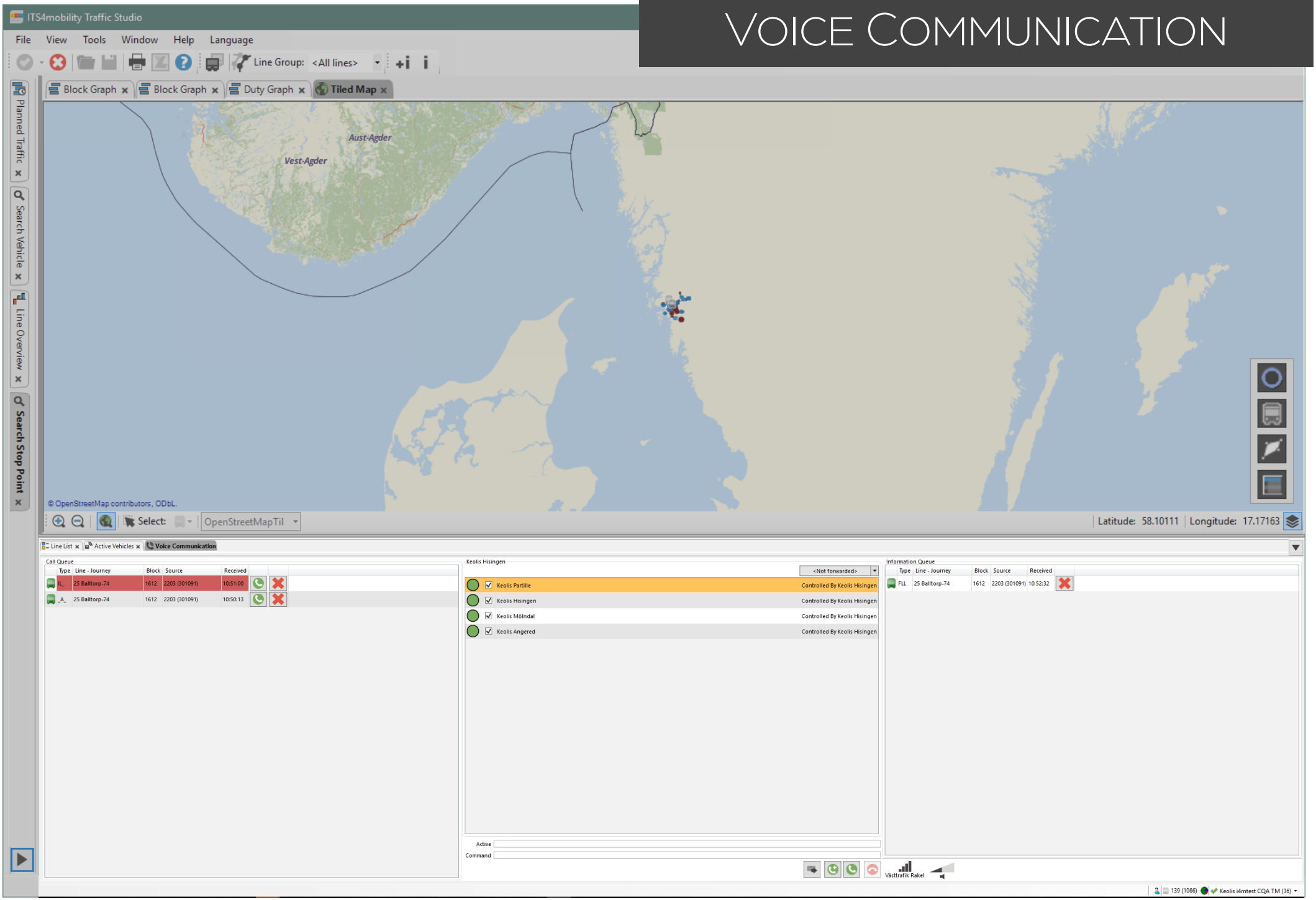
Mobile & QR Code

Use your mobile phone to make calls through Traffic Studio.

Open the CTS PTC app and scan the QR code that appears when starting Traffic Studio. You can always bring it up by clicking on the phone icon in the Commands section.



Voice Communication



Call the Top Vehicle/Group in the Call Queue

The Call Queue is usually in focus so you can quickly answer with the command keys.

Click on the top row's Call button , or:

1. Press **+**, (Call).
2. Press **Enter** (Execute) to start the call.
3. Talk.

Remove the Top Call Request (without calling)

Click on the top row's delete button or press **F6**.

Calling any vehicle/unit in the Call Queue

Click on the row's Call button , or:

1. Click on the row to select it.
2. Press **+**, (Call).
3. Press **Enter** (Execute) to start the call.
4. Talk.

Remove any Call Request (without calling)

Click on the row's delete button or:

1. Click on the row to select it.
2. Press **F6**.

Remove the Top Information Message

Click on the top row's delete button or press **F5**.

Remove any Information Message

Click on the row's delete button .

Directly Call a Vehicle/Unit

1. Press **+** (Call), or use the Call button . Available vehicles/units are listed in the Details field.
2. Enter the vehicle/unit number or select a row with the mouse. To filter the list, press **/** for vehicles or ***** for units, then enter their numbers.
3. Double-click on the row or press **Enter**.
4. Talk.

Call (the vehicle servicing) a Block

Click on the row's Call button or:

1. Press **+** (Call).
2. Press **Del** (block) to filter/select block. All available blocks (and their servicing vehicles) are listed in the Selection & Details field.
3. Enter the block number to filter the list or select it with the mouse. Navigate with the up and down arrows to make your selection. Blocks without vehicles cannot be selected.
4. Double-click on the row or press **Enter**.
5. Talk.

Call a Hand Unit (radio)

Click on the row's Call button or:

1. Press **END** (Call Hand Unit). Available hand units are listed in the Details field.
2. Enter the call number to filter the list or select it with the mouse. Navigate with the up and down arrows to make your selection.
3. Double-click on the row or press **Enter**.
4. Talk.

Call a Group

1. Press Home (Group) or click on the Group Call button . Available groups will be listed in the Selection and details field.
2. Enter the group number/name to filter the list or select it with the mouse. Navigate with the up and down arrows to make your selection.
3. Double-click on the row or press **Enter**.
4. Talk.

End a Call

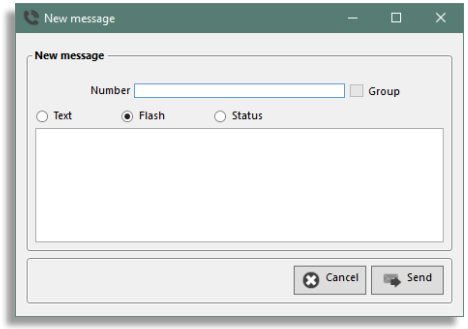
Click on the End Call button or:

1. Press **-** (Terminate).
2. Press **ENTER**.

New Message

This tool is used to send simple text messages or codes corresponding to messages in the recipient's radio unit.

1. Select the vehicle/unit in the Call Queue or the Information Queue and press **F10** (Text message).
   - **OR** go to Tools -> Voice Communication -> New Message, then enter the number of the receiver.
2. Select the type of message.
   - **Text:** Simple text message
   - **Flash:** Text message + blinking light on the receiver's unit.
   - **Status (Network dependent):** Send a code generating a predefined message in the receiver's unit.
3. Select a predefined message or write your own.
4. Press **Send**.

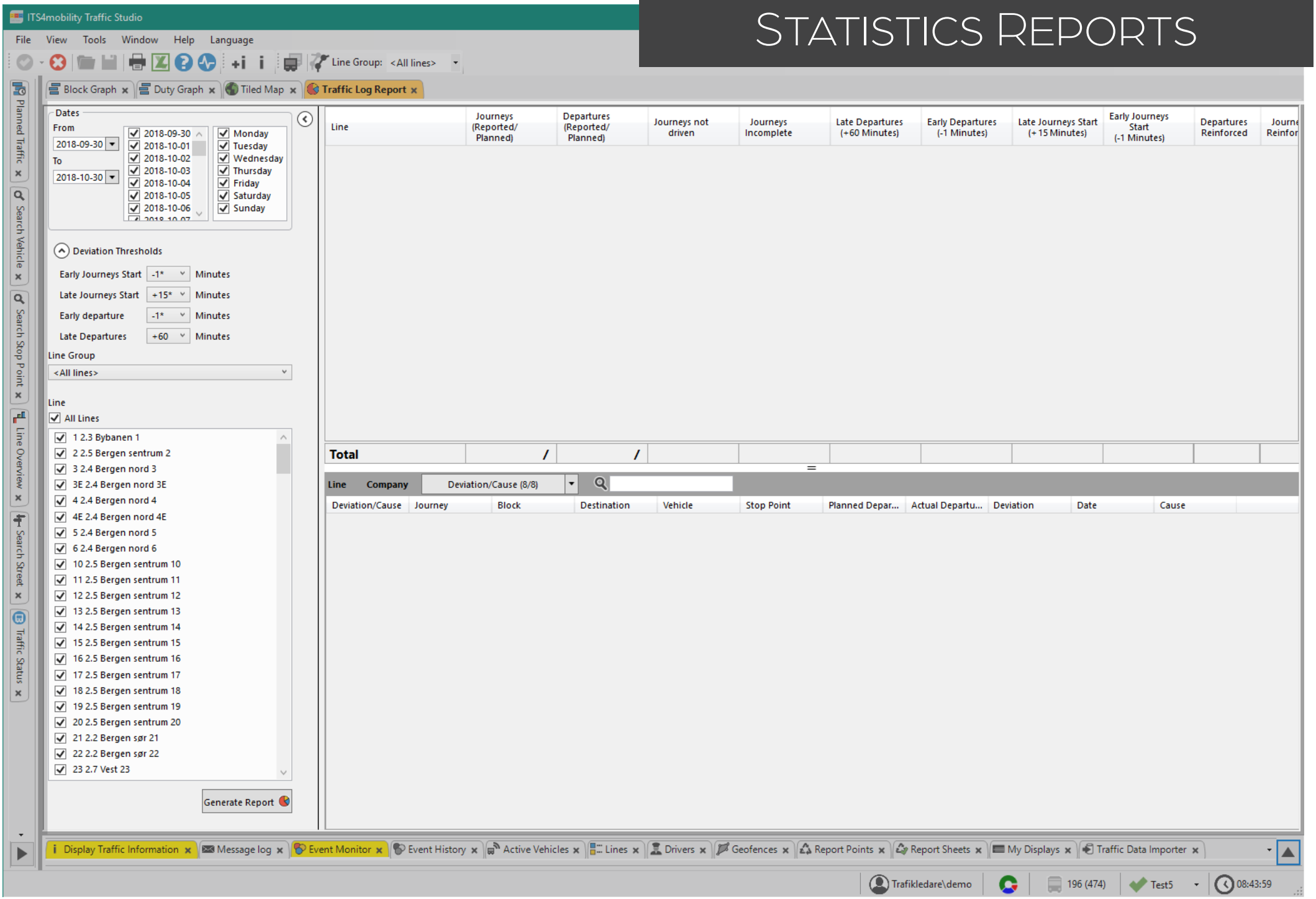


Radio Status

Signal strength, audio volume setting and current call status are displayed in this field.

	Calling up
	Ongoing call
	Open mic, you can speak.
	Other handset is active, you cannot speak.

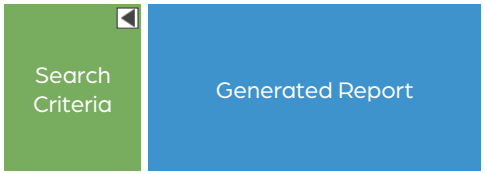
STATISTICS REPORTS



Layout

Reports have of two sections:

- Search Criteria
- Generated Report



When the report is generated, the Report Content Selection section is automatically minimized.

You can maximise it by clicking on the expand button either to look at your parameters or to modify them for a new report.

Search Criteria

The search criteria vary from report to report and we will go into each of them in their respective section.

It is possible that the Search Criteria section needs to update between your various selections, so you might have to wait until the options are no longer greyed out before continuing.

It can also take some time to generate a report, mostly if you search through a lot of data and/or over a long time interval.

Invalid Reports

The statistics reports are usually based on information gathered from the vehicle reports. These vehicle reports can sometimes be invalid and excluded from the data in the statistics reports. These are the most common reasons:

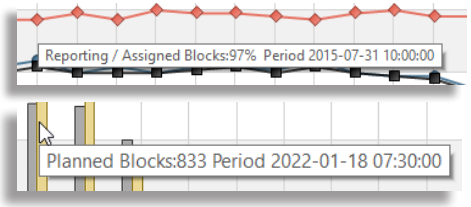
- Incorrect or insufficient traffic data / geography
- GPS is missing or is incorrect
- Odometer is incorrect
- The driver is on a wrong journey/block or has done an incorrect repositioning

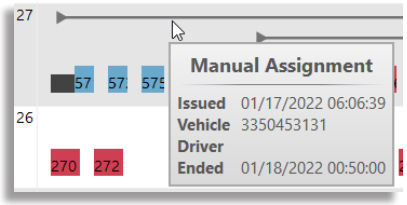
Export to Excel

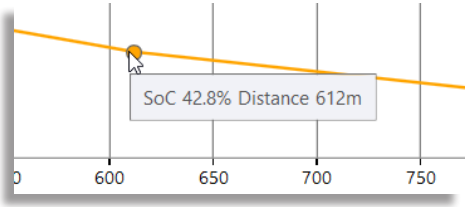
The raw data from all reports can be exported to Excel by clicking on the Excel button in the Function bar or by via **File -> Send to Excel**.

Tooltips

Many charts have tooltips for their bars, dots, etc.





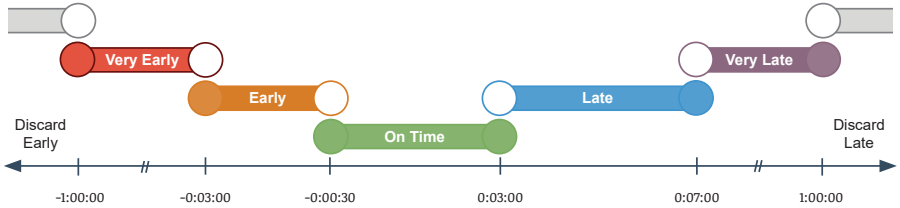


Where is When?

Intervals can be a little tricky at times.

The deviation intervals for the **pie charts** are represented by the image below. A filled circle means that the vehicle report is included in the pie section. The same concept applies to the Deviation report's bar chart.

E.g., The vehicle is on-time until 3 minutes. At 3:01, it becomes late.



APC | JOURNEY

CTS Traffic Studio - 'SKYSS'

File View Tools Help Language

Line Group: <All lines>

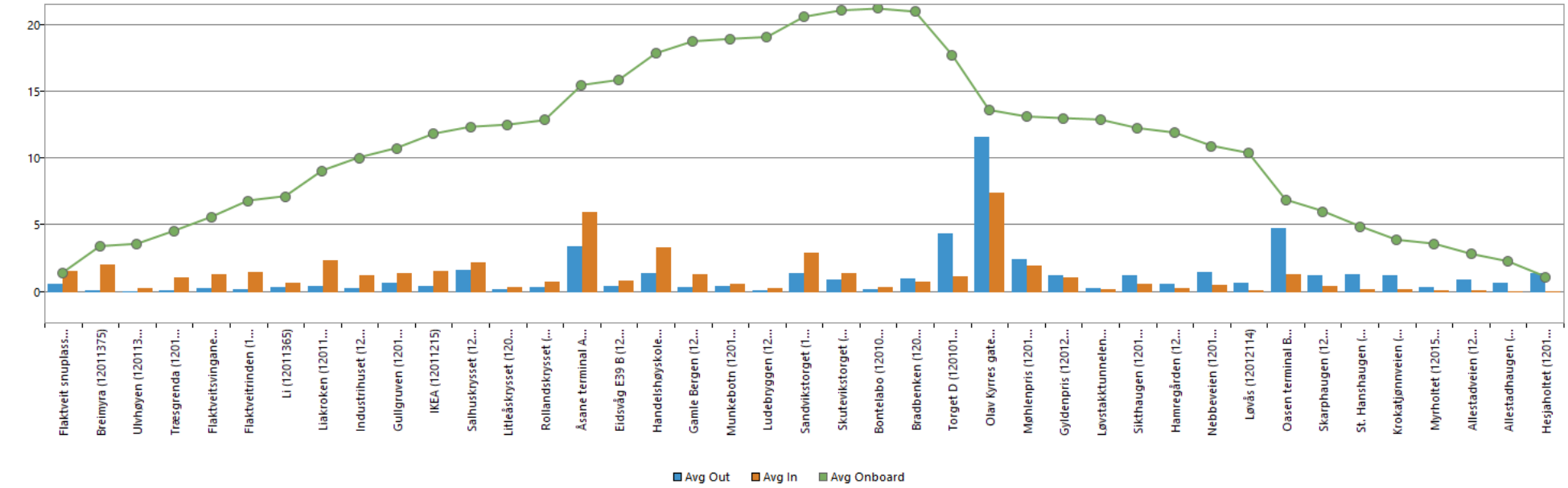
Block Graph × Duty Graph × Tiled Map × Passenger Reports ×

Planned Traffic × Search Vehicle × Line Overview × Search Stop Point × Search Street × Traffic Status ×

Flaktveit snuplass (12011376) Include invalid data

Hesjaholtet (12015180)

Graphs



	Journey start Journey name # Journeys with APC	04:57:00 275 21/21										05:29:00 276 21/21					
Index	Stop Point	Avg In	Avg Out	Avg Onboard	Distance	Σ Passenger km, seat	Σ Passenger km, other	Σ Passenger km	Max Seat km	Max Capacity km	# Reports Distance	Avg In	Avg Out	Avg Onboard	Distance	Σ Passenger km, seat	Σ Passenger km, other Σ
1	Flaktveit snuplass (12011376)	1	0	1	573 m	12,61	0,00	12,61	601,65	1 660,55	21/21	0,2	0	0,2	573 m	2,29	0,00
2	Breimyra (12011375)	3,2	0	4,3	275 m	24,75	0,00	24,75	288,75	796,95	21/21	3,3	0	3,5	275 m	20,35	0,00
3	Ulvhøyen (12011373)	0,8	0	5	578 m	61,27	0,00	61,27	606,90	1 675,04	21/21	0,2	0	3,8	578 m	45,66	0,00
4	Træsgrenda (12011371)	0,8	0	5,9	396 m	48,71	0,00	48,71	415,80	1 147,61	21/21	0,1	0	3,9	396 m	32,08	0,00
5	Flaktveitsvingane (12011369)	0,1	0	6	440 m	55,00	0,00	55,00	462,00	1 275,12	21/21	1	0	4,8	440 m	44,44	0,00
6	Flaktveitrinden (12011367)	0,9	0	6,9	627 m	90,29	0,00	90,29	658,35	1 817,05	21/21	0,6	0	5,4	627 m	70,85	0,00
7	Li (12011365)	0,1	0	6,9	360 m	52,20	0,00	52,20	378,00	1 043,28	21/21	0,2	0	5,5	360 m	41,76	0,00
8	Liakroken (12011363)	3,6	0	10,5	531 m	117,35	0,00	117,35	557,55	1 538,84	21/21	2	0	7,5	531 m	83,37	0,00
9	Industrihuset (12011361)	-	-	10,5	452 m	99,89	0,00	99,89	474,60	1 309,90	21/21	0,3	0,1	7,7	452 m	72,77	0,00

My Displays × Event Monitor × Event History × Geofences × Road Situation × Message log × Report Points × Report Sheets × Active Vehicles × Lines ×

Consat\consat 338 (670) LIVE-PROD 16:47:14

Function

Show logged passenger counter data as averages by journey, by stop point.

Search Criteria

1. Select the report type **Journey**.
2. **Dates**: Select the from and to dates.
   - Use specific dates and weekdays to narrow the results.
3. **Time (optional):** Select the time interval.
4. **Line Group (optional):** Select a Line Group to filter the next choices.
5. Select one **line**.
6. Select one **route**.
7. Select **journey(s)**. You can add/remove journeys from the list by using the **Journey Type** filter.
8. Click on **Generate Report.**

Report

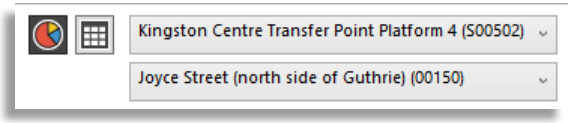
The report has two presentation modes: the Main view (default) and a Data view.

You can switch between them with the buttons at the upper left corner of the generated report.

Main View

Data View

Use the Route Section filter to only include part of the selected route.



Note that the check box **Include invalid data** is mostly used for testing purposes to include reports that are technically incorrect.

Main View

The Main View shows the data as a graph and as a table.

Note: the report include all logged journeys, including reinforced journeys.

Journey start	Journey's start time
Journey name	Journey's name/number.
# of Journeys with APC	Number of journeys serviced by vehicles with APC systems / Number of planned journeys.
Index	Stop point's sequence on the route.
Stop Point	Stop point name
Avg In	Average number of passenger boarding at a stop
Avg Out	Average number of passenger alighting at a stop
Avg Onboard	Average number of passenger on board when leaving a stop point.
Distance	Distance from previous stop (link length).
Σ Passengers km, seat	Passengers(seated) up to vehicle seat capacity * distance
Σ Passengers km, other	Passengers (non-seated) above vehicle seat capacity * distance
Σ Passengers km	(Sum of seated passengers and other (non-seated) passengers) * distance.
Max Seat km	The number of seats * distance
Max Capacity km	(The number of seats + the number of standing space for passengers) * distance
# Report for link	Number of logged departures for this link / number of planned departures.

Avg onboard: If passengers have stayed onboard from the previous journey:

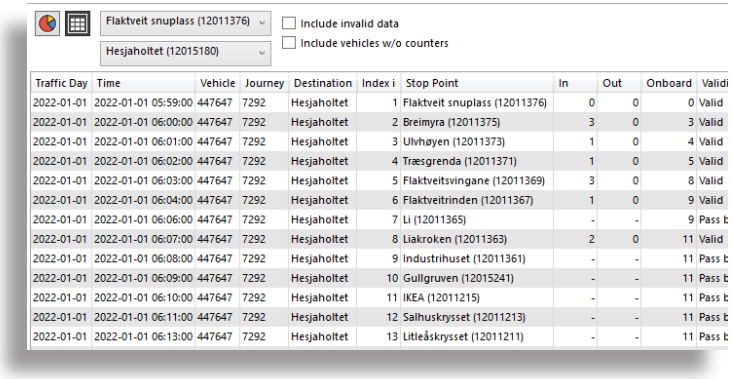
Avg In	Avg Out	Avg Onboard
3.3	0	(0.8+3.2) 3.9

(avg. passengers from last journey + avg. passengers at first stop) Avg. total passengers onboard when leaving first stop.

Data View

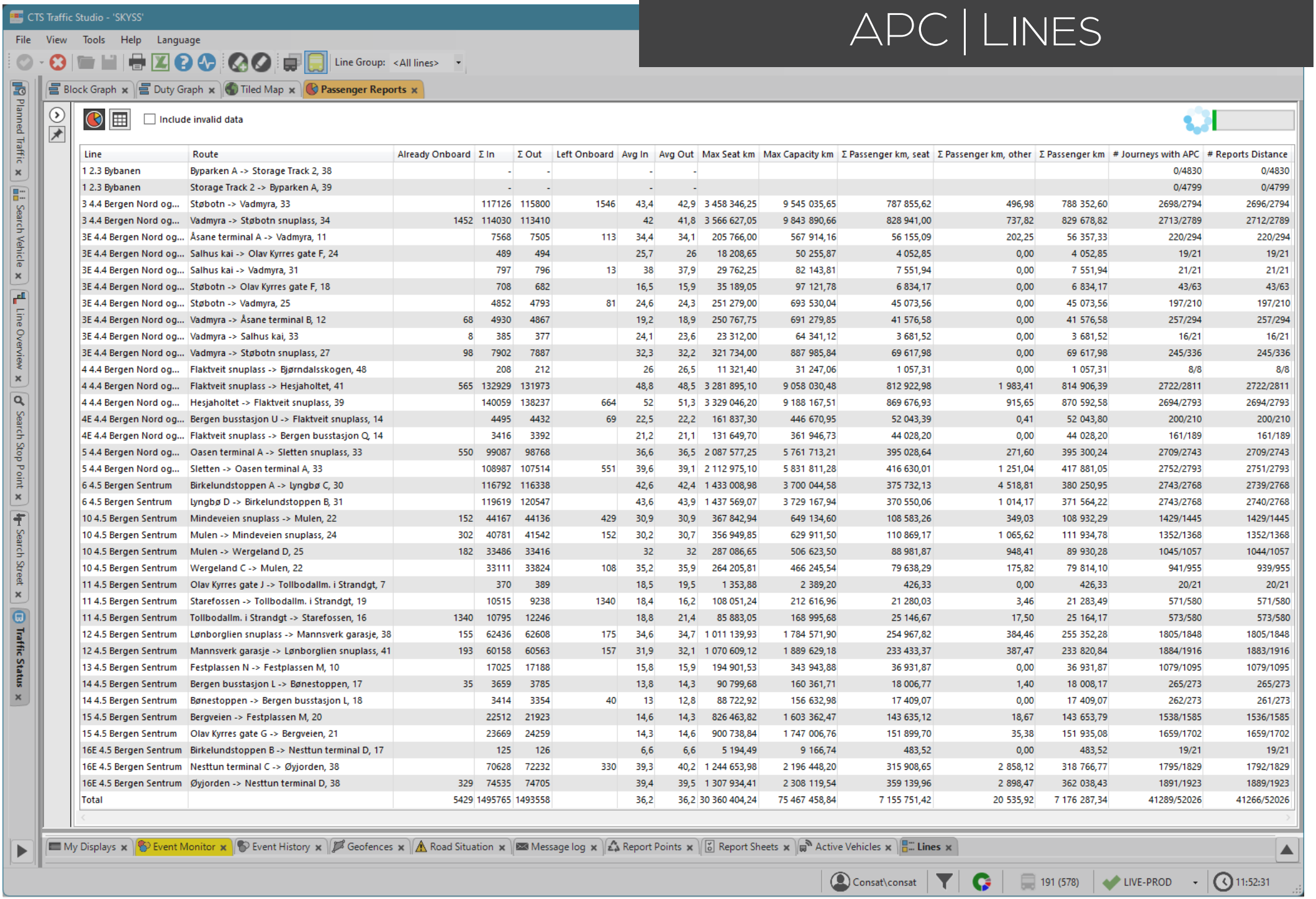
The Data View has the **Include invalid data** filter, but also **Include vehicles without counters** filter to include planned departures. Refer to Main View for similar columns, such as Max seat, km.

Time	Date and planned departure time.
Vehicle	Vehicle number
Journey	Journey's number.
Destination	Journey's destination name.
Stop Point	Stop point name.
In	Number of passenger boarding at the stop point.
Out	Same as above, for alighting.
Onboard	Number of passenger onboard when the vehicle leaves the stop point.
Validity	The validity status of the data: • Valid (ok) • Invalid: at least one of the passenger reports on the route has an active fault. • "–" Unknown validity (old data without validity flag).
Validity Description	Comment/description if invalid.



Traffic Day	Time	Vehicle	Journey	Destination	Index i	Stop Point	In	Out	Onboard	Validi
2022-01-01	2022-01-01 05:59:00	447647	7292	Hesjaholtet	1	Flaktveit snuplass (12011376)	0	0	0	Valid
2022-01-01	2022-01-01 06:00:00	447647	7292	Hesjaholtet	2	Breimyra (12011375)	3	0	3	Valid
2022-01-01	2022-01-01 06:01:00	447647	7292	Hesjaholtet	3	Ulvhøyen (12011373)	1	0	4	Valid
2022-01-01	2022-01-01 06:02:00	447647	7292	Hesjaholtet	4	Træsgrenda (12011371)	1	0	5	Valid
2022-01-01	2022-01-01 06:03:00	447647	7292	Hesjaholtet	5	Flaktveitsvingane (12011369)	3	0	8	Valid
2022-01-01	2022-01-01 06:04:00	447647	7292	Hesjaholtet	6	Flaktveitrinden (12011367)	1	0	9	Valid
2022-01-01	2022-01-01 06:06:00	447647	7292	Hesjaholtet	7	Li (12011365)	-	-	9	Pass t
2022-01-01	2022-01-01 06:07:00	447647	7292	Hesjaholtet	8	Liakroken (12011363)	2	0	11	Valid
2022-01-01	2022-01-01 06:08:00	447647	7292	Hesjaholtet	9	Industrihuset (12011361)	-	-	11	Pass t
2022-01-01	2022-01-01 06:09:00	447647	7292	Hesjaholtet	10	Gullgruven (12015241)	-	-	11	Pass t
2022-01-01	2022-01-01 06:10:00	447647	7292	Hesjaholtet	11	IKEA (12011215)	-	-	11	Pass t
2022-01-01	2022-01-01 06:11:00	447647	7292	Hesjaholtet	12	Salhuskrysset (12011213)	-	-	11	Pass t
2022-01-01	2022-01-01 06:13:00	447647	7292	Hesjaholtet	13	Litleåskrysset (12011211)	-	-	11	Pass t

APC | LINES



Line	Route	Already Onboard	Σ In	Σ Out	Left Onboard	Avg In	Avg Out	Max Seat km	Max Capacity km	Σ Passenger km, seat	Σ Passenger km, other	Σ Passenger km	# Journeys with APC	# Reports Distance
1 2.3 Bybanen	Byparken A -> Storage Track 2, 38		-	-		-	-						0/4830	0/4830
1 2.3 Bybanen	Storage Track 2 -> Byparken A, 39		-	-		-	-						0/4799	0/4799
3 4.4 Bergen Nord og...	Støbotn -> Vadmyra, 33		117126	115800	1546	43,4	42,9	3 458 346,25	9 545 035,65	787 855,62	496,98	788 352,60	2698/2794	2696/2794
3 4.4 Bergen Nord og...	Vadmyra -> Støbotn snuplass, 34	1452	114030	113410		42	41,8	3 566 627,05	9 843 890,66	828 941,00	737,82	829 678,82	2713/2789	2712/2789
3E 4.4 Bergen Nord og...	Åsane terminal A -> Vadmyra, 11		7568	7505	113	34,4	34,1	205 766,00	567 914,16	56 155,09	202,25	56 357,33	220/294	220/294
3E 4.4 Bergen Nord og...	Salhus kai -> Olav Kyrres gate F, 24		489	494		25,7	26	18 208,65	50 255,87	4 052,85	0,00	4 052,85	19/21	19/21
3E 4.4 Bergen Nord og...	Salhus kai -> Vadmyra, 31		797	796	13	38	37,9	29 762,25	82 143,81	7 551,94	0,00	7 551,94	21/21	21/21
3E 4.4 Bergen Nord og...	Støbotn -> Olav Kyrres gate F, 18		708	682		16,5	15,9	35 189,05	97 121,78	6 834,17	0,00	6 834,17	43/63	43/63
3E 4.4 Bergen Nord og...	Støbotn -> Vadmyra, 25		4852	4793	81	24,6	24,3	251 279,00	693 530,04	45 073,56	0,00	45 073,56	197/210	197/210
3E 4.4 Bergen Nord og...	Vadmyra -> Åsane terminal B, 12	68	4930	4867		19,2	18,9	250 767,75	691 279,85	41 576,58	0,00	41 576,58	257/294	257/294
3E 4.4 Bergen Nord og...	Vadmyra -> Salhus kai, 33	8	385	377		24,1	23,6	23 312,00	64 341,12	3 681,52	0,00	3 681,52	16/21	16/21
3E 4.4 Bergen Nord og...	Vadmyra -> Støbotn snuplass, 27	98	7902	7887		32,3	32,2	321 734,00	887 985,84	69 617,98	0,00	69 617,98	245/336	245/336
4 4.4 Bergen Nord og...	Flaktveit snuplass -> Bjørndalsskogen, 48		208	212		26	26,5	11 321,40	31 247,06	1 057,31	0,00	1 057,31	8/8	8/8
4 4.4 Bergen Nord og...	Flaktveit snuplass -> Hesjaholtet, 41	565	132929	131973		48,8	48,5	3 281 895,10	9 058 030,48	812 922,98	1 983,41	814 906,39	2722/2811	2722/2811
4 4.4 Bergen Nord og...	Hesjaholtet -> Flaktveit snuplass, 39		140059	138237	664	52	51,3	3 329 046,20	9 188 167,51	869 676,93	915,65	870 592,58	2694/2793	2694/2793
4E 4.4 Bergen Nord og...	Bergen busstasjon U -> Flaktveit snuplass, 14		4495	4432	69	22,5	22,2	161 837,30	446 670,95	52 043,39	0,41	52 043,80	200/210	200/210
4E 4.4 Bergen Nord og...	Flaktveit snuplass -> Bergen busstasjon Q, 14		3416	3392		21,2	21,1	131 649,70	361 946,73	44 028,20	0,00	44 028,20	161/189	161/189
5 4.4 Bergen Nord og...	Oasen terminal A -> Sletten snuplass, 33	550	99087	98768		36,6	36,5	2 087 577,25	5 761 713,21	395 028,64	271,60	395 300,24	2709/2743	2709/2743
5 4.4 Bergen Nord og...	Sletten -> Oasen terminal A, 33		108987	107514	551	39,6	39,1	2 112 975,10	5 831 811,28	416 630,01	1 251,04	417 881,05	2752/2793	2751/2793
6 4.5 Bergen Sentrum	Birkelundstoppen A -> Lyngbø C, 30		116792	116338		42,6	42,4	1 433 008,98	3 700 044,58	375 732,13	4 518,81	380 250,95	2743/2768	2739/2768
6 4.5 Bergen Sentrum	Lyngbø D -> Birkelundstoppen B, 31		119619	120547		43,6	43,9	1 437 569,07	3 729 167,94	370 550,06	1 014,17	371 564,22	2743/2768	2740/2768
10 4.5 Bergen Sentrum	Mindeveien snuplass -> Mulen, 22	152	44167	44136	429	30,9	30,9	367 842,94	649 134,60	108 583,26	349,03	108 932,29	1429/1445	1429/1445
10 4.5 Bergen Sentrum	Mulen -> Mindeveien snuplass, 24	302	40781	41542	152	30,2	30,7	356 949,85	629 911,50	110 869,17	1 065,62	111 934,78	1352/1368	1352/1368
10 4.5 Bergen Sentrum	Mulen -> Wergeland D, 25	182	33486	33416		32	32	287 086,65	506 623,50	88 981,87	948,41	89 930,28	1045/1057	1044/1057
10 4.5 Bergen Sentrum	Wergeland C -> Mulen, 22		33111	33824	108	35,2	35,9	264 205,81	466 245,54	79 638,29	175,82	79 814,10	941/955	939/955
11 4.5 Bergen Sentrum	Olav Kyrres gate J -> Tollbodallm. i Strandgt, 7		370	389		18,5	19,5	1 353,88	2 389,20	426,33	0,00	426,33	20/21	20/21
11 4.5 Bergen Sentrum	Starefossen -> Tollbodallm. i Strandgt, 19		10515	9238	1340	18,4	16,2	108 051,24	212 616,96	21 280,03	3,46	21 283,49	571/580	571/580
11 4.5 Bergen Sentrum	Tollbodallm. i Strandgt -> Starefossen, 16	1340	10795	12246		18,8	21,4	85 883,05	168 995,68	25 146,67	17,50	25 164,17	573/580	573/580
12 4.5 Bergen Sentrum	Lønborglien snuplass -> Mannsverk garasje, 38	155	62436	62608	175	34,6	34,7	1 011 139,93	1 784 571,90	254 967,82	384,46	255 352,28	1805/1848	1805/1848
12 4.5 Bergen Sentrum	Mannsverk garasje -> Lønborglien snuplass, 41	193	60158	60563	157	31,9	32,1	1 070 609,12	1 889 629,18	233 433,37	387,47	233 820,84	1884/1916	1883/1916
13 4.5 Bergen Sentrum	Festplassen N -> Festplassen M, 10		17025	17188		15,8	15,9	194 901,53	343 943,88	36 931,87	0,00	36 931,87	1079/1095	1079/1095
14 4.5 Bergen Sentrum	Bergen busstasjon L -> Bønestoppen, 17	35	3659	3785		13,8	14,3	90 799,68	160 361,71	18 006,77	1,40	18 008,17	265/273	265/273
14 4.5 Bergen Sentrum	Bønestoppen -> Bergen busstasjon L, 18		3414	3354	40	13	12,8	88 722,92	156 632,98	17 409,07	0,00	17 409,07	262/273	261/273
15 4.5 Bergen Sentrum	Bergveien -> Festplassen M, 20		22512	21923		14,6	14,3	826 463,82	1 603 362,47	143 635,12	18,67	143 653,79	1538/1585	1536/1585
15 4.5 Bergen Sentrum	Olav Kyrres gate G -> Bergveien, 21		23669	24259		14,3	14,6	900 738,84	1 747 006,76	151 899,70	35,38	151 935,08	1659/1702	1659/1702
16E 4.5 Bergen Sentrum	Birkelundstoppen B -> Nesttun terminal D, 17		125	126		6,6	6,6	5 194,49	9 166,74	483,52	0,00	483,52	19/21	19/21
16E 4.5 Bergen Sentrum	Nesttun terminal C -> Øyjorden, 38		70628	72232	330	39,3	40,2	1 244 653,98	2 196 448,20	315 908,65	2 858,12	318 766,77	1795/1829	1792/1829
16E 4.5 Bergen Sentrum	Øyjorden -> Nesttun terminal D, 38	329	74535	74705		39,4	39,5	1 307 934,41	2 308 119,54	359 139,96	2 898,47	362 038,43	1891/1923	1889/1923
Total		5429	1495765	1493558		36,2	36,2	30 360 404,24	75 467 458,84	7 155 751,42	20 535,92	7 176 287,34	41289/52026	41266/52026

Function

Show passenger counter average and total values for each route of the selected lines.

Search Criteria

1. Select the report type **Lines**.
2. **Dates**: Select the from and to dates.
   - Use specific dates and weekdays to narrow the results.
3. **Line Group (optional):** Select a Line Group to filter the next choices.
4. Select one or multiple **lines**.
5. Click on **Generate Report.**

Note: If there is a lot of data, the report will still start showing results while a progress bar in the upper right corner will let you know how far it has gotten.

Report

The report has two presentation modes: the Main view (default) and a Data view.

You can switch between them with the buttons at the upper left corner of the generated report.

Main View
Data View

Note that the check box **Include invalid data** is mostly used for testing purposes to include reports that are technically incorrect.

Main View

The Main View shows APC data for each route used for each selected line.

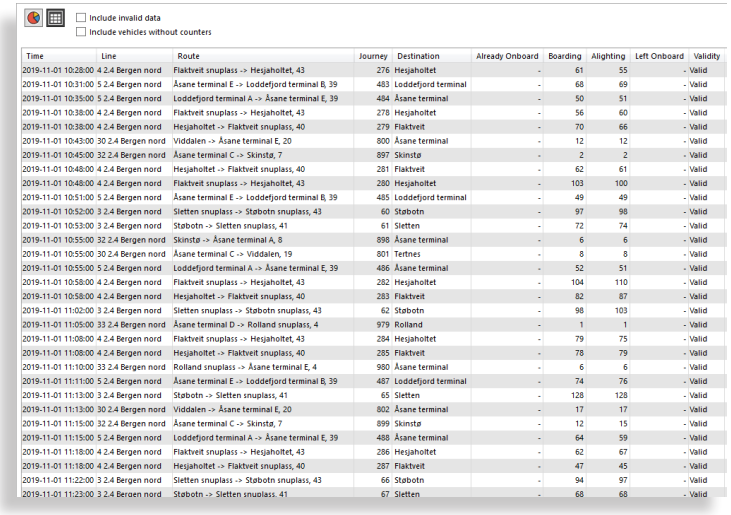
Note: the report include all logged journeys, including reinforced journeys.

Lines	Line number/name
Route	The line-route (sorted in alphabetical order).
Already Onboard	Total number of passengers already on board when the route starts.
Σ In	The total number of passengers boarding on the route.
Σ Out	Same as above, for alighting.
Left Onboard	Total number of passengers that stayed onboard when route ended.
Avg In	Average number of passenger boarding at a stop
Avg Out	Average number of passenger alighting at a stop
Avg Onboard	Average number of passenger on board when leaving a stop point.
Distance	Distance from previous stop (link length).
Σ Passengers km, seat	Passengers (seated) up to vehicle seat capacity * distance
Σ Passengers km, other	Passengers (non-seated) above vehicle seat capacity * distance
Σ Passengers km	(Sum of seated passengers and other (non-seated) passengers) * distance.
Max Seat km	The number of seats * distance
Max Capacity km	(The number of seats + the number of standing space for passengers) * distance
# Report for link	Number of logged departures for this link / number of planned departures.

Data View

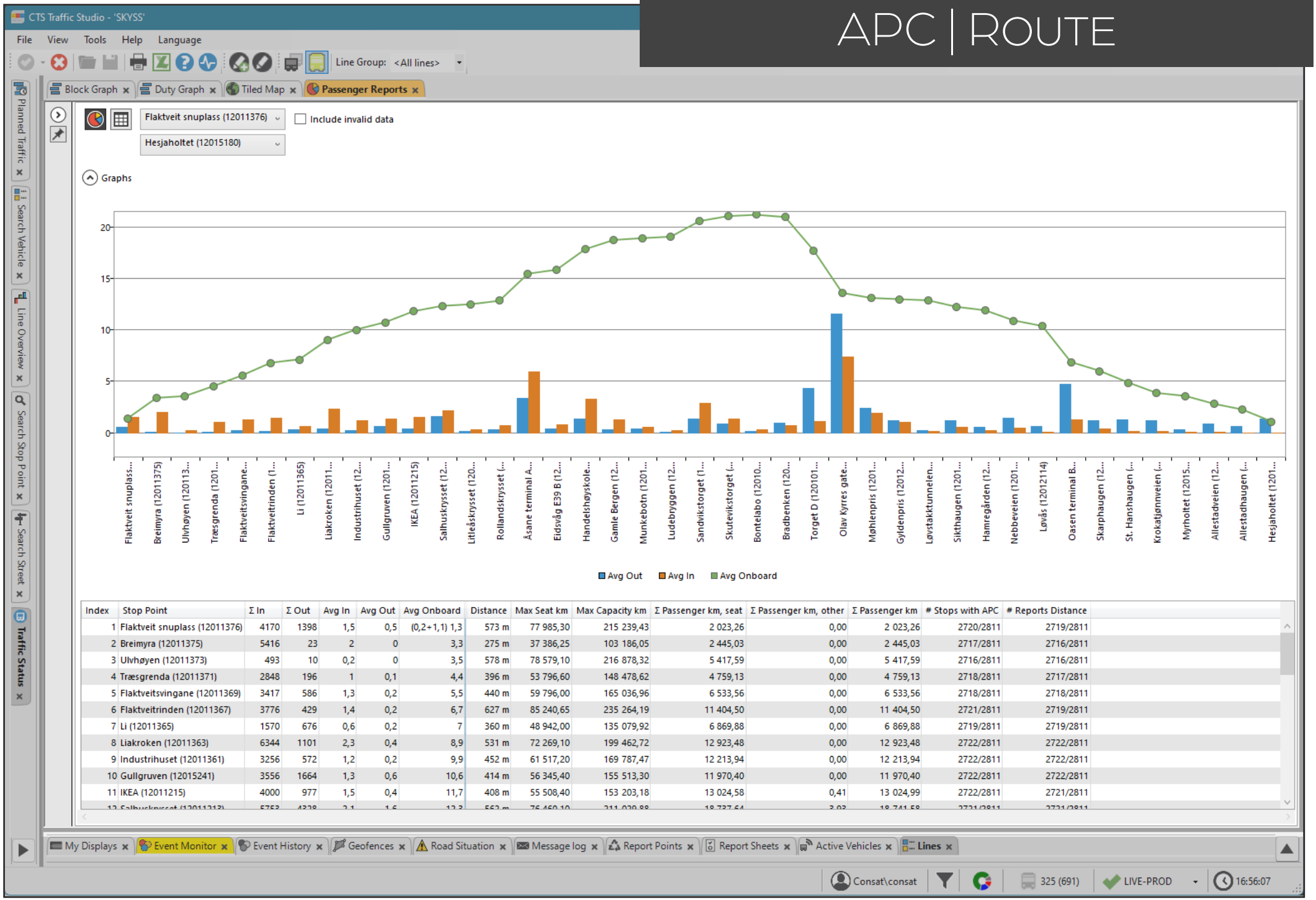
This Data View has the **Include invalid data** filer, but also **Include vehicles without counters** filter to include planned departures. Refer to Main View for similar columns, such as Max seat, km.

Day/Time	Date and planned departure time.
Line	Line name/number
Route	Route name
Journey	Journey number
Destination	Journey Destination
# Links	The logged travelled links / planned links.
Max onboard	The maximum number of passengers on-board at any time on the journey.
Max onboard (%)	The maximum vehicle occupancy (100% = all seats taken, 200% = all seats and standing places taken).
Total # Stop Points	Number of planned stop points.
# Valid stop points	Valid departure reports from stop points.
# Passed by Stop Points	Number of pass-by departures for the journey.
# Invalid Stop Points	Number of invalid stop point.


Include invalid data
Include vehicles without counters

Time	Line	Route	Journey	Destination	Already Onboard	Boarding	Alighting	Left Onboard	Validity
2019-11-01 10:28:00	4 2.4 Bergen nord	Flaktveit snuplass -> Hesjaholtet, 43	276	Hesjaholtet	-	61	55	-	Valid
2019-11-01 10:31:00	5 2.4 Bergen nord	Åsane terminal E -> Loddefjord terminal B, 39	483	Loddefjord terminal	-	68	69	-	Valid
2019-11-01 10:35:00	5 2.4 Bergen nord	Loddefjord terminal A -> Åsane terminal E, 39	484	Åsane terminal	-	50	51	-	Valid
2019-11-01 10:38:00	4 2.4 Bergen nord	Flaktveit snuplass -> Hesjaholtet, 43	278	Hesjaholtet	-	56	60	-	Valid
2019-11-01 10:38:00	4 2.4 Bergen nord	Hesjaholtet -> Flaktveit snuplass, 40	279	Flaktveit	-	70	66	-	Valid
2019-11-01 10:43:00	30 2.4 Bergen nord	Viddalen -> Åsane terminal E, 20	800	Åsane terminal	-	12	12	-	Valid
2019-11-01 10:45:00	32 2.4 Bergen nord	Åsane terminal C -> Skinsta, 7	897	Skinstø	-	2	2	-	Valid
2019-11-01 10:48:00	4 2.4 Bergen nord	Hesjaholtet -> Flaktveit snuplass, 40	281	Flaktveit	-	62	61	-	Valid
2019-11-01 10:48:00	4 2.4 Bergen nord	Flaktveit snuplass -> Hesjaholtet, 43	280	Hesjaholtet	-	103	100	-	Valid
2019-11-01 10:51:00	5 2.4 Bergen nord	Åsane terminal E -> Loddefjord terminal B, 39	485	Loddefjord terminal	-	49	49	-	Valid
2019-11-01 10:52:00	3 2.4 Bergen nord	Sletten snuplass -> Støbotn snuplass, 43	60	Støbotn	-	97	98	-	Valid
2019-11-01 10:53:00	3 2.4 Bergen nord	Støbotn -> Sletten snuplass, 41	61	Sletten	-	72	74	-	Valid
2019-11-01 10:55:00	32 2.4 Bergen nord	Skinstø -> Åsane terminal A, 8	898	Åsane terminal	-	6	6	-	Valid
2019-11-01 10:55:00	30 2.4 Bergen nord	Åsane terminal C -> Viddalen, 19	801	Tertnes	-	8	8	-	Valid
2019-11-01 10:55:00	5 2.4 Bergen nord	Loddefjord terminal A -> Åsane terminal E, 39	486	Åsane terminal	-	52	51	-	Valid
2019-11-01 10:58:00	4 2.4 Bergen nord	Flaktveit snuplass -> Hesjaholtet, 43	282	Hesjaholtet	-	104	110	-	Valid
2019-11-01 10:58:00	4 2.4 Bergen nord	Hesjaholtet -> Flaktveit snuplass, 40	283	Flaktveit	-	82	87	-	Valid
2019-11-01 11:02:00	3 2.4 Bergen nord	Sletten snuplass -> Støbotn snuplass, 43	62	Støbotn	-	98	103	-	Valid
2019-11-01 11:05:00	33 2.4 Bergen nord	Åsane terminal D -> Rolland snuplass, 4	979	Rolland	-	1	1	-	Valid
2019-11-01 11:08:00	4 2.4 Bergen nord	Flaktveit snuplass -> Hesjaholtet, 43	284	Hesjaholtet	-	79	75	-	Valid
2019-11-01 11:08:00	4 2.4 Bergen nord	Hesjaholtet -> Flaktveit snuplass, 40	285	Flaktveit	-	78	79	-	Valid
2019-11-01 11:10:00	33 2.4 Bergen nord	Rolland snuplass -> Åsane terminal E, 4	980	Åsane terminal	-	6	6	-	Valid
2019-11-01 11:11:00	5 2.4 Bergen nord	Åsane terminal E -> Loddefjord terminal B, 39	487	Loddefjord terminal	-	74	76	-	Valid
2019-11-01 11:13:00	3 2.4 Bergen nord	Støbotn -> Sletten snuplass, 41	65	Sletten	-	128	128	-	Valid
2019-11-01 11:13:00	30 2.4 Bergen nord	Viddalen -> Åsane terminal E, 20	802	Åsane terminal	-	17	17	-	Valid
2019-11-01 11:15:00	32 2.4 Bergen nord	Åsane terminal C -> Skinsta, 7	899	Skinstø	-	12	15	-	Valid
2019-11-01 11:15:00	5 2.4 Bergen nord	Loddefjord terminal A -> Åsane terminal E, 39	488	Åsane terminal	-	64	59	-	Valid
2019-11-01 11:18:00	4 2.4 Bergen nord	Flaktveit snuplass -> Hesjaholtet, 43	286	Hesjaholtet	-	62	67	-	Valid
2019-11-01 11:18:00	4 2.4 Bergen nord	Hesjaholtet -> Flaktveit snuplass, 40	287	Flaktveit	-	47	45	-	Valid
2019-11-01 11:22:00	3 2.4 Bergen nord	Sletten snuplass -> Støbotn snuplass, 43	66	Støbotn	-	94	97	-	Valid
2019-11-01 11:23:00	3 2.4 Bergen nord	Støbotn -> Sletten snuplass, 41	67	Sletten	-	68	68	-	Valid

APC | ROUTE



Index	Stop Point	Σ In	Σ Out	Avg In	Avg Out	Avg Onboard	Distance	Max Seat km	Max Capacity km	Σ Passenger km, seat	Σ Passenger km, other	Σ Passenger km	# Stops with APC	# Reports Distance
1	Flaktveit snuplass (12011376)	4170	1398	1,5	0,5	(0,2+1,1) 1,3	573 m	77 985,30	215 239,43	2 023,26	0,00	2 023,26	2720/2811	2719/2811
2	Breimyra (12011375)	5416	23	2	0	3,3	275 m	37 386,25	103 186,05	2 445,03	0,00	2 445,03	2717/2811	2716/2811
3	Ulvhøyen (12011373)	493	10	0,2	0	3,5	578 m	78 579,10	216 878,32	5 417,59	0,00	5 417,59	2716/2811	2716/2811
4	Træsgrenda (12011371)	2848	196	1	0,1	4,4	396 m	53 796,60	148 478,62	4 759,13	0,00	4 759,13	2718/2811	2717/2811
5	Flaktveitsvingane (12011369)	3417	586	1,3	0,2	5,5	440 m	59 796,00	165 036,96	6 533,56	0,00	6 533,56	2718/2811	2718/2811
6	Flaktveitrinden (12011367)	3776	429	1,4	0,2	6,7	627 m	85 240,65	235 264,19	11 404,50	0,00	11 404,50	2721/2811	2719/2811
7	Li (12011365)	1570	676	0,6	0,2	7	360 m	48 942,00	135 079,92	6 869,88	0,00	6 869,88	2719/2811	2719/2811
8	Liakroken (12011363)	6344	1101	2,3	0,4	8,9	531 m	72 269,10	199 462,72	12 923,48	0,00	12 923,48	2722/2811	2722/2811
9	Industrihuset (12011361)	3256	572	1,2	0,2	9,9	452 m	61 517,20	169 787,47	12 213,94	0,00	12 213,94	2722/2811	2722/2811
10	Gullgruven (12015241)	3556	1664	1,3	0,6	10,6	414 m	56 345,40	155 513,30	11 970,40	0,00	11 970,40	2722/2811	2722/2811
11	IKEA (12011215)	4000	977	1,5	0,4	11,7	408 m	55 508,40	153 203,18	13 024,58	0,41	13 024,99	2722/2811	2721/2811

Function

Show passenger counter average and total values for each stop point along a route.

Search Criteria

1. Select the report type **Route**.
2. **Dates**: Select the from and to dates.
   - Use specific dates and weekdays to narrow the results.
3. **Time (optional):** Select the time interval.
4. **Line Group (optional):** Select a Line Group to filter the next choices.
5. Select one **line**.
6. Select one **route**.
7. Select **journey(s)**. You can add/remove journeys from the list by using the **Journey Type** filter.
8. Click on **Generate Report.**

Report

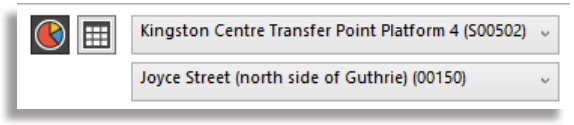
The report has two presentation modes: the Main view (default) and a Data view.

You can switch between them with the buttons at the upper left corner of the generated report.

Main View

Data View

Use the Route Section filter to only include part of the selected route.



Note that the check box **Include invalid data** is mostly used for testing purposes to include reports that are technically incorrect.

Main View

The Main View shows the data as a graph and as a table.

Note: the report include all logged journeys, including reinforced journeys.

Index	Stop point's sequence on the route.
Stop Point	Stop point name.
Σ In	The total number of passengers boarding at the stop.
Σ Out	Same as above, for alighting.
Avg In	Average number of passenger boarding at a stop
Avg Out	Average number of passenger alighting at a stop
Avg Onboard	Average number of passenger on board when leaving a stop point.
Distance	Distance from previous stop (link length).
Max Seat km	The number of seats * distance
Max Capacity km	(The number of seats + the number of standing space for passengers) * distance
Σ Passengers km, seat	Passengers(seated) up to vehicle seat capacity * distance
Σ Passengers km, other	Passengers (non-seated) above vehicle seat capacity * distance
Σ Passengers km	(Sum of seated passengers and other (non-seated) passengers) * distance.
# Stops with APC	Number of logged departures by vehicles with passenger counters compared to the planned number of planned departures.
# Report for link	Number of logged departures for this link / number of planned departures.

Avg onboard: If passengers have stayed onboard from the previous journey:

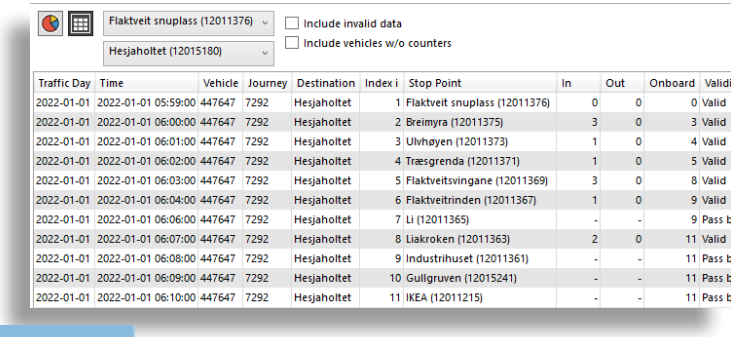
Avg In	Avg Out	Avg Onboard
3.3	0	(0.8+3.2) 3.9

(avg. passengers from last journey + avg. passengers at first stop) Avg. total passengers onboard when leaving first stop.

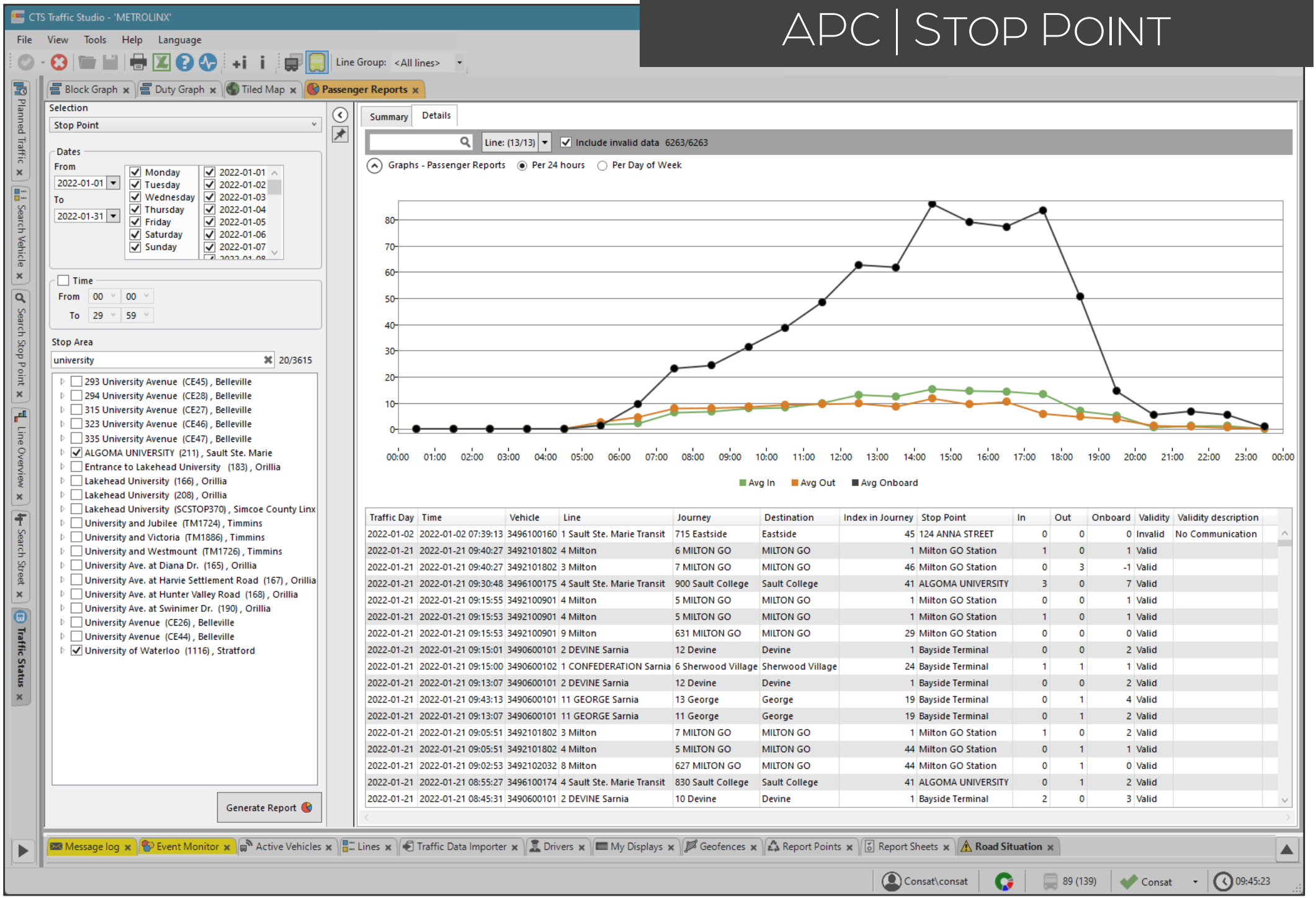
Data View

The Data View has the **Include invalid data** filter, but also **Include vehicles without counters** filter to include planned departures. Refer to Main View for similar columns, such as Max seat, km.

Day/Time	Date and planned departure time.
Vehicle	Vehicle number
Journey	Journey's number.
Destination	Journey's destination name.
Index in Journey	The stop point index/sequence number.
Stop Point	Stop point name.
In	Number of passenger boarding at the stop point.
Out	Same as above, for alighting.
Onboard	Number of passenger onboard when the vehicle leaves the stop point.
Validity	The validity status of the data: • Valid (ok) • Invalid: at least one of the passenger reports on the route has an active fault. • "-" Unknown validity (old data without validity flag).
Validity Description	Comment/description if invalid.



APC | Stop Point



Traffic Day	Time	Vehicle	Line	Journey	Destination	Index in Journey	Stop Point	In	Out	Onboard	Validity	Validity description
2022-01-02	2022-01-02 07:39:13	3496100160	1 Sault Ste. Marie Transit	715 Eastside	Eastside	45	124 ANNA STREET	0	0	0	Invalid	No Communication
2022-01-21	2022-01-21 09:40:27	3492101802	4 Milton	6 MILTON GO	MILTON GO	1	Milton GO Station	1	0	1	Valid	
2022-01-21	2022-01-21 09:40:27	3492101802	3 Milton	7 MILTON GO	MILTON GO	46	Milton GO Station	0	3	-1	Valid	
2022-01-21	2022-01-21 09:30:48	3496100175	4 Sault Ste. Marie Transit	900 Sault College	Sault College	41	ALGOMA UNIVERSITY	3	0	7	Valid	
2022-01-21	2022-01-21 09:15:55	3492100901	4 Milton	5 MILTON GO	MILTON GO	1	Milton GO Station	0	0	1	Valid	
2022-01-21	2022-01-21 09:15:53	3492100901	4 Milton	5 MILTON GO	MILTON GO	1	Milton GO Station	1	0	1	Valid	
2022-01-21	2022-01-21 09:15:53	3492100901	9 Milton	631 MILTON GO	MILTON GO	29	Milton GO Station	0	0	0	Valid	
2022-01-21	2022-01-21 09:15:01	3490600101	2 DEVINE Sarnia	12 Devine	Devine	1	Bayside Terminal	0	0	2	Valid	
2022-01-21	2022-01-21 09:15:00	3490600102	1 CONFEDERATION Sarnia	6 Sherwood Village	Sherwood Village	24	Bayside Terminal	1	1	1	Valid	
2022-01-21	2022-01-21 09:13:07	3490600101	2 DEVINE Sarnia	12 Devine	Devine	1	Bayside Terminal	0	0	2	Valid	
2022-01-21	2022-01-21 09:43:13	3490600101	11 GEORGE Sarnia	13 George	George	19	Bayside Terminal	0	1	4	Valid	
2022-01-21	2022-01-21 09:13:07	3490600101	11 GEORGE Sarnia	11 George	George	19	Bayside Terminal	0	1	2	Valid	
2022-01-21	2022-01-21 09:05:51	3492101802	3 Milton	7 MILTON GO	MILTON GO	1	Milton GO Station	1	0	2	Valid	
2022-01-21	2022-01-21 09:05:51	3492101802	4 Milton	5 MILTON GO	MILTON GO	44	Milton GO Station	0	1	1	Valid	
2022-01-21	2022-01-21 09:02:53	3492102032	8 Milton	627 MILTON GO	MILTON GO	44	Milton GO Station	0	1	0	Valid	
2022-01-21	2022-01-21 08:55:27	3496100174	4 Sault Ste. Marie Transit	830 Sault College	Sault College	41	ALGOMA UNIVERSITY	0	1	2	Valid	
2022-01-21	2022-01-21 08:45:31	3490600101	2 DEVINE Sarnia	10 Devine	Devine	1	Bayside Terminal	2	0	3	Valid	

Function

Show passenger counter average and total values for each selected stop point.

Search Criteria

1. Select the report type **Stop Point**.
2. **Dates**: Select the from and to dates.
   - Use specific dates and weekdays to narrow the results.
3. **Time (optional):** Select the time interval.
4. **Stop Area:** Select one or multiple stop areas/ points. Use the filter to narrow the list.
5. Click on **Generate Report.**

Report

The report has two presentation modes: the Summary view (default) and the Detail view.

You can switch between them with the tabs at the upper left corner of the generated report.

Details View

The Details View shows a graph for every journey logged at all the selected stop areas/points. The table below it lists all these journeys individually.

Filter the data with the free text filter and the Line filter. This will affect both the graph and the table.

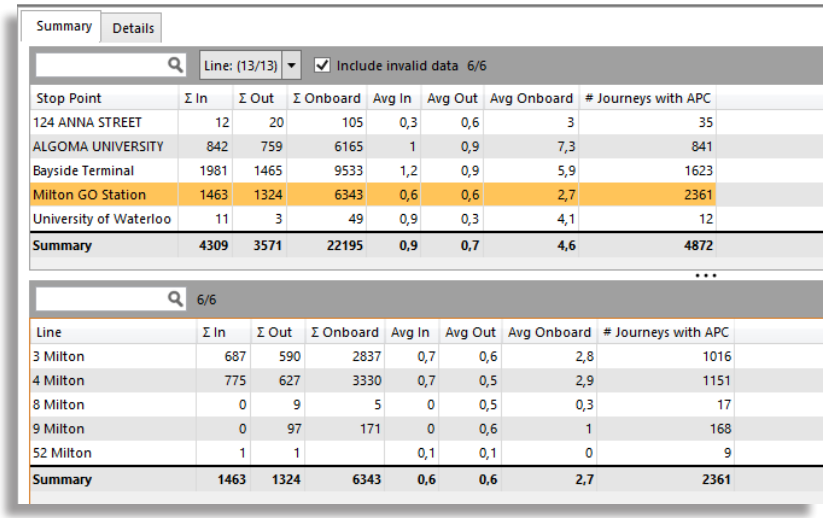
Graph: Toggle the view between **24 hours** with 1 hour intervals, and **Days of the Week** with 7 days interval.

Day/Time	Date and departure time.
Vehicle	Vehicle number
Line	Journey's line
Journey	Journey's number.
Destination	Journey's destination name.
Index in Journey	The stop point index/sequence number in the journey.
Stop Point	Stop point name.
In	Number of passenger boarding at the stop point.
Out	Same as above, for alighting.
Onboard	Number of passenger onboard when the vehicle leaves the stop point.
Validity	The validity status of the data: • Valid (ok) • Invalid: at least one of the passenger reports on the route has an active fault. • ”-“ Unknown validity (old data without validity flag).
Validity Description	Comment/description if invalid.

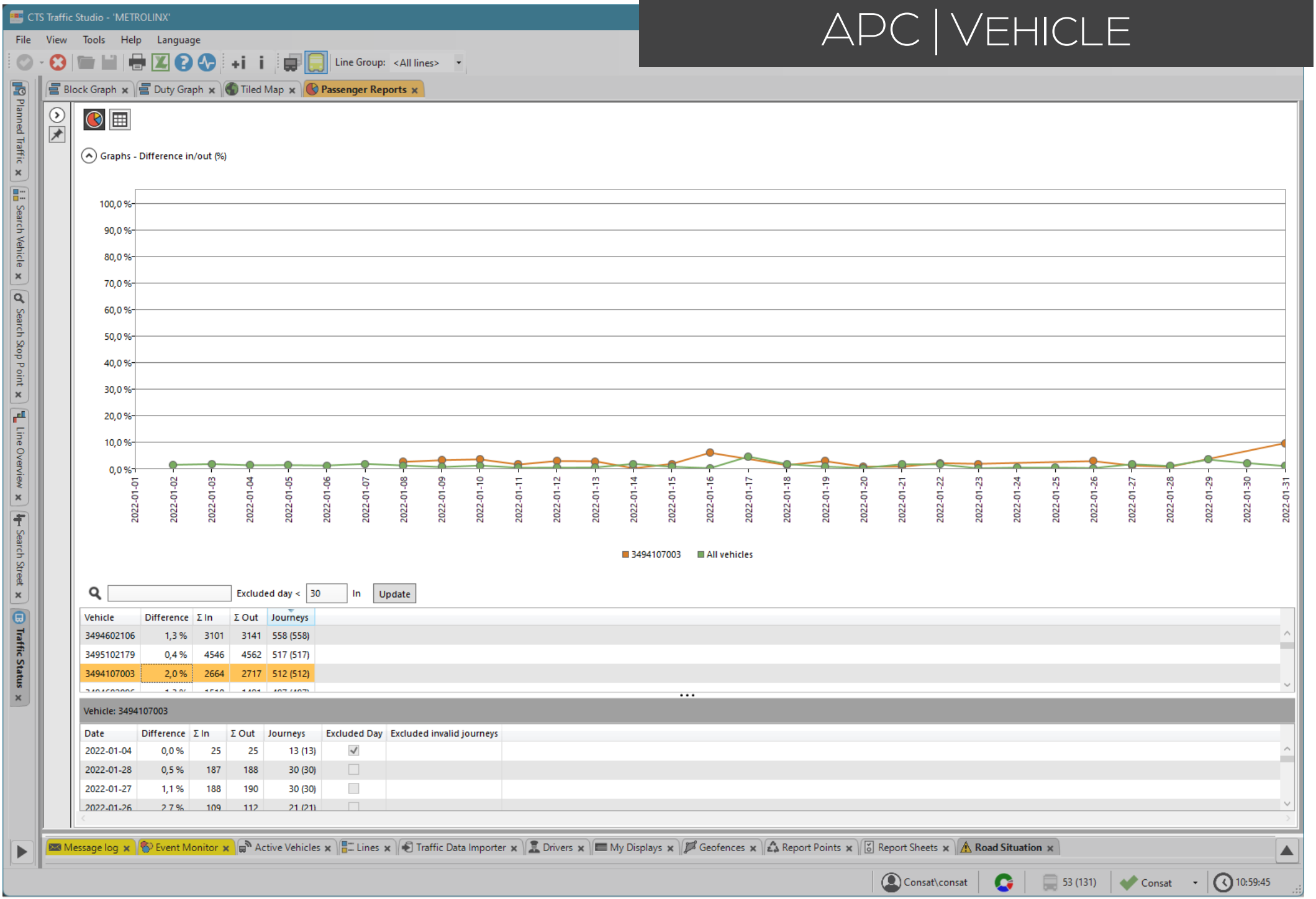
Summary View

The Summary View shows the data for each selected stop area/point. Click on a row to reveal a second table for that stop area/point with the data grouped by line.

Stop Point	Stop point name.
Σ In	The total number of passengers boarding at the stop.
Σ Out	Same as above, for alighting.
Σ Onboard	Same as above, for onboard.
Avg In	Average number of passenger boarding at a stop
Avg Out	Average number of passenger alighting at a stop
Avg Onboard	Average number of passenger on board when leaving a stop point.
# Journeys with APC	Number of logged journeys by vehicles with passenger counters.



APC | VEHICLE


CTS Traffic Studio - 'METROLINX'
File View Tools Help Language
Line Group: <All lines>
Block Graph
Duty Graph
Tiled Map
Passenger Reports
Planned Traffic
Search Vehicle
Search Stop Point
Line Overview
Search Street
Traffic Status
Graphs - Difference in/out (%)
100,0 %
90,0 %
80,0 %
70,0 %
60,0 %
50,0 %
40,0 %
30,0 %
20,0 %
10,0 %
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2022-01-26
2022-01-27
2022-01-28
2022-01-29
2022-01-30
2022-01-31
3494107003
All vehicles
Excluded day < 30 In Update
Vehicle Difference Σ In Σ Out Journeys
3494602106 1,3 % 3101 3141 558 (558)
3495102179 0,4 % 4546 4562 517 (517)
3494107003 2,0 % 2664 2717 512 (512)
Vehicle: 3494107003
Date Difference Σ In Σ Out Journeys Excluded Day Excluded invalid journeys
2022-01-04 0,0 % 25 25 13 (13)
2022-01-28 0,5 % 187 188 30 (30)
2022-01-27 1,1 % 188 190 30 (30)
Message log
Event Monitor
Active Vehicles
Lines
Traffic Data Importer
Drivers
My Displays
Geofences
Report Points
Report Sheets
Road Situation
Consat\consat
53 (131)
Consat
10:59:45

Function

Show the differences between reported boarding and alighting numbers from each vehicle.

Search Criteria

1. Select the report type **Vehicle**.
2. **Dates**: Select the from and to dates.
   - Use specific dates and weekdays to narrow the results.
3. **Time (optional):** Select the time interval.
4. Select **vehicle(s)**. You can use the filter to narrow the list.
5. Click on **Generate Report.**

Report

The report has two presentation modes: the Main view (default) and a Data view.

You can switch between them with the buttons at the upper left corner of the generated report.

Main View

Data View

The Main View has a graph that lets you compare the difference of all vehicles against the selected vehicle in the table. The differences are listed by date on the X-axis. To select a vehicle in the table, simply click on its row which will be highlighted in orange.

The table is split in two sections: The Top Table lists all the vehicles. The Bottom Table shows the historical data for the selected vehicle.

Top Table (all selected vehicles)

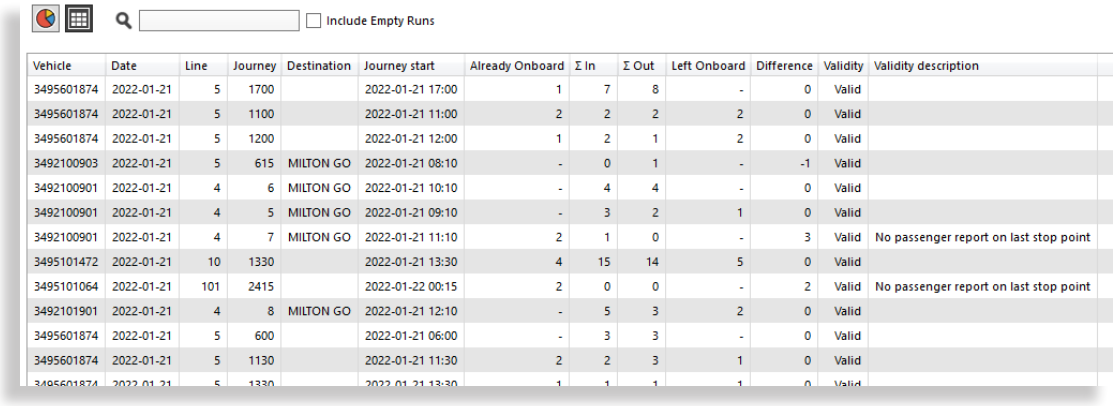
Click on any row to visualize that vehicle's daily differences in the graph.

Vehicle	Vehicle number
Difference	The difference, in percent, between **Σ** In and **Σ** Out.
Σ In	The total number of passengers boarding at the stop.
Σ Out	Same as above, for alighting.
Journeys	Number of logged journeys compared to the number of planned journeys.
Date	Date
Difference	Same as table above.
Σ In	Same as table above.
Σ Out	Same as table above.
Journeys	Same as table above.
Excluded Days	Non-interactive indicator showing days with excluded data because of total boarding numbers below the threshold filter setting.
Excluded Invalid Journeys	The excluded individual journeys presented in this format: Line A (Journey A, Journey B, Journey C), Line B (Journey D), etc.).

Data View

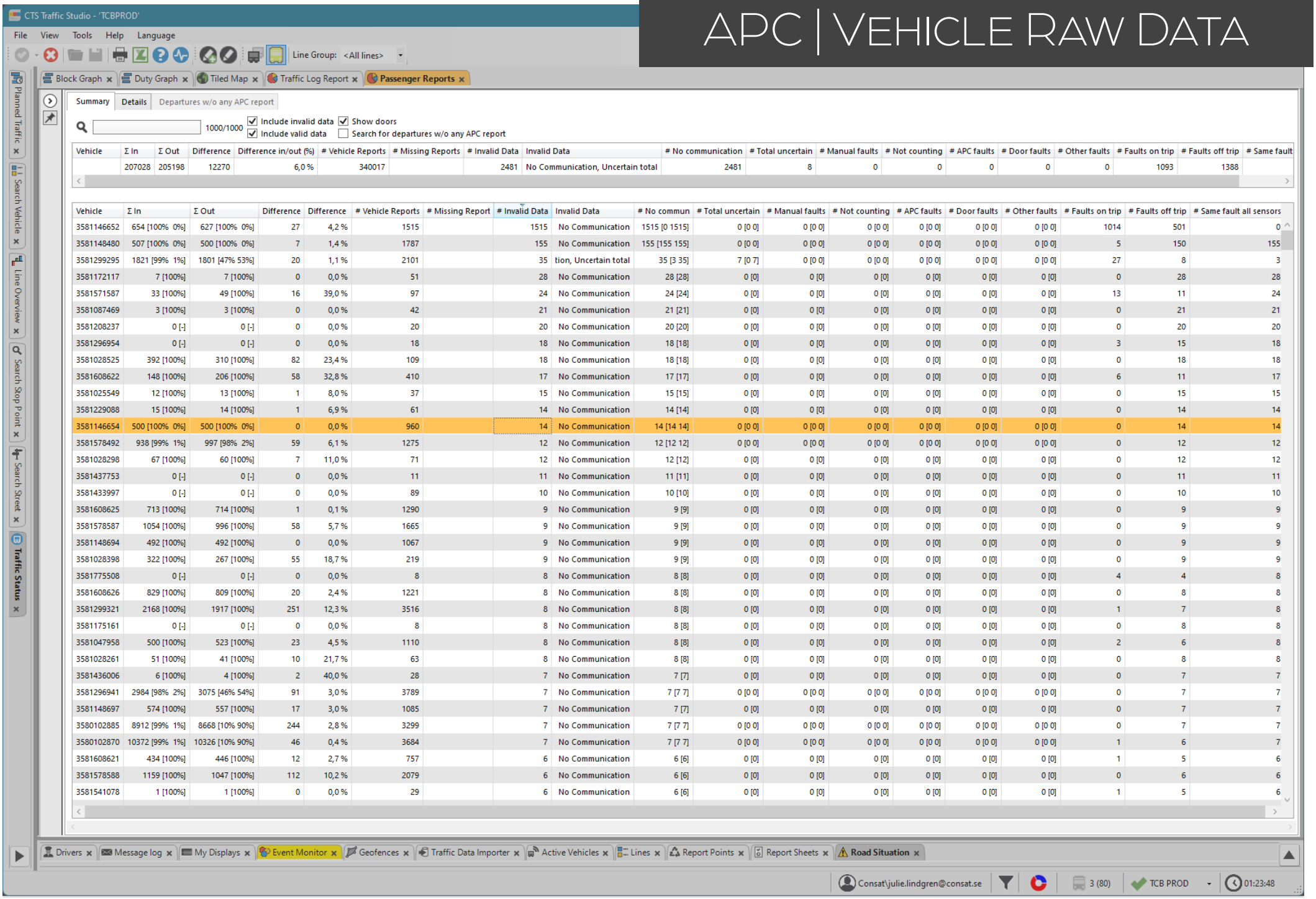
Use this view to analyze the data “behind” the main view presentation. Each row corresponds to a journey.

Vehicle	Vehicle number.
Date	The date the journey was reported.
Line	The line the journey serviced.
Journey	The journey ID
Destination	The journey destination.
Journey start	The planned start time of the journey.
Already Onboard	Passengers who stayed in the vehicle from the last journey.
Σ In	The total number of passengers boarding at the stop.
Σ Out	Same as above, for alighting.
Left Onboard	Passengers who stayed on board to the next journey.
Difference	The difference, in percent, between **Σ** In and **Σ** Out.
Validity	The validity status of the data: • Valid (ok) • Invalid: at least one of the passenger reports on the route has an active fault. • ”-“ Unknown validity (old data without validity flag).
Validity Description	Comment/description if invalid.



Vehicle	Date	Line	Journey	Destination	Journey start	Already Onboard	Σ In	Σ Out	Left Onboard	Difference	Validity	Validity description
3495601874	2022-01-21	5	1700		2022-01-21 17:00	1	7	8	-	0	Valid	
3495601874	2022-01-21	5	1100		2022-01-21 11:00	2	2	2	2	0	Valid	
3495601874	2022-01-21	5	1200		2022-01-21 12:00	1	2	1	2	0	Valid	
3492100903	2022-01-21	5	615	MILTON GO	2022-01-21 08:10	-	0	1	-	-1	Valid	
3492100901	2022-01-21	4	6	MILTON GO	2022-01-21 10:10	-	4	4	-	0	Valid	
3492100901	2022-01-21	4	5	MILTON GO	2022-01-21 09:10	-	3	2	1	0	Valid	
3492100901	2022-01-21	4	7	MILTON GO	2022-01-21 11:10	2	1	0	-	3	Valid	No passenger report on last stop point
3495101472	2022-01-21	10	1330		2022-01-21 13:30	4	15	14	5	0	Valid	
3495101064	2022-01-21	101	2415		2022-01-22 00:15	2	0	0	-	2	Valid	No passenger report on last stop point
3492101901	2022-01-21	4	8	MILTON GO	2022-01-21 12:10	-	5	3	2	0	Valid	
3495601874	2022-01-21	5	600		2022-01-21 06:00	-	3	3	-	0	Valid	
3495601874	2022-01-21	5	1130		2022-01-21 11:30	2	2	3	1	0	Valid	
3495601874	2022-01-21	5	1330		2022-01-21 13:30	1	1	1	1	0	Valid	

APC | Vehicle Raw Data



Vehicle	Σ In	Σ Out	Difference	Difference in/out (%)	# Vehicle Reports	# Missing Reports	# Invalid Data	Invalid Data	# No communication	# Total uncertain	# Manual faults	# Not counting	# APC faults	# Door faults	# Other faults	# Faults on trip	# Faults off trip	# Same fault
	207028	205198	12270	6,0 %	340017		2481	No Communication, Uncertain total	2481	8	0	0	0	0	0	1093	1388	

Vehicle	Σ In	Σ Out	Difference	Difference	# Vehicle Reports	# Missing Report	# Invalid Data	Invalid Data	# No commun	# Total uncertain	# Manual faults	# Not counting	# APC faults	# Door faults	# Other faults	# Faults on trip	# Faults off trip	# Same fault all sensors
3581146652	654 [100% 0%]	627 [100% 0%]	27	4,2 %	1515		1515	No Communication	1515 [0 1515]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	1014	501	0
3581148480	507 [100% 0%]	500 [100% 0%]	7	1,4 %	1787		155	No Communication	155 [155 155]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	5	150	155
3581299295	1821 [99% 1%]	1801 [47% 53%]	20	1,1 %	2101		35	tion, Uncertain total	35 [3 35]	7 [0 7]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	27	8	3
3581172117	7 [100%]	7 [100%]	0	0,0 %	51		28	No Communication	28 [28]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	28	28
3581571587	33 [100%]	49 [100%]	16	39,0 %	97		24	No Communication	24 [24]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	13	11	24
3581087469	3 [100%]	3 [100%]	0	0,0 %	42		21	No Communication	21 [21]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	21	21
3581208237	0 [-]	0 [-]	0	0,0 %	20		20	No Communication	20 [20]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	20	20
3581296954	0 [-]	0 [-]	0	0,0 %	18		18	No Communication	18 [18]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	3	15	18
3581028525	392 [100%]	310 [100%]	82	23,4 %	109		18	No Communication	18 [18]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	18	18
3581608622	148 [100%]	206 [100%]	58	32,8 %	410		17	No Communication	17 [17]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	6	11	17
3581025549	12 [100%]	13 [100%]	1	8,0 %	37		15	No Communication	15 [15]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	15	15
3581229088	15 [100%]	14 [100%]	1	6,9 %	61		14	No Communication	14 [14]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	14	14
3581146654	500 [100% 0%]	500 [100% 0%]	0	0,0 %	960		14	No Communication	14 [14 14]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0	14	14
3581578492	938 [99% 1%]	997 [98% 2%]	59	6,1 %	1275		12	No Communication	12 [12 12]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0	12	12
3581028298	67 [100%]	60 [100%]	7	11,0 %	71		12	No Communication	12 [12]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	12	12
3581437753	0 [-]	0 [-]	0	0,0 %	11		11	No Communication	11 [11]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	11	11
3581433997	0 [-]	0 [-]	0	0,0 %	89		10	No Communication	10 [10]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	10	10
3581608625	713 [100%]	714 [100%]	1	0,1 %	1290		9	No Communication	9 [9]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	9	9
3581578587	1054 [100%]	996 [100%]	58	5,7 %	1665		9	No Communication	9 [9]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	9	9
3581148694	492 [100%]	492 [100%]	0	0,0 %	1067		9	No Communication	9 [9]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	9	9
3581028398	322 [100%]	267 [100%]	55	18,7 %	219		9	No Communication	9 [9]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	9	9
3581775508	0 [-]	0 [-]	0	0,0 %	8		8	No Communication	8 [8]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	4	4	8
3581608626	829 [100%]	809 [100%]	20	2,4 %	1221		8	No Communication	8 [8]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	8	8
3581299321	2168 [100%]	1917 [100%]	251	12,3 %	3516		8	No Communication	8 [8]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	1	7	8
3581175161	0 [-]	0 [-]	0	0,0 %	8		8	No Communication	8 [8]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	8	8
3581047958	500 [100%]	523 [100%]	23	4,5 %	1110		8	No Communication	8 [8]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	2	6	8
3581028261	51 [100%]	41 [100%]	10	21,7 %	63		8	No Communication	8 [8]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	8	8
3581436006	6 [100%]	4 [100%]	2	40,0 %	28		7	No Communication	7 [7]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	7	7
3581296941	2984 [98% 2%]	3075 [46% 54%]	91	3,0 %	3789		7	No Communication	7 [7 7]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0	7	7
3581148697	574 [100%]	557 [100%]	17	3,0 %	1085		7	No Communication	7 [7]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	7	7
3580102885	8912 [99% 1%]	8668 [10% 90%]	244	2,8 %	3299		7	No Communication	7 [7 7]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0	7	7
3580102870	10372 [99% 1%]	10326 [10% 90%]	46	0,4 %	3684		7	No Communication	7 [7 7]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	0 [0 0]	1	6	7
3581608621	434 [100%]	446 [100%]	12	2,7 %	757		6	No Communication	6 [6]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	1	5	6
3581578588	1159 [100%]	1047 [100%]	112	10,2 %	2079		6	No Communication	6 [6]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0	6	6
3581541078	1 [100%]	1 [100%]	0	0,0 %	29		6	No Communication	6 [6]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	0 [0]	1	5	6

Function

Present the complete APC raw data for selected vehicle(s). Excellent for troubleshooting.

Search Criteria

1. Select the report type **Vehicle Raw Data**.
2. **Dates**: Select the from and to dates.
   - Use specific dates and weekdays to narrow the results.
3. Select **vehicle(s)**. You can use the filter to narrow the list.
4. Click on **Generate Report**.

Report

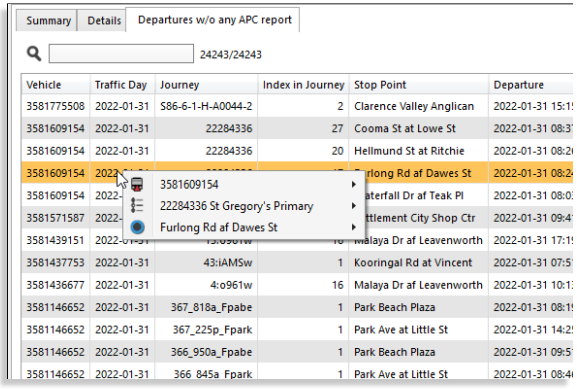
The report has three modes: **Summary** (default), **Details** and **Departures w/o any APC report**.

Summary lists all selected vehicles.

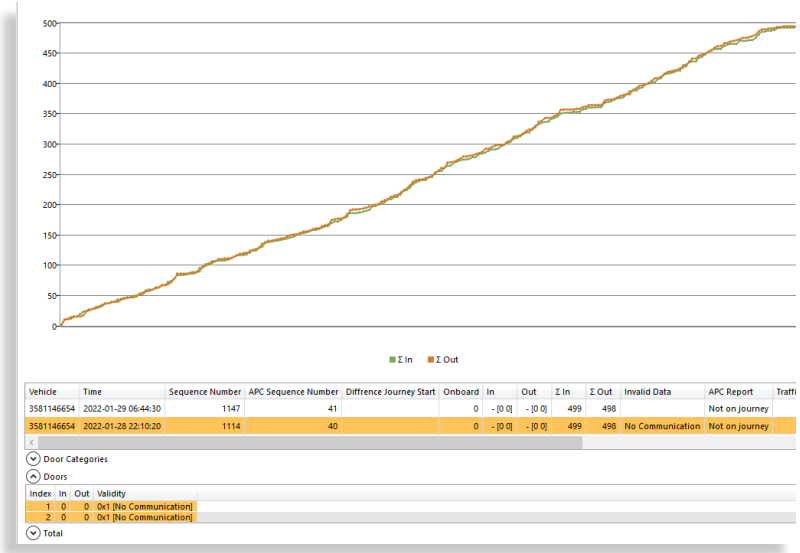
Details has a graph comparing boarding/alighting data, and a table listing each departure for ONE vehicle. Selecting a row provides extra information about doors and counts.

Departures without any apc report lists all departures missing at least one APC report, so you can find holes in the data. Check "**Search for departures w/o any APC report**" to generate its content.

Departures w/o any APC report



Details



Basic Troubleshooting

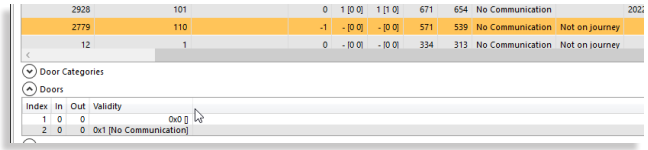
Note: a more detailed guide for APC troubleshooting is available on the portal.

1. Invalid Data

In **Summary**, sort the table by "**# Invalid Data**". Note that having numbers in this column is NOT necessarily an issue. For a month, anything below 100 is most likely ok, though it is never wrong to double-check.

Select a vehicle with a high number, then go to Details.

- Flat curves: Something is wrong, can likely be that the sensors are/were not communicating. You can often look further into it with Details. Sort that table by Invalid Data, then click on any row with "No Communication". Expand "Doors" to see which sensor(s) is not communicating.



- Curves growing apart: It is possible that the contact is loose with the sensors. Check and test them.

2. Difference Between Boarding and Alighting

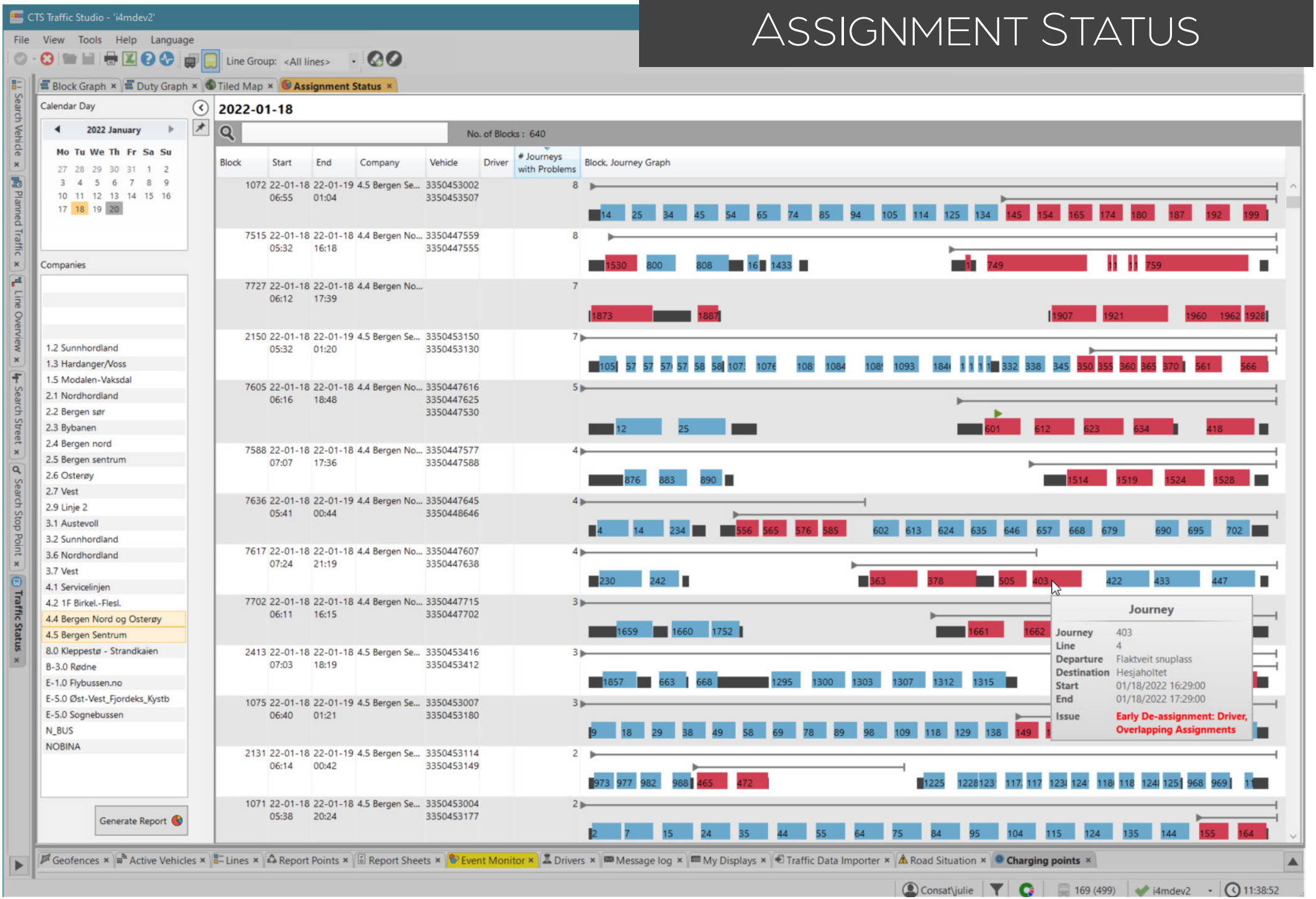
In **Summary**, sort the table with **Difference In/Out (%)**. In a normal system, the average should be below 5%. Always compare the % with the raw numbers.

An average above 5% can be due to one of many of the following factors:

- The APC sensors are wrongly calibrated.
- The driver boarded before the vehicle (and the sensors) were turned on. However, sensors will power off 15-30 minutes after the vehicle is turned off. That's already a difference of 1 for that day. Take it over a month, and you might have a normal difference of 20-30. Have a vehicle with a break in the middle of the day, and you're up to 40-60. For vehicles with few passengers, it can be misleading when only looking at the difference in % (see vehicle 4728 below).
- Passengers come on or off while the vehicle was not powered. Not usual at schools and terminals.
- The sensors are wrongly mounted. Can happen after maintenance.
- The cable is disconnected, so the sensor has no power.

Vehicle	In	Out	Difference	Difference %
4728	138	156	18	11.5%
1193	2039	2054	15	0.7%

Assignment Status



Function

List a day's assignments with all incurred issues for assessment of assignment performance.

Search Criteria

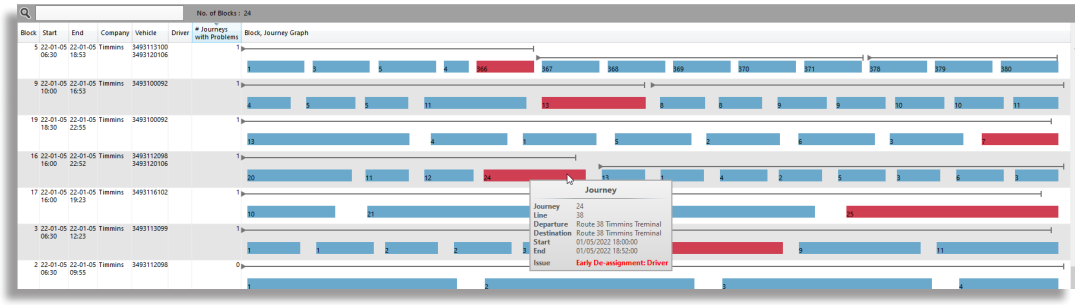
1. Select a **calendar day**.
2. **Company**: Select one or many companies. Use SHIFT or CTRL to make your selection.
3. Click on **Generate Report**.

Incorrect Assignments Errors

Not assigned	Journey has not been assigned to any vehicle.
Late assignment: Central	Journey has not been centrally assigned before the journey start.
Early De-Assignment: Central	Journey has been centrally de-assigned before it was finished.
Late Assignment: Driver	Journey has not been manually assigned before the journey start.
Early De-Assignment: Driver	Journey has been manually de-assigned before it was finished. Note: if the journey was completed, it will not count as early de-assignment.
Overlapping Assignments	Overlapping of two vehicle assignments to the same journey. Note: it does not include reinforcements.
Failed Assignment	A vehicle has been assigned but has not correctly acknowledged the assignment because of technical issues.

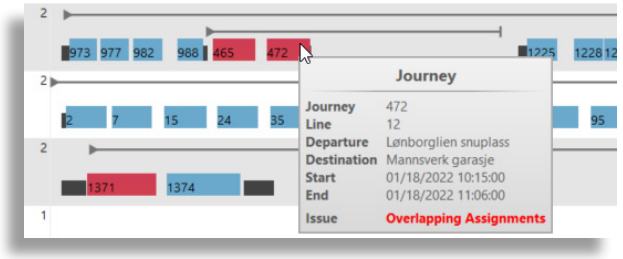
Assignment Table

Each row shows a planned block with separate columns for various block-related information. The graphic area, **Block, Journey Graph,** includes the block's journeys and arrows for assignment events.



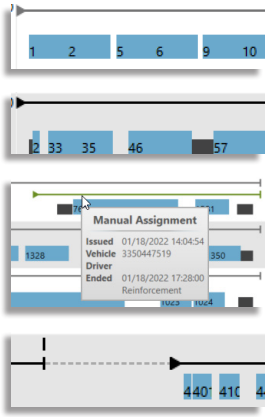
Journey Assignment Status

A journey that ran smoothly is blue. An empty run is dark grey and shorter than the others. A journey with at least one incorrect assignment error is red.

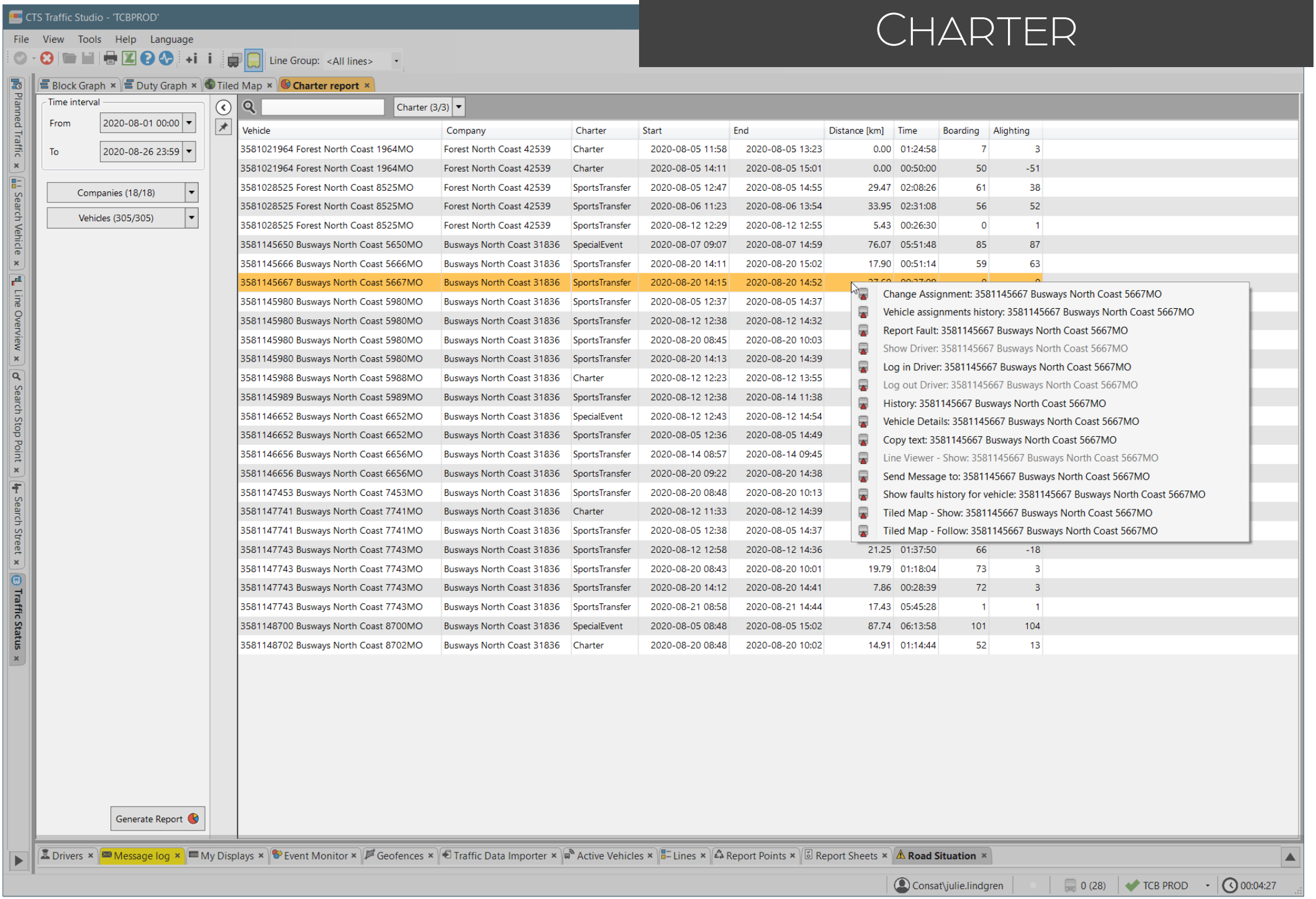


Assignment Events

- Black line: Central assignments
- Grey line: Manual assignments
- Green line: Reinforcement
- Dashed line: The difference between when the central assignment was done and when the vehicle acknowledged it, usually due to the vehicle not running yet.



CHARTER


CTS Traffic Studio - 'TCBPROD'
File View Tools Help Language
Line Group: <All lines>
Block Graph × Duty Graph × Tiled Map × Charter report ×
Time interval
From 2020-08-01 00:00
To 2020-08-26 23:59
Companies (18/18)
Vehicles (305/305)
Generate Report
Charter (3/3)
Vehicle Company Charter Start End Distance [km] Time Boarding Alighting
3581021964 Forest North Coast 1964MO Forest North Coast 42539 Charter 2020-08-05 11:58 2020-08-05 13:23 0.00 01:24:58 7 3
3581021964 Forest North Coast 1964MO Forest North Coast 42539 Charter 2020-08-05 14:11 2020-08-05 15:01 0.00 00:50:00 50 -51
3581028525 Forest North Coast 8525MO Forest North Coast 42539 SportsTransfer 2020-08-05 12:47 2020-08-05 14:55 29.47 02:08:26 61 38
3581028525 Forest North Coast 8525MO Forest North Coast 42539 SportsTransfer 2020-08-06 11:23 2020-08-06 13:54 33.95 02:31:08 56 52
3581028525 Forest North Coast 8525MO Forest North Coast 42539 SportsTransfer 2020-08-12 12:29 2020-08-12 12:55 5.43 00:26:30 0 1
3581145650 Busways North Coast 5650MO Busways North Coast 31836 SpecialEvent 2020-08-07 09:07 2020-08-07 14:59 76.07 05:51:48 85 87
3581145666 Busways North Coast 5666MO Busways North Coast 31836 SportsTransfer 2020-08-20 14:11 2020-08-20 15:02 17.90 00:51:14 59 63
3581145667 Busways North Coast 5667MO Busways North Coast 31836 SportsTransfer 2020-08-20 14:15 2020-08-20 14:52
3581145980 Busways North Coast 5980MO Busways North Coast 31836 SportsTransfer 2020-08-05 12:37 2020-08-05 14:37
3581145980 Busways North Coast 5980MO Busways North Coast 31836 SportsTransfer 2020-08-12 12:38 2020-08-12 14:32
3581145980 Busways North Coast 5980MO Busways North Coast 31836 SportsTransfer 2020-08-20 08:45 2020-08-20 10:03
3581145980 Busways North Coast 5980MO Busways North Coast 31836 SportsTransfer 2020-08-20 14:13 2020-08-20 14:39
3581145988 Busways North Coast 5988MO Busways North Coast 31836 Charter 2020-08-12 12:23 2020-08-12 13:55
3581145989 Busways North Coast 5989MO Busways North Coast 31836 SportsTransfer 2020-08-12 12:38 2020-08-14 11:38
3581146652 Busways North Coast 6652MO Busways North Coast 31836 SpecialEvent 2020-08-12 12:43 2020-08-12 14:54
3581146652 Busways North Coast 6652MO Busways North Coast 31836 SportsTransfer 2020-08-05 12:36 2020-08-05 14:49
3581146656 Busways North Coast 6656MO Busways North Coast 31836 SportsTransfer 2020-08-14 08:57 2020-08-14 09:45
3581146656 Busways North Coast 6656MO Busways North Coast 31836 SportsTransfer 2020-08-20 09:22 2020-08-20 14:38
3581147453 Busways North Coast 7453MO Busways North Coast 31836 SportsTransfer 2020-08-20 08:48 2020-08-20 10:13
3581147741 Busways North Coast 7741MO Busways North Coast 31836 Charter 2020-08-12 11:33 2020-08-12 14:39
3581147741 Busways North Coast 7741MO Busways North Coast 31836 SportsTransfer 2020-08-05 12:38 2020-08-05 14:37
3581147743 Busways North Coast 7743MO Busways North Coast 31836 SportsTransfer 2020-08-12 12:58 2020-08-12 14:36 21.25 01:37:50 66 -18
3581147743 Busways North Coast 7743MO Busways North Coast 31836 SportsTransfer 2020-08-20 08:43 2020-08-20 10:01 19.79 01:18:04 73 3
3581147743 Busways North Coast 7743MO Busways North Coast 31836 SportsTransfer 2020-08-20 14:12 2020-08-20 14:41 7.86 00:28:39 72 3
3581147743 Busways North Coast 7743MO Busways North Coast 31836 SportsTransfer 2020-08-21 08:58 2020-08-21 14:44 17.43 05:45:28 1 1
3581148700 Busways North Coast 8700MO Busways North Coast 31836 SpecialEvent 2020-08-05 08:48 2020-08-05 15:02 87.74 06:13:58 101 104
3581148702 Busways North Coast 8702MO Busways North Coast 31836 Charter 2020-08-20 08:48 2020-08-20 10:02 14.91 01:14:44 52 13
Change Assignment: 3581145667 Busways North Coast 5667MO
Vehicle assignments history: 3581145667 Busways North Coast 5667MO
Report Fault: 3581145667 Busways North Coast 5667MO
Show Driver: 3581145667 Busways North Coast 5667MO
Log in Driver: 3581145667 Busways North Coast 5667MO
Log out Driver: 3581145667 Busways North Coast 5667MO
History: 3581145667 Busways North Coast 5667MO
Vehicle Details: 3581145667 Busways North Coast 5667MO
Copy text: 3581145667 Busways North Coast 5667MO
Line Viewer - Show: 3581145667 Busways North Coast 5667MO
Send Message to: 3581145667 Busways North Coast 5667MO
Show faults history for vehicle: 3581145667 Busways North Coast 5667MO
Tiled Map - Show: 3581145667 Busways North Coast 5667MO
Tiled Map - Follow: 3581145667 Busways North Coast 5667MO
Planned Traffic × Search Vehicle × Line Overview × Search Stop Point × Search Street × Traffic Status ×
Drivers × Message log × My Displays × Event Monitor × Geofences × Traffic Data Importer × Active Vehicles × Lines × Report Points × Report Sheets × Road Situation ×
Consat\julie.lindgren 0 (28) TCB PROD 00:04:27

Function

Tracking and logging of vehicles running in "charter mode", i.e. outside the standard contracts.

Search Criteria

1. **Time Interval:** Select from and to dates.
2. **Companies:** Select one or multiple companies (depending on your access). You can use the free text filter to narrow down the list.
3. **Vehicles:** Select one or multiple vehicles. You can use the free text filter to narrow down the list.
4. Click on **Generate Report.**

Report

The report consists of 2 areas:

Filter: A free text filter helps you narrow down the table to your specific text/numbers.

Table: List of all the travels driven for the selected time interval, companies and vehicles while in charter mode.

Table

The report lists individual “charter sessions” with time stamps, driven distance, duration and passenger data (if available).

The top filter section includes a free text filter and a charter [type] filter menu.

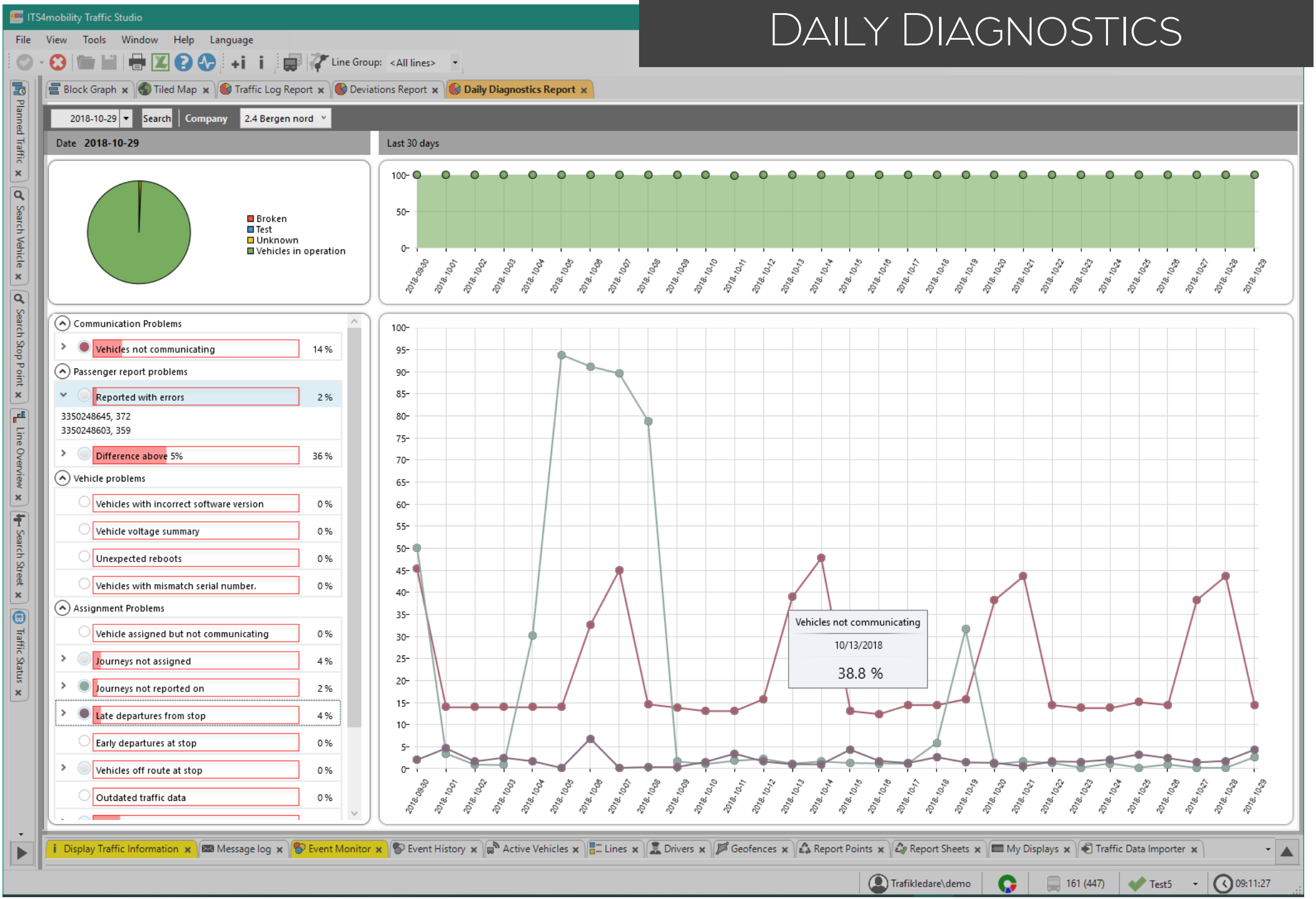
Vehicle	Vehicle number/name
Company	Company system name
Charter	The charter type selected for the session (available types are configured per customer).
Start	Time stamp: Session start date, time.
End	Time stamp: Session end date, time.
Distance	Driven distance.
Time	Session duration.
Boarding	Total number of boarding passengers, according to passenger counting system.
Alighting	Total number of alighting passengers, according to passenger counting system.

Shortcut Menus

Right-click on a row to open the short-cut menu vehicle.

Notes

DAILY DIAGNOSTICS



Function

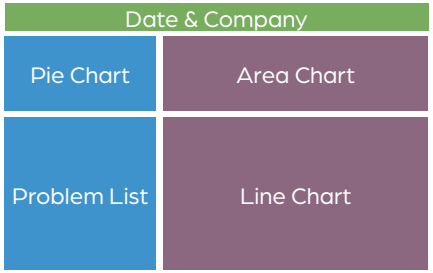
Show various system and traffic problems for selected day and previous 30 days for trends.

Search Criteria - Upper Row

1. **Calendar:** Select a date, it has to be a completed day, i.e., today's data is not available yet. Click on **Search**.
2. **Company:** Change the selected company if applicable/have proper rights.

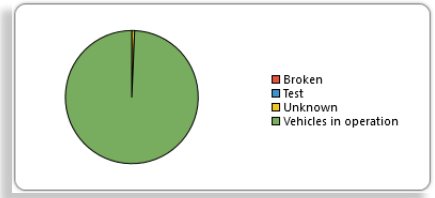
Left side: The pie chart and the Problem List show data for the selected day.

Right side: The area chart and line chart show data for the latest 30 days from the selected date.



Pie Chart

Quick overview of the broken, test, unknown and operating vehicles as set/configured in the depot.



Broken: Vehicle which has been marked as broken in the depot.

Test: Vehicle which has been marked as a "test vehicle" in the depot.

Unknown: Vehicle which has been marked with a state that cannot be interpreted in depot.

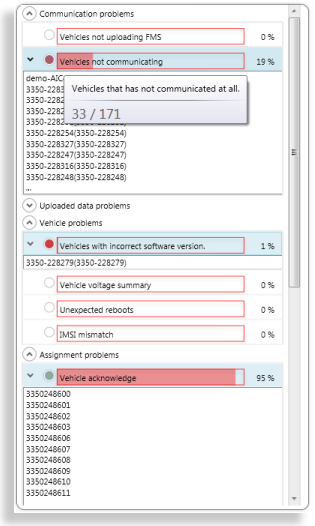
Vehicle in operation: Vehicle which is not marked by any state and considered to be working and in operation.

Area Chart

The area chart shows the daily amount of operating vehicles, in percentage, for the past 30 days. It uses the same X-axis as the line chart located below.

Problem List

List of all problems. Each row has an expand arrow, a check box, the name of the problem surrounded by a red bar and the percent of units experiencing this problem. The red bar graphically illustrates the percentage. Note that these numbers come from the "Vehicles in operation" and "Unknown" parts of the pie chart. Hoover your mouse over a problem area for a description of the problem.

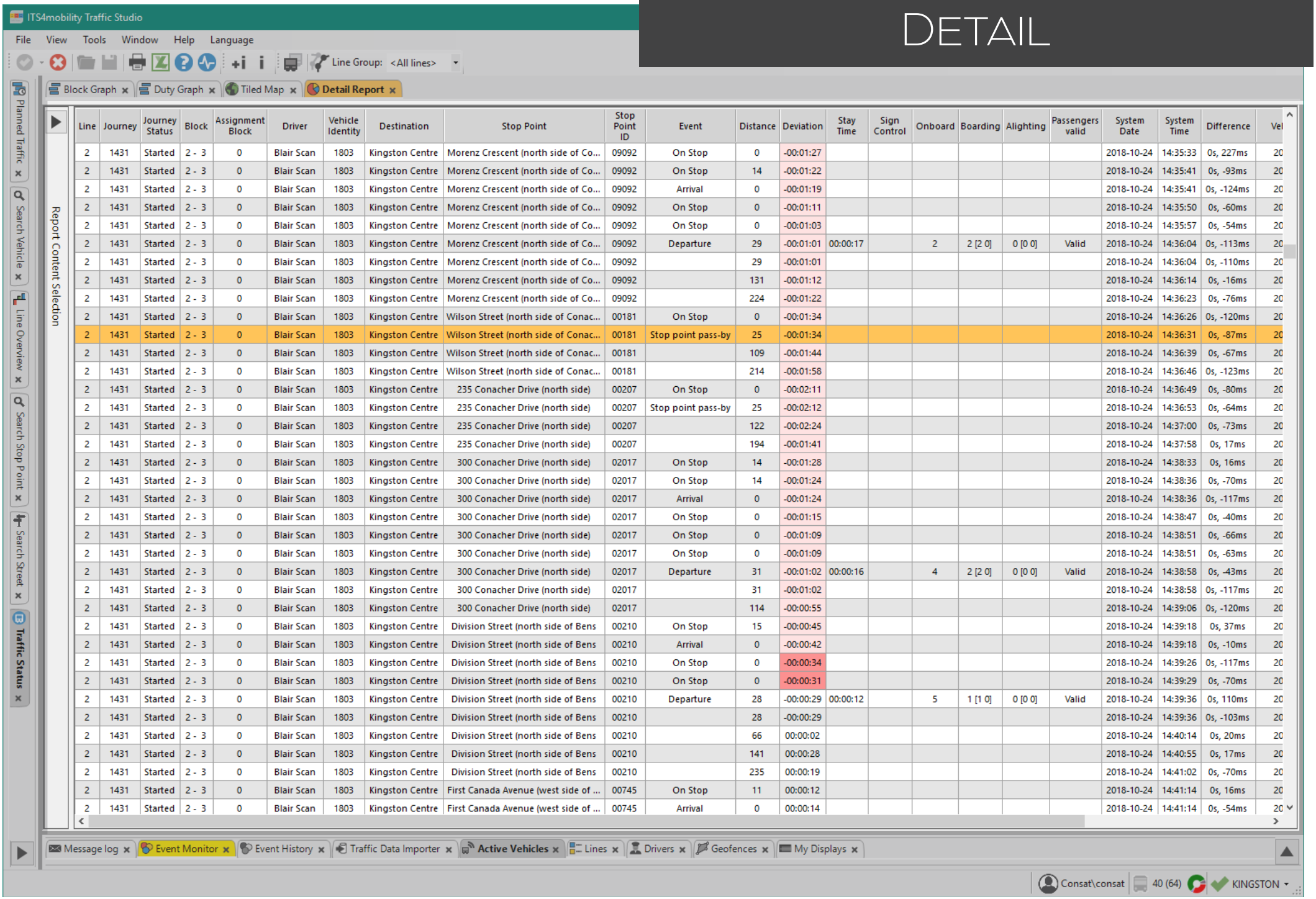


- Click on the expand arrow to show, for that problem, the top 10 guilty parties.
- Multiple problem-lists can be expanded at the same time.
- Tick the check box to show this problem in the line chart to the right. Each ticked check box is assigned a different matching color.

Line Chart

Lines showing data for the past 30 days for up to 10 different problems at a time. The colour of the line matches the colour of the check box in the Problem List. Note that colors are randomly assigned and not related to any specific problem.

DETAIL

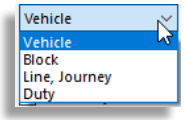


Line	Journey	Journey Status	Block	Assignment Block	Driver	Vehicle Identity	Destination	Stop Point	Stop Point ID	Event	Distance	Deviation	Stay Time	Sign Control	Onboard	Boarding	Alighting	Passengers valid	System Date	System Time	Difference	Vel
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Morenz Crescent (north side of Co...	09092	On Stop	0	-00:01:27							2018-10-24	14:35:33	0s, 227ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Morenz Crescent (north side of Co...	09092	On Stop	14	-00:01:22							2018-10-24	14:35:41	0s, -93ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Morenz Crescent (north side of Co...	09092	Arrival	0	-00:01:19							2018-10-24	14:35:41	0s, -124ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Morenz Crescent (north side of Co...	09092	On Stop	0	-00:01:11							2018-10-24	14:35:50	0s, -60ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Morenz Crescent (north side of Co...	09092	On Stop	0	-00:01:03							2018-10-24	14:35:57	0s, -54ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Morenz Crescent (north side of Co...	09092	Departure	29	-00:01:01	00:00:17		2	2 [2 0]	0 [0 0]	Valid	2018-10-24	14:36:04	0s, -113ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Morenz Crescent (north side of Co...	09092		29	-00:01:01							2018-10-24	14:36:04	0s, -110ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Morenz Crescent (north side of Co...	09092		131	-00:01:12							2018-10-24	14:36:14	0s, -16ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Morenz Crescent (north side of Co...	09092		224	-00:01:22							2018-10-24	14:36:23	0s, -76ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Wilson Street (north side of Conac...	00181	On Stop	0	-00:01:34							2018-10-24	14:36:26	0s, -120ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Wilson Street (north side of Conac...	00181	Stop point pass-by	25	-00:01:34							2018-10-24	14:36:31	0s, -87ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Wilson Street (north side of Conac...	00181		109	-00:01:44							2018-10-24	14:36:39	0s, -67ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Wilson Street (north side of Conac...	00181		214	-00:01:58							2018-10-24	14:36:46	0s, -123ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	235 Conacher Drive (north side)	00207	On Stop	0	-00:02:11							2018-10-24	14:36:49	0s, -80ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	235 Conacher Drive (north side)	00207	Stop point pass-by	25	-00:02:12							2018-10-24	14:36:53	0s, -64ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	235 Conacher Drive (north side)	00207		122	-00:02:24							2018-10-24	14:37:00	0s, -73ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	235 Conacher Drive (north side)	00207		194	-00:01:41							2018-10-24	14:37:58	0s, 17ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	300 Conacher Drive (north side)	02017	On Stop	14	-00:01:28							2018-10-24	14:38:33	0s, 16ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	300 Conacher Drive (north side)	02017	On Stop	14	-00:01:24							2018-10-24	14:38:36	0s, -70ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	300 Conacher Drive (north side)	02017	Arrival	0	-00:01:24							2018-10-24	14:38:36	0s, -117ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	300 Conacher Drive (north side)	02017	On Stop	0	-00:01:15							2018-10-24	14:38:47	0s, -40ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	300 Conacher Drive (north side)	02017	On Stop	0	-00:01:09							2018-10-24	14:38:51	0s, -66ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	300 Conacher Drive (north side)	02017	On Stop	0	-00:01:09							2018-10-24	14:38:51	0s, -63ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	300 Conacher Drive (north side)	02017	Departure	31	-00:01:02	00:00:16		4	2 [2 0]	0 [0 0]	Valid	2018-10-24	14:38:58	0s, -43ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	300 Conacher Drive (north side)	02017		31	-00:01:02							2018-10-24	14:38:58	0s, -117ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	300 Conacher Drive (north side)	02017		114	-00:00:55							2018-10-24	14:39:06	0s, -120ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Division Street (north side of Bens	00210	On Stop	15	-00:00:45							2018-10-24	14:39:18	0s, 37ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Division Street (north side of Bens	00210	Arrival	0	-00:00:42							2018-10-24	14:39:18	0s, -10ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Division Street (north side of Bens	00210	On Stop	0	-00:00:34							2018-10-24	14:39:26	0s, -117ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Division Street (north side of Bens	00210	On Stop	0	-00:00:31							2018-10-24	14:39:29	0s, -70ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Division Street (north side of Bens	00210	Departure	28	-00:00:29	00:00:12		5	1 [1 0]	0 [0 0]	Valid	2018-10-24	14:39:36	0s, 110ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Division Street (north side of Bens	00210		28	-00:00:29							2018-10-24	14:39:36	0s, -103ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Division Street (north side of Bens	00210		66	00:00:02							2018-10-24	14:40:14	0s, 20ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Division Street (north side of Bens	00210		141	00:00:28							2018-10-24	14:40:55	0s, 17ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	Division Street (north side of Bens	00210		235	00:00:19							2018-10-24	14:41:02	0s, -70ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	First Canada Avenue (west side of ...	00745	On Stop	11	00:00:12							2018-10-24	14:41:14	0s, 16ms	20
2	1431	Started	2 - 3	0	Blair Scan	1803	Kingston Centre	First Canada Avenue (west side of ...	00745	Arrival	0	00:00:14							2018-10-24	14:41:14	0s, -54ms	20

Function

Good for troubleshooting and/or analyzing what has happened in details.

Search Criteria



The Search Criteria fields vary depending on the basis for the visualization. You can select between Vehicle, Block, Line/ Journey and Duty and Loops depending on your system.

Include Vehicle Information / Include Loop Information

- Include Vehicle Information is always preselected and lets you see ALL vehicle reports.
- Include Loop Information is never preselected. Checking it will add the loop reports, like enter/ leave.

Selection: Vehicle

Look at one vehicle at a time.

1. **Type**: Select **Vehicle** in the drop-down menu.
2. **Time interval**: Select one date. Uncheck Traffic Day to pick specific from/to times.
3. **Company:** Change the selected company if applicable/have proper rights.
4. **Vehicle:** Select ONE vehicle in the list.
5. Click on **Generate Report.**

Selection: Block / Duty

Look at all vehicles servicing a specific block or duty.

1. **Type**: Select **Block (or Duty)** in the drop-down menu.
2. **Time interval**: Select one date. Uncheck Traffic Day to pick specific from/to times.
3. **Company:** Change the selected company if applicable/have proper rights.
4. **Block:** Select ONE block (or duty) in the list.
5. Click on **Generate Report.**

Selection: Line, Journey

Look at all vehicles servicing one or all journeys from a selected line.

1. **Type**: Select **Line, Journey** in the drop-down menu.
2. **Time interval**: Select one date. Uncheck Traffic Day to pick specific from/to times.
3. **Company:** Change the selected company if applicable/have proper rights.
4. **Line:** Select ONE line in the list.
5. **Journeys**: Check "S**how all Journeys**" to include all of them, or select ONE in the list.
6. Click on **Generate Report.**

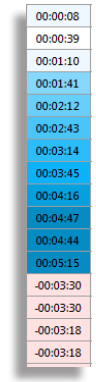
Selection: Loops

Look at limited information from all the vehicles that have driven by.

1. **Type**: Select **Loops** in the drop-down menu.
2. **Time interval**: Select one date. Uncheck Traffic Day to pick specific from/to times.
3. **Loop**: Select ONE loop in the list.

The information provided from the loops is vehicle ID, stop point name, event type, system date/time, vehicle date/time and the difference between them.

Color-coded rows

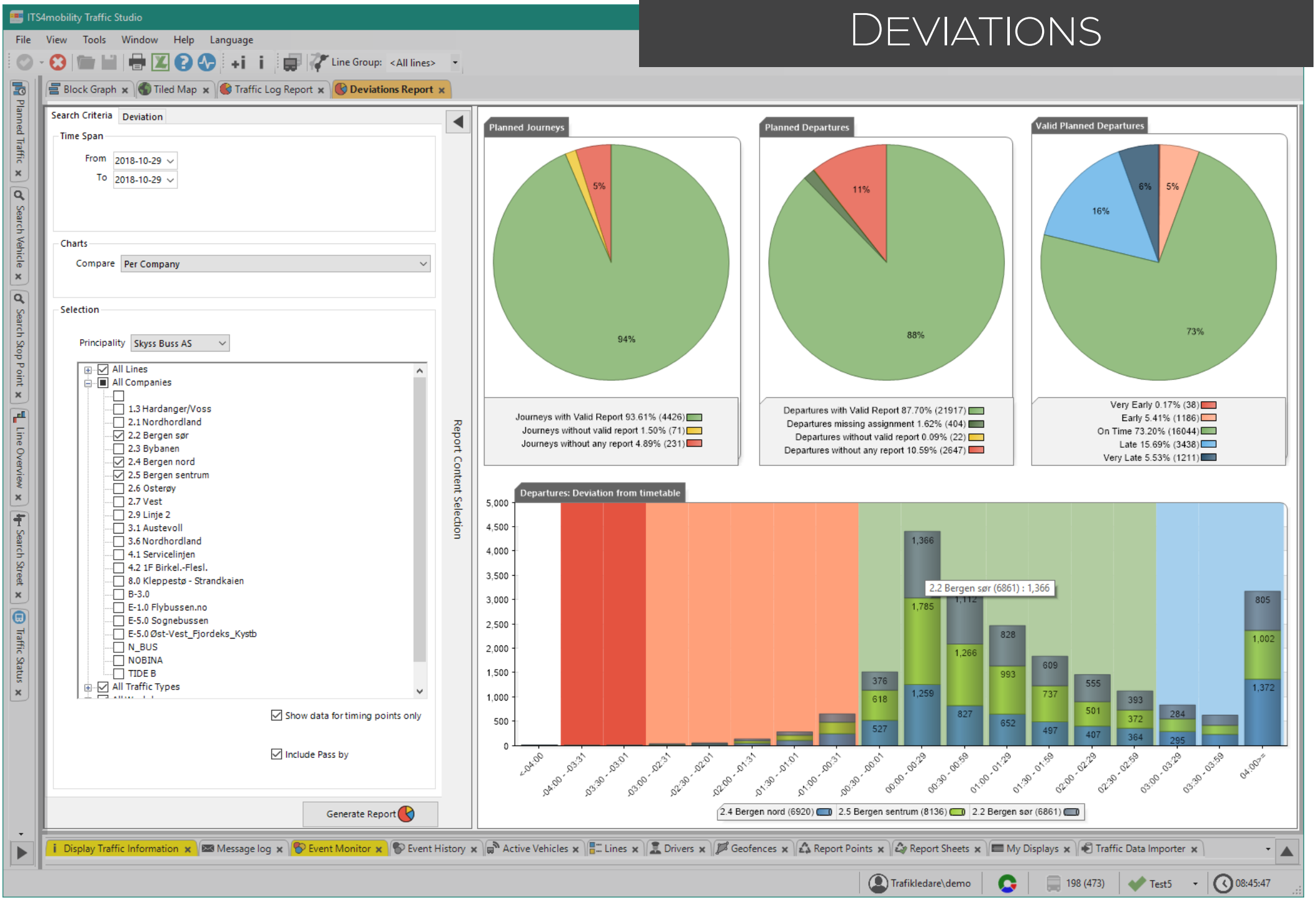


The deviation time column is color-coded so you can see with a quick look if a section of the journey deviated from the timetable.

The colors have brighter and darker shades to indicate the severity of the deviation. Blue is late and red is early.

Notes

DEVIATIONS


ITS4mobility Traffic Studio
File View Tools Window Help Language
Line Group: <All lines>
Block Graph
Tiled Map
Traffic Log Report
Deviations Report
Search Criteria
Deviation
Time Span
From 2018-10-29
To 2018-10-29
Charts
Compare Per Company
Selection
Principality Skyss Buss AS
All Lines
All Companies
1.3 Hardanger/Voss
2.1 Nordhordland
2.2 Bergen sør
2.3 Bybanen
2.4 Bergen nord
2.5 Bergen sentrum
2.6 Osterøy
2.7 Vest
2.9 Linje 2
3.1 Austevoll
3.6 Nordhordland
4.1 Servicelinjen
4.2 1F Birkel.-Flesl.
8.0 Kleppestø - Strandkaien
B-3.0
E-1.0 Flybussen.no
E-5.0 Sognebussen
E-5.0 Øst-Vest_Fjordeks_Kystb
N_BUS
NOBINA
TIDE B
All Traffic Types
Show data for timing points only
Include Pass by
Generate Report
Report Content Selection
Planned Journeys
5%
94%
Journeys with Valid Report 93.61% (4426)
Journeys without valid report 1.50% (71)
Journeys without any report 4.89% (231)
Planned Departures
11%
88%
Departures with Valid Report 87.70% (21917)
Departures missing assignment 1.62% (404)
Departures without valid report 0.09% (22)
Departures without any report 10.59% (2647)
Valid Planned Departures
6%
5%
16%
73%
Very Early 0.17% (38)
Early 5.41% (1186)
On Time 73.20% (16044)
Late 15.69% (3438)
Very Late 5.53% (1211)
Departures: Deviation from timetable
2.2 Bergen sør (6861) : 1,366
2.4 Bergen nord (6920)
2.5 Bergen sentrum (8136)
2.2 Bergen sør (6861)
Display Traffic Information
Message log
Event Monitor
Event History
Active Vehicles
Lines
Drivers
Geofences
Report Points
Report Sheets
My Displays
Traffic Data Importer
Trafikledare\demo
198 (473)
Test5
08:45:47

Function

Overview of the vehicles' timetable adherence by 30 seconds intervals and their comparison between companies or lines.

The Deviations report uses comparisons to generate the bar chart. If you choose **No comparison**, you will only get the amount of departures without specifications.

Note: This report is based on departure reports from **timing stop points**. To include all stop points, uncheck the "**Show data for timing points only**" above the Generate button.

Search Criteria

1. **Time Span:** Select from and to dates.
2. **Charts:** Choose if you want to compare per company, line or not at all.
3. **Selection:**
   - 3.1 Optional: Select a principality (business area).
   - 3.2 **Lines**: Select up to 32 lines. If you prefer to use **Line Groups** for a faster selection, make sure to uncheck "All Lines".
   - 3.3 Optional: **Companies**: Select one or multiple companies, if applicable.
   - 3.4 Optional: **Traffic Types**: Narrow the results by selecting one or many types, like morning rush traffic.
   - 3.5 Optional: **Weekdays**: Select one or many weekdays.
   - 3.6 Optional: Line Groups: Use it to simplify your selection if you have a lot of lines. Make sure to uncheck "All Lines" or to include them in the maximum of 32.
4. Click on **Generate Report.**

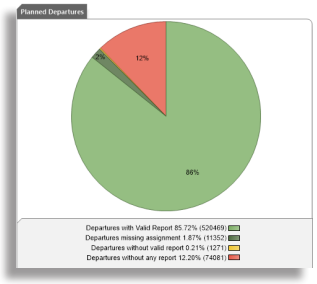
Note: You can only select up to 32 lines / 32 companies.

Deviation Tab - Optional

Deviation Times: Define new limits for the various deviation categories.

Pie Charts

The Deviations report has three pie charts. To keep it simple for most users, the important information in the first two pie charts is the light green area in **Planned Departures**, which represents **All departures with valid reports**. These reports are those used to generate the **Valid Planned Departure** and **Departures: Deviation from timetable charts**. This green area should be as high as possible, to give you the most accurate data for your fleet.



Valid Planned Departures, the third pie chart, shows the punctuality status of all the departures with valid report.

Remember that, if you chose **No comparison**, there will be no line chart.

Departures: Deviation from Timetable Chart

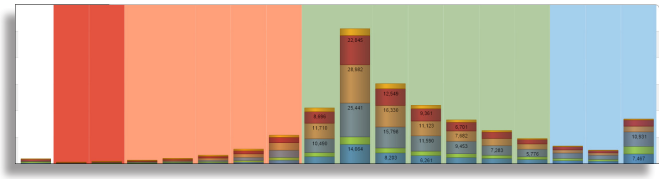
Each bar is divided in sections (lines or companies), and each has its own colour and is stated in the legend, e.g., blue is line 2, red is line 3.

Each section of a bar has its value shown, as long as it is not too small. If so, use the tooltip to read it (or export the report to Excel).

Each bar covers 30 seconds. Their height corresponds to the total of departure reports for that time interval.

The background of the chart is divided in colored sections.

- Red = very early
- Light red = early
- Green = on time
- Blue = late



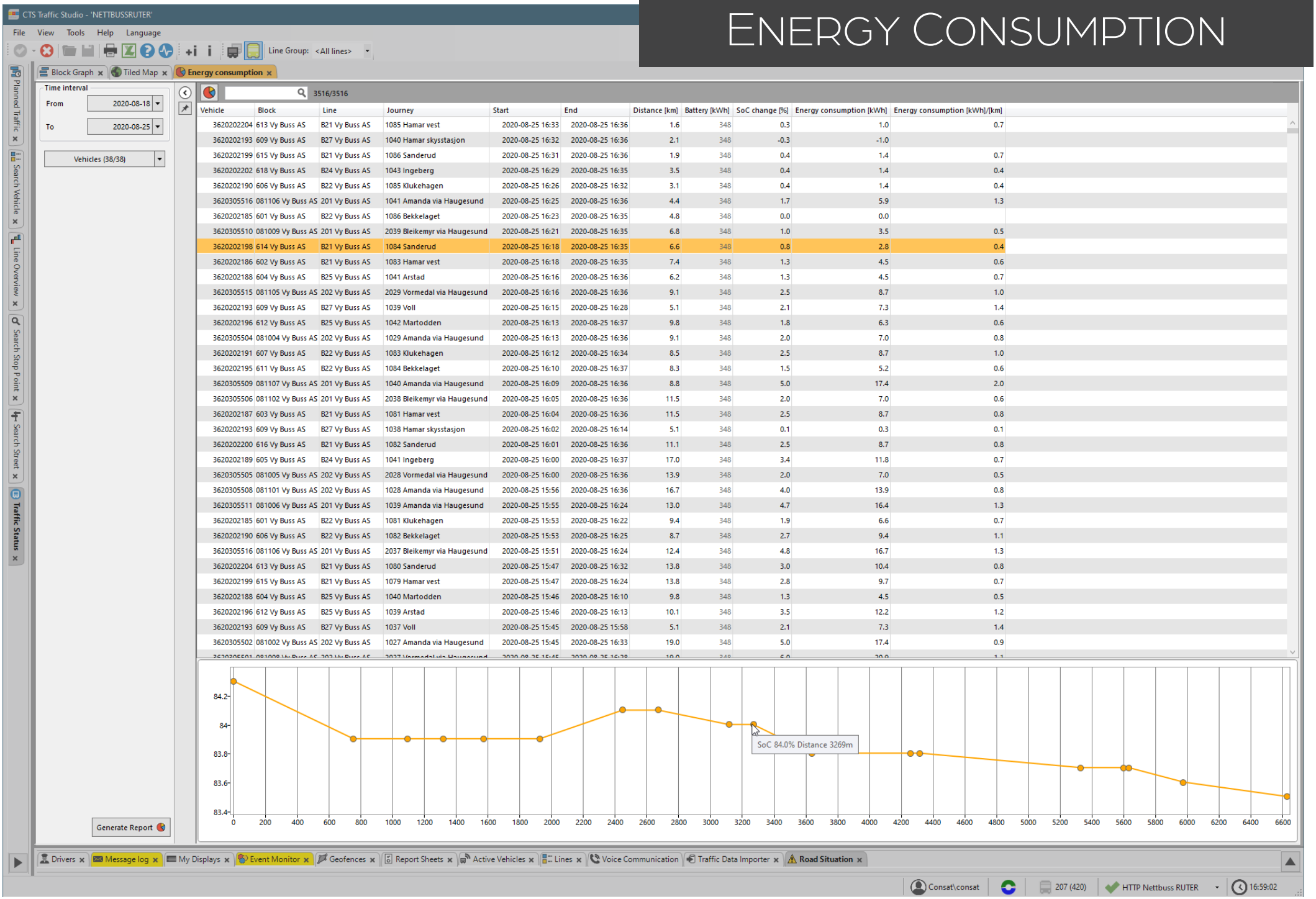
Journeys/Departures reports are valid if:

- The vehicle is correctly assigned and reports from the journey. Note that a vehicle manually assigned in a system with central assignments, will have its reports considered invalid.
- The vehicle time and system time do not differ too much.
- The reports come in the right order (sequence number).
- The stop point is right according to the assignment and traffic data.

Journeys/Departures without report can be due to:

- No vehicle has driven the journey.
- The vehicle on the journey had communication issues.
- The assignment is missing, so the vehicle is driving without reporting from a journey.
- **Note** that reinforced journeys are **not** included in this report.

Energy Consumption



Function

Energy consumption per logged journey.

Search Criteria

1. **Time Interval:** Select from and to dates.
2. **Vehicles:** Select one, multiple or all vehicles. You can use the free text filter to filter the list.
3. Click on **Generate Report.**

Note: If the specific vehicle battery capacity is not available, a generic default value will be used and displayed in grey. For reliable results, make sure that the correct battery capacity data is imported into the system.

Report

Graph button

- Click on the Graph button to show the SoC graph. Its background will turn dark grey.

Filter

- Type words/numbers to filter the table after specific values.

Table

- List of all the journeys driven for the selected time interval and vehicles.

SoC Graph

- Graph of the selected journey in the table (highlight in orange).

Shortcut Menus

Right-click on a row to open the short-cut menu for the journey, vehicle, line and block.

Table

Each row corresponds to a journey.

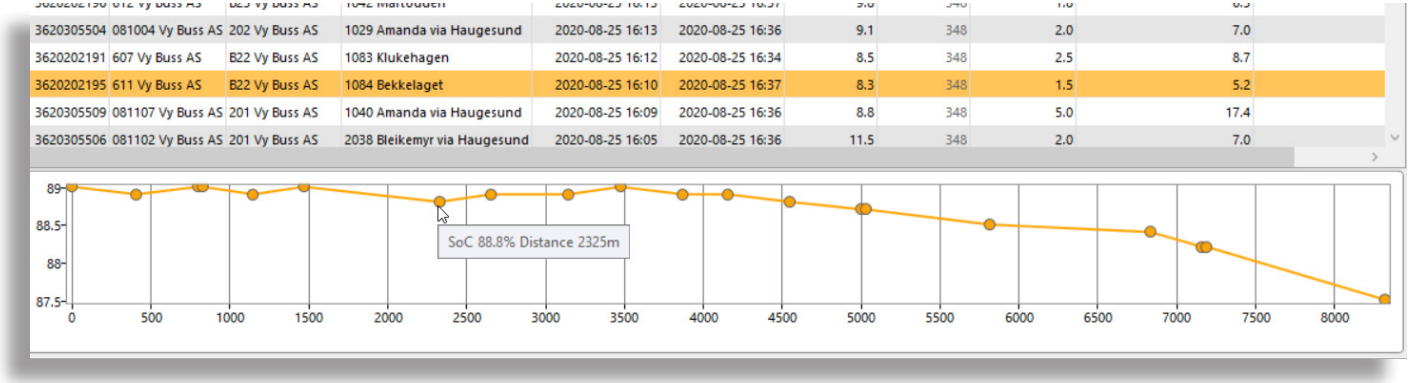
Vehicle	Vehicle number
Block	Block serviced
Line	Line serviced
Journey	Journey serviced
Start	Journey start time
End	Journey end time
Distance [km]	Route length
Battery	Battery capacity [kWh].
Change SoC [%]	Difference between SoC at start of journey and at the end. (How much the battery charge has been lowered, in percent)
Energy Consumption [kWh]	Calculated energy consumption: Battery [capacity] * SoC (diff)
Energy Consumption [kWh]/[km]	Calculated energy consumption per km: Battery [capacity] * SoC (diff)/route length [km]

State of Charge Graph

Select a row and click on the Graph button to expand the graph section.

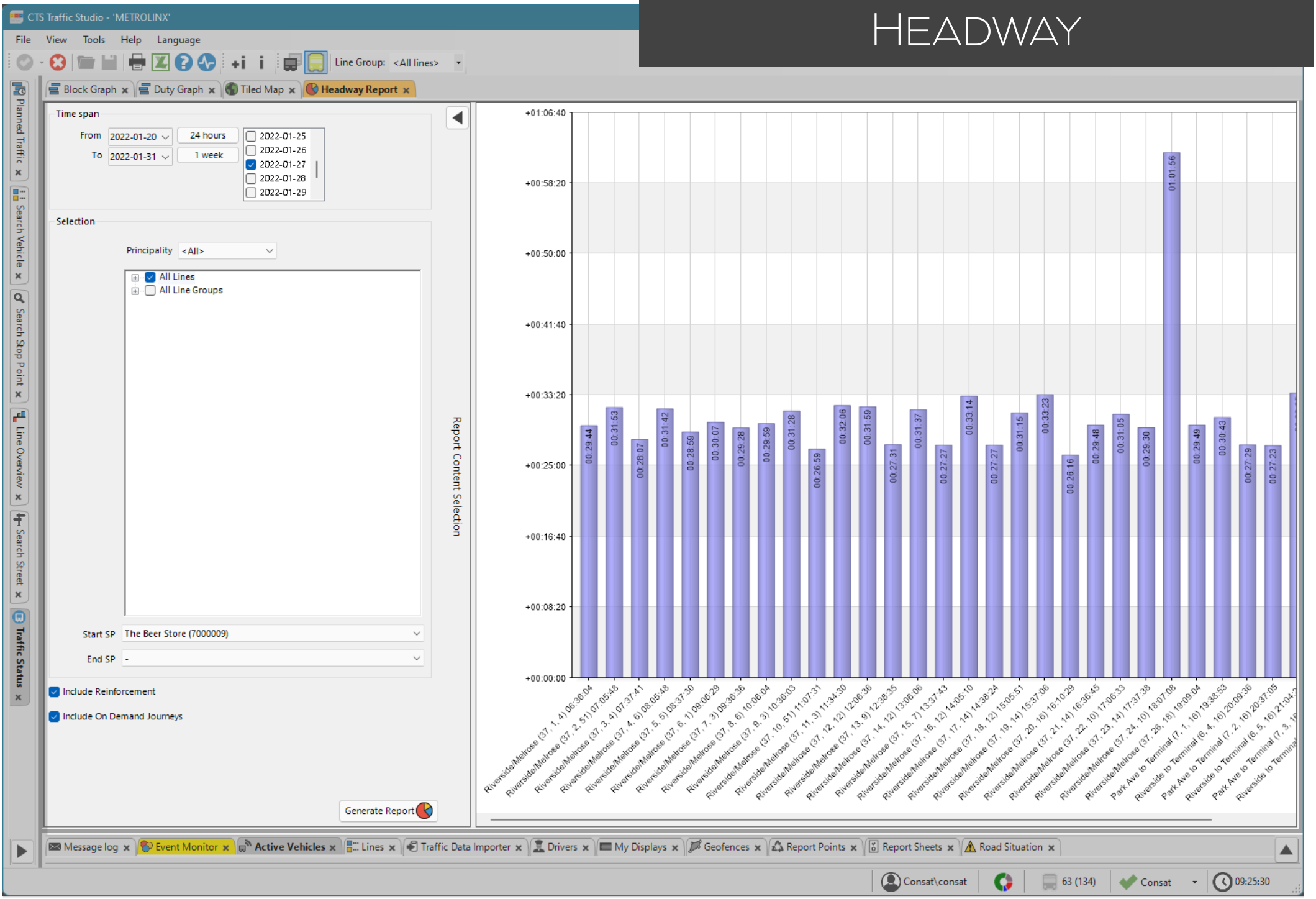
The Y-axis shows the State of Charge values in %. The X-axis shows the journey's length in meters.

Once opened, you can change the graph by clicking on another row/using up & down arrows.



Notes

HEADWAY


CTS Traffic Studio - 'METROLINX'
File View Tools Help Language
Line Group: <All lines>
Block Graph
Duty Graph
Tiled Map
Headway Report
Planned Traffic
Search Vehicle
Search Stop Point
Line Overview
Search Street
Traffic Status
Time span
From 2022-01-20
To 2022-01-31
24 hours
1 week
2022-01-25
2022-01-26
2022-01-27
2022-01-28
2022-01-29
Selection
Principality <All>
All Lines
All Line Groups
Start SP The Beer Store (7000009)
End SP -
Include Reinforcement
Include On Demand Journeys
Generate Report
Report Content Selection
+01:06:40
+00:58:20
+00:50:00
+00:41:40
+00:33:20
+00:25:00
+00:16:40
+00:08:20
+00:00:00
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00:28:07
00:31:42
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00:30:07
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00:29:49
00:30:43
00:27:29
00:27:23
Message log
Event Monitor
Active Vehicles
Lines
Traffic Data Importer
Drivers
My Displays
Geofences
Report Points
Report Sheets
Road Situation
Consat\consat
63 (134)
Consat
09:25:30

Function

Visualize the interval between each departure at a stop point, providing information about flow and frequency.

Note that a departure is registered and valid as long as the vehicle drives by the stop while servicing a planned journey. It is not required for it to stop/open its doors.

Search Criteria

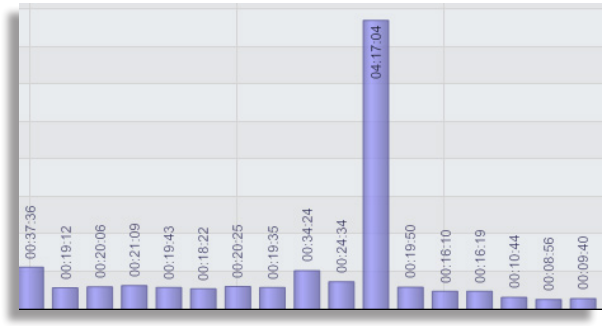
1. **Time Span:** Select a time span. You can choose a time interval via **From/to** and then pick the days of your choice in the box to the right. You can also click on **24 hours** for the last 24 hours or **1 week** for the previous week.
2. **Selection**
   - 2.1 (Optional) Leave it to All, or select a **principality** (business area).
   - 2.2 Choose **All lines** or select a few in the list. You can also select **All line groups** or pick a few in the list.
   - 2.3 Select the **Starting stop point.**
   - 2.4 (Optional) Select a ending stop point to narrow the result to show only departures for vehicles driving through both the stops.
3. Optional
   - 3.1 **Include Non-Planned Reinforcement:** Check this to include data from reinforced journeys.
   - 3.2 **Include On Demand Journeys**: Check this to include data from on demand journeys.
4. Click on **Generate Report.**

Headway Bar Chart

The bar's height shows the time between this departure and the next one. The time is written inside or at the end of the bar as hh:mm:ss.

The X-axis shows each departure as **Destination (line, journey, block), departure time.**

It is possible to have very high bars (a very long interval between two departures). These show up when there is no traffic driving by that stop point, which usually happens during the night as most lines will be stopped until the next morning.

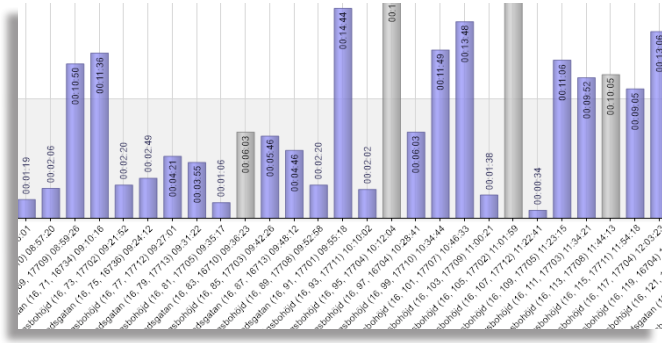


Example of a very high bar.

Non-Planned Reinforced Departures / On Demand Journeys

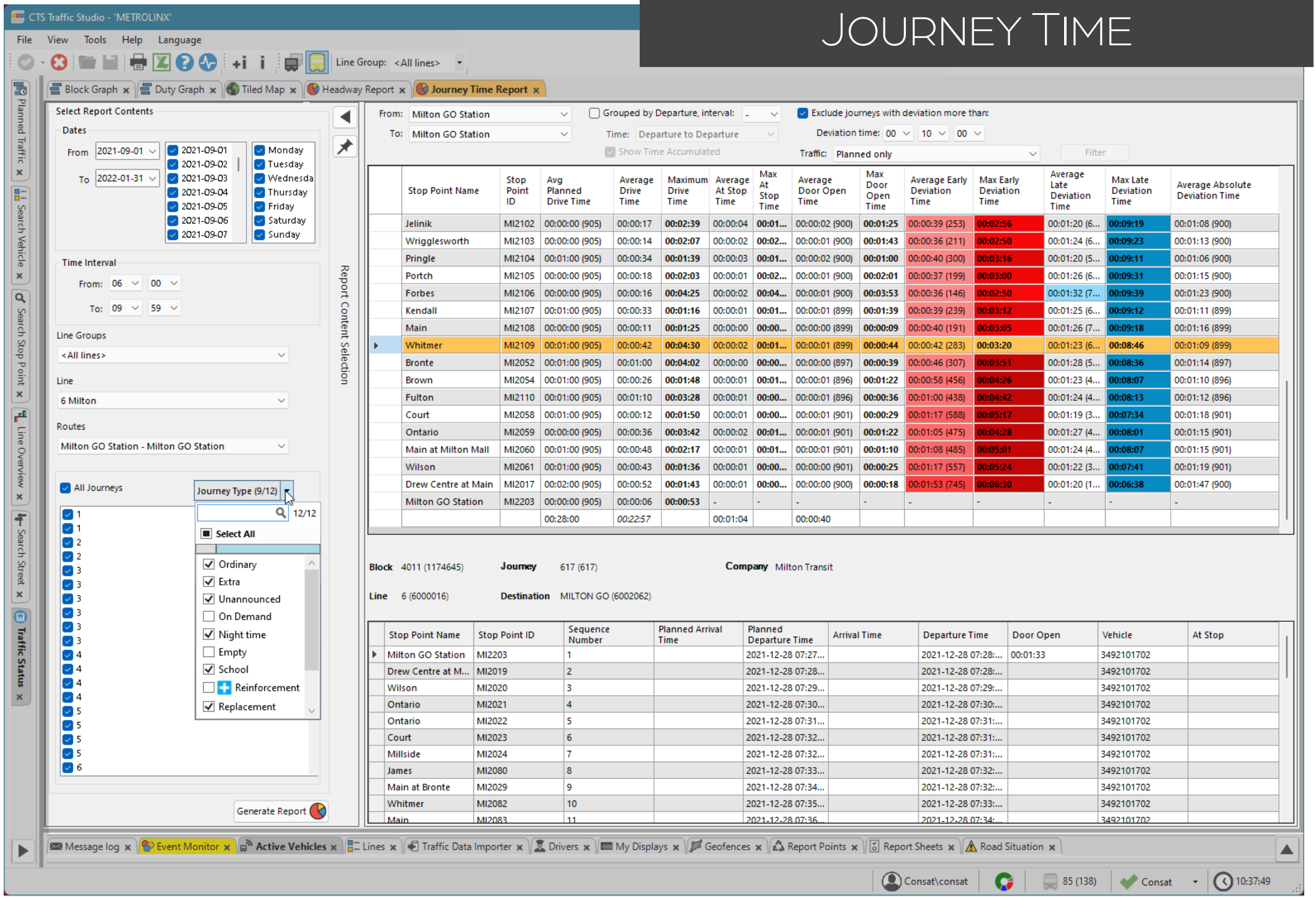
These two types of departures, if included, will be shown in light grey.

Note: When exporting the report, non-planned reinforced departures (those reported by vehicles assigned as reinforcements on the block-journey) will be marked “X” in the **Reinforcement** column.



Notes

JOURNEY TIME



Stop Point Name	Stop Point ID	Avg Planned Drive Time	Average Drive Time	Maximum Drive Time	Average At Stop Time	Max At Stop Time	Average Door Open Time	Max Door Open Time	Average Early Deviation Time	Max Early Deviation Time	Average Late Deviation Time	Max Late Deviation Time	Average Absolute Deviation Time
Jelinik	MI2102	00:00:00 (905)	00:00:17	00:02:39	00:00:04	00:01...	00:00:02 (900)	00:01:25	00:00:39 (253)	00:02:56	00:01:20 (6...	00:09:19	00:01:08 (900)
Wrigglesworth	MI2103	00:00:00 (905)	00:00:14	00:02:07	00:00:02	00:02...	00:00:01 (900)	00:01:43	00:00:36 (211)	00:02:50	00:01:24 (6...	00:09:23	00:01:13 (900)
Pringle	MI2104	00:01:00 (905)	00:00:34	00:01:39	00:00:03	00:01...	00:00:02 (900)	00:01:00	00:00:40 (300)	00:03:16	00:01:20 (5...	00:09:11	00:01:06 (900)
Portch	MI2105	00:00:00 (905)	00:00:18	00:02:03	00:00:01	00:02...	00:00:01 (900)	00:02:01	00:00:37 (199)	00:03:00	00:01:26 (6...	00:09:31	00:01:15 (900)
Forbes	MI2106	00:00:00 (905)	00:00:16	00:04:25	00:00:02	00:04...	00:00:01 (900)	00:03:53	00:00:36 (146)	00:02:50	00:01:32 (7...	00:09:39	00:01:23 (900)
Kendall	MI2107	00:01:00 (905)	00:00:33	00:01:16	00:00:01	00:01...	00:00:01 (899)	00:01:39	00:00:39 (239)	00:03:12	00:01:25 (6...	00:09:12	00:01:11 (899)
Main	MI2108	00:00:00 (905)	00:00:11	00:01:25	00:00:00	00:00...	00:00:00 (899)	00:00:09	00:00:40 (191)	00:03:05	00:01:26 (7...	00:09:18	00:01:16 (899)
Whitmer	MI2109	00:01:00 (905)	00:00:42	00:04:30	00:00:02	00:01...	00:00:01 (899)	00:00:44	00:00:42 (283)	00:03:20	00:01:23 (6...	00:08:46	00:01:09 (899)
Bronte	MI2052	00:01:00 (905)	00:01:00	00:04:02	00:00:00	00:00...	00:00:00 (897)	00:00:39	00:00:46 (307)	00:03:51	00:01:28 (5...	00:08:36	00:01:14 (897)
Brown	MI2054	00:01:00 (905)	00:00:26	00:01:48	00:00:01	00:01...	00:00:01 (896)	00:01:22	00:00:58 (456)	00:04:26	00:01:23 (4...	00:08:07	00:01:10 (896)
Fulton	MI2110	00:01:00 (905)	00:01:10	00:03:28	00:00:01	00:00...	00:00:01 (896)	00:00:36	00:01:00 (438)	00:04:42	00:01:24 (4...	00:08:13	00:01:12 (896)
Court	MI2058	00:01:00 (905)	00:00:12	00:01:50	00:00:01	00:00...	00:00:01 (901)	00:00:29	00:01:17 (588)	00:05:17	00:01:19 (3...	00:07:34	00:01:18 (901)
Ontario	MI2059	00:00:00 (905)	00:00:36	00:03:42	00:00:02	00:01...	00:00:01 (901)	00:01:22	00:01:05 (475)	00:04:28	00:01:27 (4...	00:08:01	00:01:15 (901)
Main at Milton Mall	MI2060	00:01:00 (905)	00:00:48	00:02:17	00:00:01	00:01...	00:00:01 (901)	00:01:10	00:01:08 (485)	00:05:01	00:01:24 (4...	00:08:07	00:01:15 (901)
Wilson	MI2061	00:01:00 (905)	00:00:43	00:01:36	00:00:01	00:00...	00:00:00 (901)	00:00:25	00:01:17 (557)	00:05:24	00:01:22 (3...	00:07:41	00:01:19 (901)
Drew Centre at Main	MI2017	00:02:00 (905)	00:00:52	00:01:43	00:00:01	00:00...	00:00:00 (900)	00:00:18	00:01:53 (745)	00:06:30	00:01:20 (1...	00:06:38	00:01:47 (900)
Milton GO Station	MI2203	00:00:00 (905)	00:00:06	00:00:53	-	-	-	-	-	-	-	-	-
		00:28:00	*00:22:57*		00:01:04		00:00:40						

Stop Point Name	Stop Point ID	Sequence Number	Planned Arrival Time	Planned Departure Time	Arrival Time	Departure Time	Door Open	Vehicle	At Stop
Milton GO Station	MI2203	1		2021-12-28 07:27...		2021-12-28 07:28:...	00:01:33	3492101702	
Drew Centre at M...	MI2019	2		2021-12-28 07:28...		2021-12-28 07:28:...		3492101702	
Wilson	MI2020	3		2021-12-28 07:29...		2021-12-28 07:29:...		3492101702	
Ontario	MI2021	4		2021-12-28 07:30...		2021-12-28 07:30:...		3492101702	
Ontario	MI2022	5		2021-12-28 07:31...		2021-12-28 07:31:...		3492101702	
Court	MI2023	6		2021-12-28 07:32...		2021-12-28 07:31:...		3492101702	
Millside	MI2024	7		2021-12-28 07:32...		2021-12-28 07:31:...		3492101702	
James	MI2080	8		2021-12-28 07:33...		2021-12-28 07:32:...		3492101702	
Main at Bronte	MI2029	9		2021-12-28 07:34...		2021-12-28 07:32:...		3492101702	
Whitmer	MI2082	10		2021-12-28 07:35...		2021-12-28 07:33:...		3492101702	
Main	MI2083	11		2021-12-28 07:36...		2021-12-28 07:34:...		3492101702	

Function

Examine travel time and deviation for all stop points on a route.

Search Criteria

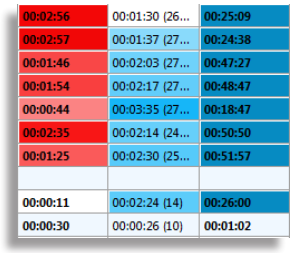
1. **Dates:** Select the from and to dates.
   - Use specific dates and weekdays to narrow the results.
2. **Time Interval (optional, but recommended):** You can specify a time interval, e.g., morning rush hours.
3. **Line Groups (optional):** Select a line group to narrow your next options.
4. Select a **line**.
5. Select a **route**. Note that "Empty Runs" are separated from the normal journeys.
6. Select one or many **journeys**. You can also tick the **All journeys** check box to include them all.
7. Click on **Generate Report.**

Note: We strongly recommend to use weekdays and time intervals in order to compare similar data. If you want to analyze/improve the timetable, you might not want to bunch together data from a Monday morning rush, and data from a Sunday afternoon.

Color-coded rows

The tabletable deviation columns are colour-coded to quickly identify if a section of the route deviated from the timetable.

The colors have brighter and darker shades to indicate the severity of the deviation. Blue is late and red is early.



Main Table

Each row shows the average and maximum values for each stop points along the journey. If there are any route alternatives, they will be displayed with their own table beneath (scroll down).

* The last row shows the sum of all the average time.

** The numbers within parentheses show the amount of vehicle reports on which the value is based.

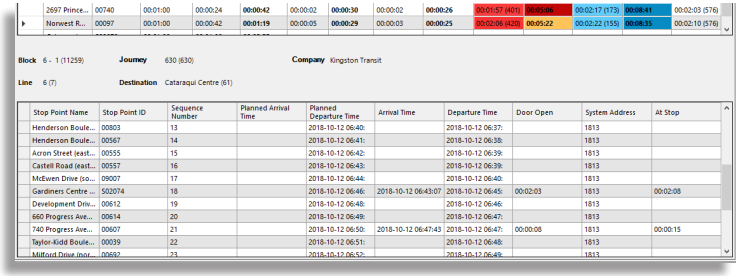
Stop Name	Stop point name
Stop ID	ID number of the stop point.
Avg Planned Drive Time	Average planned time to reach this stop
Avg Drive Time	Average logged time to reach this stop
Maximum Drive Time	Maximum logged time to reach this stop
Avg At-Stop Time	Average stay time at the stop point. Pass-by are included and count as “0” second.
Max At-Stop Time	Maximum stay time at the stop point.
Avg Door Open Time	Average time with any door open at stop point. Note: Pass-by are included and count as 0.
Max Door Open Time	Maximum time with any door open at the stop point.
Avg Early Deviation Time	Average derivation time for early departure from the stop point.
Max Early Deviation Time	Maximum derivation time for early departure from the stop point.
Avg Late Derivation Time	Average derivation time for late departure from the stop point.
Max Late Derivation Time	Maximum derivation time for late departure from the stop point.
Average Absolute Deviation Time	Average deviation time in absolute values.

Extra information about specific journey

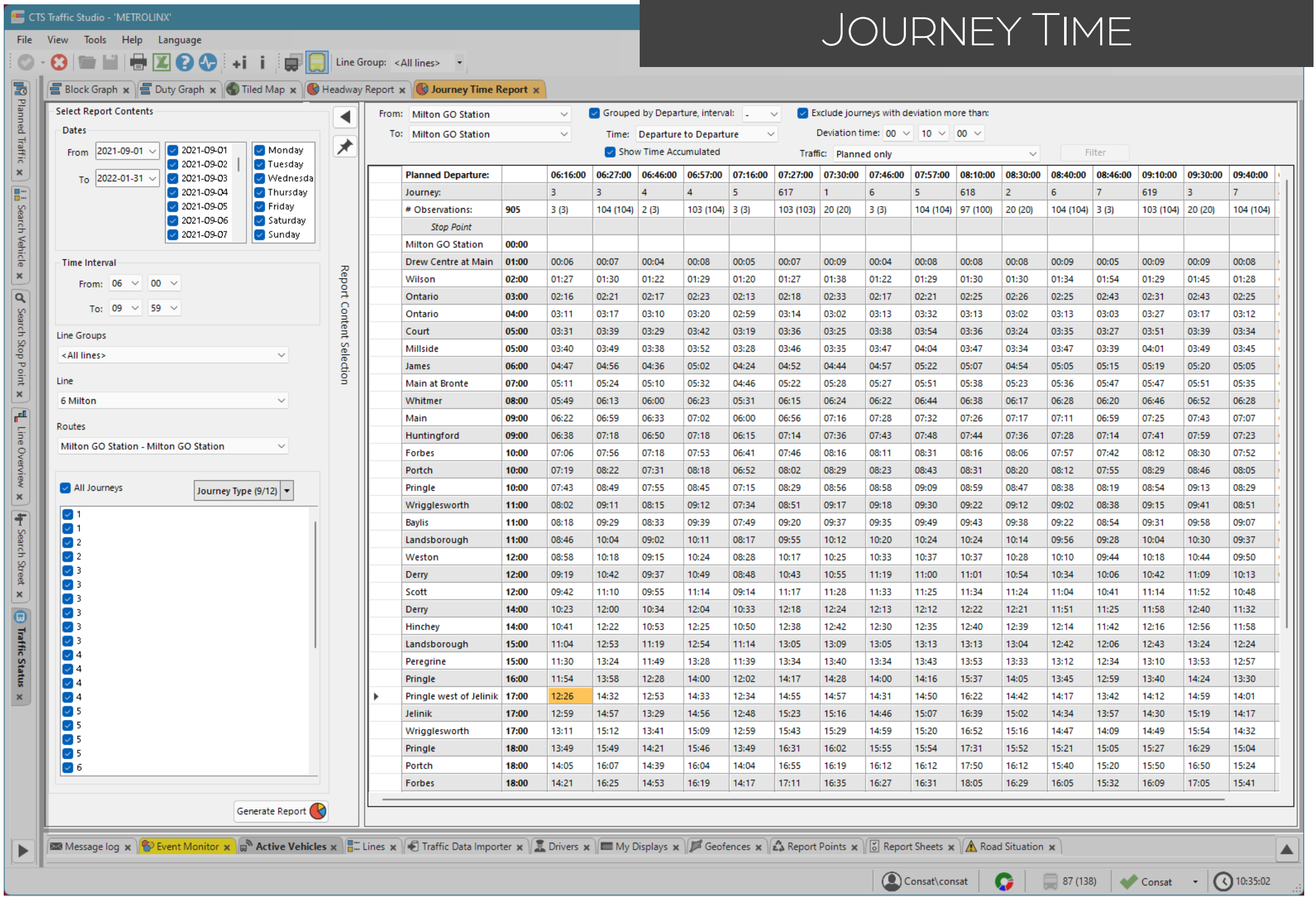
Click on the cell of a bolded value (maximum columns) to open a small table with extra information about which journey generated it. Close it by clicking on any non-bolded cell.

The new section consists of planned and reported data about the journey, its assigned vehicle, etc.

Stop Point Name	The stop point's name.
Stop Point ID	ID number of the stop point.
Sequence Number	Sequence of the stop point in the journey.
Planned Arrival Time	Planned arrival time at the stop point.
Planned Departure Time	Planned departure from stop point.
Arrival Time	Actual arrival time to stop point.
Departure Time	Actual departure time from stop point.
Door Open	The total time the doors were open at the stop point.
Vehicle	Vehicle number
At-Stop	Actual stay time at that stop point.

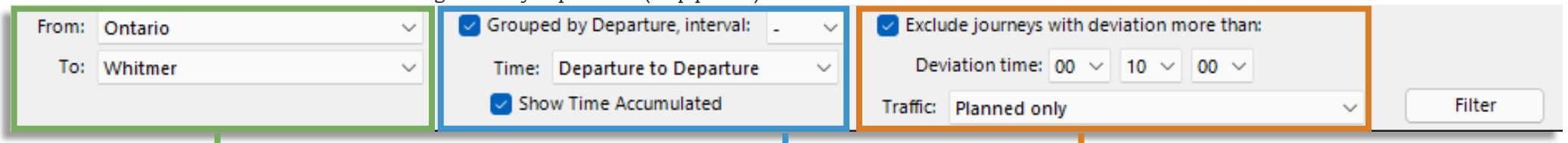


JOURNEY TIME



Filters

Filter the data so you can focus on the information which is relevant for you. The filters let you limit the data to a specific segment of the route, exclude journeys with extreme deviation times and even show driving times by departures (stop points).



Select a Segment of the Route

Modify the From/to stop points to filter the table to a segment of the whole journey/route. The total row at the bottom will only include the times from these stop points.

1. Click on the **From** drop-down menu and select the first stop of the sequence.
2. Click on the **To** drop-down menu and select the last stop of the sequence. Note that the choice made for the first stop point will filter the choices available.
3. Click on the **Filter** button to update the table.

Exclude Journeys with Excessive Deviations

Exclude journeys with high deviations from the results.

1. Check the box next to "**Exclude journeys with deviation more than**".
2. Select a time from the drop-down menus for hours, minutes and seconds.
3. Click on the **Filter** button to update the report.

Journey [types]: Planned and/or reinforcement traffic

Include data from planned journeys and/or reinforcement traffic. Use the drop-down menu and click on **Update** to update the table.

Show Driving Times by Departures

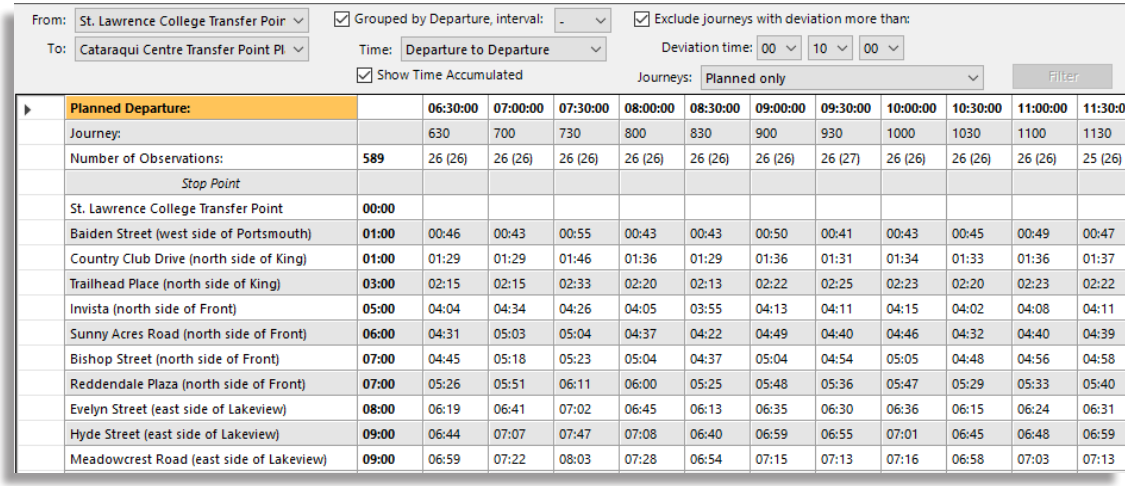
You can swap the table to display the driving times by departures instead. Check the box "**Group time by departure, interval**" and click on **Filter**.

Driving times can be displayed in two ways.

- **Show Time Accumulated**: The driving time is summed from one stop point to another, so the last stop point shows the average driving time for the whole journey.
- **Individually**: Each stop point has its own driving time from the previous stop point. Uncheck "Show Time Accumulated" for this option.

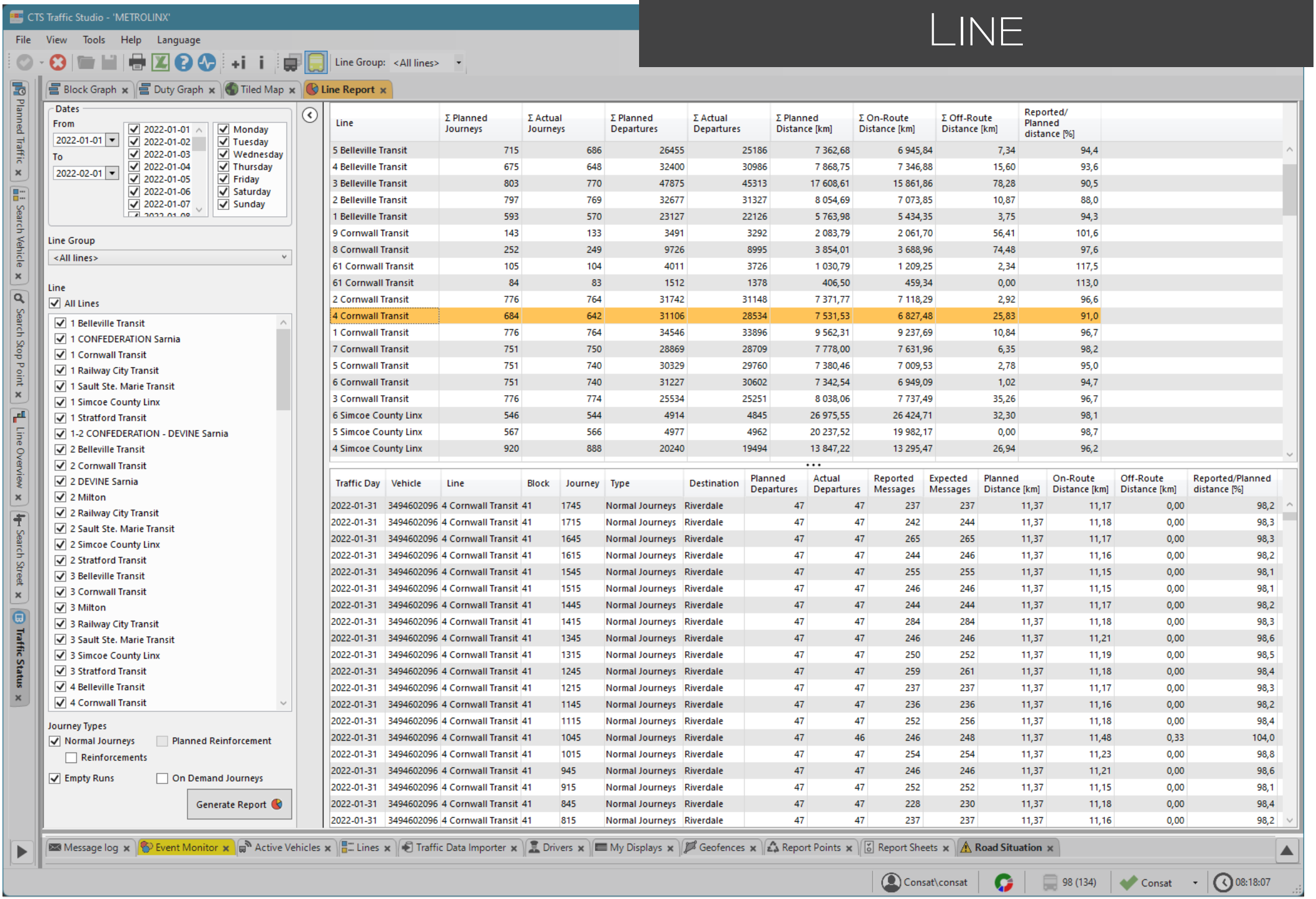
All other filter options are also available for this view.

Note: The bolded column shows the average **planned** drive times.



Planned Departure:		06:30:00	07:00:00	07:30:00	08:00:00	08:30:00	09:00:00	09:30:00	10:00:00	10:30:00	11:00:00	11:30:0
Journey:		630	700	730	800	830	900	930	1000	1030	1100	1130
Number of Observations:	589	26 (26)	26 (26)	26 (26)	26 (26)	26 (26)	26 (26)	26 (27)	26 (26)	26 (26)	26 (26)	25 (26)
Stop Point												
St. Lawrence College Transfer Point	00:00											
Baiden Street (west side of Portsmouth)	01:00	00:46	00:43	00:55	00:43	00:43	00:50	00:41	00:43	00:45	00:49	00:47
Country Club Drive (north side of King)	01:00	01:29	01:29	01:46	01:36	01:29	01:36	01:31	01:34	01:33	01:36	01:37
Trailhead Place (north side of King)	03:00	02:15	02:15	02:33	02:20	02:13	02:22	02:25	02:23	02:20	02:23	02:22
Invista (north side of Front)	05:00	04:04	04:34	04:26	04:05	03:55	04:13	04:11	04:15	04:02	04:08	04:11
Sunny Acres Road (north side of Front)	06:00	04:31	05:03	05:04	04:37	04:22	04:49	04:40	04:46	04:32	04:40	04:39
Bishop Street (north side of Front)	07:00	04:45	05:18	05:23	05:04	04:37	05:04	04:54	05:05	04:48	04:56	04:58
Reddendale Plaza (north side of Front)	07:00	05:26	05:51	06:11	06:00	05:25	05:48	05:36	05:47	05:29	05:33	05:40
Evelyn Street (east side of Lakeview)	08:00	06:19	06:41	07:02	06:45	06:13	06:35	06:30	06:36	06:15	06:24	06:31
Hyde Street (east side of Lakeview)	09:00	06:44	07:07	07:47	07:08	06:40	06:59	06:55	07:01	06:45	06:48	06:59
Meadowcrest Road (east side of Lakeview)	09:00	06:59	07:22	08:03	07:28	06:54	07:15	07:13	07:16	06:58	07:03	07:13

LINE



Line	Σ Planned Journeys	Σ Actual Journeys	Σ Planned Departures	Σ Actual Departures	Σ Planned Distance [km]	Σ On-Route Distance [km]	Σ Off-Route Distance [km]	Reported/ Planned distance [%]
5 Belleville Transit	715	686	26455	25186	7 362,68	6 945,84	7,34	94,4
4 Belleville Transit	675	648	32400	30986	7 868,75	7 346,88	15,60	93,6
3 Belleville Transit	803	770	47875	45313	17 608,61	15 861,86	78,28	90,5
2 Belleville Transit	797	769	32677	31327	8 054,69	7 073,85	10,87	88,0
1 Belleville Transit	593	570	23127	22126	5 763,98	5 434,35	3,75	94,3
9 Cornwall Transit	143	133	3491	3292	2 083,79	2 061,70	56,41	101,6
8 Cornwall Transit	252	249	9726	8995	3 854,01	3 688,96	74,48	97,6
61 Cornwall Transit	105	104	4011	3726	1 030,79	1 209,25	2,34	117,5
61 Cornwall Transit	84	83	1512	1378	406,50	459,34	0,00	113,0
2 Cornwall Transit	776	764	31742	31148	7 371,77	7 118,29	2,92	96,6
4 Cornwall Transit	684	642	31106	28534	7 531,53	6 827,48	25,83	91,0
1 Cornwall Transit	776	764	34546	33896	9 562,31	9 237,69	10,84	96,7
7 Cornwall Transit	751	750	28869	28709	7 778,00	7 631,96	6,35	98,2
5 Cornwall Transit	751	740	30329	29760	7 380,46	7 009,53	2,78	95,0
6 Cornwall Transit	751	740	31227	30602	7 342,54	6 949,09	1,02	94,7
3 Cornwall Transit	776	774	25534	25251	8 038,06	7 737,49	35,26	96,7
6 Simcoe County Linx	546	544	4914	4845	26 975,55	26 424,71	32,30	98,1
5 Simcoe County Linx	567	566	4977	4962	20 237,52	19 982,17	0,00	98,7
4 Simcoe County Linx	920	888	20240	19494	13 847,22	13 295,47	26,94	96,2

Traffic Day	Vehicle	Line	Block	Journey	Type	Destination	Planned Departures	Actual Departures	Reported Messages	Expected Messages	Planned Distance [km]	On-Route Distance [km]	Off-Route Distance [km]	Reported/Planned distance [%]
2022-01-31	3494602096	4 Cornwall Transit	41	1745	Normal Journeys	Riverdale	47	47	237	237	11,37	11,17	0,00	98,2
2022-01-31	3494602096	4 Cornwall Transit	41	1715	Normal Journeys	Riverdale	47	47	242	244	11,37	11,18	0,00	98,3
2022-01-31	3494602096	4 Cornwall Transit	41	1645	Normal Journeys	Riverdale	47	47	265	265	11,37	11,17	0,00	98,3
2022-01-31	3494602096	4 Cornwall Transit	41	1615	Normal Journeys	Riverdale	47	47	244	246	11,37	11,16	0,00	98,2
2022-01-31	3494602096	4 Cornwall Transit	41	1545	Normal Journeys	Riverdale	47	47	255	255	11,37	11,15	0,00	98,1
2022-01-31	3494602096	4 Cornwall Transit	41	1515	Normal Journeys	Riverdale	47	47	246	246	11,37	11,15	0,00	98,1
2022-01-31	3494602096	4 Cornwall Transit	41	1445	Normal Journeys	Riverdale	47	47	244	244	11,37	11,17	0,00	98,2
2022-01-31	3494602096	4 Cornwall Transit	41	1415	Normal Journeys	Riverdale	47	47	284	284	11,37	11,18	0,00	98,3
2022-01-31	3494602096	4 Cornwall Transit	41	1345	Normal Journeys	Riverdale	47	47	246	246	11,37	11,21	0,00	98,6
2022-01-31	3494602096	4 Cornwall Transit	41	1315	Normal Journeys	Riverdale	47	47	250	252	11,37	11,19	0,00	98,5
2022-01-31	3494602096	4 Cornwall Transit	41	1245	Normal Journeys	Riverdale	47	47	259	261	11,37	11,18	0,00	98,4
2022-01-31	3494602096	4 Cornwall Transit	41	1215	Normal Journeys	Riverdale	47	47	237	237	11,37	11,17	0,00	98,3
2022-01-31	3494602096	4 Cornwall Transit	41	1145	Normal Journeys	Riverdale	47	47	236	236	11,37	11,16	0,00	98,2
2022-01-31	3494602096	4 Cornwall Transit	41	1115	Normal Journeys	Riverdale	47	47	252	256	11,37	11,18	0,00	98,4
2022-01-31	3494602096	4 Cornwall Transit	41	1045	Normal Journeys	Riverdale	47	46	246	248	11,37	11,48	0,33	104,0
2022-01-31	3494602096	4 Cornwall Transit	41	1015	Normal Journeys	Riverdale	47	47	254	254	11,37	11,23	0,00	98,8
2022-01-31	3494602096	4 Cornwall Transit	41	945	Normal Journeys	Riverdale	47	47	246	246	11,37	11,21	0,00	98,6
2022-01-31	3494602096	4 Cornwall Transit	41	915	Normal Journeys	Riverdale	47	47	252	252	11,37	11,15	0,00	98,1
2022-01-31	3494602096	4 Cornwall Transit	41	845	Normal Journeys	Riverdale	47	47	228	230	11,37	11,18	0,00	98,4
2022-01-31	3494602096	4 Cornwall Transit	41	815	Normal Journeys	Riverdale	47	47	237	237	11,37	11,16	0,00	98,2

Function

Planned and logged driving data, summarized by line.

Search Criteria

1. **Dates**: Select the from and to dates.
   - Use specific dates and weekdays to narrow the results.
2. **Line Group (optional):** Select a Line Group to filter the next choices.
3. Select **line(s)**. Tick the **All Lines** check box to select all your lines.
4. **Journey Types (optional):** Include/exclude different journey types.
   - **Normal Journeys** and **Empty Runs** are included by default. Untick them to exclude them.
   - Include **Planned Reinforcement**, **On Demand Journeys** and **Non-Planned Reinforcement** by ticking their boxes.
5. Click on **Generate Report.**

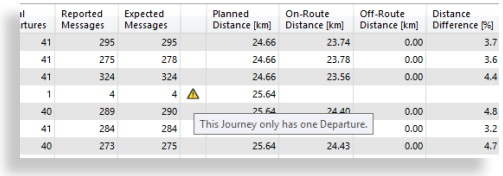
Report

The report has two sections:

- The Lines Table lists all the lines with a summary of their data.
- The Line Detail Table lists all planned journeys servicing the selected line, with planned and logged departures and distances for comparison.

Journeys without enough data

A warning symbol indicates when there is not enough data available for a particular journey to be included in the Lines Table.



rtures	Reported Messages	Expected Messages		Planned Distance [km]	On-Route Distance [km]	Off-Route Distance [km]	Distance Difference [%]
41	295	295		24.66	23.74	0.00	3.7
41	275	278		24.66	23.78	0.00	3.6
41	324	324		24.66	23.56	0.00	4.4
1	4	4	⚠	25.64			
40	289	290		25.64	24.40	0.00	4.8
41	284	284		This Journey only has one Departure.		0.00	3.2
40	273	275		25.64	24.43	0.00	4.7

Lines Table (top)

Each row corresponds to one line and shows planned and logged information for comparison purposes.

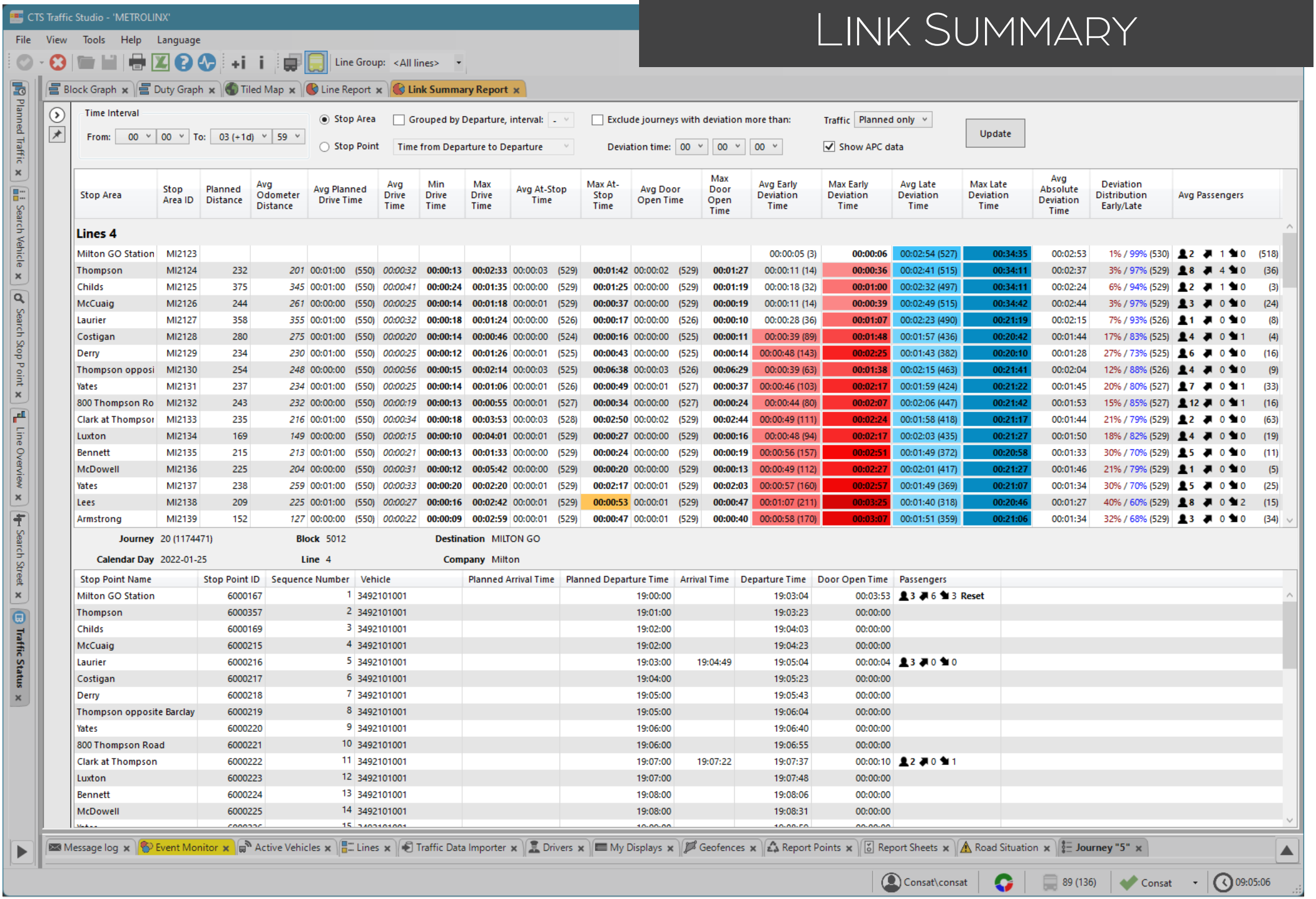
Line	Line name.
Σ Planned Journeys	Number of planned journeys.
Σ Actual Journeys	Number of reported journeys.
Σ Reinforcement Journeys (if included)	Number of reported journeys, by vehicles assigned as reinforcements on the line. Note: Two vehicles reinforcing the same journey counts as 2 reinforcement journeys.
Σ Planned Departures	Number of planned stop point departures.
Σ Actual Departures	Number of reported departures. If the actual traffic matches the planned traffic perfectly, the presented number is equal to the number of planned departures.
Σ Planned Distance	The planned driven distance for all planned journeys.
Σ On-Route Distance (km)	The reported on-route driven distance.
Σ Off-Route Distance (km)	The reported driven distance, off-route.
Distance Difference (%)	The difference, in percent, between the planned and reported (on-route plus off-route) distance values for the line.

Line Detail Table (bottom)

Planned and reported data for all planned journeys, for the selected line (row) in the Lines Table above.

Traffic Day	The service day of the planned journey.
Vehicle	The vehicle number
Line	Line name
Block	Block number
Journey	Journey number
Journey Type	The type of journey, such as Normal, Empty run and Reinforcement.
Destination	Journey's destination.
Planned Departures	The number of planned departures.
Actual Departures	The reported departures by the vehicle servicing the journey. (If no vehicle has reported on the journey, the number will be "0".)
Planned Distance (km)	The length of the planned journey route.
On-Route Distance (km)	The logged driven distance by the vehicle reporting on the journey when the planned route was followed.
Off-Route Distance (km)	The logged driven distance by the vehicle reporting on the route, when the planned route was not followed.
Reported/ Planned Distance (%)	The difference in percent between the driven (on- and off-route) and planned distances, indicated in the columns to the left. Note: If the actual distance exceeds the planned distance the percentage value presented will be negative.

Link Summary



Stop Area	Stop Area ID	Planned Distance	Avg Odometer Distance	Avg Planned Drive Time	Avg Drive Time	Min Drive Time	Max Drive Time	Avg At-Stop Time	Max At-Stop Time	Avg Door Open Time	Max Door Open Time	Avg Early Deviation Time	Max Early Deviation Time	Avg Late Deviation Time	Max Late Deviation Time	Avg Absolute Deviation Time	Deviation Distribution Early/Late	Avg Passengers
Lines 4																		
Milton GO Station	MI2123											00:00:05 (3)	**00:00:06**	00:02:54 (527)	**00:34:35**	00:02:53	1% / 99% (530)	2 1 0 (518)
Thompson	MI2124	232	*201*	00:01:00 (550)	*00:00:32*	**00:00:13**	**00:02:33**	00:00:03 (529)	**00:01:42**	00:00:02 (529)	**00:01:27**	00:00:11 (14)	**00:00:36**	00:02:41 (515)	**00:34:11**	00:02:37	3% / 97% (529)	8 4 0 (36)
Childs	MI2125	375	*345*	00:01:00 (550)	*00:00:41*	**00:00:24**	**00:01:35**	00:00:00 (529)	**00:01:25**	00:00:00 (529)	**00:01:19**	00:00:18 (32)	**00:01:00**	00:02:32 (497)	**00:34:11**	00:02:24	6% / 94% (529)	2 1 0 (3)
McCuaig	MI2126	244	*261*	00:00:00 (550)	*00:00:25*	**00:00:14**	**00:01:18**	00:00:01 (529)	**00:00:37**	00:00:00 (529)	**00:00:19**	00:00:11 (14)	**00:00:39**	00:02:49 (515)	**00:34:42**	00:02:44	3% / 97% (529)	3 0 0 (24)
Laurier	MI2127	358	*355*	00:01:00 (550)	*00:00:32*	**00:00:18**	**00:01:24**	00:00:00 (526)	**00:00:17**	00:00:00 (526)	**00:00:10**	00:00:28 (36)	**00:01:07**	00:02:23 (490)	**00:21:19**	00:02:15	7% / 93% (526)	1 0 0 (8)
Costigan	MI2128	280	*275*	00:01:00 (550)	*00:00:20*	**00:00:14**	**00:00:46**	00:00:00 (524)	**00:00:16**	00:00:00 (525)	**00:00:11**	00:00:39 (89)	**00:01:48**	00:01:57 (436)	**00:20:42**	00:01:44	17% / 83% (525)	4 0 1 (4)
Derry	MI2129	234	*230*	00:01:00 (550)	*00:00:25*	**00:00:12**	**00:01:26**	00:00:01 (525)	**00:00:43**	00:00:00 (525)	**00:00:14**	00:00:48 (143)	**00:02:25**	00:01:43 (382)	**00:20:10**	00:01:28	27% / 73% (525)	6 0 0 (16)
Thompson opposi	MI2130	254	*248*	00:00:00 (550)	*00:00:56*	**00:00:15**	**00:02:14**	00:00:03 (525)	**00:06:38**	00:00:03 (526)	**00:06:29**	00:00:39 (63)	**00:01:38**	00:02:15 (463)	**00:21:41**	00:02:04	12% / 88% (526)	4 0 0 (9)
Yates	MI2131	237	*234*	00:01:00 (550)	*00:00:25*	**00:00:14**	**00:01:06**	00:00:01 (526)	**00:00:49**	00:00:01 (527)	**00:00:37**	00:00:46 (103)	**00:02:17**	00:01:59 (424)	**00:21:22**	00:01:45	20% / 80% (527)	7 0 1 (33)
800 Thompson Ro	MI2132	243	*232*	00:00:00 (550)	*00:00:19*	**00:00:13**	**00:00:55**	00:00:01 (527)	**00:00:34**	00:00:00 (527)	**00:00:24**	00:00:44 (80)	**00:02:07**	00:02:06 (447)	**00:21:42**	00:01:53	15% / 85% (527)	12 0 1 (16)
Clark at Thompsor	MI2133	235	*216*	00:01:00 (550)	*00:00:34*	**00:00:18**	**00:03:53**	00:00:03 (528)	**00:02:50**	00:00:02 (529)	**00:02:44**	00:00:49 (111)	**00:02:24**	00:01:58 (418)	**00:21:17**	00:01:44	21% / 79% (529)	2 0 0 (63)
Luxton	MI2134	169	*149*	00:00:00 (550)	*00:00:15*	**00:00:10**	**00:04:01**	00:00:01 (529)	**00:00:27**	00:00:00 (529)	**00:00:16**	00:00:48 (94)	**00:02:17**	00:02:03 (435)	**00:21:27**	00:01:50	18% / 82% (529)	4 0 0 (19)
Bennett	MI2135	215	*213*	00:01:00 (550)	*00:00:21*	**00:00:13**	**00:01:33**	00:00:00 (529)	**00:00:24**	00:00:00 (529)	**00:00:19**	00:00:56 (157)	**00:02:51**	00:01:49 (372)	**00:20:58**	00:01:33	30% / 70% (529)	5 0 0 (11)
McDowell	MI2136	225	*204*	00:00:00 (550)	*00:00:31*	**00:00:12**	**00:05:42**	00:00:00 (529)	**00:00:20**	00:00:00 (529)	**00:00:13**	00:00:49 (112)	**00:02:27**	00:02:01 (417)	**00:21:27**	00:01:46	21% / 79% (529)	1 0 0 (5)
Yates	MI2137	238	*259*	00:01:00 (550)	*00:00:33*	**00:00:20**	**00:02:20**	00:00:01 (529)	**00:02:17**	00:00:01 (529)	**00:02:03**	00:00:57 (160)	**00:02:57**	00:01:49 (369)	**00:21:07**	00:01:34	30% / 70% (529)	5 0 0 (25)
Lees	MI2138	209	*225*	00:01:00 (550)	*00:00:27*	**00:00:16**	**00:02:42**	00:00:01 (529)	**00:00:53**	00:00:01 (529)	**00:00:47**	00:01:07 (211)	**00:03:25**	00:01:40 (318)	**00:20:46**	00:01:27	40% / 60% (529)	8 0 2 (15)
Armstrong	MI2139	152	*127*	00:00:00 (550)	*00:00:22*	**00:00:09**	**00:02:59**	00:00:01 (529)	**00:00:47**	00:00:01 (529)	**00:00:40**	00:00:58 (170)	**00:03:07**	00:01:51 (359)	**00:21:06**	00:01:34	32% / 68% (529)	3 0 0 (34)

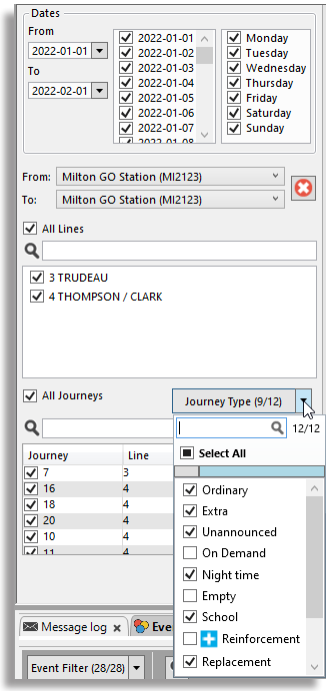
Stop Point Name	Stop Point ID	Sequence Number	Vehicle	Planned Arrival Time	Planned Departure Time	Arrival Time	Departure Time	Door Open Time	Passengers
Milton GO Station	6000167	1	3492101001		19:00:00		19:03:04	00:03:53	3 6 3 **Reset**
Thompson	6000357	2	3492101001		19:01:00		19:03:23	00:00:00	
Childs	6000169	3	3492101001		19:02:00		19:04:03	00:00:00	
McCuaig	6000215	4	3492101001		19:02:00		19:04:23	00:00:00	
Laurier	6000216	5	3492101001		19:03:00	19:04:49	19:05:04	00:00:04	3 0 0
Costigan	6000217	6	3492101001		19:04:00		19:05:23	00:00:00	
Derry	6000218	7	3492101001		19:05:00		19:05:43	00:00:00	
Thompson opposite Barclay	6000219	8	3492101001		19:05:00		19:06:04	00:00:00	
Yates	6000220	9	3492101001		19:06:00		19:06:40	00:00:00	
800 Thompson Road	6000221	10	3492101001		19:06:00		19:06:55	00:00:00	
Clark at Thompson	6000222	11	3492101001		19:07:00	19:07:22	19:07:37	00:00:10	2 0 1
Luxton	6000223	12	3492101001		19:07:00		19:07:48	00:00:00	
Bennett	6000224	13	3492101001		19:08:00		19:08:06	00:00:00	
McDowell	6000225	14	3492101001		19:08:00		19:08:31	00:00:00	

Function

Examine travel time and deviation for all stop points along a link.

Search Criteria

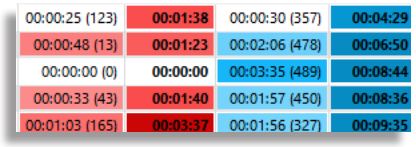
1. **Dates:** Select the from and to dates.
   - Use specific dates and weekdays to narrow the results.
2. **Link Selection:**
   - 2.1 **From**: Select the first stop of the link.
   - 2.2 **To**: Select the last stop of the link.
3. Select **line(s).**
4. Select **journey(s).** You can add/ remove journeys from the list by using the **Journey Type** filter.
5. Click on **Generate Report.**



Color-coded rows

The tabletable deviation columns are colour-coded to quickly identify if a section of the route deviated from the timetable.

The colors have brighter and darker shades to indicate the severity of the deviation. Blue is late and red is early.



Main Table

Each row shows the average, minimum and maximum values for each stop points on the link. If there are any route alternatives, they will be displayed with their own table beneath (scroll down).

* The last row shows the sum of all the average time.

** The numbers within parentheses show the amount of vehicle reports on which the value is based.

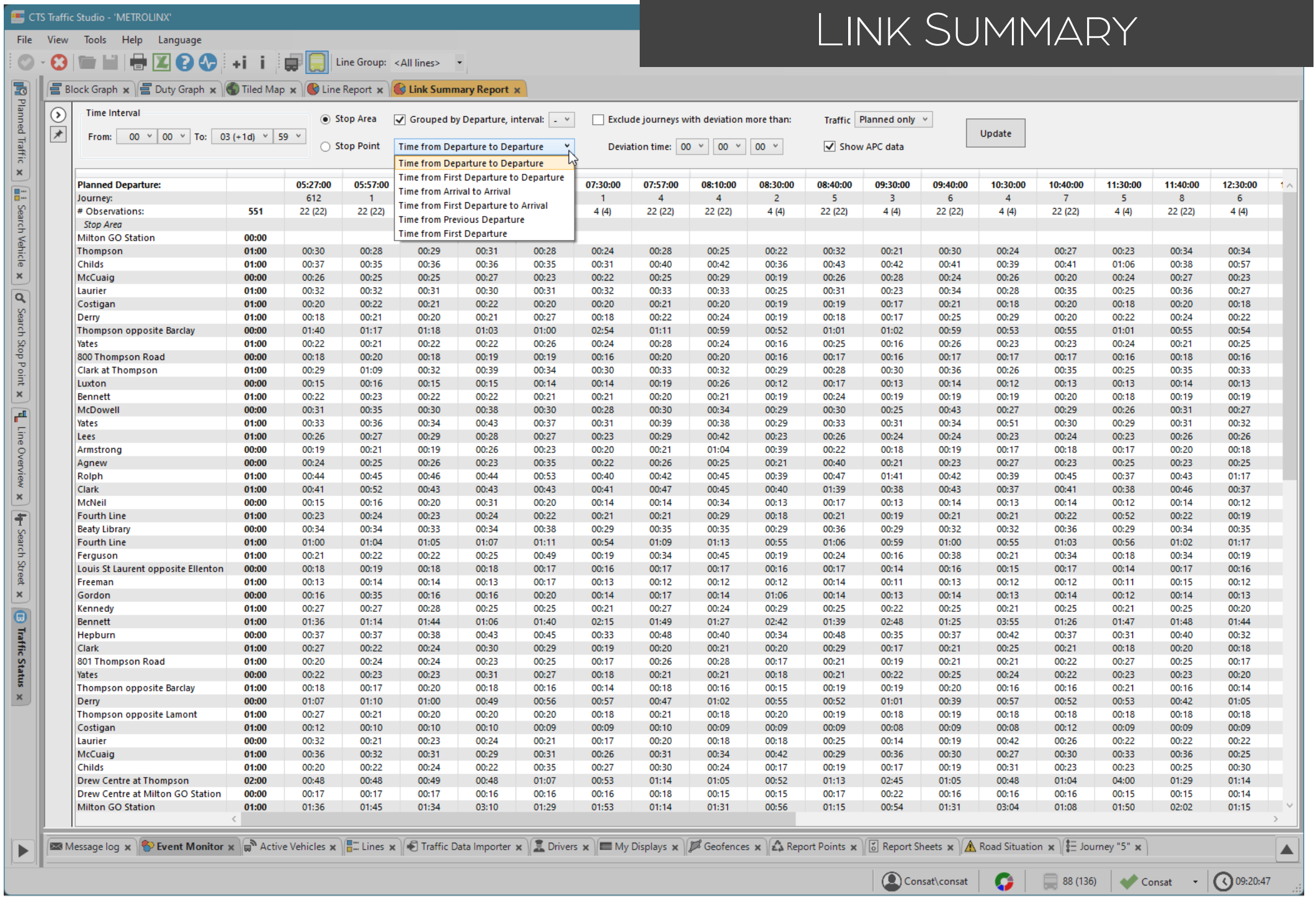
Stop Point/Area & ID	Stop point/area name & ID number
Planned Distance	Planned distance between this stop and the last one.
Avg Odometer Distance	Logged distance between this stop and the last one.
Avg Planned Drive Time	Average planned time to reach this stop.
Avg Drive Time	Average logged time to reach this stop.
Minimum Drive Time	Minimum logged time to reach this stop.
Maximum Drive Time	Maximum logged time to reach this stop.
Avg At-Stop Time	Average stay time at the stop point. Pass-by are included and count as “0” second.
Max At-Stop Time	Maximum stay time at the stop point.
Avg Door Open Time	Average time with any door open at stop point. Note: Pass-by are included and count as 0.
Max Door Open Time	Maximum time with any door open at the stop point.
Avg Early Deviation Time	Average derivation time for early departure from the stop point.
Max Early Deviation Time	Maximum derivation time for early departure from the stop point.
Avg Late Derivation Time	Average derivation time for late departure from the stop point.
Max Late Derivation Time	Maximum derivation time for late departure from the stop point.
Average Absolute Deviation Time	Average deviation time in absolute values.
Deviation Distribution Early/ Late	Representation in percents of the reports, divided by early/late.
Avg Passengers (Show APC data)	The mean number of passengers aboard, boarding and alighting. Note: This column is only visible with the Show APC data box checked.

Extra information about specific journey

Click on the cell of a bolded value (maximum columns) to open a small table with extra information about which journey generated it. Close it by clicking on any non-bolded cell.

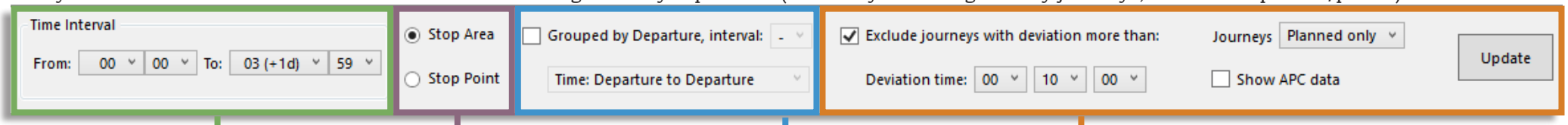
Stop Point Name	The stop point's name.
Stop Point ID	ID number of the stop point.
Sequence Number	Sequence of the stop point in the journey.
Vehicle	Vehicle number
Planned Arrival Time	Planned arrival time at the stop point.
Planned Departure Time	Planned departure from stop point.
Arrival Time	Actual arrival time to stop point.
Departure Time	Actual departure time from stop point.
Door Open Time	The total time the doors were open at the stop point.
Passengers (Show APC data)	The total number of passengers aboard, boarding and alighting. Note: This column is only visible with the Show APC data box checked.

Link Summary



Filters

You can decide which data to display so you can focus on the information which is relevant for you. The filters let you limit the data to a specific time interval, exclude journeys with extreme deviation times and even show driving times by departures (summery of driving time by journeys, for each stop areas/points).



Select a Time Interval

Filter the journeys to those that started within the selected time interval, without having to select them manually in the Search Criteria.

1. Select the time interval with the **From** and **To** fields. A time with a (+1d) denotes that this specific time is on the next calendar day.
2. Click on the **Update** button to update the table.

If you have both stop areas and stop points in your system, you can display the results by areas or points. Click on **Update** to apply the changes.

Exclude Journeys with Excessive Deviations

Exclude journeys with high deviations from the results.

1. Check the box next to "**Exclude journeys with deviation more than**".
2. Select a time from the drop-down menus for hours, minutes and seconds.
3. Click on the **Update** button to update the report.

Journey [types]: Planned and/or reinforcement traffic

Include data from planned journeys and/or reinforcement traffic. Use the drop-down menu and click on **Update** to update the table.

Show APC data

Check this box to include the Avg Passengers column in the report. Note that this only affects the initial report explained on the previous page.

Show Driving Times by Departures

You can swap the table to display the driving times by departures instead. Check the box "**Group time by departure, interval**" and click on **Update**.

By default the report is grouped by routes passing the same stop areas. You can tick "Stop Point" instead to group line-journeys passing the same stop points.

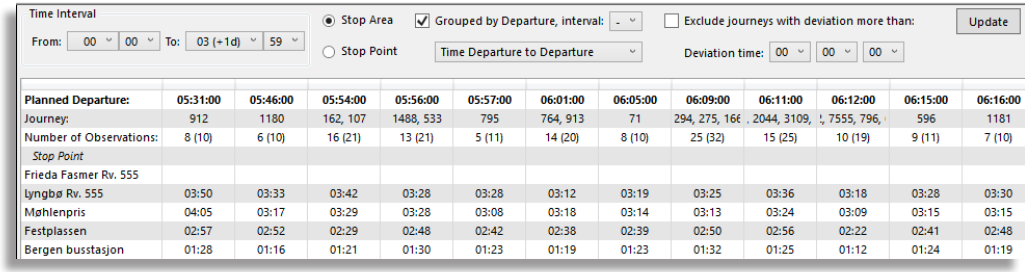
Driving times can be displayed with many variations of "Arrival" and "Departure". You can also show the time as Individually or Accumulated (Time from first...).

All these choices are available by using the **Time:** drop-down menu.

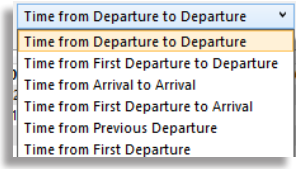
Remember to update your selections by clicking on the **Update** button.

All other filter options are also available for this view.

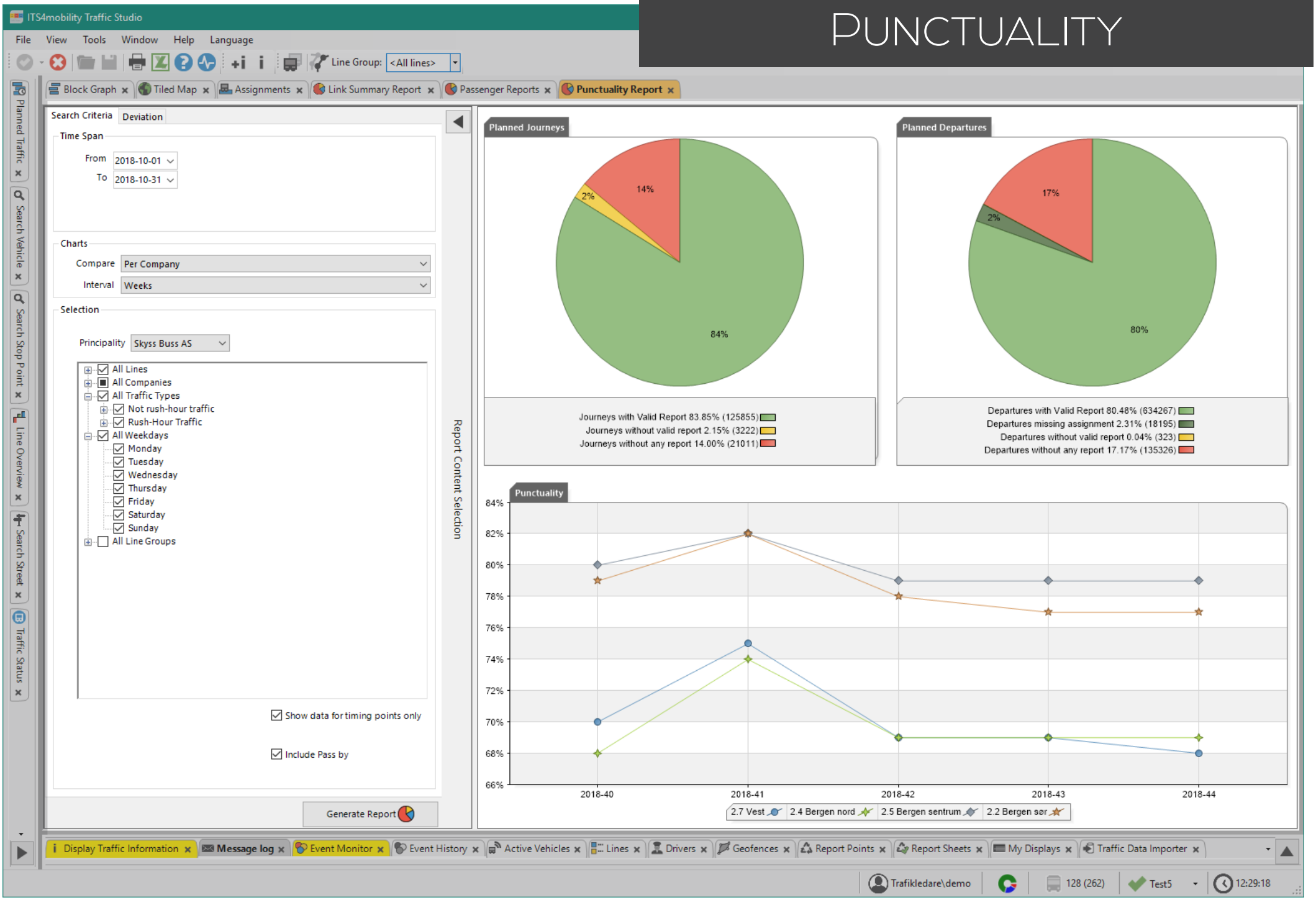
Note: The bolded column shows the average **planned** drive times.



Planned Departure:	05:31:00	05:46:00	05:54:00	05:56:00	05:57:00	06:01:00	06:05:00	06:09:00	06:11:00	06:12:00	06:15:00	06:16:00
Journey:	912	1180	162, 107	1488, 533	795	764, 913	71	294, 275, 166	, 2044, 3109,	, 7555, 796,	596	1181
Number of Observations:	8 (10)	6 (10)	16 (21)	13 (21)	5 (11)	14 (20)	8 (10)	25 (32)	15 (25)	10 (19)	9 (11)	7 (10)
Stop Point												
Frieda Fasmer Rv. 555												
Lyngbø Rv. 555	03:50	03:33	03:42	03:28	03:28	03:12	03:19	03:25	03:36	03:18	03:28	03:30
Møhlenpris	04:05	03:17	03:29	03:28	03:08	03:18	03:14	03:13	03:24	03:09	03:15	03:15
Festplassen	02:57	02:52	02:29	02:48	02:42	02:38	02:39	02:50	02:56	02:22	02:41	02:48
Bergen busstasjon	01:28	01:16	01:21	01:30	01:23	01:19	01:23	01:32	01:25	01:12	01:24	01:19



PUNCTUALITY



Function

Overview of the vehicles' punctuality and compare it between companies or lines.

The Punctuality report uses comparisons to generate the bar chart. If you choose **No comparison**, you will only get the amount of departures without specifications.

Note: This report is based on departure reports from **timing stop points**. To include all stop points, uncheck the "**Show data for timing points only**" above the Generate buttons.

Search Criteria

1. **Time Span:** Select from and to dates.
2. **Charts:**
   - 2.1 Choose comparison mode between company, line or none.
   - 2.2 Select the interval for grouping the data.
3. **Selection:**
   - 3.1 Optional: Select a principality (business area).
   - 3.2 **Lines**: Select up to 32 lines. If you prefer to use **Line Groups** for a faster selection, make sure to uncheck "All Lines".
   - 3.3 Optional: **Companies**: Select one or multiple companies, if applicable.
   - 3.4 Optional: **Traffic Types**: Narrow the results by selecting one or many types, like morning rush traffic.
   - 3.5 Optional: **Weekdays**: Select one or many weekdays.
   - 3.6 Optional: Line Groups: Use it to simplify your selection if you have a lot of lines. Make sure to uncheck "All Lines" or to include them in the maximum of 32.
4. Click on **Generate Report.**

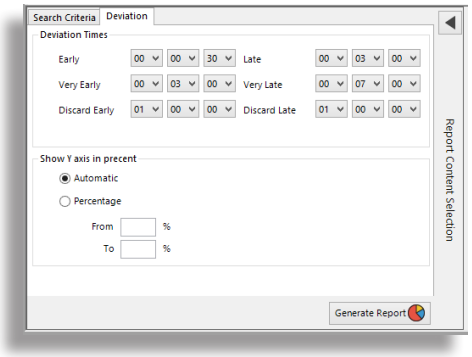
Note: You can only select up to 32 lines / 32 companies.

Deviation Tab - Optional

Deviation Times: Define new limits for the various deviation categories.

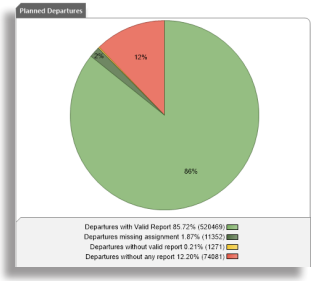
Y-Axis: Define the values for the Y-axis. The default is automatic where the application chooses the limits that do not exclude any of the results.

If you select percentage, you can set the upper and lower limits of the Y-axis.



Pie Charts

The Punctuality report has two pie charts. To keep it simple for most users, the important information in these pie charts is the light green area in **Planned Departures**, which represents **All departures with valid reports**. These reports are those used to generate the **Punctuality line chart** below. This green area should be as high as possible, to give you the most accurate data for your fleet.



Punctuality Line Chart

Each company or line has its own graphic line, symbol and color in the chart. The legend located below the X-axis will tell you which is which.

The X-axis represents the time interval and is displayed according to how you chose to show the time interval.

The Y-axis represents the percentage of departures on time during the specified time interval.

Remember that, if you chose **No comparison**, there will be no line chart.

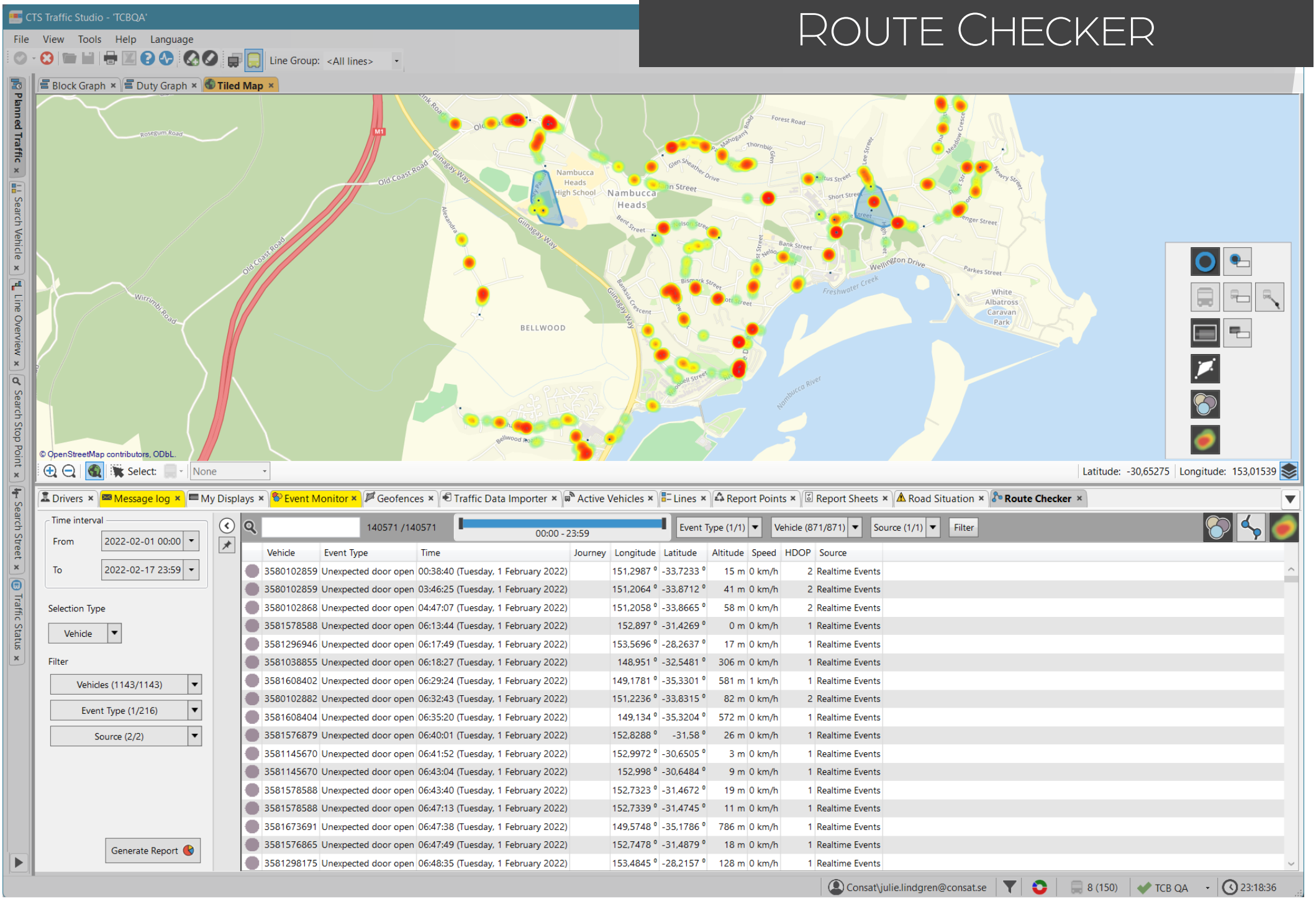
Journeys/Departures reports are valid if:

- The vehicle is correctly assigned and reports from the journey. Note that a vehicle manually assigned in a system with central assignments, will have its reports considered invalid.
- The vehicle time and system time do not differ too much.
- The reports come in the right order (sequence number).
- The stop point is right according to the assignment and traffic data.

Journeys/Departures without report can be due to:

- No vehicle has driven the journey.
- The vehicle on the journey had communication issues.
- The assignment is missing, so the vehicle is driving without reporting from a journey.
- **Note** that reinforced journeys are **not** included in this report.

Route Checker



Vehicle	Event Type	Time	Journey	Longitude	Latitude	Altitude	Speed	HDOP	Source
3580102859	Unexpected door open	00:38:40 (Tuesday, 1 February 2022)		151,2987 °	-33,7233 °	15 m	0 km/h	2	Realtime Events
3580102859	Unexpected door open	03:46:25 (Tuesday, 1 February 2022)		151,2064 °	-33,8712 °	41 m	0 km/h	2	Realtime Events
3580102868	Unexpected door open	04:47:07 (Tuesday, 1 February 2022)		151,2058 °	-33,8665 °	58 m	0 km/h	2	Realtime Events
3581578588	Unexpected door open	06:13:44 (Tuesday, 1 February 2022)		152,897 °	-31,4269 °	0 m	0 km/h	1	Realtime Events
3581296946	Unexpected door open	06:17:49 (Tuesday, 1 February 2022)		153,5696 °	-28,2637 °	17 m	0 km/h	1	Realtime Events
3581038855	Unexpected door open	06:18:27 (Tuesday, 1 February 2022)		148,951 °	-32,5481 °	306 m	0 km/h	1	Realtime Events
3581608402	Unexpected door open	06:29:24 (Tuesday, 1 February 2022)		149,1781 °	-35,3301 °	581 m	1 km/h	1	Realtime Events
3580102882	Unexpected door open	06:32:43 (Tuesday, 1 February 2022)		151,2236 °	-33,8315 °	82 m	0 km/h	2	Realtime Events
3581608404	Unexpected door open	06:35:20 (Tuesday, 1 February 2022)		149,134 °	-35,3204 °	572 m	0 km/h	1	Realtime Events
3581576879	Unexpected door open	06:40:01 (Tuesday, 1 February 2022)		152,8288 °	-31,58 °	26 m	0 km/h	1	Realtime Events
3581145670	Unexpected door open	06:41:52 (Tuesday, 1 February 2022)		152,9972 °	-30,6505 °	3 m	0 km/h	1	Realtime Events
3581145670	Unexpected door open	06:43:04 (Tuesday, 1 February 2022)		152,998 °	-30,6484 °	9 m	0 km/h	1	Realtime Events
3581578588	Unexpected door open	06:43:40 (Tuesday, 1 February 2022)		152,7323 °	-31,4672 °	19 m	0 km/h	1	Realtime Events
3581578588	Unexpected door open	06:47:13 (Tuesday, 1 February 2022)		152,7339 °	-31,4745 °	11 m	0 km/h	1	Realtime Events
3581673691	Unexpected door open	06:47:38 (Tuesday, 1 February 2022)		149,5748 °	-35,1786 °	786 m	0 km/h	1	Realtime Events
3581576865	Unexpected door open	06:47:49 (Tuesday, 1 February 2022)		152,7478 °	-31,4879 °	18 m	0 km/h	1	Realtime Events
3581298175	Unexpected door open	06:48:35 (Tuesday, 1 February 2022)		153,4845 °	-28,2157 °	128 m	0 km/h	1	Realtime Events

Function

Show all 200+ generated vehicle events over time in a table and on the map. Heat map function helps to identify problem areas.

Search Criteria

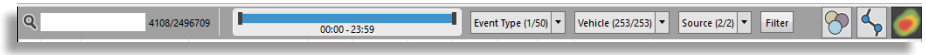
1. **Time Span:** Select from and to dates.
2. **Selection Type:**
   - 2.1 **Vehicle**: All events generated by the selected vehicle(s).
   - 2.2 **Line**: All events generated by vehicles assigned to selected line.
   - 2.3 **Area**: All events generated in the selected area.
     - 2.3.1 Enable the **Selection mode** in the Map
     - 2.3.2 Use the right mouse button to draw a rectangle over the area of your choice.
3. **Filter**: Narrow the result of your search. The available filters vary depending on your selection type.
4. Click on **Generate Report.**

Automatic Filters. The table updates automatically as you use it.

- **Free text filter**: Type in numbers and/or letters

"Update" Filters. Click on the **Filter** button to apply any changes.

- **Time interval**: Drag the sliders to narrow the daily time interval.
- **Drop-down filters**: Narrow to specific event types/vehicles/journeys.

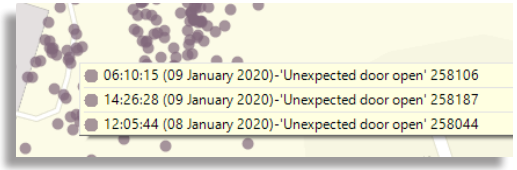


Use the toggle buttons at the far right to show/hide map elements.

- **Event dots**: The position where each event has been recorded
- **Lines between the events**: A link between the recorded events
- **Heat Map**: Shows the concentration of events.

Route Checker on the Map

Each report is shown in the map as colored dots. Hold your mouse over the dots and a tooltip will appear with information such as creation type, even type, source, etc.

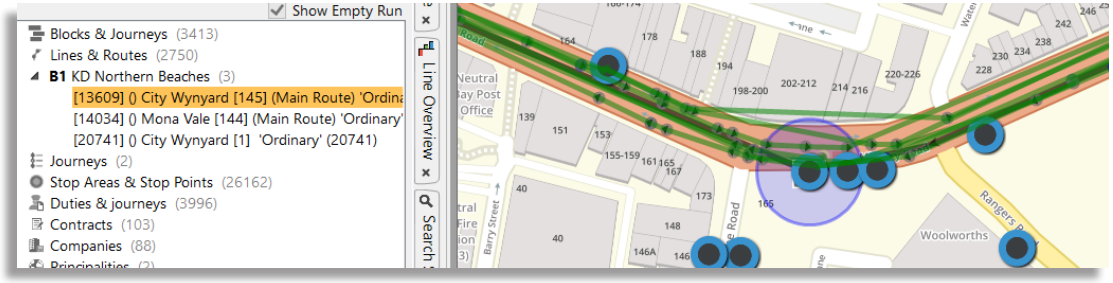


Planned Traffic Data

Use planned traffic in combination with RouteChecker to compare driven vs. planned activities. The planned information will be displayed in blue on the map.

1. Tools -> Planned Traffic.
2. Show a specific route and its stops via Blocks & Journeys or Lines & Routes.
   - Click on a journey under Blocks & Journeys.
   - Click on a route under Lines & Routes to show this one on the map in blue.
3. Click on a stop area or a stop point under Stop Areas & Stop Points to show them/it.

Each stop point is surrounded by a blue circle showing the 25 meters radius used to record arrival and departure from a stop point.



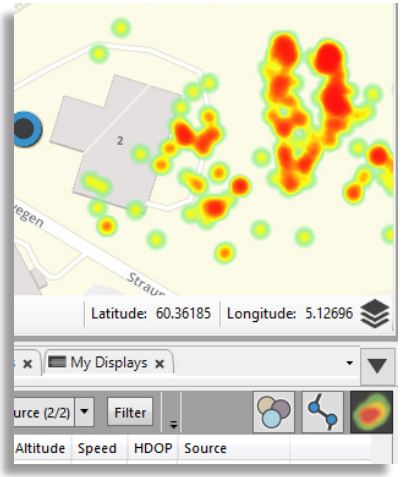
Heat Map

The **Heat Map** is a graphical "intensity map" showing the local density of the listed events.

The colors range from green, yellow, orange to red (few to most).

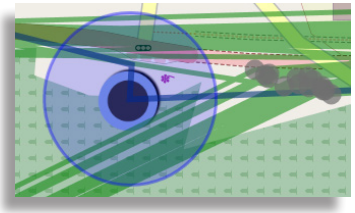
To activate the **Heat Map**, click on the toggle button located to the far right in the tool bar  .

Note that if you make changes after activating the Heat Map, you will need to click the button off and on again to update the Heat Map.

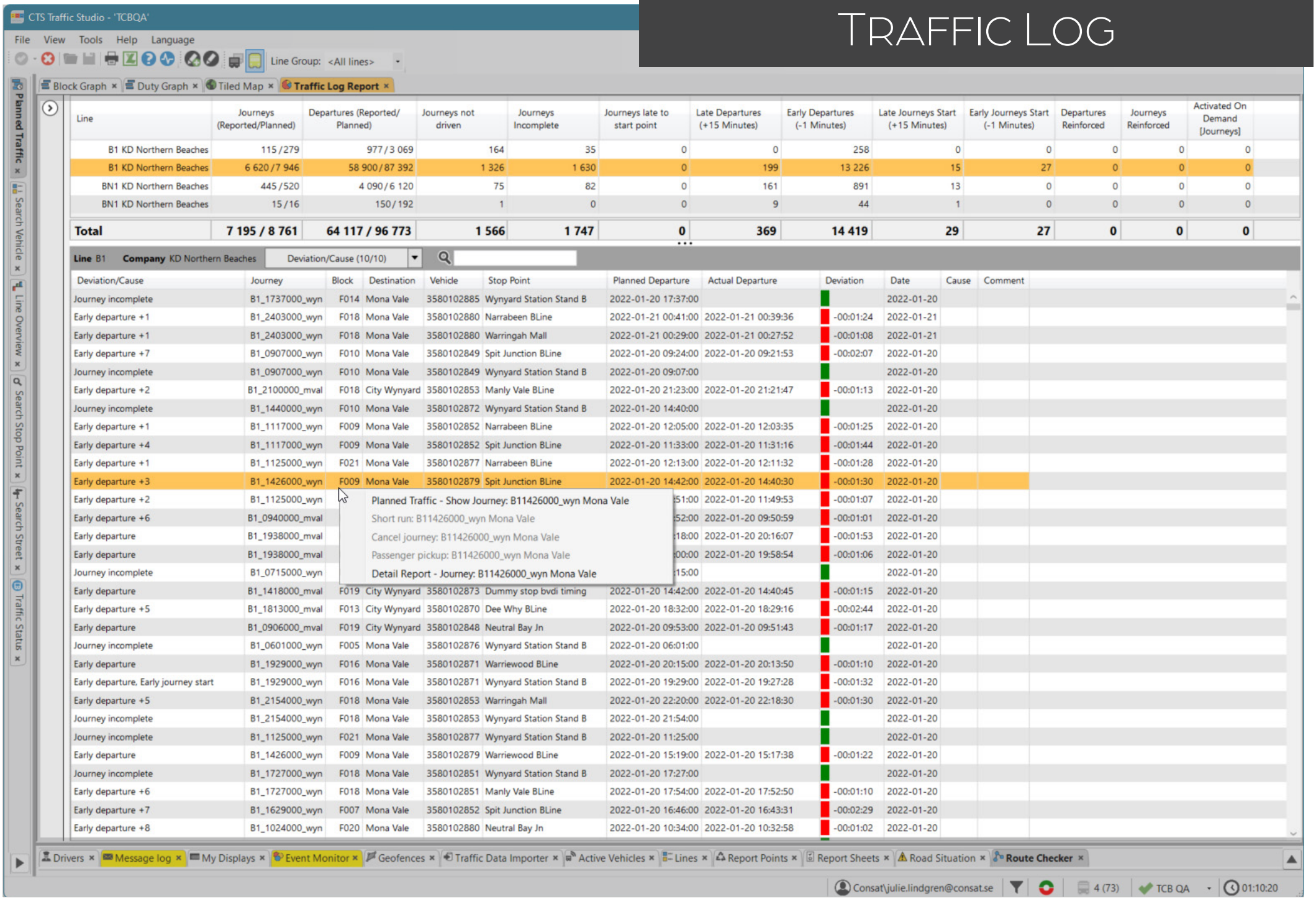


Finding Wrongly Positioned Stop Point

Use planned and logged traffic data to identify problems such as an erroneous stop point location in the database. In this example, a majority of grey dots for "unexpected door open" are shown outside the 25 meters radius.



Traffic Log



Line	Journeys (Reported/Planned)	Departures (Reported/Planned)	Journeys not driven	Journeys Incomplete	Journeys late to start point	Late Departures (+15 Minutes)	Early Departures (-1 Minutes)	Late Journeys Start (+15 Minutes)	Early Journeys Start (-1 Minutes)	Departures Reinforced	Journeys Reinforced	Activated On Demand [Journeys]
B1 KD Northern Beaches	115 / 279	977 / 3 069	164	35	0	0	258	0	0	0	0	0
B1 KD Northern Beaches	6 620 / 7 946	58 900 / 87 392	1 326	1 630	0	199	13 226	15	27	0	0	0
BN1 KD Northern Beaches	445 / 520	4 090 / 6 120	75	82	0	161	891	13	0	0	0	0
BN1 KD Northern Beaches	15 / 16	150 / 192	1	0	0	9	44	1	0	0	0	0
Total	**7 195 / 8 761**	**64 117 / 96 773**	**1 566**	**1 747**	**0**	**369**	**14 419**	**29**	**27**	**0**	**0**	**0**

Deviation/Cause	Journey	Block	Destination	Vehicle	Stop Point	Planned Departure	Actual Departure	Deviation	Date	Cause	Comment
Journey incomplete	B1_1737000_wyn	F014	Mona Vale	3580102885	Wynyard Station Stand B	2022-01-20 17:37:00			2022-01-20		
Early departure +1	B1_2403000_wyn	F018	Mona Vale	3580102880	Narrabeen BLine	2022-01-21 00:41:00	2022-01-21 00:39:36	-00:01:24	2022-01-21		
Early departure +1	B1_2403000_wyn	F018	Mona Vale	3580102880	Warringah Mall	2022-01-21 00:29:00	2022-01-21 00:27:52	-00:01:08	2022-01-21		
Early departure +7	B1_0907000_wyn	F010	Mona Vale	3580102849	Spit Junction BLine	2022-01-20 09:24:00	2022-01-20 09:21:53	-00:02:07	2022-01-20		
Journey incomplete	B1_0907000_wyn	F010	Mona Vale	3580102849	Wynyard Station Stand B	2022-01-20 09:07:00			2022-01-20		
Early departure +2	B1_2100000_mval	F018	City Wynyard	3580102853	Manly Vale BLine	2022-01-20 21:23:00	2022-01-20 21:21:47	-00:01:13	2022-01-20		
Journey incomplete	B1_1440000_wyn	F010	Mona Vale	3580102872	Wynyard Station Stand B	2022-01-20 14:40:00			2022-01-20		
Early departure +1	B1_1117000_wyn	F009	Mona Vale	3580102852	Narrabeen BLine	2022-01-20 12:05:00	2022-01-20 12:03:35	-00:01:25	2022-01-20		
Early departure +4	B1_1117000_wyn	F009	Mona Vale	3580102852	Spit Junction BLine	2022-01-20 11:33:00	2022-01-20 11:31:16	-00:01:44	2022-01-20		
Early departure +1	B1_1125000_wyn	F021	Mona Vale	3580102877	Narrabeen BLine	2022-01-20 12:13:00	2022-01-20 12:11:32	-00:01:28	2022-01-20		
Early departure +3	B1_1426000_wyn	F009	Mona Vale	3580102879	Spit Junction BLine	2022-01-20 14:42:00	2022-01-20 14:40:30	-00:01:30	2022-01-20		
Early departure +2	B1_1125000_wyn					51:00	2022-01-20 11:49:53	-00:01:07	2022-01-20		
Early departure +6	B1_0940000_mval					52:00	2022-01-20 09:50:59	-00:01:01	2022-01-20		
Early departure	B1_1938000_mval					18:00	2022-01-20 20:16:07	-00:01:53	2022-01-20		
Early departure	B1_1938000_mval					00:00	2022-01-20 19:58:54	-00:01:06	2022-01-20		
Journey incomplete	B1_0715000_wyn					15:00			2022-01-20		
Early departure	B1_1418000_mval	F019	City Wynyard	3580102873	Dummy stop bvdi timing	2022-01-20 14:42:00	2022-01-20 14:40:45	-00:01:15	2022-01-20		
Early departure +5	B1_1813000_mval	F013	City Wynyard	3580102870	Dee Why BLine	2022-01-20 18:32:00	2022-01-20 18:29:16	-00:02:44	2022-01-20		
Early departure	B1_0906000_mval	F019	City Wynyard	3580102848	Neutral Bay Jn	2022-01-20 09:53:00	2022-01-20 09:51:43	-00:01:17	2022-01-20		
Journey incomplete	B1_0601000_wyn	F005	Mona Vale	3580102876	Wynyard Station Stand B	2022-01-20 06:01:00			2022-01-20		
Early departure	B1_1929000_wyn	F016	Mona Vale	3580102871	Warriewood BLine	2022-01-20 20:15:00	2022-01-20 20:13:50	-00:01:10	2022-01-20		
Early departure, Early journey start	B1_1929000_wyn	F016	Mona Vale	3580102871	Wynyard Station Stand B	2022-01-20 19:29:00	2022-01-20 19:27:28	-00:01:32	2022-01-20		
Early departure +5	B1_2154000_wyn	F018	Mona Vale	3580102853	Warringah Mall	2022-01-20 22:20:00	2022-01-20 22:18:30	-00:01:30	2022-01-20		
Journey incomplete	B1_2154000_wyn	F018	Mona Vale	3580102853	Wynyard Station Stand B	2022-01-20 21:54:00			2022-01-20		
Journey incomplete	B1_1125000_wyn	F021	Mona Vale	3580102877	Wynyard Station Stand B	2022-01-20 11:25:00			2022-01-20		
Early departure	B1_1426000_wyn	F009	Mona Vale	3580102879	Warriewood BLine	2022-01-20 15:19:00	2022-01-20 15:17:38	-00:01:22	2022-01-20		
Journey incomplete	B1_1727000_wyn	F018	Mona Vale	3580102851	Wynyard Station Stand B	2022-01-20 17:27:00			2022-01-20		
Early departure +6	B1_1727000_wyn	F018	Mona Vale	3580102851	Manly Vale BLine	2022-01-20 17:54:00	2022-01-20 17:52:50	-00:01:10	2022-01-20		
Early departure +7	B1_1629000_wyn	F007	Mona Vale	3580102852	Spit Junction BLine	2022-01-20 16:46:00	2022-01-20 16:43:31	-00:02:29	2022-01-20		
Early departure +8	B1_1024000_wyn	F020	Mona Vale	3580102880	Neutral Bay Jn	2022-01-20 10:34:00	2022-01-20 10:32:58	-00:01:02	2022-01-20		

Function

Show comprehensive statistics on planned journeys/departures compared to actually driven journeys/departures.

Search Criteria

1. **Dates**: Select the from and to dates. You can also narrow your selection to include/remove specific dates and weekdays.
2. **Deviation Thresholds (optional):** Change the timetable deviation thresholds. Those marked with a star * are the default vehicle values which can trigger the report reason popup in the driver display (if enabled).
3. **Line Group (optional):** Select a Line Group to filter the next choices.
4. Select **line(s)**. You can also tick the **All Lines** check box to include them all.
5. Click on **Generate Report.**

Note! Searching and filtering through all this data is time-consuming and may take several minutes if the report covers both a long time period and many lines.

Report

The report has two tables.

- Summary Table: One row per line with a summary for each column
- Journey Deviations Table: All journeys with deviations for the selected line in the Summary Table.

Deviation Type Filter

Use the deviation type drop-down filter to narrow the list to specific deviation(s).

Lines Table (top)

Each row shows total of deviations, per category, per line.

The last row, **Total**, sums all the columns for the selected lines.

Line	Line and Company
Journeys (Reported / Planned)	The number of driven/planned journeys.
Departures (Reported / Planned)	The number of driven/planned departures from stop points.
Journeys not driven	The number of planned journeys that were not driven (no report).
Journeys incomplete	The number of journeys where the vehicle did not report from all the stop points on its route. Possible causes: • The vehicle was off-route and missed the stop point(s). • The journey started after the first stop point or was terminated before the last stop point.
Journeys late to start point	Vehicle came late to the journey's first stop.
Late Departures (Threshold)	Number of departures over than X* minutes late.
Early Departures (Threshold)	Number of departures over X* minutes early.
Late Journeys Start (Threshold)	Number of journey starts over X* minutes late.
Early Journeys Start (Threshold)	Number of journey starts over X* minutes early.
Departures Reinforced	Number of departures on the line reported by reinforcing vehicles.
Journeys Reinforced	Number of journeys on the line reported by reinforcing vehicles.
Activated On Demand [Journeys]	The number of activated/serviced on demand journeys.

Line Detail Table (bottom)

The table lists all the individual deviations for the selected line in the table above.

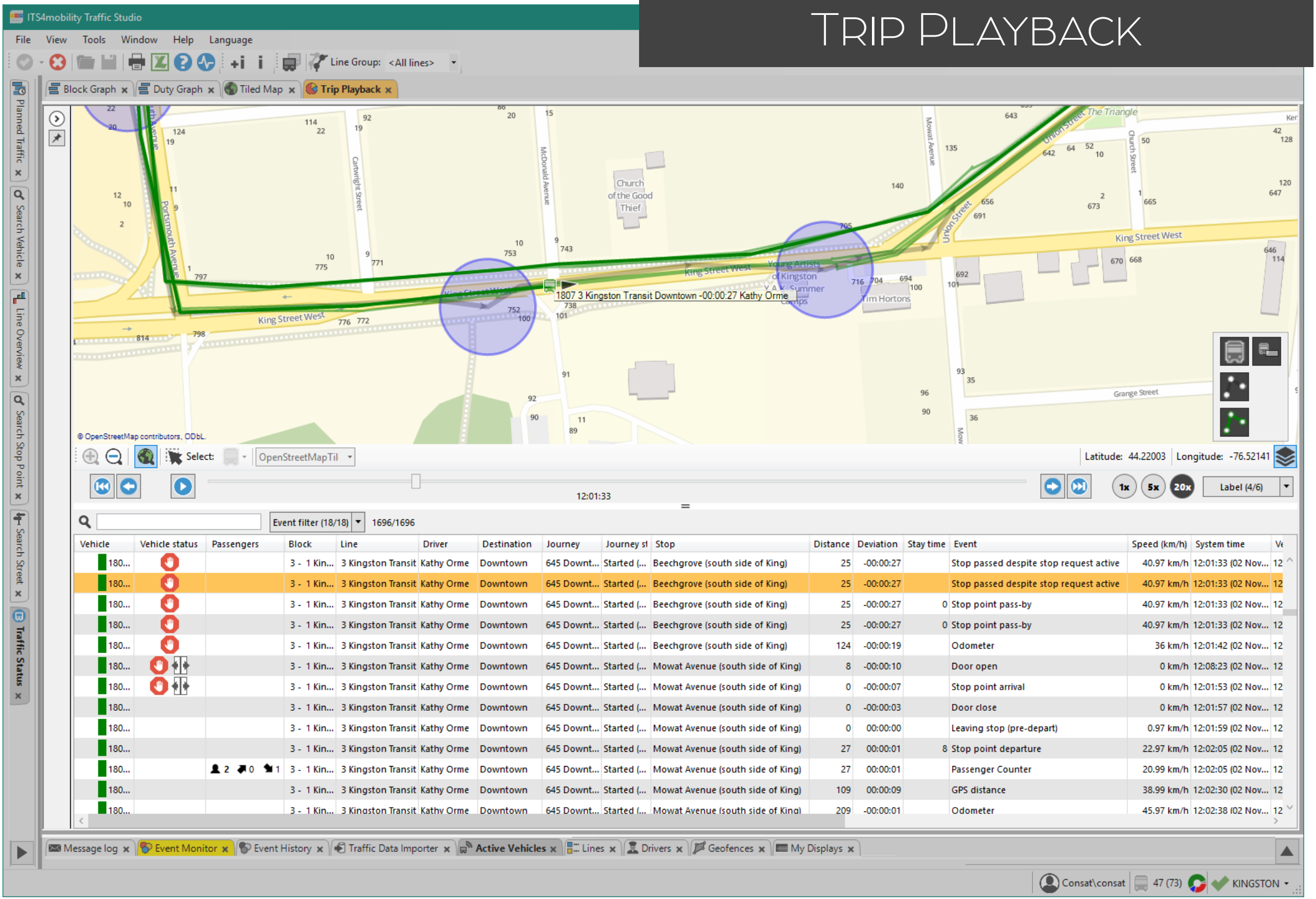
If a deviation affects more than one consecutive stop point, the number of additional affected stop points are listed as +X. E.g. "Early departure +3" means there is a total of 4 consecutive early departures for this journey from the listed stop point.

Deviation/ Cause	The type of deviation, some can be bundled together, e.g.,
Journey	The journey ID
Block	
Destination	The journey destination.
Vehicle	The vehicle servicing the journey.
*** Stop Point**	The stop point where the deviation was recorded.
*** Planned Departure**	The planned departure time, according to the timetable.
*** Actual Departure**	The actual time of departure, at the stop point where the deviation was logged.
Deviation (color coded)	The deviation from the timetable.
Date	The date when the deviation occurred.
Cause	The cause of a deviation reported by the driver/traffic controller.
Comment	Deviation comment(s) entered in the Traffic Deviations tool or included in Traffic Changes ticket.

Tips

Use multiple columns to sort the data. Use SHIFT while clicking on column headers to continue sorting from one to multiple headers.

Trip Playback



Function

Show all vehicle reports for selected vehicles, lines or blocks, as well as the logged routes on the map.

Each vehicle/line/block is presented with its own colour in the table and on the map.

All individual vehicle reports in the search are listed chronologically, including detailed information about the vehicle status at the time.

The report can play back selected parts of the logged traffic for detailed analysis, using the playback controls, or by stepping up/down in the list using the arrow keys. As the report can cover multiple vehicles, you can analyze connections, APC information for reinforcing assignments on a line, etc.

Search Criteria

1. **Date**: Select one day.
2. **Time:** Select the time interval.
3. Choose a selection type between **vehicles**, **blocks** or **lines**.
4. Select your **vehicle(s)**, **block(s)** or **line(s)** with their check box. Use the free text filter to quickly find the right items.
5. Click on **Generate Report.**

Report

The report has a map and a table.

- Map: All reported events are showed on the map and linked to visualize how each vehicle drove.
- Table: Every reported vehicle event is listed in chronological order. This table cannot be sorted as it would disable the playback function.

Table

Vehicle	Vehicle heading, presentation color, GPS heading and vehicle number.
Vehicle Status	Symbols for status information, e.g., Doors open, Stop button pressed.
Passengers	The number of passengers aboard, boarding, alighting
Block	Block number and operator
Line	Line number and operator
Duty	Duty serviced, if available
Driver	Logged in driver (if available)
Destination	The Destination of the journey.
Journey	Journey number
Journey Status	Journey status
Stop	Previous stop point
Distance	Distance to the previous known stop when the vehicle report was sent.
Deviation	Deviation from the time table
Stay Time	Stay time at stop.
Assigned	Assigned block number
System Time	Time from the central system.
Vehicle Time	Time from the vehicle.
Sequence Number	The vehicle report sequence number.
Valid flags	Administrator information
Event	The type of vehicle report, e.g., arrival, door close, pass-by, etc.
Sign control	How the vehicle signs were controlled: No text (automatic)/ “Manual” / “External” (controlled by external sign controller unit).
Event Seq. no	Sequence number for the information in the Event and Sign control columns.
Speed (optional)	The speed reported by the vehicle.
Latitude	Latitude position (GPS)
Longitude	Longitude position (GPS)

Filters

Free text filter: Type in numbers and/or letters

Event Filter: Contains all types of generated events in the table.

Note: The filters only affects the list. The map always shows the whole searched data.

Playback Controls

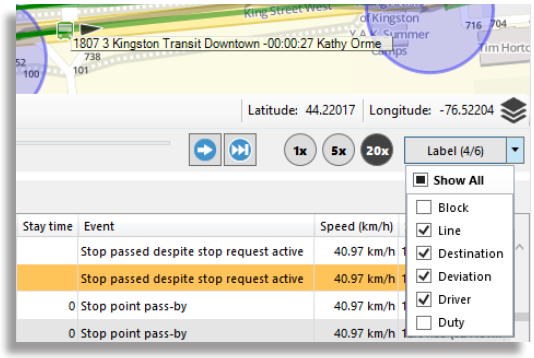
These controls are located between the map and the table. They include playback buttons, a time slider for and label settings.

The speed controls are located to the right. They range from real time (1x) to five times (5x) and twenty times (20x) faster. Select one and press the **Play** button located to the left of the timeline.

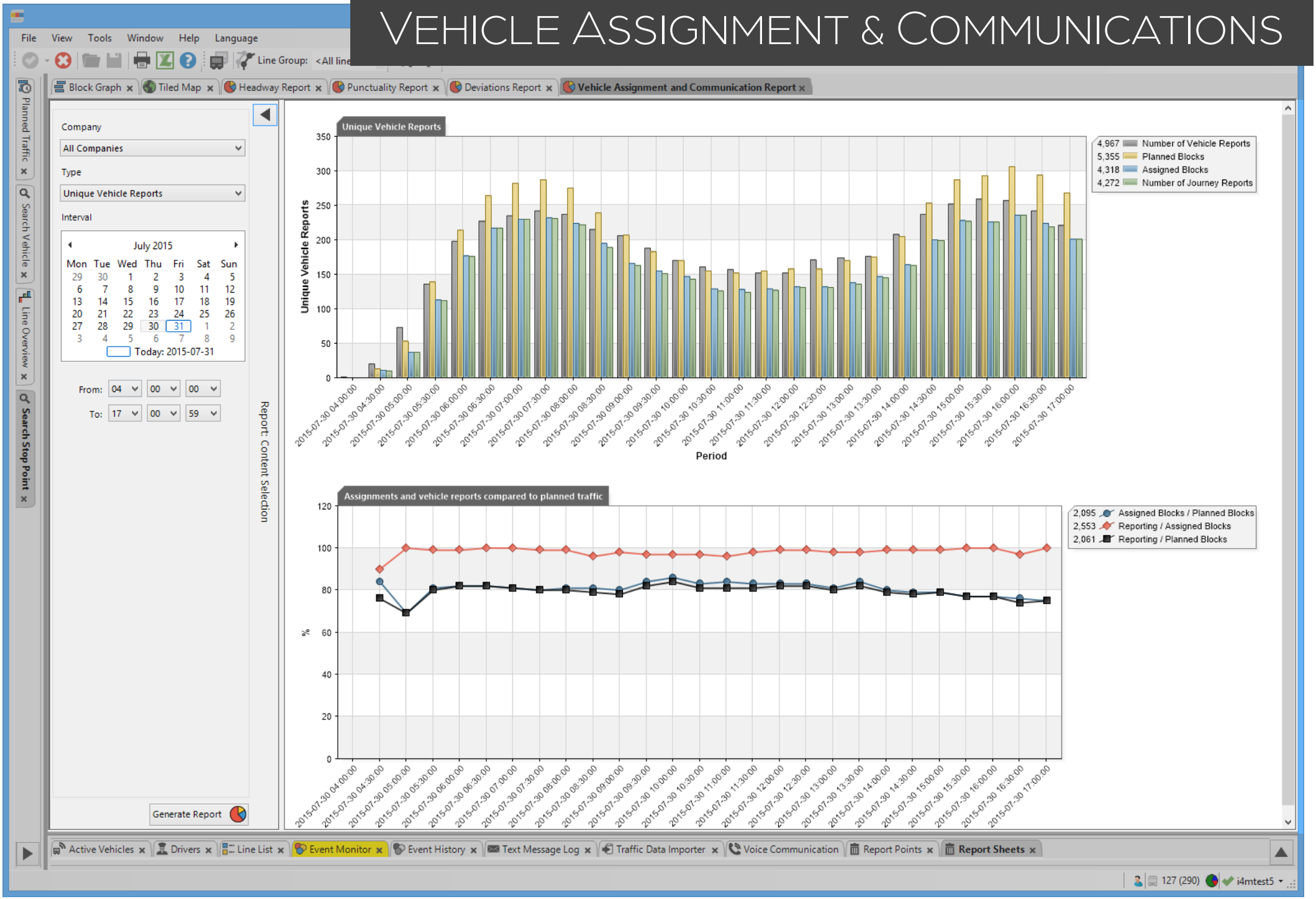
Note: You can also navigate the map by clicking on a row in the table. Click and hold the down arrow key to play though the vehicle reports on the map at your own pace (or up to go back).

Vehicle Label Presentation

Configure the vehicle's label, both on the map and in the Vehicle column of the table by ticking the information you wish to include in the label.



VEHICLE ASSIGNMENT & COMMUNICATIONS



Function Show how well the vehicles are reporting and how well the assignments are working.

The Vehicle Assignment and Communication report works best for **systems with central assignments**. If your system uses manual assignments (drivers), then you will miss a lot of data in the charts.

Search Criteria

1. **Company:** Select one company or all of them if applicable.
2. **Type:** Choose between **Unique vehicles reporting** and **All vehicle reports**.
3. **Interval:**
   - 3.1 **Calender day**: Select a day. **Today** is selected by default.
   - 3.2 **Time Interval (optional)**: Narrow the time interval.
4. Click on **Generate Report.**

Note that if you choose "Today", the data has not all been gathered yet and the charts will be incomplete.

Two Types of Upper Charts

You have two choices for the type of upper chart.

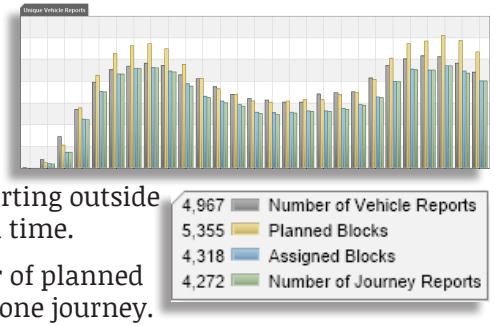
Unique Vehicles Reporting: Shows the number of vehicles which have sent at least one report during each interval. This chart will have four bars for each 30-minutes interval.

All Vehicles Reporting: Shows the total number of vehicle reports from all reporting vehicles. It only shows the "Number of vehicle reports" grey bar in the chart.

Upper Chart

Unique Vehicles Reporting

The X-axis is divided by intervals of 30 minutes.



Grey bar: Number of unique vehicles to have sent at least one report to the central server. The report is valid even if the vehicle is reporting outside a journey's specified time.

Yellow bar: Number of planned blocks with at least one journey.

Blue bar: Number of assigned blocks that are also part of the grey bar.

Green bar: Number of blocks having vehicles reporting on their journey. They are also part of the yellow bar.

In a perfect situation, the green and blue bars will be at the same height, which means that all the journeys of the assigned blocks have been reporting.

Example: A vehicle is planned and assigned to drive a journey between 10:00 and 12:00.

Vehicle 1 is out driving and reporting between 09:45 to 12:15.

From 09:45 to 10:00: **Vehicle 1** will only be included in the **Grey** bar.

From 10:00 to 12:00: **Vehicle 1** will be included in the **Grey and Green** bars.

From 12:00 to 12:15: **Vehicle 1** will only be included in the **Grey** bar.

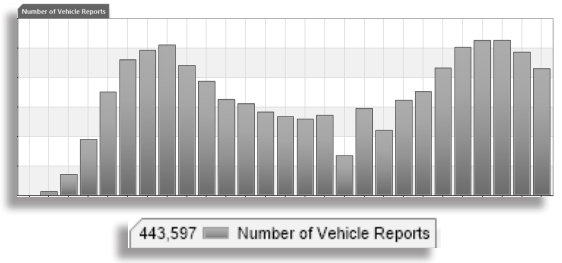
Vehicle 2 is out driving and reporting between 10:15 to 11:30.

From 10:00 to 11:30: **Vehicle 2** is included in the **Grey and Green** bars.

From 11:30 to 12:00: **Vehicle 2** will not be included in any bar as it did not report or communicate.

All Vehicles Reporting

The X-axis is divided by periods of 30 minutes.



Lower Chart – Assignments and vehicles reports compared to planned traffic

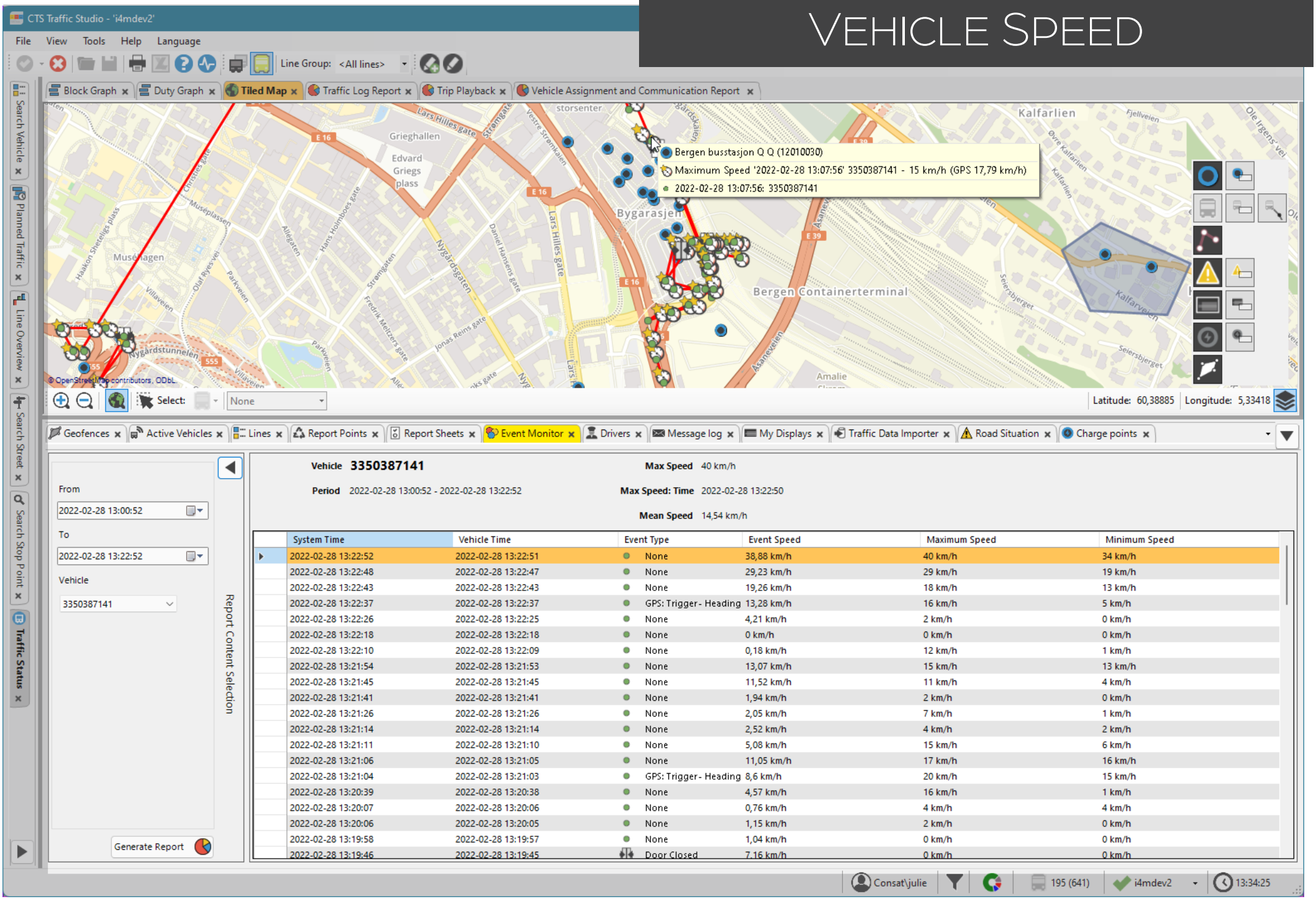
This chart is the same regardless of the Upper Chart type. It shows the relation, in percentage, between assigned/reporting vehicles and planned/assigned blocks. This line chart has 3 curves.

Blue: Percentage of assigned vehicles versus planned blocks.

Red: Percentage of reporting vehicles versus assigned blocks. It should be as close to 100% as possible since every vehicle should, in theory, be reporting.

Black: Percentage of reporting vehicles versus planned blocks. It cannot be above Curve 1 as an unassigned vehicle cannot send reports.

Vehicle Speed



System Time	Vehicle Time	Event Type	Event Speed	Maximum Speed	Minimum Speed
2022-02-28 13:22:52	2022-02-28 13:22:51	None	38,88 km/h	40 km/h	34 km/h
2022-02-28 13:22:48	2022-02-28 13:22:47	None	29,23 km/h	29 km/h	19 km/h
2022-02-28 13:22:43	2022-02-28 13:22:43	None	19,26 km/h	18 km/h	13 km/h
2022-02-28 13:22:37	2022-02-28 13:22:37	GPS: Trigger- Heading	13,28 km/h	16 km/h	5 km/h
2022-02-28 13:22:26	2022-02-28 13:22:25	None	4,21 km/h	2 km/h	0 km/h
2022-02-28 13:22:18	2022-02-28 13:22:18	None	0 km/h	0 km/h	0 km/h
2022-02-28 13:22:10	2022-02-28 13:22:09	None	0,18 km/h	12 km/h	1 km/h
2022-02-28 13:21:54	2022-02-28 13:21:53	None	13,07 km/h	15 km/h	13 km/h
2022-02-28 13:21:45	2022-02-28 13:21:45	None	11,52 km/h	11 km/h	4 km/h
2022-02-28 13:21:41	2022-02-28 13:21:41	None	1,94 km/h	2 km/h	0 km/h
2022-02-28 13:21:26	2022-02-28 13:21:26	None	2,05 km/h	7 km/h	1 km/h
2022-02-28 13:21:14	2022-02-28 13:21:14	None	2,52 km/h	4 km/h	2 km/h
2022-02-28 13:21:11	2022-02-28 13:21:10	None	5,08 km/h	15 km/h	6 km/h
2022-02-28 13:21:06	2022-02-28 13:21:05	None	11,05 km/h	17 km/h	16 km/h
2022-02-28 13:21:04	2022-02-28 13:21:03	GPS: Trigger- Heading	8,6 km/h	20 km/h	15 km/h
2022-02-28 13:20:39	2022-02-28 13:20:38	None	4,57 km/h	16 km/h	1 km/h
2022-02-28 13:20:07	2022-02-28 13:20:06	None	0,76 km/h	4 km/h	4 km/h
2022-02-28 13:20:06	2022-02-28 13:20:05	None	1,15 km/h	2 km/h	0 km/h
2022-02-28 13:19:58	2022-02-28 13:19:57	None	1,04 km/h	0 km/h	0 km/h
2022-02-28 13:19:46	2022-02-28 13:19:45	Door Closed	7,16 km/h	0 km/h	0 km/h

Function List speed reports for one vehicle in a table and on the map.

This report is different from the others as it opens in the **Lower Tool Window**. Once generated, it also displays that information in the Map.

Search Criteria

1. **Dates/times**: Select the from and to dates and times.
2. Select a **vehicle**
3. Click on **Generate Report.**

Keep in mind that if you select a broad time interval, the application will take longer to generate the report and the map might be cluttered with events.

Vehicle Speed Report || Map

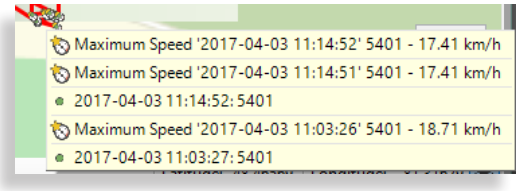
You need to have the Map to see this part of the report.

Once generated, it will show the vehicle's route(s) by linking all the reported events.

Each event has its own symbol. Holding the mouse over the events/symbols will open the tooltip information about the event type, the vehicle ID, the time the event was recorded and the speed of the vehicle at that event.

Events Types

	The vehicle's speed is above a defined value.
	The vehicle's speed is below the speed limit.
	Door opened
	Door closed
	Reason for the report, e.g., odometer (distance driven), Time limit (timer), GPS heading, etc.
	The maximum speed of the vehicle between two events.



Vehicle speed report || Statistics Table

Each of its row represents an event and gives general information about the vehicle ID, the selected time interval, the maximum speed recorded, the time it was recorded as well as the mean speed during that period.

Double-click on a row to zoom to it on the map.

System time	System time when the message was received by the central system.
Vehicle time	Vehicle time when the message was sent to the central system.
Event type	Type of event recorded. See the table above for the description of each event and their icon.
Event speed	Current speed of the vehicle when the event occurred.
Maximum speed	Maximum speed of the vehicle since the last vehicle report.
Minimum speed	Minimum speed of the vehicle since the last vehicle report.

Notes