

Rinkai TMS Main

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ABM CLOUD

Table of Contents

1. System installation and Login	3
2. System interface overview	4
2.1. Depot	5
2.1.1. Depot activation	6
2.1.2. Depot settings management.....	7
2.2. Locations	9
2.2.1. General tab	10
2.2.2. Adding a location	12
2.2.3. Edit location	17
2.2.4. Delete location	18
2.3. Orders.....	19
2.3.1. Adding an order	21
2.3.2. Edit order	23
2.3.3. Delete order	24
2.3.4. Import of orders	25
2.3.5. Split order	27
2.3.6. Selecting orders for planning	30
2.4. Vehicles	32
2.4.1. Add vehicles	33
2.4.2. Edit vehicle	39
2.4.3. Delete the vehicle	40
2.4.4. Import of vehicles.....	41
2.4.5. Activation of vehicles	42
2.4.6. Profile of the vehicle	43
2.4.7. Carriers.....	46
2.4.8. Drivers	47
2.4.9. GPS providers vehicles	48
2.5. Planning.....	49
2.5.1. Information panel	50
2.5.2. Parameters	51
2.5.3. Automatic optimization	54
2.5.4. Manual route creation	56
2.5.5. Route Header	60
2.5.6. Route view	62
2.5.7. Plan analysis	65
2.5.8. Plan export	68
2.6. Plans.....	69
2.7. Undelete plan/vehicle/location.....	71
2.8. GPS	73

2.8.1. Information panel	74
2.8.2. Route view	75
2.8.3. Routes and Stops	78
2.8.3.1. Routes data	80
2.8.3.2. Stops data	82
2.8.4. Confirmed extra km and duration	84
2.8.5. Wire map and unmatched positions	85
2.8.6. Edit location geocodes	86
2.8.7. Mail	88
2.8.8. Analysis	89
2.9. Map	91
2.10. Menu	94
2.10.1. Depot	95
2.10.1.1. Units	96
2.10.1.2. Vehicle types	98
2.10.2. View	99
2.10.2.1. Depot capacity	100
2.10.3. Reporting	101
2.10.3.1. Depot	102
2.10.3.2. Locations	104
2.10.3.2.1. Plan	105
2.10.3.2.2. GPS	108
2.10.3.2.3. Depot	110
2.10.3.3. Vehicles	111
2.10.3.4. Standings	115
2.11. Admin	116
2.11.1. Files	117
2.11.2. User management	118
2.11.3. Web services	119
2.11.4. Computer	120
2.11.5. User	121
2.11.6. Errors	122
2.11.7. Log	123
3. Web-portal for drivers	124
3.1. Authorization	125
3.2.	129
3.3.	130
3.4. Functionality	131
3.4.1. Map	132
3.4.2. Information panel	134
3.4.3. Point card	135
3.4.4. Maintenance	139

3.5. Location Photo	142
3.6. Adding a portal to your phone's home screen.....	146

1. System installation and Login

You can download the system from our [website](#) (Section “About the system” – Download).

Save the zip file to a local disk and extract its contents to a directory of your choice. Start the system using the rinkai-routing-launcher-win.zip file. The system automatically checks for updates and installs them immediately.

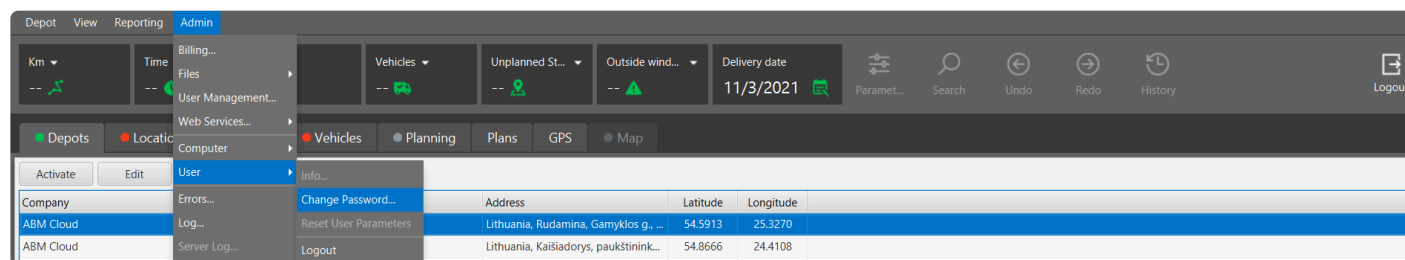
You need to log in to the system using your username and password. When logging in, you can select the applications language.



Login is created personally for each user.

Password on the first login – init.

After the first login, the password can be changed in the control panel:

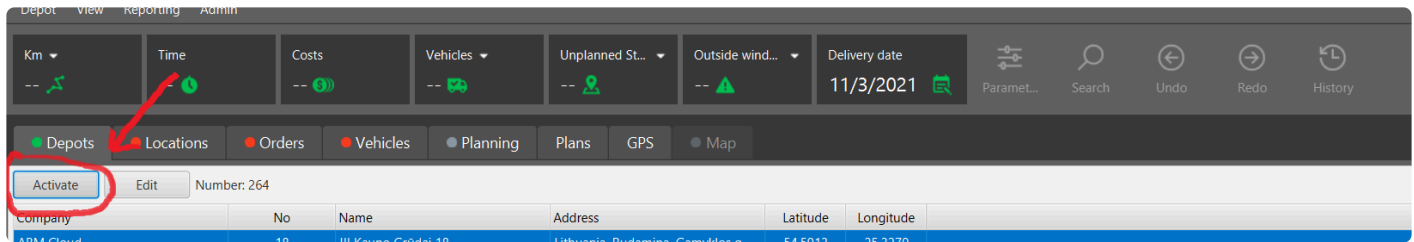


2. System interface overview

2.1. Depot

2.1.1. Depot activation

After successfully logging in, you need to select Depot from the list of depots available to your user, for which delivery routes will be built, by clicking the “Activate” button. If the user has access to only one Depot, the system will automatically select it.

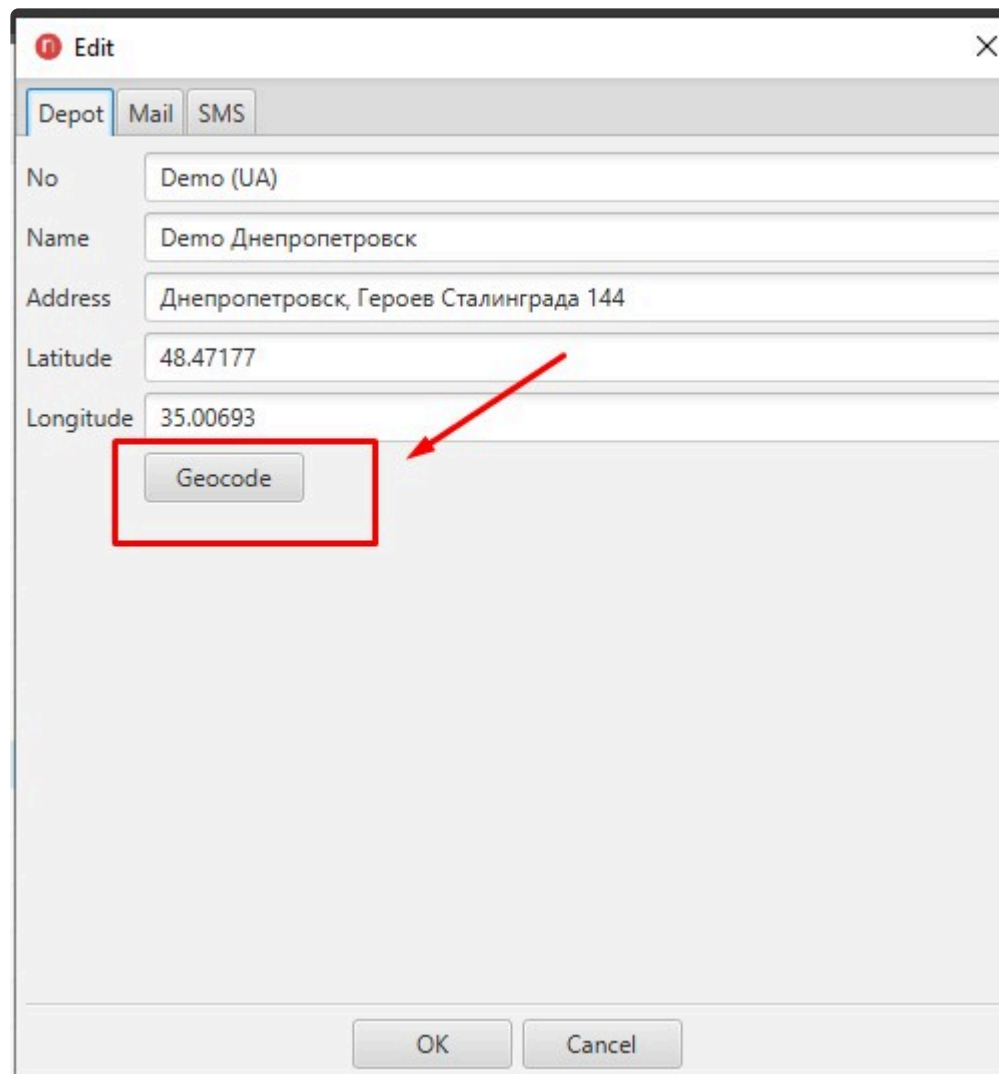


2.1.2. Depot settings management

When you click on the “Edit” button the dialog window will be shown that allows you to edit the depot settings.

Depot:

- DepotNo – User depot number;
- Name – Name of the depot;
- Address – Address of the depot
- Longitude + Latitude – Depot coordinates. You can change it by pressing the “Geocode”.



The screenshot shows a dialog window titled "Edit" with a close button (X) in the top right corner. Below the title bar are three tabs: "Depot" (selected), "Mail", and "SMS". The "Depot" tab contains several input fields and a button:

- No**: Input field containing "Demo (UA)".
- Name**: Input field containing "Демо Днепропетровск".
- Address**: Input field containing "Днепропетровск, Героев Сталинграда 144".
- Latitude**: Input field containing "48.47177".
- Longitude**: Input field containing "35.00693".
- Geocode**: A button located below the longitude field, highlighted with a red rectangle. A red arrow points to it from the right.

At the bottom of the dialog are two buttons: "OK" and "Cancel".

Once the “Geocoding” button is pressed, the depot address can be edited in the appropriate lines and then pressing the “Geocoding” button will place the marker on the map itself.

The second option is to manually place the mark on the map. Use the mouse and the circle to move, zoom in, etc. To make a final placement, click the map + hold Ctrl. The final position confirmation is done by pressing the “OK” button.

Geocode // Демо Днепропетровск

The map displays a section of Dnipro, Ukraine, with major roads like Сергія Нігояна проспект and Леваневського вулиця. Landmarks include Парк Пам'яті та Примирення, Храм Святого князя Александра Невського, and Церква святого Григора Лусаворича. A red pin marks a location on the map.

Map controls: 20 m scale bar, navigation buttons (arrow, left, right, up, down, zoom in, zoom out).

Street	No	Postcode	City	Country	Latitude	Longitude
No content in table						

Geocode

Street:
No:
Postcode:
City:
Country:

Google OSM Mapy Yandex

OK Cancel

2.2. Locations

2.2.1. General tab

Locations represent individual delivery points. At these locations, you can maintain a variety of settings and parameters described below. When activating the depot, the system itself reads all available locations. You can manually add, edit, delete, or control locations by clicking the appropriate buttons at the top of the screen.

No	Name	Address	Latitude	Longitude	Time window	AT@C	T@C	GWLim	Comment
1	Клиент 1	Київ, вул. Бере...	50.4284	30.6148	00:17-20:00	00:00	00:00		
10	Клиент 10	Васильків, вул. ...	50.1806	30.3104	05:00-15:00	00:03		5,500	

All location data can be simply marked “Ctrl + A” and exported via the context menu. The context menu is displayed by right-clicking over any location

No	Name	Address
1	Клиент 1	Київ, вул. Бере...
10	Клиент 10	Васильків, вул. ...
100	Клиент 100	овари,б-р Н...
101	Клиент 101	греби, вул. ...
102	Клиент 102	в, вул. Анни...
103	Клиент 103	
104	Клиент 104	Гли CSV...
105	Клиент 105	Ки Excel...

You can also view additional columns in the table, reorder columns, and then permanently save the selected column layout.

●	10	Клиент 10		ул. ...	50.1806	30.3104	05:00-
●	100	Клиент 100	Check geocodes	б-р Н...	50.5120	30.7950	04:00-
●	101	Клиент 101	Unused locations	ул. ...	50.5537	30.6234	04:00-
●	102	Клиент 102	Columns				
●	103	Клиент 103	Export				
●	104	Клиент 104		Глибоке,			
●	105	Клиент 105		Київ, вул.			
●	106	Клиент 106		Київ, вул.			
●	107	Клиент 107		Київ, вул.			
●	108	Клиент 108		Київ, про			
●	109	Клиент 109		Бровари,			
●	11	Клиент 11		Васильків			
●	110	Клиент 110		Зазім'є, в			
●	111	Клиент 111		Проліски			
●	112	Клиент 112		Васильків			
●	113	Клиент 113		Васильків			
●	114	Клиент 114		Київ, вул.			
●	115	Клиент 115		Іванкови			

Active as delivery location

Images

Arrival and departure side

Color

Customer factor [%]

Delivery days

Delivery location

Comment 2

Mail

Phone

Pairing precision

Time windows

Time window prolongation enabled

Save columns layout

2.2.2. Adding a location

Press the **“Add”** button to enter a new location. In this step, the required fields must be filled in and, if necessary, the field is optional. Mandatory fields are red in the table.

The 'Add' dialog box contains the following fields and controls:

- Depot:** A dropdown menu showing 'Demo K...' and a 'No' button.
- Name:** A text input field.
- Street:** A text input field.
- HouseNo.:** A text input field.
- Postcode:** A text input field.
- City:** A text input field.
- Country:** A text input field.
- Comment:** A text input field.
- Comment 2:** A text input field.
- Time window:** Two time range inputs separated by '&'.
- AT@C:** A text input field.
- Latitude:** A text input field.
- Time at customer:** A text input field.
- Longitude:** A text input field.
- Customer factor [%]:** A text input field with the value '100'.
- Gross weight limit:** A text input field.
- Vehicle type:** A text input field.
- Geocode:** A button.
- Buttons:** 'OK' and 'Cancel' buttons at the bottom.

Basic

- Depot – Locations depot. If only one depot is active, the value is pre-filled.
- No – Internal identification number of the delivery point. This number serves as a unique identifier when importing orders and exporting finished routes.
- Name – Name of delivery point.
- Street – Street of delivery point. If the street is not available, leave the field empty.
- HouseNo. – House number. If you do not know the number, leave the field empty.
- Postcode – Postcode of the place of delivery. Correct postcodes are absolutely crucial for automatic positioning.
- City – Town name.
- Country – country code of the place of delivery (Czech Republic – CZ, Slovakia – SK, Germany – DE, etc.)
- Comment – Comment on delivery point. This comment can then be displayed, for example, on the route itinerary.
- Comment 2 – Second delivery point comment. The comment can then be displayed in the itinerary, for

example.

- Time window – Specify the required delivery time. For one day, two intervals can be defined, for example 6:00 – 12:00 and 13:00 – 18:00. If different windows are required for different days, these can be defined in the “Advanced” tab
- AT@C – Administrative time at the customer. It corresponds to the time spent on unloading by the administration or other activities that do not depend on the quantity of goods delivered. The total landing time for the customer is then equal to the sum of the administrative time and time calculated from the delivered quantity.
- Time at customer – Defines the total time of unloading at the customer, regardless of the administrative time and the amount being fed.
- Customer Factor – Allows you to slow down or accelerate the variable unloading time at the customer.
- Gross weight limit – The requirement of a maximum vehicle tonnage for delivery.
- Longitude + Latitude – You need to enter these details using the “Geocode” button.
 - The address can be edited in the appropriate fields and after pressing the “Geocoding” button, the system places the marker on the map based on the modified address.
 - You can place the tag manually by tapping the mouse + holding the CTRL key
 - Coordinates can be verified on publicly available map servers. Placement is then saved with “OK”

The screenshot shows a software window titled "Add" with a close button (X) in the top right corner. Below the title bar are five tabs: "Basic", "Advanced", "Time Windows", "Delivery Days", and "Images". The "Advanced" tab is selected and highlighted. The form contains the following elements:

- Delivery location:** A text input field with "Edit" and "Dele..." buttons to its right.
- Side:** A dropdown menu currently showing "Both".
- Pairing precision:** A text input field.
- Color:** A dropdown menu currently showing "None".
- Mail:** A text input field.
- Notifications:** A checkbox that is checked.
- Phone:** A text input field.
- Notifications:** A second checkbox that is checked.
- Time window prolongation enabled:** A checkbox that is checked.
- Active as delivery location:** A checkbox that is checked.

At the bottom of the dialog are two buttons: "OK" and "Cancel".

Advanced

- Delivery location – You can assign another location to which all future orders will be redirected.
- Side – Determining the way of arrival of the vehicle to the location. For example, the “Right” option will

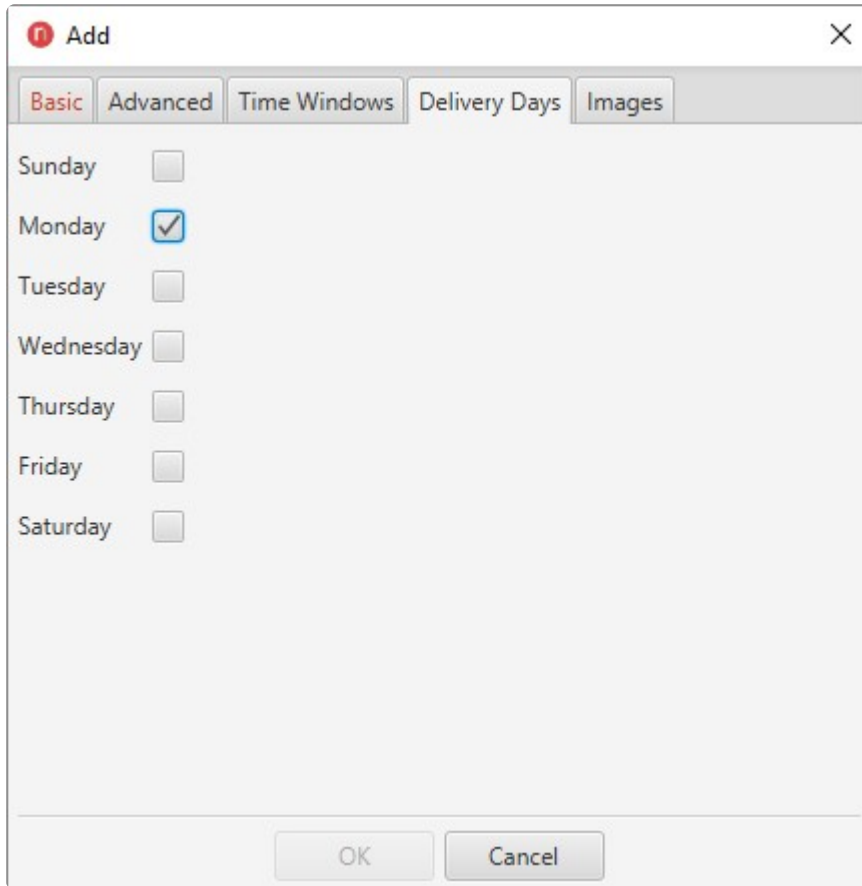
ensure that the vehicle will have a location on its right side upon arrival.

- Pairing precision – Set the individual bubble radius for pairing with GPS positions
- Mail – After entering the e-mail it is possible to send an e-mail about the next delivery to the delivery point upon request.
- Notification – The mail with information about the delivery will be sent, if checked.
- Phone – The phone number is displayed in the mobile application and allows the driver to communicate easily with the customer. SMS can be sent to this number.
- Notification – The SMS with information about the delivery will be sent, if checked.
- Time window prolongation enabled – If it is not enabled, then the customer does not have the time window prolongation is used. The default is always to enable prolongation.
- Active as delivery locations – If the checkbox is not selected, it will not be applied to the location from “Delivery Location”.

The screenshot shows a dialog box titled "Add" with a close button (X) in the top right corner. Below the title bar are five tabs: "Basic", "Advanced", "Time Windows", "Delivery Days", and "Images". The "Time Windows" tab is currently selected. The main area of the dialog contains a table with seven rows, one for each day of the week: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday. Each row has two time range input fields separated by an ampersand (&). Each time range input field consists of two text boxes separated by a hyphen (-). At the bottom of the dialog are two buttons: "OK" and "Cancel".

Time Windows

- Sunday – Saturday – Here you can maintain different delivery windows for each day of the week.

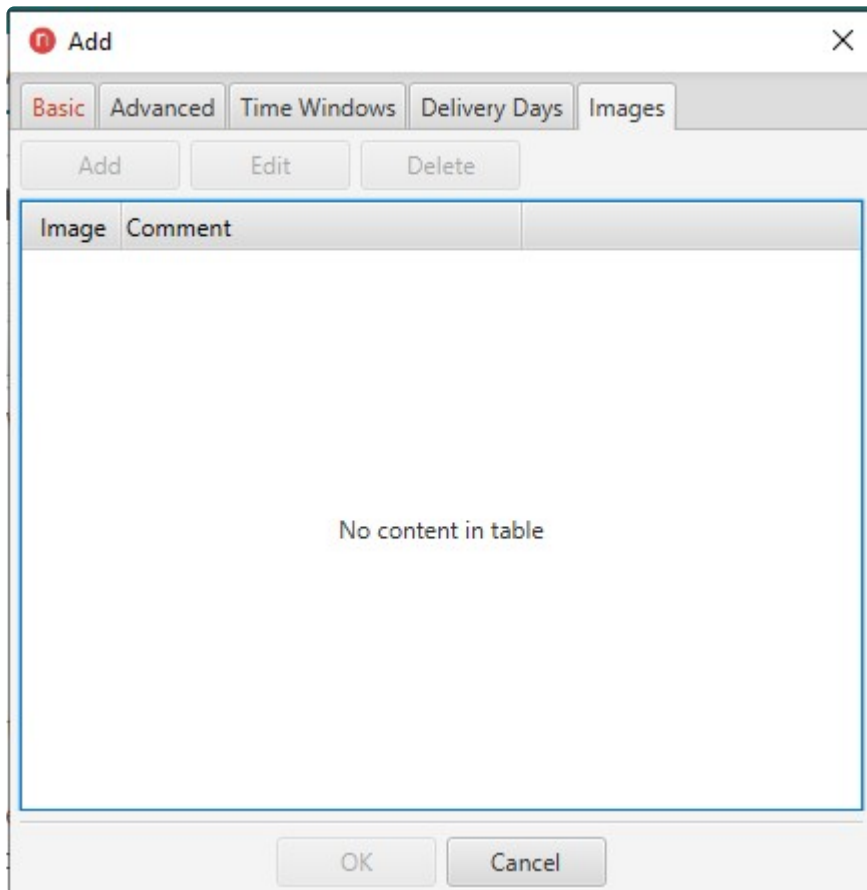


The screenshot shows a software dialog box titled "Add" with a close button (X) in the top right corner. Below the title bar is a tabbed interface with five tabs: "Basic" (highlighted in red), "Advanced", "Time Windows", "Delivery Days", and "Images". The "Delivery Days" tab is active, displaying a list of the days of the week: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday. Each day is followed by a checkbox. The checkbox for Monday is checked, while the others are unchecked. At the bottom of the dialog are two buttons: "OK" and "Cancel".

Day	Selected
Sunday	<input type="checkbox"/>
Monday	<input checked="" type="checkbox"/>
Tuesday	<input type="checkbox"/>
Wednesday	<input type="checkbox"/>
Thursday	<input type="checkbox"/>
Friday	<input type="checkbox"/>
Saturday	<input type="checkbox"/>

Delivery days

- Sunday – Saturday – Definition of permitted delivery days. If the days are defined and the order delivery day is on not permitted day, then order is marked with a yellow traffic light.



The screenshot shows a dialog box titled "Add" with a close button (X) in the top right corner. The dialog has five tabs: "Basic", "Advanced", "Time Windows", "Delivery Days", and "Images". The "Images" tab is currently selected. Below the tabs are three buttons: "Add", "Edit", and "Delete". The main area of the dialog contains a table with two columns: "Image" and "Comment". The table is empty, and the text "No content in table" is displayed in the center. At the bottom of the dialog are two buttons: "OK" and "Cancel".

Image	Comment
No content in table	

Images

- Here you can add the image to the location if it was attached by driver from the web portal (instruction how to do it you can find in the manual section "portal for drivers – location photo")

2.2.3. Edit location

All data for all locations can be freely changed by pressing the “Edit” button.

* If the changed data for locations is transmitted via the interface from the master system, this data will always be overwritten by the values from the master system ([except types](#)).

2.2.4. Delete location

Selected locations can be deleted by pressing the “Delete” button.

AddEditDeleteNumber: 645

	No	Name	Address	Latitude	Longitude	Time window	AT@C	T@C	GWLm	Comment
	1	Клиент 1	Київ, вул. Бере...	50.4284	30.6148	00:17-20:00	00:00	00:00		
	10	Клиент 10	Васильків, вул. ...	50.1806	30.3104	05:00-15:00	00:02		5.500	
	100	Клиент 100	Бровари,6-р Н...	50.5120	30.7950	04:00-15:00	00:03			
	101	Клиент 101	Погреби, вул. ...	50.5537	30.6234	04:00-15:00	00:03			
	102	Клиент 102	Київ, вул. Анни...	50.4083	30.6211	05:00-12:00	00:06			
	103	Клиент 103	Київ, вул. Курч...	50.4783	30.6316	04:00-15:00	00:02			
	104	Клиент 104	Глибоке, вул. Г...	50.2638	30.9514	04:00-15:00	00:03			
	105	Клиент 105	Київ, вул. Ентуз...	50.4370	30.6029	05:00-15:00	00:06			
	106	Клиент 106	Київ, вул. Дніп...	50.4079	30.6139	05:00-15:00	00:06			
	107	Клиент 107	Київ, вул. Дніп...	50.3928	30.6147	04:00-15:00	00:06		2.500	

Confirmation

Are you sure to delete selected locations?

NoYes

Locations can be marked manually, select all (Ctrl + A), or select unused locations via the context menu.

	No	Name	Address	Latitude
	1	Клиент 1	Київ, вул. Бере...	50.4284
	10	Клиент 10	Васильків, вул. ...	50.1806
	100	Клиент 100	Бровари,6-р Н...	50.5120
	101	Клиент 101	Погреби, вул. ...	50.5537
	102	Клиент 102	Київ, вул. Анни...	50.4083
	103	Клиент 103	Київ, вул. Курч...	50.4783

Check geocodes

Unused locations

Columns

Export

40 days...

120 days...

360 days...

2.3. Orders

Orders – Orders are objects that we want to plan and create routes with a clearly defined order of stop. We can create orders manually, import from external systems, delete, edit, or divide. When depot is activated, the system will display available orders.

No	Cml	Date	Name	City	Wght	Vol	WBack	VBack	Time window	Comment
23578	<input type="checkbox"/>	10/7/17	"торговый павильон ""Верас"" д. ...		16	0.0	0	0	07:20-09:30	
23579	<input type="checkbox"/>	10/7/17	магазин №12 д.Бережное		26	0.1	0	0	09:00-13:00	
23580	<input type="checkbox"/>	10/7/17	магазин М-715		19	0.1	0	0	00:00-05:50 22:35-24:00	
23581	<input type="checkbox"/>	10/7/17	"магазин ""Евроопт"" № 394 г.Со...		0	0	96	0.3	06:00-09:30	
23582	<input type="checkbox"/>	10/7/17	"магазин ""Гуртовня"" г. Давид-Г...		86	0.3	0	0	11:00-13:00	

All order data can be easily exported via the context menu. The context menu is displayed by right-clicking on any order.

No	Cml	Date	Name	City	Wght
23578	<input type="checkbox"/>	10/7/17	"торговый павильон ""Верас"" д. ...		1
23579	<input type="checkbox"/>	10/7/17	магазин №12 д.Бережное		2
23580	<input type="checkbox"/>	10/7/17	магазин М-715		1
23581	<input type="checkbox"/>	10/7/17	"магазин ""Европ"		0
23582	<input type="checkbox"/>	10/7/17	"магазин ""Гурт"		8
23583	<input type="checkbox"/>	10/7/17	магазин №34 д.Бережное		15
23584	<input type="checkbox"/>	10/7/17	"универсам ""К"		8
23585	<input type="checkbox"/>	10/7/17	"павильон ""Кал"		1
23586	<input type="checkbox"/>	10/7/17	"павильон ""Егорка"		6
23588	<input type="checkbox"/>	10/7/17	"магазин ""Матрешка""		2
23589	<input type="checkbox"/>	10/7/17	"магазин ""Гуртовня""		2
23590	<input type="checkbox"/>	10/7/17	столовая		8

You can also view additional columns in the table, reorder columns, and then permanently save the selected column layout.

● Depots ● Locations ● Orders ● Vehicles ● Planning Plans GPS ● Map

Add Edit Delete Import Apply Number: 0/235 • Weight: 0/25,120 • Volume: 0/74 • Weight

●	No	<input type="checkbox"/>	Cml	Date	Name	City	Wght	Vol
●	23578	<input type="checkbox"/>		10/7/17	"торговый павильон ""Ве""		16	0.0
●	23579	<input type="checkbox"/>		10/7/17	магазин №12 д.Бережное		26	0.1
●	23580	<input type="checkbox"/>		10/7/17	магазин М-715		19	0.1
●	23581	<input type="checkbox"/>		10/7/17	"магазин ""Евроопт"" №3		0	0
●	23582	<input type="checkbox"/>		10/7/17	"магазин ""Гуртовня"" г. Д		86	0.3
●	23583	<input type="checkbox"/>		10/7/17	магазин №34 д. Рубель		150	0.4
●	23584	<input type="checkbox"/>		10/7/17	"универсам ""Копилка""			
●	23585	<input type="checkbox"/>		10/7/17	"павильон ""Калина"" д. М			
●	23586	<input type="checkbox"/>		10/7/17	"павильон ""Егорка""			
●	23588	<input type="checkbox"/>		10/7/17	"магазин ""Матрешка""			
●	23589	<input type="checkbox"/>		10/7/17	"магазин ""Гуртовня""			
●	23590	<input type="checkbox"/>		10/7/17	столовая			
●	23591	<input type="checkbox"/>		10/7/17	"торговый павильон ""Купец""			
●	23592	<input type="checkbox"/>		10/7/17	магазин №40			
●	23593	<input type="checkbox"/>		10/7/17	магазин №52 ТПС д. Белоуша			
●	23594	<input type="checkbox"/>	1	10/7/17	"магазин ""Квартал"" р.п. Речица"			
●	23595	<input type="checkbox"/>		10/7/17	"магазин №8 ""Продтовары"" р.п...			
●	23596	<input type="checkbox"/>		10/7/17	"магазин №9 ""Продтовары"" р.п...			
●	23597	<input type="checkbox"/>		10/7/17	"магазин №4 ""Продукты"" д. Рух...			
●	23598	<input type="checkbox"/>		10/7/17	"магазин №35 ""ТПС"" д. Стахово"			

Go to
Select
Split...
Tools...
Notifications...
Columns
Export

Color
Delivery location
Comment
Comment 2
Mail
No
✓ Phone
Street
Time at customer
Time at depot
Time at customer
Time at depot back
Save columns layout

2.3.1. Adding an order

Press the* “Add”* button to add a new order. Fields marked in red must be filled in (the fields below are shown in bold).

Other fields can be entered, otherwise they will be filled in with the values from the respective location.

Basic

- Name – Determines the delivery location from the location list. After pressing the “Edit” button and entering a part of the location name or delivery address, the system will select all matching records. Click on a specific location to select it.
- No – User order number. The field can also be blank.
- Date – The system automatically assigns the order date to the next business day. This date can be freely changed from the calendar.
- Vehicle type – The vehicle type is taken from the location, but can be manually adjusted. This change does not take place again at the selected location.
- Comment – The order comment is displayed in the itinerary.
- Time window – The time window is automatically taken from the selected location. It can be manually edited, but this adjustment will not be reflected in the overall window settings at the selected location.

The screenshot shows a software window titled "Add" with a close button (X) in the top right corner. It features two tabs: "Basic" and "Advanced", with "Advanced" currently selected. The "Advanced" tab contains the following fields and controls:

- Vehicle:** A text input field followed by "Edit" and "Delete" buttons.
- Time at customer:** A single text input field.
- Loading start:** Two text input fields separated by a hyphen (-).
- Color:** A dropdown menu with a radio button next to the "None" option.

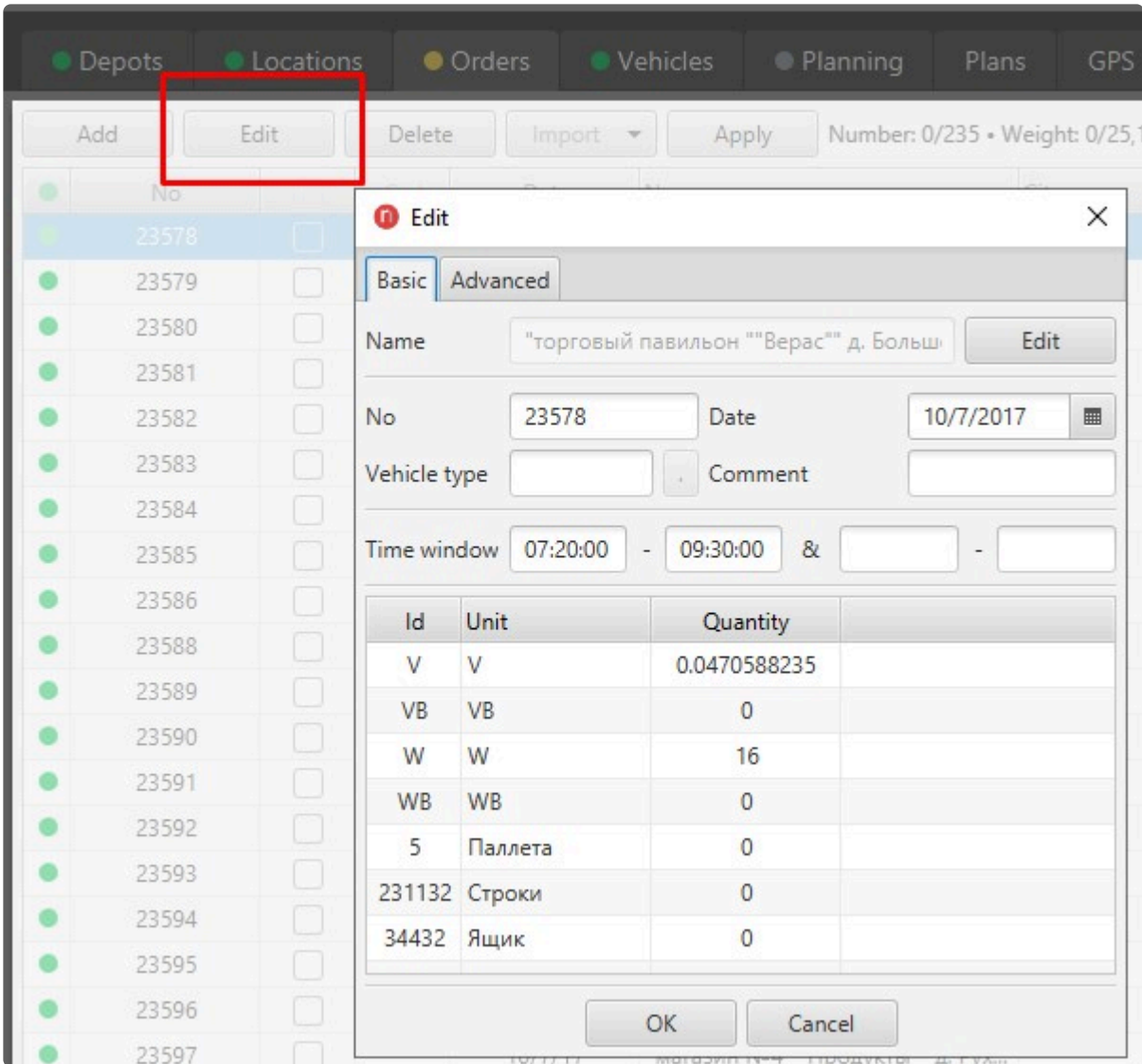
At the bottom of the dialog are "OK" and "Cancel" buttons.

Advanced

- Vehicle – Specific vehicle can be assigned to order. No other vehicles can be used.
- Time at customer – Administrative time at the customer.
- Start of loading – You can set the loading time for each order. I.e. The vehicle must start loading at a defined interval. When filling in only the first window, this value is understood as the earliest possible loading time. If only the second window is filled, the value represents the latest possible loading time.
- Color – You can choose the color of the order, which it will be displayed on the map during planning. Works as a visual cue for convenience.

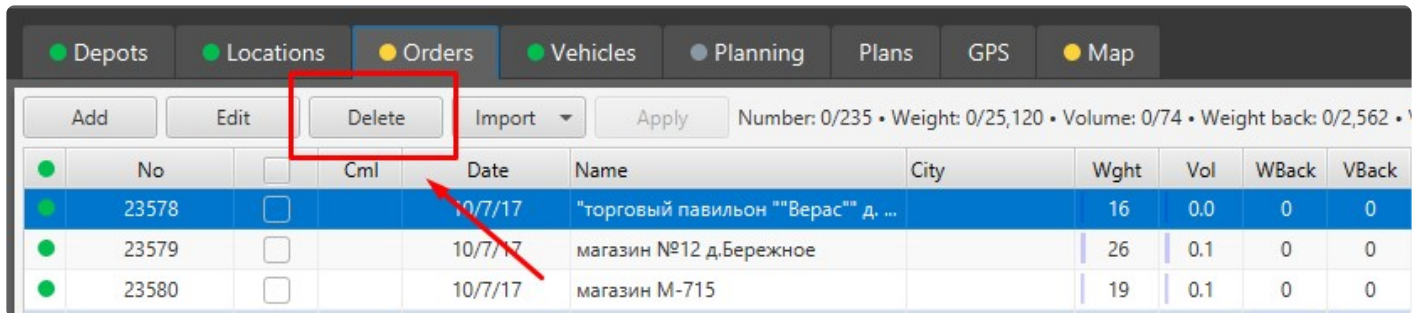
2.3.2. Edit order

All parameters of the order can be adjusted at any time by pressing the “Edit” button.



2.3.3. Delete order

Selected orders can be removed by pressing the **“Delete”** button. Orders can be manually marked or selected all (Ctrl + A).

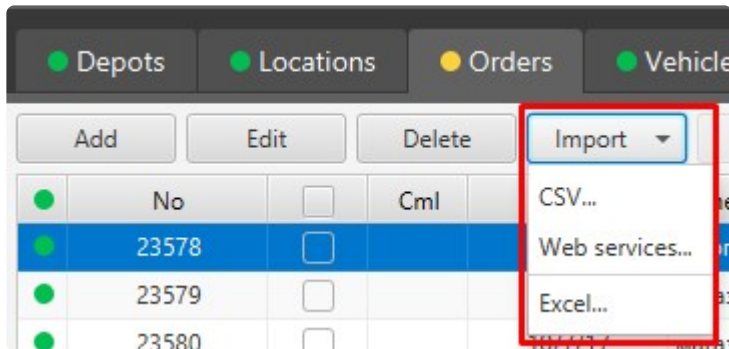


The screenshot shows the Rinkai TMS interface with the 'Orders' tab selected. A red box highlights the 'Delete' button in the top toolbar, and a red arrow points to it from the table area. The table below displays a list of orders with columns for selection, order number, completion status, date, name, city, weight, volume, and return status.

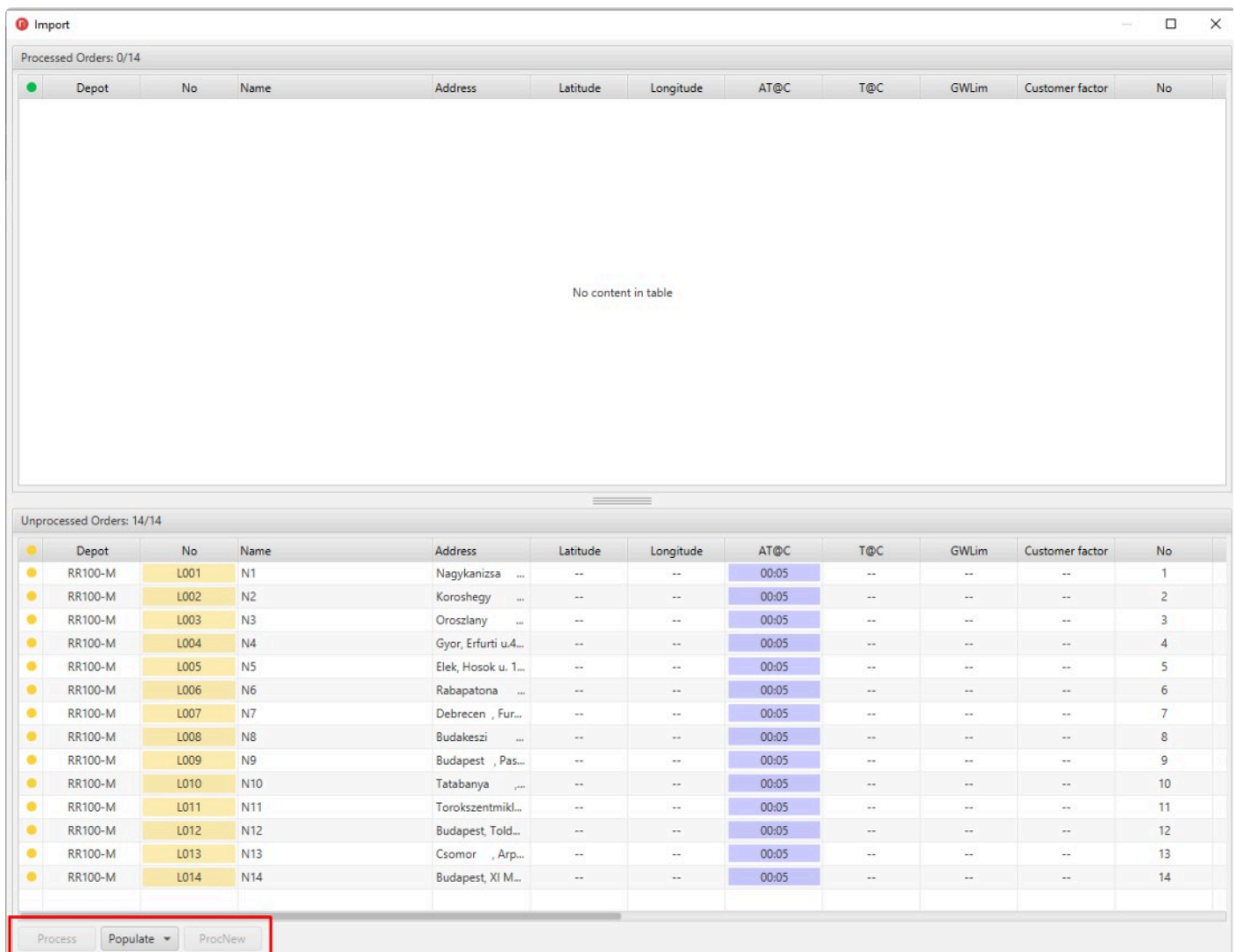
	No	<input type="checkbox"/>	Cml	Date	Name	City	Wght	Vol	WBack	VBack
<input checked="" type="checkbox"/>	23578	<input type="checkbox"/>		10/7/17	"торговый павильон ""Верас"" д. ...		16	0.0	0	0
<input checked="" type="checkbox"/>	23579	<input type="checkbox"/>		10/7/17	магазин №12 д.Бережное		26	0.1	0	0
<input checked="" type="checkbox"/>	23580	<input type="checkbox"/>		10/7/17	магазин М-715		19	0.1	0	0

2.3.4. Import of orders

By pressing the **“Import”** button you can choose the method of importing new orders. When importing a csv file, you must specify its path. The web service imports immediately.



Orders are then divided into two tables. At the top is a list of received orders for already known locations, at the bottom is orders for new or changed locations.



Unknown locations must first be geocoded by pressing the **“Populate”** -> **“Geocode”** button. The system will try to locate the customer’s location on the map from the address provided.

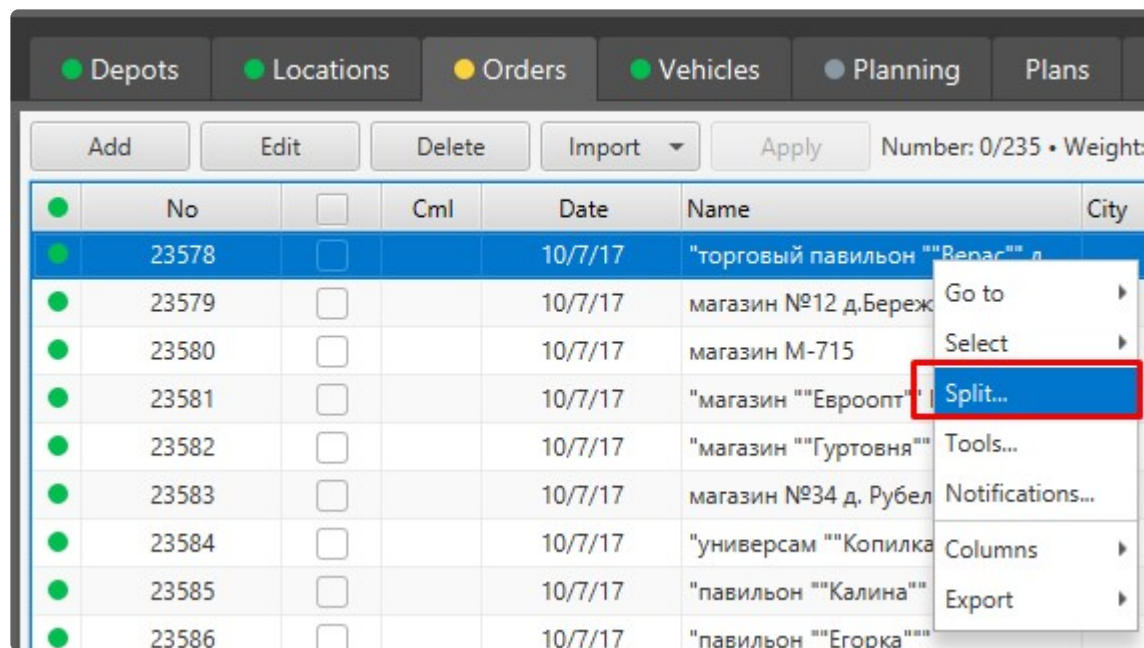
The accuracy of this estimate can be checked in the columns:

- **Score** – Automatic evaluation of a request’s match with a result. For values lower than 85, care should be taken to check automatically determine coordinates. The value 100 corresponds to the exact match of the entered address with the result.
- **Distance** – The distance of the found point from the depot.
- **Area** – It is the area of found object on the map. If it is greater than zero, we recommend checking the result.

2.3.5. Split order

Planning orders may be those that are larger than the largest available vehicle. It is therefore necessary to divide the order for its planning.

Through the context menu (right-click), select the “**Split**” option, there you will be able to easily enter the ratio of weight and size characteristics for separation.



Step by step instruction:

1. Select the unit where the order is divided.
2. Enter the appropriate value for the selected item in Column 2 and confirm by pressing key **Enter**.
3. If you want to split the other units in the same ratio, click on the selected unit and select “**Recalculate**” from the context menu.
4. After pressing the “**OK**” button, the system creates a new order with the original number + extension”: 1” and reduces the amount delivered in the original order.

[illegible]

[illegible]

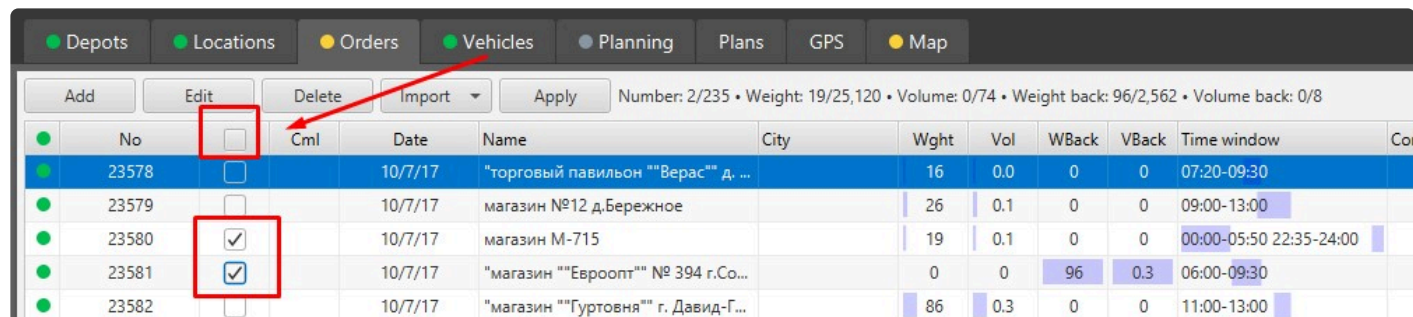
! You need to be careful with this item and / or check with an IT specialist, because most often is seted up that the accounting system checks the numbers of previously unloaded orders by loading routes and a new number will be appeared by splitting orders.

2.3.6. Selecting orders for planning

After loading orders from the interface or manually creating them, you need to select orders for planning. There are two ways to select orders:

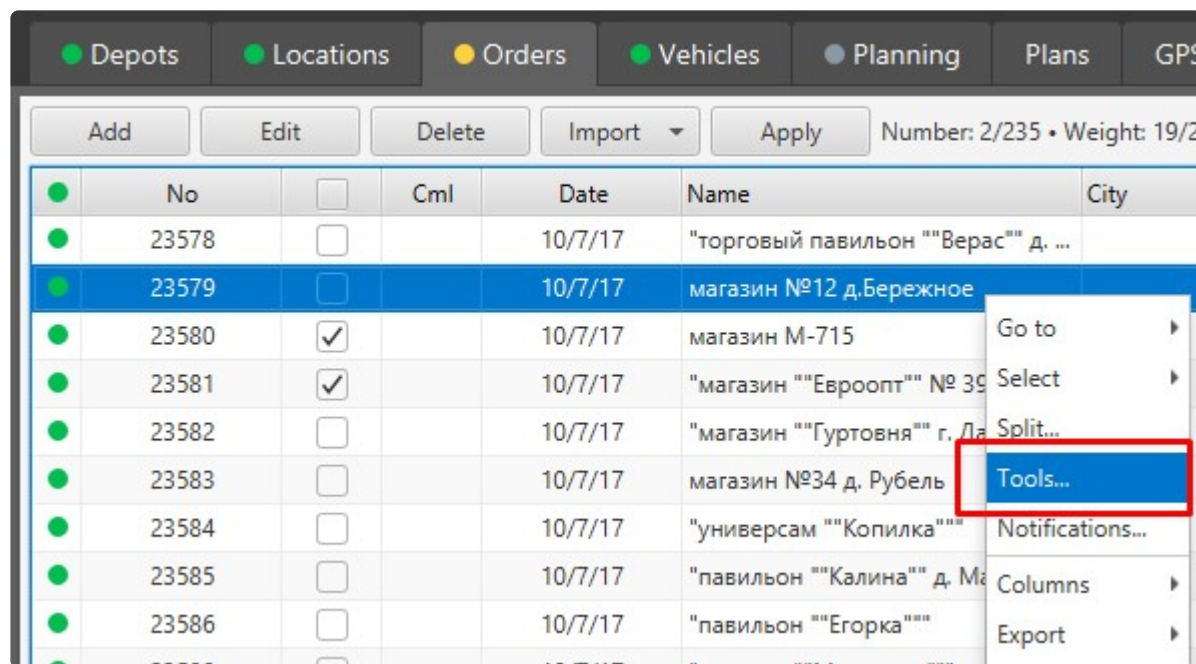
Manual selection

Individual orders can be specified for optimization using the checkbox in the second column. Or you can mark all orders by checking the box in the second column header.



	No	<input type="checkbox"/>	Cml	Date	Name	City	Wght	Vol	WBack	VBack	Time window	Cor
	23578	<input type="checkbox"/>		10/7/17	"торговый павильон ""Верас"" д. ...		16	0.0	0	0	07:20-09:30	
	23579	<input type="checkbox"/>		10/7/17	магазин №12 д.Бережное		26	0.1	0	0	09:00-13:00	
	23580	<input checked="" type="checkbox"/>		10/7/17	магазин М-715		19	0.1	0	0	00:00-05:50 22:35-24:00	
	23581	<input checked="" type="checkbox"/>		10/7/17	"магазин ""Европт"" № 394 г.Со...		0	0	96	0.3	06:00-09:30	
	23582	<input type="checkbox"/>		10/7/17	"магазин ""Гуртовня"" г. Давид-Г...		86	0.3	0	0	11:00-13:00	

Also, orders can be selected based on a number of rules through the **Filter**, which is available in the context menu of the "Tools" item.



	No	<input type="checkbox"/>	Cml	Date	Name	City
	23578	<input type="checkbox"/>		10/7/17	"торговый павильон ""Верас"" д. ...	
	23579	<input type="checkbox"/>		10/7/17	магазин №12 д.Бережное	
	23580	<input checked="" type="checkbox"/>		10/7/17	магазин М-715	
	23581	<input checked="" type="checkbox"/>		10/7/17	"магазин ""Европт"" № 394 г.Со...	
	23582	<input type="checkbox"/>		10/7/17	"магазин ""Гуртовня"" г. Давид-Г...	
	23583	<input type="checkbox"/>		10/7/17	магазин №34 д. Рубель	
	23584	<input type="checkbox"/>		10/7/17	"универсам ""Копилка""	
	23585	<input type="checkbox"/>		10/7/17	"павильон ""Калина"" д. Ма...	
	23586	<input type="checkbox"/>		10/7/17	"павильон ""Егорка""	

List of available filters:

1. by date of delivery (also in the format from – to)
2. by the string contained in the title
3. according to order number

4. according to the weight, volume and third dimension
5. by vehicle type
6. by comment

After setting the required values in each field, the orders are activated / deactivated by pressing the **“Activate”** / **“Deactivate”** button.

The screenshot shows a 'Tools' dialog box with a red box highlighting the 'Activate' and 'Deactivate' buttons. The 'Activity' tab is active. The 'Location' section has fields for Name, Comment, Comment 2, and Distance. The 'Order' section has fields for Date, No, Weight, Volume, Third, CumQties (checked), Time window, Vehicle type, and Comment. A 'Close' button is at the bottom.

Once all the orders to optimize are marked, this selection must be confirmed by pressing the **“Apply”** button.

The screenshot shows the 'Orders' tab in the Rinkai TMS main interface. A table lists orders with columns: No, Cml, Date, Name, and City. The 'Apply' button is highlighted with a red box and an arrow pointing to it. The table shows several orders, with some marked for optimization.

No	Cml	Date	Name	City
23578	<input type="checkbox"/>	10/7/17	"торговый павильон ""Верас"" д. ...	
23579	<input type="checkbox"/>	10/7/17	магазин №12 д.Бережное	
23580	<input checked="" type="checkbox"/>	10/7/17	магазин М-715	
23581	<input checked="" type="checkbox"/>	10/7/17	"магазин ""Евроопт"" № 394 г.Со...	
23582	<input type="checkbox"/>	10/7/17	"магазин ""Гуртовня"" г. Давид-Г...	

2.4. Vehicles

The “**Vehicles**” tab serves to maintain the list of vehicles to be optimized.

● Depots

● Locations

● Orders

● Vehicles

● Planning

Plans

GPS

● Map

Add

Edit

Delete

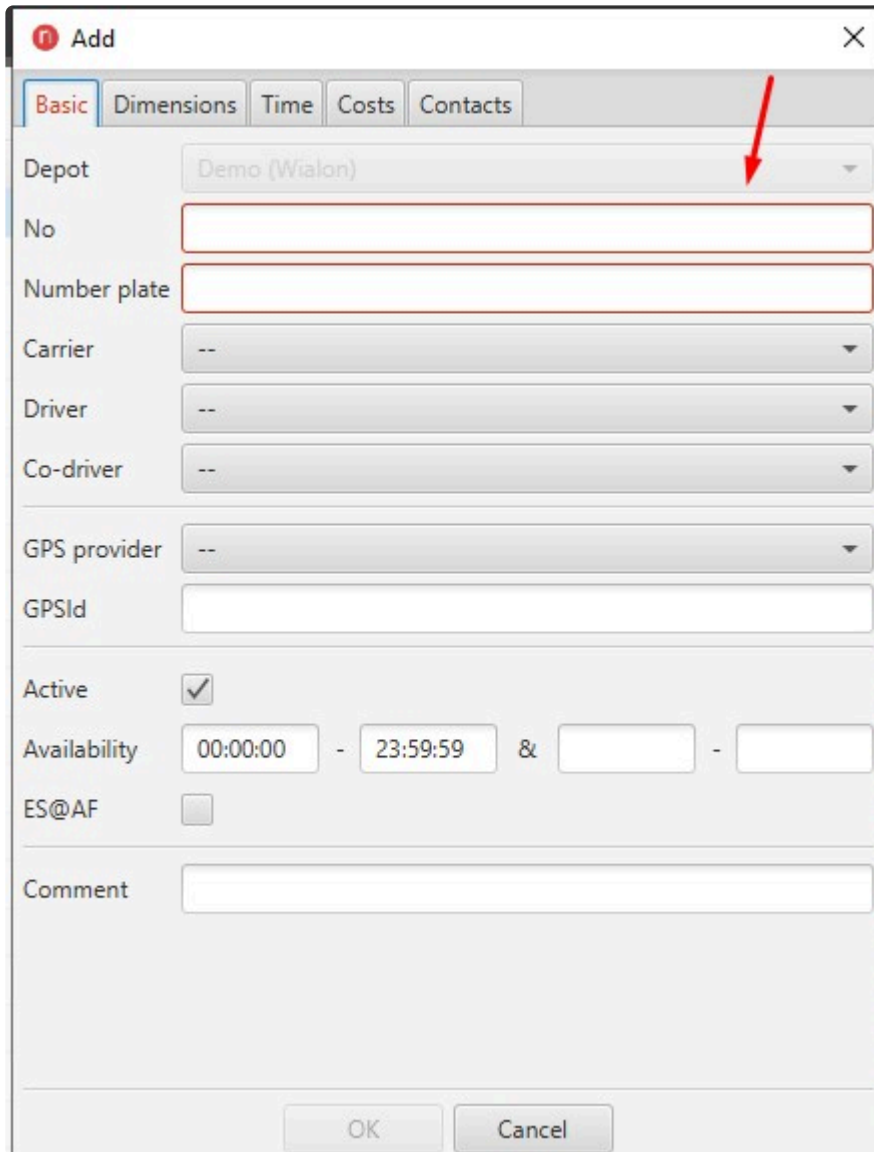
Import ▾

Number: 32/32 • Weight: 44,100/44,100 • Volume: 2,373/2,373

No	Number plate	LdCap	Volume	<input type="checkbox"/>	Availability	Vehicle profile	Carrie
15	A 102 15	1,224	102.0	<input checked="" type="checkbox"/>	00:00-24:00	Delivery car	

2.4.1. Add vehicles

You can add the vehicle by pressing the “**Add**” button. Required fields are highlighted **red** again. Vehicle parameters are divided into five tabs.



The screenshot shows a dialog box titled "Add" with a close button (X) in the top right corner. The dialog has five tabs: "Basic", "Dimensions", "Time", "Costs", and "Contacts". The "Basic" tab is currently selected. The fields in the "Basic" tab are as follows:

- Depot: A dropdown menu showing "Demo (Wialon)". A red arrow points to this field.
- No: A text input field with a red border.
- Number plate: A text input field with a red border.
- Carrier: A dropdown menu showing "--".
- Driver: A dropdown menu showing "--".
- Co-driver: A dropdown menu showing "--".
- GPS provider: A dropdown menu showing "--".
- GPSId: A text input field.
- Active: A checkbox that is checked.
- Availability: A time range selector showing "00:00:00 - 23:59:59" and "& [] - []".
- ES@AF: A checkbox that is unchecked.
- Comment: A text area.

At the bottom of the dialog are "OK" and "Cancel" buttons.

Basic

- No – Vehicle number.
- Number Plate – Vehicle registration plate.
- Carrier – The actual carrier to which the vehicle belongs.
- Driver – The person who normally runs the vehicle.
- Co-driver – forwarding agent.
- GPS Provider – Set up a GPS Vehicle Tracking Service Provider.
- GPSId – Vehicle identification number for GPS tracking.
- Active – If the box is checked, the vehicle is available for scheduling. This field can be changed

directly on the list of vehicles.

- Availability – Time from/until the vehicle is available for delivery.
- Enforce start at Available from – Enforced start of vehicle a time Available from.
- Comment – Comment on the vehicle.

Add

Basic Dimensions Time Costs Contacts

Vehicle profile: Лековые

Vehicle type: Edit

Gross weight:

Load capacity:

Volume:

Third:

Weight utilization [%]:

Volume utilization [%]:

Third utilization [%]:

Maximum routes per vehicle:

Maximum stops per route:

Maximum km per vehicle:

Maximum km per route:

Preloaded: ☐

OK Cancel

Dimensions

- Vehicle profile – Setting of vehicle profile
- Vehicle type – The field allows you to define different types of vehicles (vehicle with front, high vehicle, forklift, etc.).
- Gross weight – Total weigh of a vehicle.
- Load capacity – Maximum load capacity in kg.
- Volume – Maximum vehicle volume in user defined units.
- Third – The capacity of the vehicle can be defined even by a third dimension (e.g. ADR points, number of pallets.).
- Weight utilization – It is possible to allow vehicle overload or to force the system to create a reserve

on the car. The value 100 corresponds to 100% vehicle load. A value of 110 is an allowable overload of 10%, a value of 90 creates a reserve of 10% on the vehicle.

- Volume utilization – Allowing the vehicle to exceed the volume capacity or create a capacity reserve.
- Third utilization – Allowing the vehicle to exceed the third capacity or create a capacity reserve.
- Maximum routes per vehicle – Maximum number of routes for a specific vehicle.
- Maximum stops per route – The maximum number of stops per route for a specific vehicle.
- Maximum km per vehicle – Maximum mileage for a specific vehicle.
- Maximum km per route – maximum mileage per route for a specific vehicle.
- Pre-loaded – If the box is checked, then the vehicle does not consume loading capacity on the first route.

Add

Basic Dimensions **Time** Costs Contacts

Usage time limited ☐

Usage time limit 12:00:00

Usage break ☐

Period 06:00:00

Duration 00:30:00

Driving time limited ☐

Driving time limit 09:00:00

Driving break ☐

Period 04:30:00

Duration 00:30:00

Speed factor [%] 100

Depot factor [%] 100

Customer factor [%] 100

Maximum route duration

Time at depot

OK Cancel

Time

- Usage time limited – If the box is checked, the vehicle's daily usage time is limited to the value of the "Usage time limit" field.

- Usage time limit – Maximum usage time of vehicle including driving, loading and unloading.
- Usage break – Break will be hold after given time.
- Period – Is the time after which a break is to be made.
- Duration – Length of break time.
- Driving time limited – If the box is checked, driving time is limited to a value from the “Driving time” field.
- Driving time limit – Maximal allowed driving time for the vehicle.
- Driving break – If the box is checked, after a certain driving time (“Break period” field), a given break of length from the “Break interval” field is required.
- Period – Driving time, after which it is necessary to take a break of length from the field “Break time”.
- Duration – Minimum break time after the defined driving time is exceeded from the “Period” field.
- Speed factor – The speed of a specific vehicle can be reduced or increased by this factor.
- Depot factor – Coefficient for the loading speed in a depot for a particular vehicle.
- Customer factor – A factor that adjusts the unloading speed at customer for a specific vehicle.
- Maximum route duration – The maximal duration of one route. Suitable for perishable goods.
- Time at depot – Fixed time of loading in the depot. If this parameter is set, the loading time is not calculated from the loaded amount of goods, but it is equal this value

Add

Basic

Dimensions

Time

Costs

Contacts

Fixed costs

0

Costs per km

1

Costs per hour

0

Costs per stop

0

Costs per weight

0

Costs per volume

0

Costs per third

0

Costs per weight back

0

Costs per volume back

0

Costs per third back

0

OK

Cancel

Costs

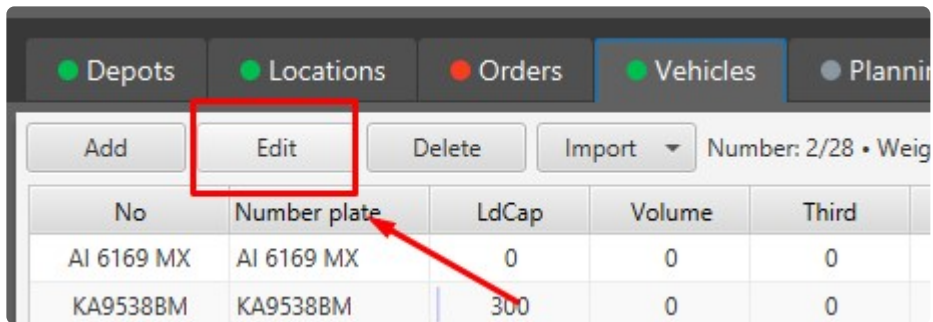
- Fixed costs – A fixed amount corresponding to the cost of using the vehicle regardless of the work performance.
- Cost per km – Mileage
- Cost per hour – Cost per hour of vehicle operation.
- Cost of the stop – Cost per stop.
- Coast per weight
- Coast per volume
- Coast per other
- Coast per weight back
- Coast per volume back
- Coast per third back

Contacts

- Mail – Email address.
- Phone – Phone number.

2.4.2. Edit vehicle

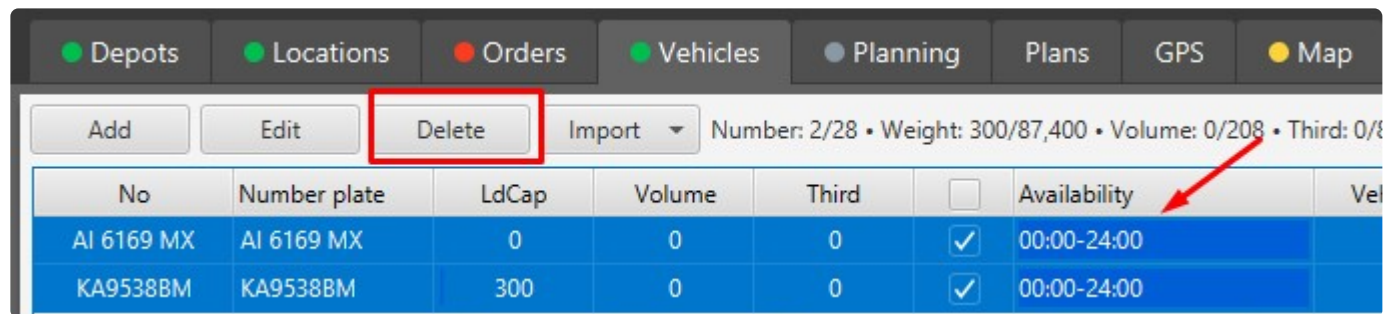
All vehicle data can be freely changed by pressing the “**Edit**” button.



In the event that the changed data on vehicles is transmitted by the interface from the user system, these data **WILL ALWAYS BE OVERRIDDEN** by values from the user system.

2.4.3. Delete the vehicle

Vehicles can be deleted either individually or in bulk by pressing the “**Delete**” button.



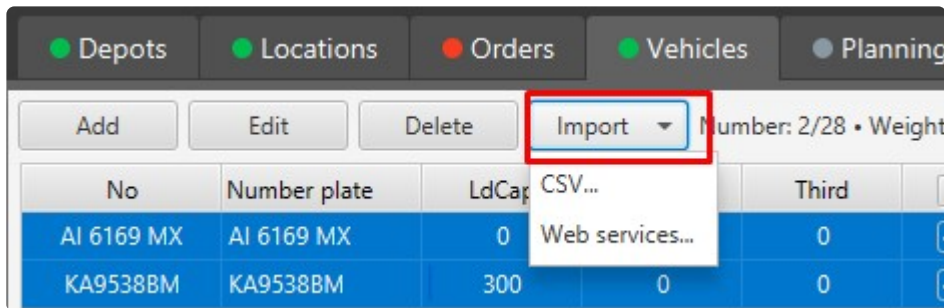
The screenshot shows the Rinkai TMS interface with the 'Vehicles' tab selected. The 'Delete' button is highlighted with a red box. A red arrow points to the 'Availability' column header in the table below.

No	Number plate	LdCap	Volume	Third	<input type="checkbox"/>	Availability	Vel
AI 6169 MX	AI 6169 MX	0	0	0	<input checked="" type="checkbox"/>	00:00-24:00	
KA9538BM	KA9538BM	300	0	0	<input checked="" type="checkbox"/>	00:00-24:00	

The group of multiple deletion vehicles can be selected similarly to the lines in Excel (Shift + Arrow, Ctrl + Mouse Click, etc.).

2.4.4. Import of vehicles

By pressing the “**Import**” button you have to choose the method of importing new vehicles.



When importing a csv file, you must specify its path. The web service imports immediately.

2.4.5. Activation of vehicles

The list of vehicles available for scheduling can be updated by checking the “**Active**” box.

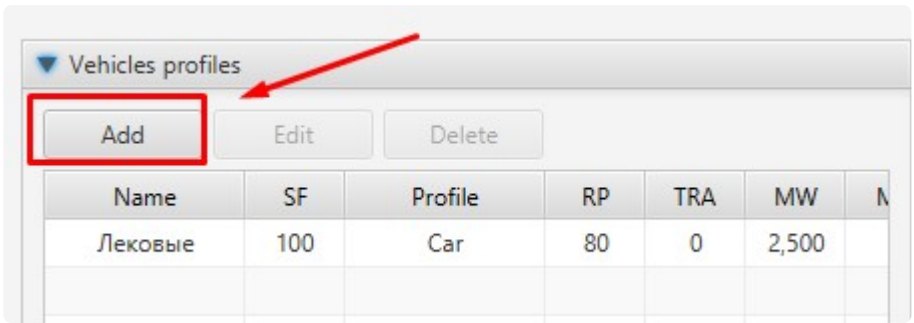
Depots Locations Orders Vehicles Planning Plans GPS Map								
Add Edit Delete Import Number: 2/28 • Weight: 7,400/87,400 • Volume: 18/208 • Third: 74,000/871,000								
No	Number plate	LdCap	Volume	Third	<input type="checkbox"/>	Availability	Vehicle type	Vehic
AI 6169 MX	AI 6169 MX	0	0	0	<input type="checkbox"/>	00:00-24:00		Лё
KA9538BM	KA9538BM	300	0	0	<input type="checkbox"/>	00:00-24:00		Лё
K00000271	AB 01 57 BT Hu...	3,100	8.0	31,000	<input type="checkbox"/>	02:25-19:40	1000000000	Лё
K00000163	AB 01 58 BK Hu...	3,100	8.0	31,000	<input type="checkbox"/>	02:20-17:30	10000000	Лё
K00000115	AB 19 12 BK Hu...	4,300	10.0	43,000	<input checked="" type="checkbox"/>	02:20-15:00	100	Лё
chN000038	AB 28 13 BO H...	3,100	8.0	31,000	<input checked="" type="checkbox"/>	02:15-19:30		Лё
K00000030	AB 28 16 BO H...	3,100	8.0	31,000	<input type="checkbox"/>	02:45-14:30	10000000000000	Лё
chN000036	AB 28 23 BO H...	3,100	8.0	31,000	<input type="checkbox"/>	02:30-16:21		Лё

If multiple vehicles are selected (Shift + Arrow, Ctrl + Mouse Click, etc). These vehicles can be activated or deactivated by checking the box in the column header. Vehicles can also be activated on the basis of a saved plan via the context menu

2.4.6. Profile of the vehicle



Several vehicle profiles can be defined (van, truck, truck with restrictions, etc.). Every vehicle must be assigned to some profile. Is recommended to use one profile for multiple vehicles with the similar parameters. From the entered profiles, a distance matrix is calculated, which contains information about the distances and travel times between locations.



You can create a new profile by pressing the “**Add**” button.

Add

Depot: Demo Киев (GPS)

Name:

Speed factor [%]:

Profile: Car

Routes preference [short/fast]:

Toll roads avoidance [never/always]:

Max weight [kg]:

Max height [cm]:

Max width [cm]:

Max length [cm]:

No	Name	City
1	Клиент 1	Київ, вул. Бере...
10	Клиент 10	Васильків, вул. ...
100	Клиент 100	Бровари, б-р Н...
101	Клиент 101	Погреби, вул. ...
102	Клиент 102	Київ, вул. Анни...
103	Клиент 103	Київ, вул. Курч...
104	Клиент 104	Глибоке, вул. Г...
105	Клиент 105	Київ, вул. Ентуз...
106	Клиент 106	Київ, вул. Дніп...
107	Клиент 107	Київ, вул. Дніп...
108	Клиент 108	Київ, просп. Во...
109	Клиент 109	Бровари, вул. ...
11	Клиент 11	Васильків, вул. ...
110	Клиент 110	Зазимье, вул. О...
111	Клиент 111	Проліски, вул. ...
112	Клиент 112	Васильків, вул. ...

View

50 m

OK Cancel

© OpenStreetMap contributors

Parameters:

- Name – Profile name. This name is then assigned to individual vehicles.
- Speed factor – Maps includes predefined speeds for seven road types. You can make roads faster or slower by this parameter.
- Profile – You can choose from two basic profiles “Car” / “Truck”.
- Route preference [short/fast] – You can set system preferences for fast or short routes using the bar. Zero corresponds to short routes, hundred value is fast. The costeffective route is roughly reached for 80. The settings can then be checked for any location.
- Toll roads avoidance [never/always] – You can regulate the use of paid roads (0 – never use paid roads, 100 – never avoid paid roads)
- Max weight [kg] – Set the total vehicle weight in kilograms. Routes will be run on roads with permissible passage of vehicles with maximum total weight.
- Max height [cm] – Height adjustment in centimetres. Routes will be run on roads with authorized passage of vehicles at the maximum entered height.
- Max width [cm] – Adjusts the width of the vehicle in centimetres. Routes will be run on roads with authorized passage of vehicles with the maximum width specified.
- Max length [cm] – Setting the vehicle length in centimetres. The routes will be run on roads with authorized passage of vehicles with a maximum length.

Profile settings can be verified on the route from the depot to any location (or from location to the depot).

Select a location from the list and press the **“View”** button to display the route from the depot to the selected location (or from location to the depot).

Using the context menu on the map, you can display individual prohibition signs (**“Show restrictions”**), including their technical description. The description appears as a tooltip above the specific restriction. It is also possible to display actual speeds on the map (**“Show actual speeds”**). The speed limit and the actual speed are only displayed when the map is zoomed in closer.

Also you could see the route on the different web map.

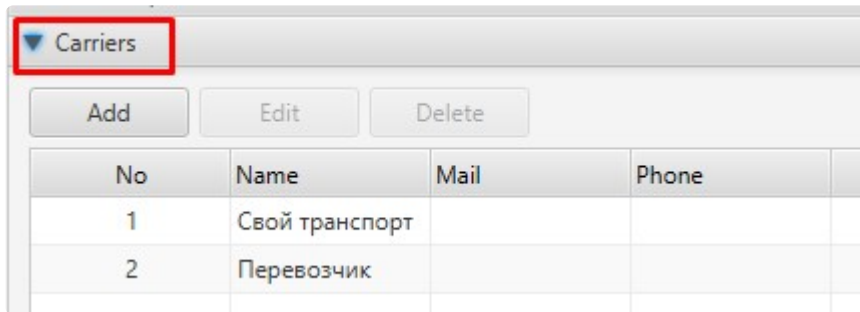
No	Name	City
1	Клиент 1	Київ, вул. Бере...
10	Клиент 10	Васильків, вул. ...
100	Клиент 100	Бровари, б-р Н...
101	Клиент 101	Погреби, вул. ...
102	Клиент 102	Київ, вул. Анни...
103	Клиент 103	Київ, вул. Курч...
104	Клиент 104	Глибоке, вул. Г...
105	Клиент 105	Київ, вул. Ентуз...
106	Клиент 106	Київ, вул. Дніп...
107	Клиент 107	Київ, вул. Дніп...
108	Клиент 108	Київ, просп. Во...
109	Клиент 109	Бровари, вул. ...
11	Клиент 11	Васильків, вул. ...
110	Клиент 110	Зазимье, вул. О...
111	Клиент 111	Проліски, вул. ...
112	Клиент 112	Васильків, вул. ...

- Each profile can be changed freely. Each time you save the change, the saved distances and the travel times for the changed profile are deleted.
Thus, the distance matrix for this profile will be recalculated during planning.
- Profiles can be deleted by pressing the **“Delete”** button below the list of available profiles. However, the profile can only be removed if no existing vehicle is referenced.

2.4.7. Carriers

A carrier can be assigned to each vehicle. The list of carriers is maintained in the “**Carriers**” section. Here you can create, edit or delete carriers.

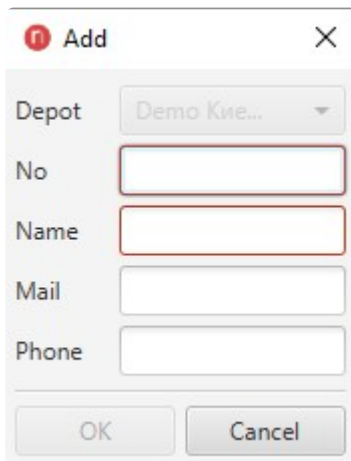
A carrier can only be deleted if it has no driver and vehicle assigned.



No	Name	Mail	Phone
1	Свой транспорт		
2	Перевозчик		

The following data can be maintained with the carrier:

- No – The carrier’s identification number. It is used mainly for data transfer between Rinkai and ERP of the customer.
- Name – Carrier name.
- Mail – Email contact to the carrier
- Phone – Telephone contact of the carrier.



Add [Close]

Depot: Демо Кие...

No: [Input Field]

Name: [Input Field]

Mail: [Input Field]

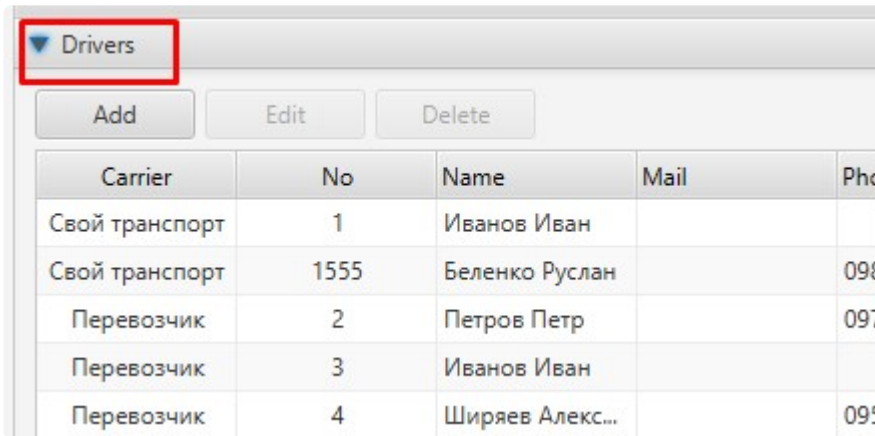
Phone: [Input Field]

[OK] [Cancel]

2.4.8. Drivers

Each vehicle can be assigned a driver. The list of drivers is kept in the **“Drivers” section**.

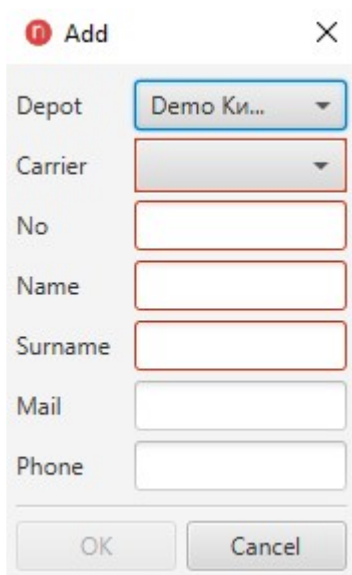
Here you can create, edit or delete drivers. Drivers can only be deleted if they are not assigned to any vehicle.



Carrier	No	Name	Mail	Phc
Свой транспорт	1	Иванов Иван		
Свой транспорт	1555	Беленко Руслан		098
Перевозчик	2	Петров Петр		097
Перевозчик	3	Иванов Иван		
Перевозчик	4	Ширяев Алекс...		095

The following data can be maintained with the driver:

- No – The driver’s identification number. It is used mainly for data transfer between Rinkai and ERP of the customer.
- Name
- Surname
- Mail – Email contact to the driver
- Phone – Telephone contact of the driver.



Add [X]

Depot: Демо Ки... [v]

Carrier: [v]

No: []

Name: []

Surname: []

Mail: []

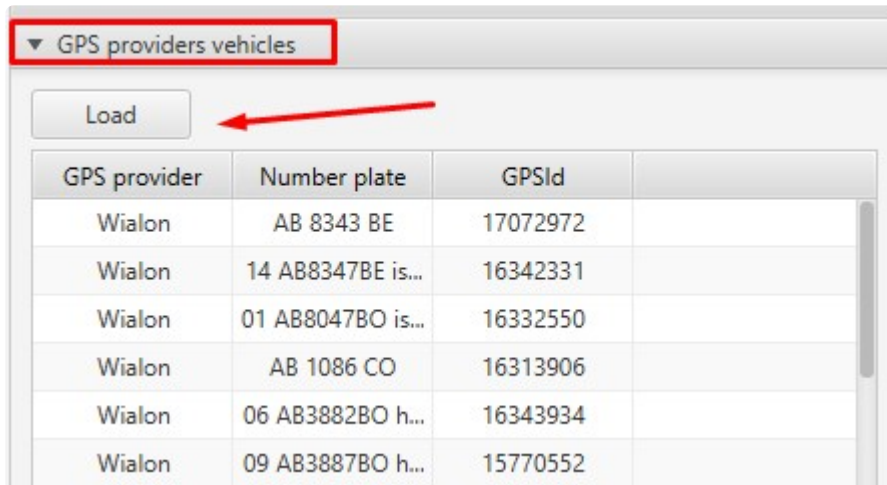
Phone: []

[OK] [Cancel]

2.4.9. GPS providers vehicles

If the vehicle is equipped with a GPS unit, the vehicle can be paired with the unit. A list of all available units with their identifiers can be found in the folder **Vehicle GPS Providers**.

The list is retrieved by pressing the “**Load**” button. Pair the unit with the vehicle simply by drag-and-drop (grab the line with the GPS unit and drag it to the desired vehicle).



▼ GPS providers vehicles			
Load			
GPS provider	Number plate	GPSId	
Wialon	AB 8343 BE	17072972	
Wialon	14 AB8347BE is...	16342331	
Wialon	01 AB8047BO is...	16332550	
Wialon	AB 1086 CO	16313906	
Wialon	06 AB3882BO h...	16343934	
Wialon	09 AB3887BO h...	15770552	

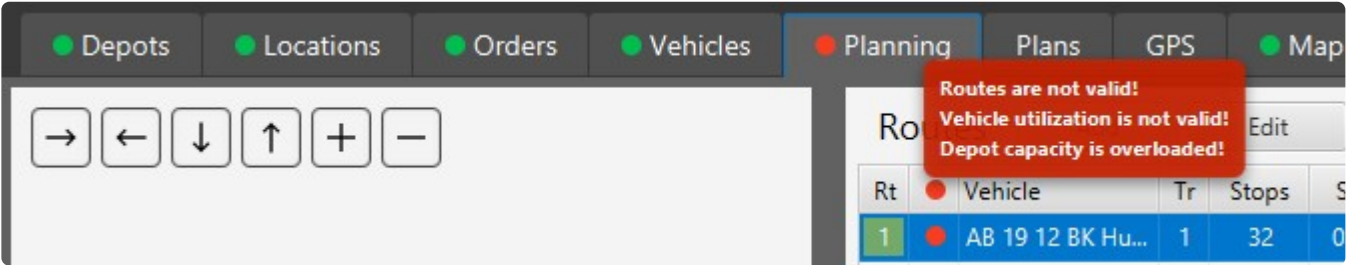
2.5. Planning

Before the planning starts, the following steps should be taken to plan:

- 1. Select available vehicles and, if necessary, adjust their parameters.
- 2. Activate relevant orders

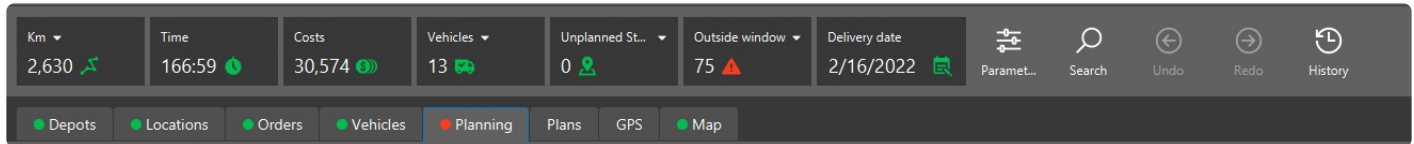
Validity

Depending on the colour of the traffic light, any problems or breaking of some restrictions can be easily identified. For each traffic light, with a colour other than green, a tool tiú can be displayed with the list of reason for the warning. A violation problem may arise with routes, stops, vehicles and loading capacity.



2.5.1. Information panel

The top of the screen contains a summary of all the most important plan indicators and includes icons to change planning parameters, search, etc.

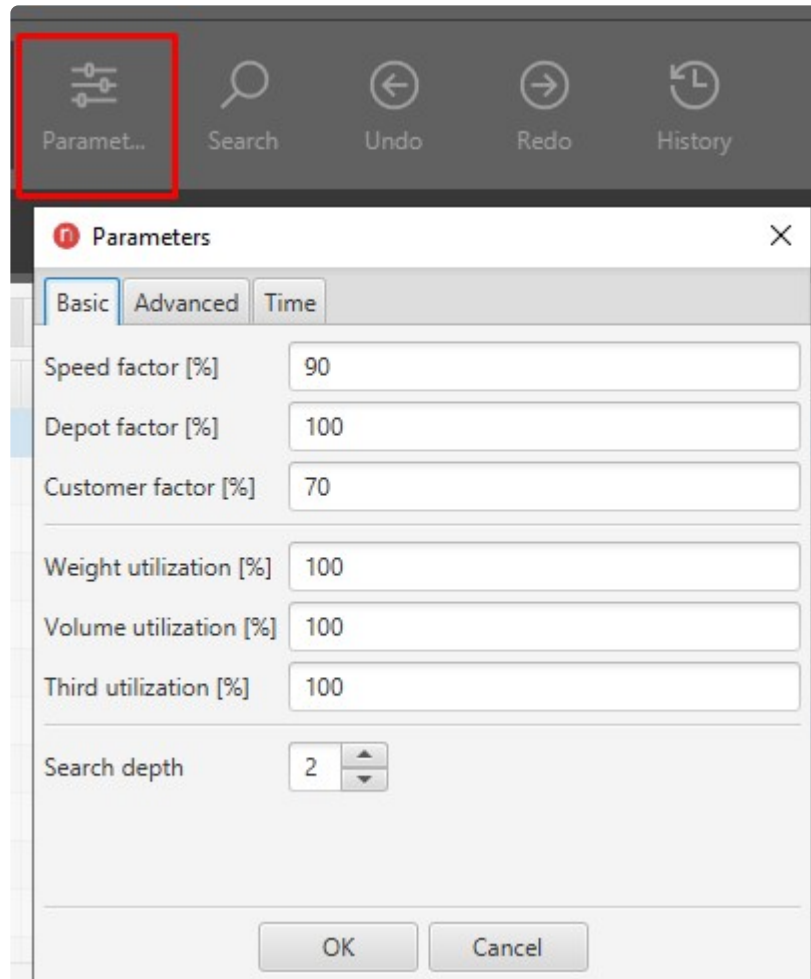


- Km – Total number of planned kilometres. / Km toll – Total number of toll kilometres.
- Time – Total planned time.
- Costs – Planned costs.
- Vehicles – The number of used vehicles. / Routes – The number of routes.
- Unplanned stops – The number of unplanned stops. / Stops – The number of all stops
- Outside window – The number of stops outside of time windows. / After window – The number of stops delivered after time windows.
- Delivery date – Planned delivery date. Can be changed.
- Parameters – Allows you to set basic planning parameters.
- Search – Search for stops.
- Undo, Redo – Use the arrows to go back to previous plans and back again.
- History – Allows you to view the entire history.

2.5.2. Parameters

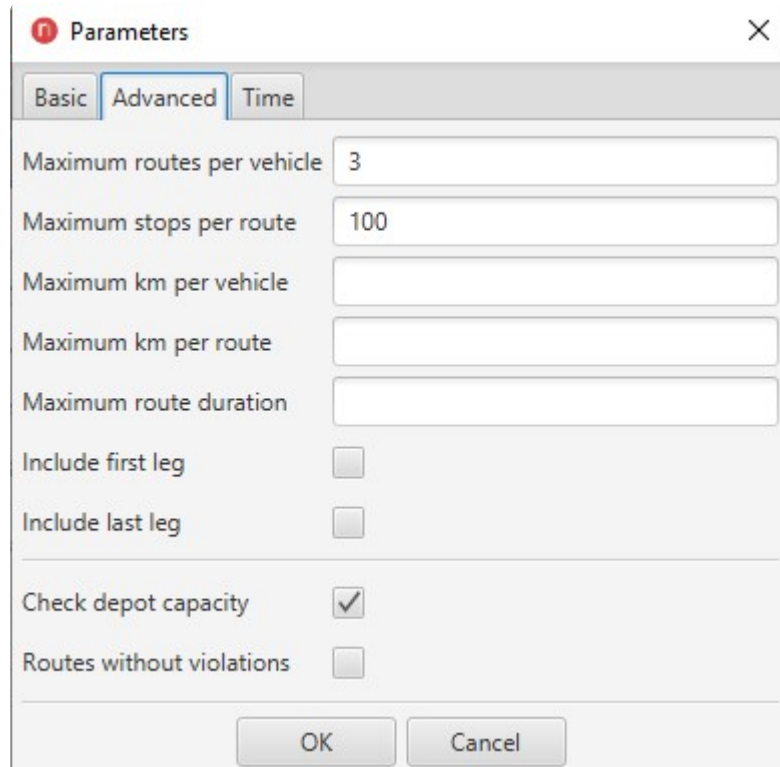
The automatically created plan always follows the set constraints and assumptions.

Some of these assumptions can be easily changed in the cockpit by pressing the “**Equalizer**” button.



Basic

- Speed factor – Acceleration (> 100) or deceleration (<100) of the road network, i.e. shortening or extending the driving time. Applies to all used vehicles.
- Depot factor – Accelerate or slow down the loading of vehicles in the depot.
- Customer Factor – Accelerate or slow down unloading time for all vehicles. It does not apply to the customer's administrative time
- Weight utilization – Allow vehicle overload (> 100) or create reserve (<100).
- Volume utilization – Allow vehicle overload (> 100) or create reserve (<100).
- Third utilization – – Allow capacity to be exceeded in the third dimension.
- Search depth – Adjusts the depth of the scan.

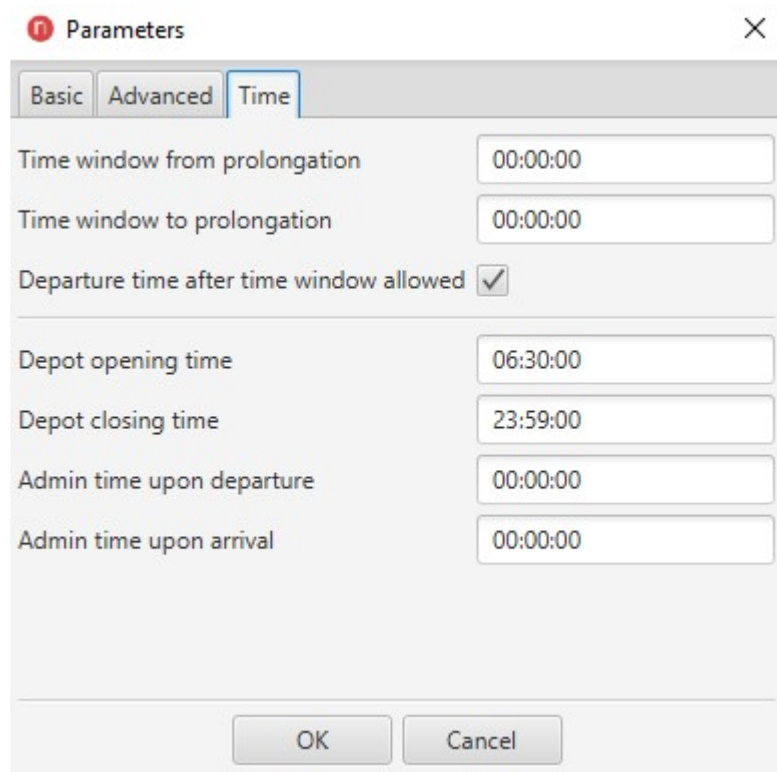


The image shows a 'Parameters' dialog box with three tabs: 'Basic', 'Advanced', and 'Time'. The 'Advanced' tab is selected. It contains several input fields and checkboxes. The 'Maximum routes per vehicle' field is set to '3'. The 'Maximum stops per route' field is set to '100'. The other fields ('Maximum km per vehicle', 'Maximum km per route', 'Maximum route duration') are empty. The 'Include first leg' and 'Include last leg' checkboxes are unchecked. The 'Check depot capacity' checkbox is checked. The 'Routes without violations' checkbox is unchecked. At the bottom are 'OK' and 'Cancel' buttons.

Parameter	Value
Maximum routes per vehicle	3
Maximum stops per route	100
Maximum km per vehicle	
Maximum km per route	
Maximum route duration	
Include first leg	<input type="checkbox"/>
Include last leg	<input type="checkbox"/>
Check depot capacity	<input checked="" type="checkbox"/>
Routes without violations	<input type="checkbox"/>

Advanced

- Maximum routes per vehicle – Maximum allowed number of routes for all vehicles.
- Maximum stops per route – Maximum number of stops per route.
- Maximum km per vehicle – maximum mileage for the vehicle.
- Maximum km per route – maximum mileage for the route
- Maximum route duration – The longest possible route duration (time).
- Include first leg – Include first section (depot -> first stop) to the duration of the route.
- Include last leg – Include the last section (last stop -> depot) to the duration of the route.
- Check depot capacity – Set whether the depot capacity should be checked.
- Routes without violations – System will respect all maps violations and restrictions during routes optimization.



The image shows a 'Parameters' dialog box with a red 'n' icon and a close button. It has three tabs: 'Basic', 'Advanced', and 'Time'. The 'Time' tab is selected. It contains several time-related parameters with input fields and a checkbox. The values are as follows:

Parameter	Value
Time window from prolongation	00:00:00
Time window to prolongation	00:00:00
Departure time after time window allowed	<input checked="" type="checkbox"/>
Depot opening time	06:30:00
Depot closing time	23:59:00
Admin time upon departure	00:00:00
Admin time upon arrival	00:00:00

At the bottom are 'OK' and 'Cancel' buttons.

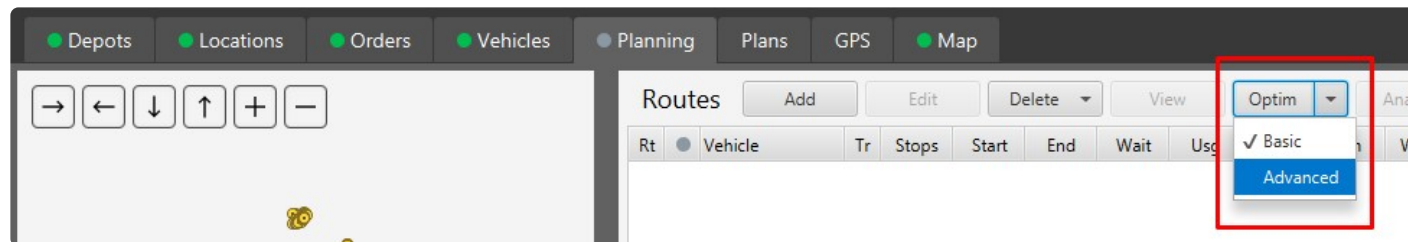
Time

- Time window from prolongation – Extends the start of all time windows by the specified value.
- Time window to prolongation – Extends the end of all time windows by the specified value.
- Departure time after time window allowed – Departure after the time window. The value “Yes” allows you to arrive at a customer in a time window, but the unloading may end after a time window.
- Depot opening time – The first time you can start the route.
- Depot closing time – The time of the latest end of the route.
- Admin time upon departure – This parameter allows you to set the fixed time that each vehicle spends before starting the route in the depot.
- Admin time upon arrival – This parameter allows you to set the fixed time that each vehicle spends at the end of the route in the depot.

2.5.3. Automatic optimization

Automatic optimization of all orders is started by pressing the “**Optim**” button at the top of the “Routes” table.

Then you can set different optimization methods and their parameters.



Basic

Optimization starts immediately. The search depth can be set in the parameters. Just remember, that the deeper search means better the result, but longer computing time.

Advanced

Some parameters can be set before starting the optimization

Method

- All methods – All three optimization methods will be used.
- Methods CL, IW, C – You can choose a specific optimization method. The methods differ in the duration of the calculation (CL is the fastest method).

Search depth – Setting of search depth.

Prefer costs – If the box is not checked, the system returns a solution with as lowest number of unplanned orders. Otherwise, it returns the solution with lowest cost.

Close stops – The system attempts to place all nearby stops within a 50-meter radius on one route.

Optimize km – The system minimizes only mileage regardless of time.

Waiting time – You can set the maximum allowed wait time on one route.

When the calculation is done, the system displays the cheapest solution. Use the **“Variants”** option from context menu to see other solutions found that are more expensive, but may contain fewer unplanned orders. Pressing the **“Apply”** button will display the selected alternative plan.

The screenshot shows the Rinkai TMS interface with a top toolbar containing buttons for Km toll, Time, Costs, Vehicles, Unplanned St..., After window, Delivery date, Paramet..., Search, Undo, Redo, History, and Logout. Below the toolbar is a navigation bar with tabs for Depots, Locations, Orders, Vehicles, Planning, Plans, GPS, and Map. The main area displays a 'Routes' table with columns: Rt, Vehicle, Tr, Stops, Start, End, Wait, Usg, Driv, Km, WUtil, VUtil, TUtil, Wgt, and a context menu. The context menu is open, showing options: Map, Depot capacity utilization, Two panels, Unplanned stops, Variants (highlighted), and Save options. To the right of the table is a summary table with columns: Add, Apply, DelAll, US, Km, Vehicles, and Costs. The summary table shows values: 0, 2,630, 13, 30,574.

Rt	Vehicle	Tr	Stops	Start	End	Wait	Usg	Driv	Km	WUtil	VUtil	TUtil	Wgt
1	AB 19 12 BK Hu...	1	32	06:30	20:26	02:17	13:56	03:24	86	91%	63%	1%	4
2	AB 38 86 BO H...	1	37	06:55	19:57	00:00	13:02	05:38	162	96%	71%	1%	13
3	AB 46 14 CO M...	1	30	06:51	20:26	00:00	13:35	06:43	308	54%	31%	0%	1,351
4	AB 46 17 CO M...	1	48	07:12	21:58	00:00	14:46	05:53	204	99%	52%	1%	2,470
5	AB 46 23 CO M...	1	26	07:07	18:35	00:00	11:28	07:09	344	35%	19%	0%	866
6	AB 47 09 CO M...	1	35	07:13	21:39	00:00	14:27	07:10	331	45%	28%	0%	1,125
7	AB 47 14 CO M...	1	37	08:30	18:29	00:00	09:59	02:06	45	82%	44%	1%	2,044

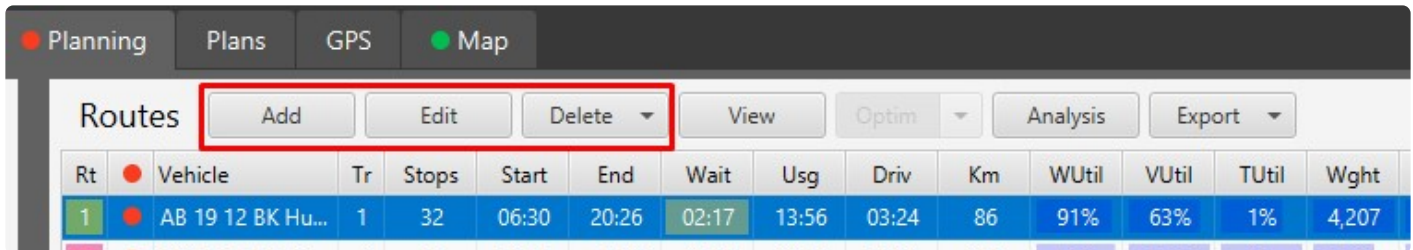
Add	Apply	DelAll	US	Km	Vehicles	Costs
			0	2,630	13	30,574

When creating different plans, you can save individual steps and then return to them later. You only need to select the **“Variants”** option via the context menu above the route header. Pressing the **“Add”** button adds a row to the list with the number of orders, the total mileage and the total cost. Each saved schedule can be restored by pressing the **“Apply”** button. The **“DelAll”** button is used to clear the list of plan positions.

2.5.4. Manual route creation

The routes can be created manually.

The first step is to create a new route, select a suitable vehicle, set the start of the route by pressing the **“Add”** button. You can either edit existing routes by pressing the **“Edit”** button or delete them using the **“Delete”** button. You can also delete multiple routes at a time.



After hitting button **“Add”**, simply select the vehicle from the list and enter the required start in the **“Start time”** field. You can also assign any number to the route. If you want to allow automatic route planning to change your route, then unlock the route by unchecking the **“Locked”** field.

Add

Basic

No	Number plate	Carrier	Driver	Co-driver	Active	Availability	Weight	Volume	Third	Vehicle type
K00000271	AB 01 57 BT Hu...				<input type="checkbox"/>	06:30-21:00	3,100	8	31,000	0
K00000163	AB 01 58 BK Hu...				<input type="checkbox"/>	06:30-20:00	3,300	8	31,000	0
K00000115	AB 19 12 BK Hu...				<input type="checkbox"/>	06:30-20:00	4,600	10	43,000	0
K00000030	AB 28 16 BO H...				<input type="checkbox"/>	06:00-20:00	3,100	8	31,000	0
chN000036	AB 28 23 BO H...				<input type="checkbox"/>	06:00-20:00	3,100	8	31,000	0
K00000356	AB 38 86 BO H...				<input type="checkbox"/>	06:00-22:30	3,300	8	31,000	0
K00000124	AB 38 90 BO H...				<input type="checkbox"/>	06:00-20:00	3,100	8	31,000	0
K00000475	AB 46 14 CO M...				<input type="checkbox"/>	06:00-21:00	2,500	7	25,000	0
K00000477	AB 46 17 CO M...				<input type="checkbox"/>	06:00-20:00	2,500	7	25,000	0
K00000481	AB 46 23 CO M...				<input type="checkbox"/>	06:00-22:00	2,500	7	25,000	0
K00000485	AB 47 09 CO M...				<input type="checkbox"/>	06:00-21:00	2,500	7	25,000	0
K00000493	AB 47 14 CO M...				<input type="checkbox"/>	06:00-20:00	2,500	7	25,000	0
K00000498	AB 47 17 CO M...				<input type="checkbox"/>	06:00-20:30	2,500	7	25,000	0
K00000502	AB 47 21 CO M...				<input type="checkbox"/>	06:00-20:00	2,500	7	25,000	0
K00000506	AB 48 16 CO M...				<input type="checkbox"/>	06:00-20:00	2,500	7	25,000	0
chN000044	AB 62 63 BO H...				<input type="checkbox"/>	06:00-21:00	3,100	8	31,000	0

Carrier -- Start time 06:30:00
Driver -- No
Co-driver -- Comment

Locked ☒

OK Cancel

Then, you can add individual orders from the **“Unplanned Stops”** table by drag & drop.

Orders can be added either individually or through a multiple selection. Another option is to mark orders in the map.

Routes

Rt	Vehicle	Tr	Stops	Start	End	Wait	Usq	Driv	Km	WUtil	VUtil	TUtil	Wght	Vol	Third	WBack	VBack	TBack	GWLim	VehT
1	AB 01 57 BT Hu...	1	0	06:30	06:30	00:00	00:00	00:00	0	0%	0%	0%	0	0	0	0	0	0	0	0

Stops

Rt	Stop	Name	City	Km	Wait	Usq	Driv	Arriv	Dep	Time window	Wght	Vol	Third	WBack	VBack	TBack	GWLim
1	LDtest			0	00:00	00:00	00:00	06:30	06:30	06:30-23:59	0	0	0	0	0	0	0
1	LDtest			0	00:00	00:00	00:00	06:30	06:30	06:30-23:59	0	0	0	0	0	0	0

Unplanned Stops • 105/483 • Weight: 3,788/26,070 • Volume: 6.1/41.2 • Third: 208/1,685 • Weight back: 115/715 • Volume back: 0.2/1.3 • Third back: ...

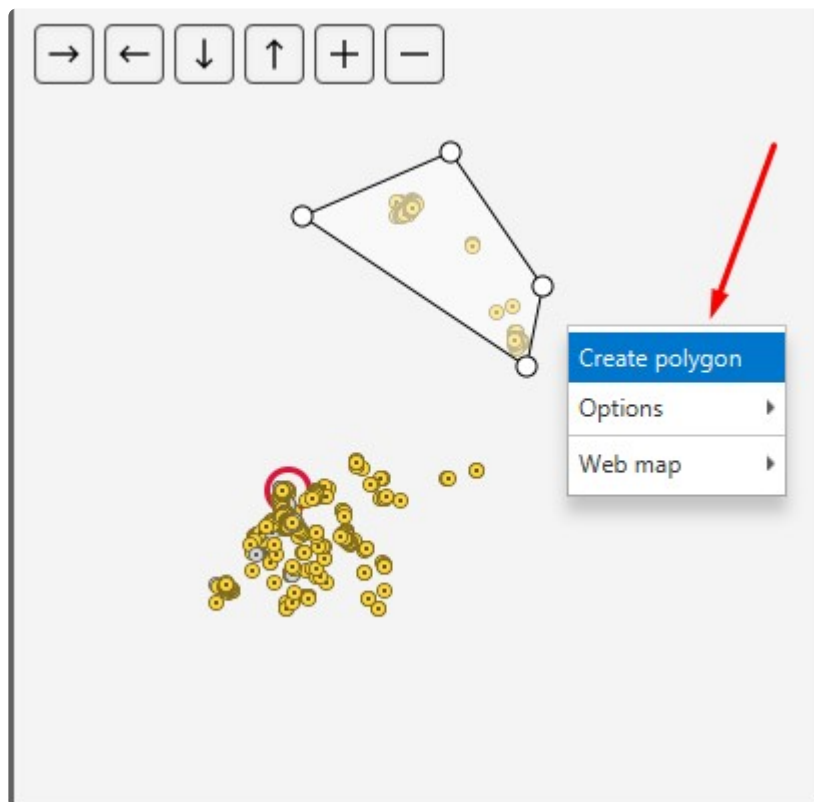
OrderNo	LocNo	Name	Date	Time window	Wght	Vol	Third	WBack	VBack	TBack	GWLim	VehT	Comment
<O>chkk00005...	81273	Хорошум Г.Ю.	1/6/22, 1/6/22	09:00-16:00	12	0.0	0	1	0.0	1	5,500	0	О4-3 (51 Визит...
<O>chkk00005...	102565	Черняк Л.А.	1/6/22, 1/6/22	09:00-16:00	6	0.0	0	2	0.0	5	5,500	0	О4-3 (51 Визит...
Ldk00000444	110572	Макаренко А.В. ""Coffee Boss""	1/6/22	08:00-10:00	18	0.0	2	0	0	0	5,500	0	О4-4 (51 Визит...
Ldk00000538	82699	Колот О.В. КВ Стрижень (Хорска)	1/6/22	10:00-18:00	14	0.0	1	0	0	0	5,500	0	О4-4 (51 Визит...
Ldk00000458	81186	Альянс маркет ТзОВ (Общий)	1/6/22	08:00-16:00	148	0.2	14	0	0	0	5,500	0	Заказ в 1С соз...
<O>chkk00004...	106978	Кот М.П.	1/6/22, 1/6/22	09:00-17:00	19	0.0	0	2	0.0	3	5,500	0	О4-5 (51 Визит...
<O>Ldk000001...	81481	ТОРНАДО-РЕ ТОВ	1/6/22, 1/6/22	08:00-19:00	13	0.0	0	5	0.0	12	5,500	0	О4-5 (51 Визит...
Ldk00000523	81319	Позняк Л.М.	1/6/22	09:00-13:00	6	0.0	1	0	0	0	5,500	0	О4-5 (51 Визит...
<O>Ldk000002...	81322	Свириденко В.К.	1/6/22, 1/6/22, ...	09:00-16:00	51	0.1	1	4	0.0	7	5,500	0	О4-5 (51 Визит...
Ldk00000488	32011	Базис АТ	1/6/22	08:00-13:00 14:00-16:00	127	0.2	11	0	0	0	15,000	0	

Vehicle Utilizations

Vehicle	LdCap	Vol	Third
AB 01 57 BT Hu...	3,100	8.0	31,000
AB 01 58 BK Hu...	3,300	8.0	31,000
AB 19 12 BK Hu...	4,600	10.0	43,000
AB 28 16 BO H...	3,100	8.0	31,000
AB 28 23 BO H...	3,100	8.0	31,000
AB 38 86 BO H...	3,300	8.0	31,000
AB 38 90 BO H...	3,100	8.0	31,000

Depot Capacity Utilization

Use the context menu above the map to create a polygon. The polygon can then be freely edited to select the desired orders from the map. The next vertex of the polygon is created by clicking on the polygon's edge while holding down the "Ctrl" key. The vertex of the polygon can be deleted via the context menu above the desired vertex. Marked orders are automatically selected in the "Unplanned stops" table. From the table you can easily transfer orders to any route. Remove the polygon by clicking anywhere on the map.



The sequence of stops on the route can be changed again. To switch an order from a route to a route, use the view with two route display tables. To switch between these views, use the context menu above the

route table header.

The screenshot shows the 'Routes' table with columns: Rt, Vehicle, Tr, Stops, Start, End, Wait, Usg, Driv, Km, WUtil, VU. Two routes are listed. A context menu is open over the first route, showing options: 'Save temporary plan', 'Stops optimization', 'Options', 'Map', 'Depot capacity utilization', 'Two panels', 'Unplanned stops', 'Variants', and 'Save options'. A red box highlights the 'Two panels' option.

Rt	Vehicle	Tr	Stops	Start	End	Wait	Usg	Driv	Km	WUtil	VU
1	AB 01 57 BT Hu...	1	6	06:30	13:16	00:00	06:46	05:51	284	7%	4%
2	AB 01 58 BK Hu...	1	12	06:30	12:24	00:00	05:54	03:44	140	39%	22%

For all routes, there are several ways to modify them automatically.

The screenshot shows the 'Stops' table with columns: Rt, Stop, Name, City, Km, Wait, Usg, Driv, Arriv, Dep, Time window, Wght, Vol, Thirid, WBack. The 'Reverse' button is highlighted with a red box.

Rt	Stop	Name	City	Km	Wait	Usg	Driv	Arriv	Dep	Time window	Wght	Vol	Thirid	WBack
1		LDtest		0	00:00	00:00	00:00	06:30	06:32	06:30-23:59	0	0	0	0
1	1	Хорошун Г.Ю.	Чернігів, вул. ...	140	00:00	02:52	02:50	09:22	09:27	09:00-16:00	12	0.0	0	1
1	2	Черняк І.А.	Чернігів, вул. 1...	0	00:00	02:58	02:50	09:28	09:36	09:00-16:00	6	0.0	0	2
1	3	Макаренко А.В. ""Coffee Boss""	Чернігів, вул. 7...	1	00:00	03:08	02:53	09:38	09:40	08:00-10:00	18	0.0	2	0
1	4	Колот О.В. KB Стрижень (Хорека)	Чернігів, вул. В...	1	00:00	03:13	02:56	09:43	09:45	10:00-18:00	14	0.0	1	0
1	5	Альянс маркет ТзОВ (Общий)	Чернігів, вул. Г...	1	00:00	03:18	02:58	09:48	10:12	08:00-16:00	148	0.2	14	0

Reverse – Reverts the order of stops.

Recalc

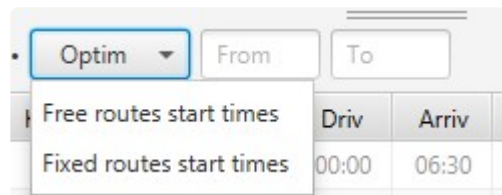
The screenshot shows the 'Recalc' dropdown menu with four options: 'Fixed stops, free routes start times', 'Fixed stops, fixed routes start times', 'Free stops, free routes start times', and 'Free stops, fixed routes start times'.

1. Fixed stops, free routes start times – Calculates the optimal start time. Calculates the start of the route so that all the windows are met. The start time of the route does not depend on the originally entered value. If no such time can be found, an error message occurs.
2. Fixed stops, fixed routes start times – Calculates breaks in driving. Performs the calculation so that all the delivery windows are maintained. The start time of the route is not changed.
3. Free stops, free routes start times – System will try to find the shortest way possible between all stops. The beginning of the route is also changed.
4. Free stops, fixed routes start times – System will try to find the shortest way possible between all

stops. The beginning of the route is unchanged. All other criteria are not taken into account (time windows, vehicle capacity, etc.).

* Note – when you click the **“Recalculate”** button in the case of the 3rd and 4th points, the system arranges the order of visiting points with a minimum mileage, but **WITHOUT** taking into account time windows.

Optimize



The screenshot shows a software interface with a dropdown menu labeled 'Optim'. The menu is open, showing two options: 'Free routes start times' and 'Fixed routes start times'. To the right of the dropdown are input fields for 'From' and 'To'. Below these fields is a table with two columns: 'Driv' and 'Arriv'. The 'Driv' column has a value of '00:00' and the 'Arriv' column has a value of '06:30'.

From	To

Driv	Arriv
00:00	06:30

1. Free route start times – Performs optimization for the selected routes while preserving all the specified conditions and adjusting the start of the route.
Other routes will remain unchanged. If the optimal order of stops is not found, an error message occurs.
To optimize the route, you can also expand the time windows by filling in the time window fields (**“From”**, **“To”**).
2. Fixed routes start times – Performs optimization for the selected route while preserving time windows.
Other routes will remain unchanged.
The route does not start before the initial start of the route has been determined.
If the optimal order of stops is not found, an error message occurs.
To optimize the route, you can also expand the time windows by filling in the time window fields.

2.5.5. Route Header

For each route in planning, there are a few basic indicators to check if the route is valid.

If there is a red light on the route, just move the cursor to the light pointer, and tool tip displays the reason for the route being invalid.

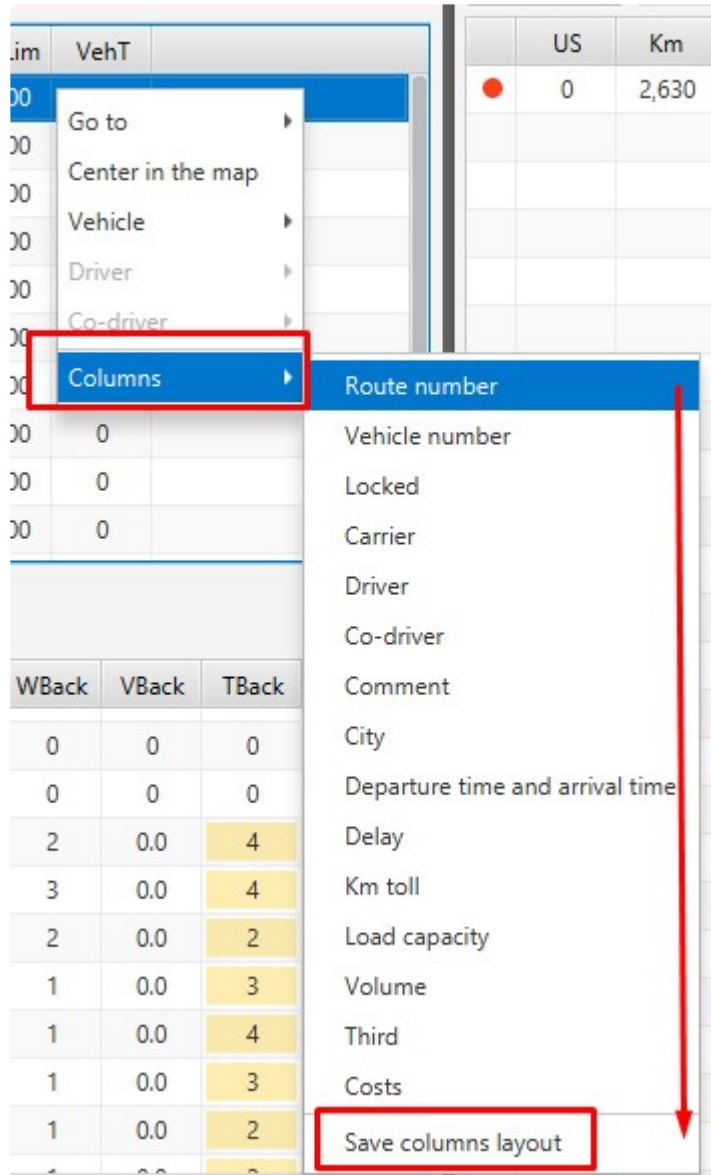
Rt	Vehicle	Tr	Stops	Start	End	Wait	Usg	Driv	Km	WUtil	VUtil	TUtil	Wght	Vol	Third	WBack	VBack	TBack	GWLim	VehT
1	AB 38 86 BO H...	1	37	06:55	19:57	00:00	13:02	05:38	162	96%	71%	1%	3,159	5.7	318	33	0.1	69	2,500	0
2	AB 46 14 CO M...	1	30	06:51	20:26	00:00	13:35	06:43	308	54%	31%	0%	1,351	2.2	80	40	0.1	78	5,500	0
3	AB 46 17 CO M...	1	48	07:12	21:58	00:00	14:46	05:53	204	99%	52%	1%	2,470	3.6	133	89	0.2	160	2,500	0
4	AB 46 23 CO M...	1	26	07:07	18:35	00:00	11:28	07:09	344	35%	19%	0%	866	1.3	49	27	0.0	46	5,500	0

Parameters:

- Rt – Sequence number of the route. The sequence can be simply changed by drag & drop.
- Vehicle – Vehicle registration number.
- Tr – The route order on the vehicle.
- Stops – Number of stops on the route.
- Start – Time to start the route.
- End – End of route.
- Wait – Waiting time on a route (for example, waiting for a window).
- Usg – Usage time incl. driving, unloading, etc.
- Driv – Driving time.
- Km – Route km.
- WUtil – Maximum percentage load on the route.
- VUtil – Maximum percentage of volume utilization on route.
- TUtil – Maximum percentage of third capacity utilization on route.
- Wght – Total weight of orders on the route.
- Vol – Total volume of order on the route.
- Third – The total number of units of the third capacity on the route.
- WBack – Total weight back into the depot.
- VBack – The total volume back into the depot.
- TBack – The total number of third-dimensional units ack into the depot.
- GWLimit – The minimum required weight limit from orders on the route.
- VehT – The requested vehicle type on the route.

Additional parameters can be displayed via the context menu (“**Columns**”) above any route.

The order of the columns can be freely changed and their layout can be saved. All columns are sortable.



- Route number
- Vehicle number
- Locked – Info about routes lock.
- Carrier
- Driver
- Comment – Route comment.
- City
- Delay – Maximal value of arrival outside of time window.
- Km toll
- Costs – Route costs.
- etc.

2.5.6. Route view

First, you need to select a specific route by clicking the mouse in the “Routes” table and then click **“View”** button.

Routes

Add

Edit

Delete

View

Optim

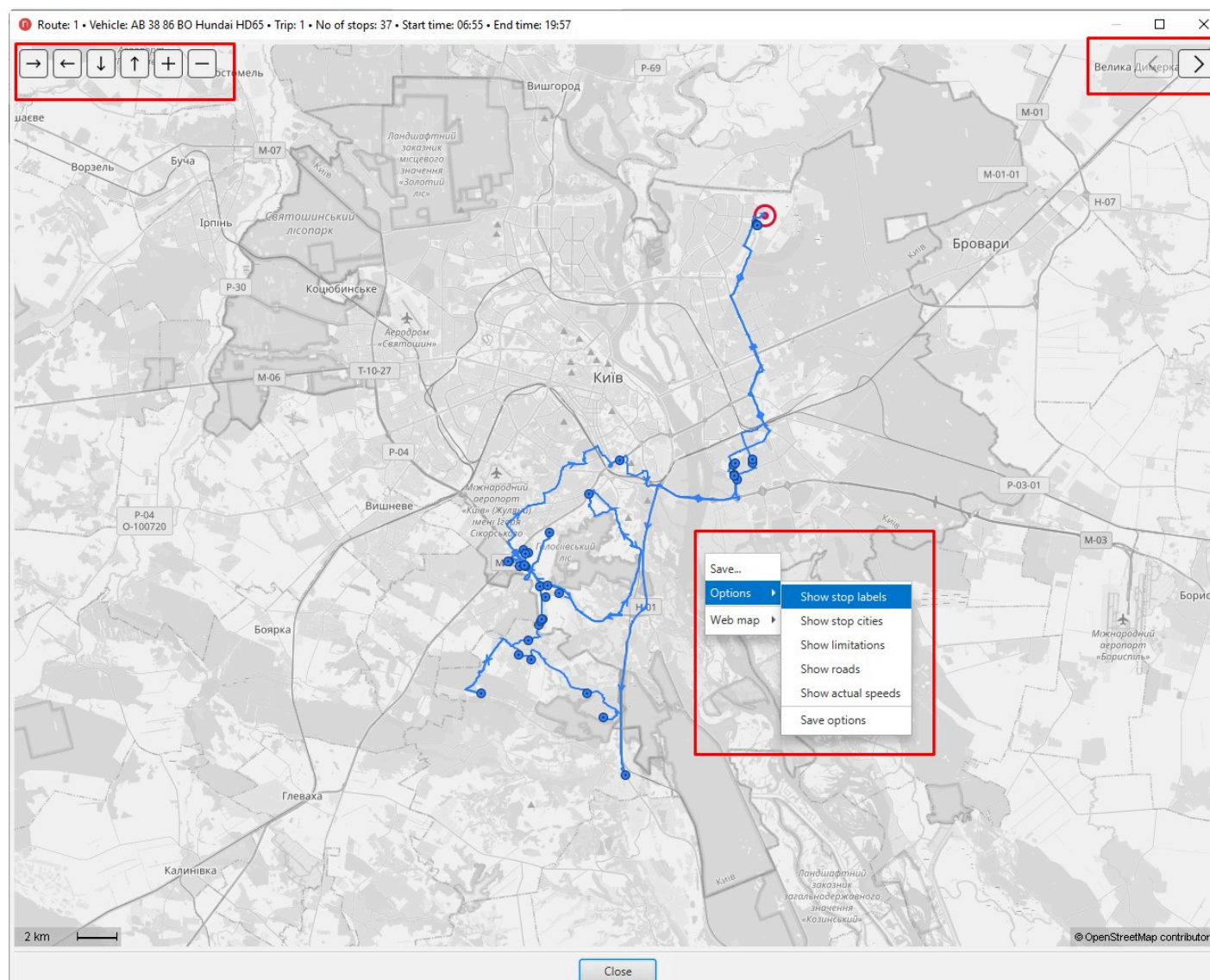
Analysis

Export

Rt	Vehicle	Tr	Stops	Start	End	Wait	Usg	Div	Km	WUtil	VUtil	TUtil	Wght	Vol	Third	WBack	VBack	TBack	GWLim	VehT
1	AB 38 86 BO H...	1	37	06:55	19:57	00:00	13:02	05:38	162	90%	71%	1%	3,159	5.7	318	33	0.1	69	2,500	0
2	AB 46 14 CO M...	1	30	06:51	20:26	00:00	13:35	06:43	308	54%	31%	0%	1,351	2.2	80	40	0.1	78	5,500	0

Use the buttons in the top left corner of the map to move the map without the mouse and in the top right corner you can change the displayed routes.

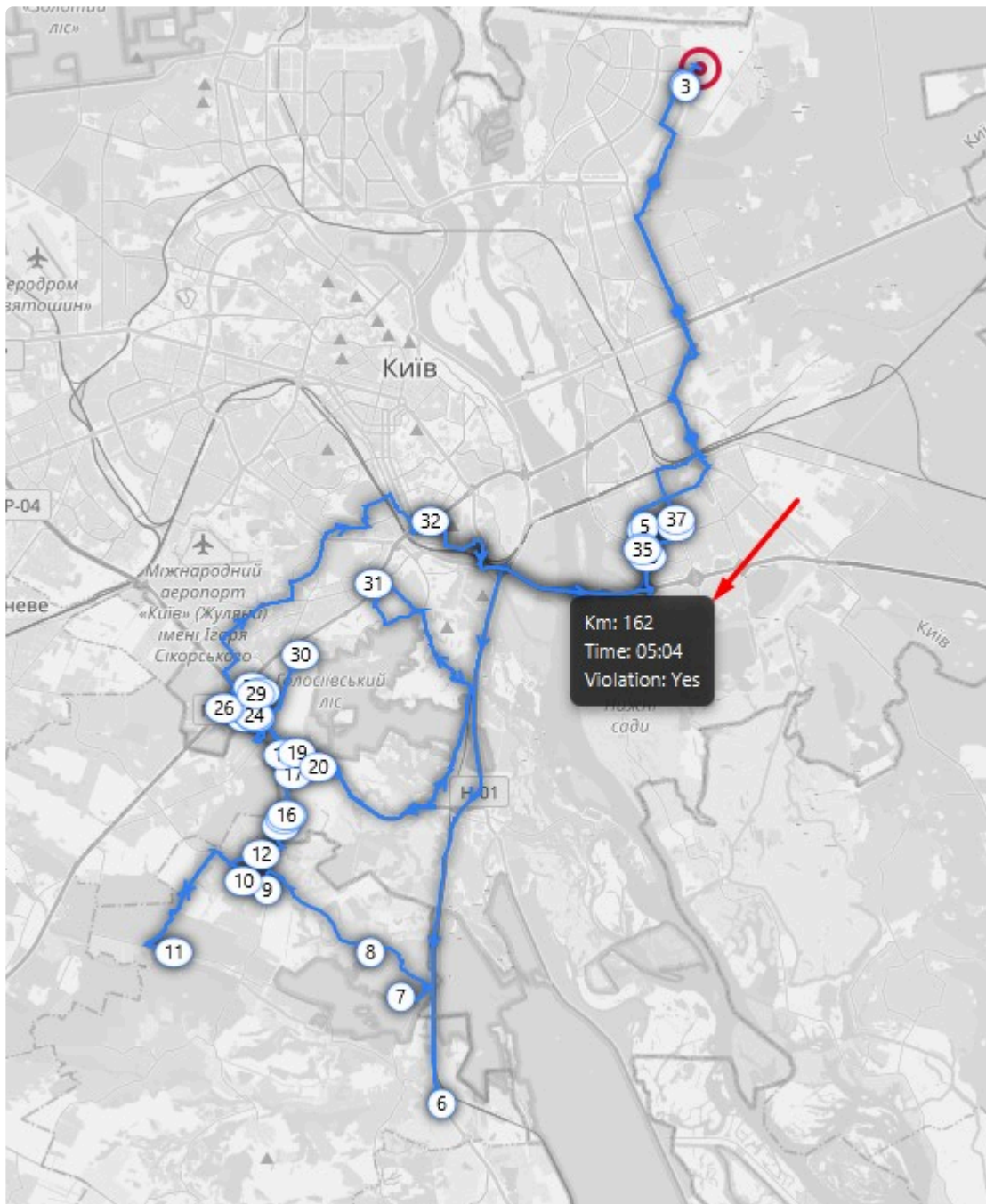
Other functions are available via the context menu:



- Save – Save the route as a picture into selected directory.
- Show stop labels – Displays stops sequence on a map.

- Show stop cities – Displays cities of a stops.
- Show limitations – Displays all restrictions on the map.
- Show roads – Displays all accessible roads on map. You need to zoom in to be able to see them.
- Show actual speed – Display the actual speeds for roads where this measurement is available.
- Web map – The selected point can also be displayed in other maps (Google, Yandex, OSM, Mapy)

You can get more information about the route via the tool tip at the route (hover your mouse over the route and wait for a while).



- Km – Total km.
- Time – The duration of the route.

- Violation – Information whether any restriction on the route is violated.

2.5.7. Plan analysis

You can check the created plan with a few simple reports that can be viewed and defined by pressing the **“Analyze”** button.

Routes																			
		Add	Edit	Delete ▾	View	Optim ▾	Analysis		Export ▾										
Rt	Vehicle	Tr	Stops	Start	End	Wait	Usgr	Driv	Km	WUtil	VUtil	TUtil	Wght	Vol	Third	WBack	VBack	T	
1	AB 38 86 BO H...	1	37	06:55	19:57	00:00	13:02	05:38	162	96%	71%	1%	3,159	5.7	318	33	0.1		

For the actual plan, the system can propose changes leading to savings, at the cost of some violations of the restrictions. It is possible to specify the allowed restriction violation.

Restrictions that can be allowed to be violated are:

Parameters

Weight utilization [%]

110

Volume utilization [%]

100

Third utilization [%]

100

Time window from prolongation

00:30:00

Time window to prolongation

00:30:00

Maximum stops per route

☒

Gross weight limit

☒

Vehicle type

☒

Vehicle

☐

Routes overlap

☐

Usage time breaks

☐

Driving breaks

☐

Maximum route duration

☒

Analyze

Stops

The system then displays the changes that will bring you the most savings in two tables.

The upper table lists possible moves of orders between routes, and the lower table lists possible placement of unplanned orders. From the list you can select any proposition that can be accessed via the context menu **“Apply”**. This procedure can then be repeated as long as the system finds savings-related shifts.

Analysis

Stops Violations Missed Stop Savings

Move Stops

Action	WUtil	VUtil	TUtil	TWF	TWT	Stps	GWLim	VehT	Vehicle	RtsOvr	RtDur	Savings
Move: '112038 - ВИКТОРИЯ РІТЕЙЛ ГРУП ТОВ' from 5/...	67%	42%	0%	00:00	00:24	No	No	No	No	00:00	00:00	18
Move: '87756 - Карповський А.Л. Кафе АС (Хорека)' ...	33%	20%	0%	00:00	00:00	No	No	No	No	00:00	00:00	15
Move: '110149 - Солодовниченко Т.В.' from 15/15 t...	70%	38%	0%	00:30	00:12	No	No	No	No	00:00	00:00	12
Move: '81909 - Купрієнко Т.О.' from 2/2 to 1/25	33%	22%	0%	00:04	00:21	No	No	No	No	00:00	00:00	12
Move: '109553 - Усатюк О.А.' from 12/3 to 7/1	31%	20%	0%	00:30	00:00	No	No	No	No	00:00	00:00	11
Move: '110149 - Солодовниченко Т.В.' from 15/15 t...	68%	39%	0%	00:30	00:16	No	No	No	No	00:00	00:00	11
Move: '111014 - САЛВІ ГРУП УКРАЇНА ТОВ' from 5/7...	97%	57%	0%	00:08	00:04	No	No	No	No	00:00	00:00	10
Move: '99592 - Козаченко С.В.' from 12/2 to 7/1	32%	20%	0%	00:30	00:00	No	No	No	No	00:00	00:00	10
Move: '97211 - ФУД ТРАФІК ТОВ (Хорека)' from 15...	55%	27%	0%	00:29	00:00	No	No	No	No	00:00	00:00	10
Move: '106309 - КОРВЕТ КОРП ТОВ (Хорека)' from ...	35%	27%	0%	00:10	00:00	No	No	No	No	00:00	00:00	9
Move: '106310 - АРТВЕГА СИСТЕМ ТОВ(Хорека)' fro...	35%	27%	0%	00:24	00:00	No	No	No	No	00:00	00:00	9
Move: '96289 - Шалак А.Н. (Хорека)' from 5/2 to 7/1	32%	20%	0%	00:30	00:24	No	No	No	No	00:00	00:00	9
Move: '107713 - Герасимчук О.О. (Хорека)' from 5/1...	33%	21%	0%	00:30	00:00	No	No	No	No	00:00	00:00	9
Move: '81909 - Купрієнко Т.О.' from 2/2 to 1/24	33%	22%	0%	00:04	00:10	No	No	No	No	00:00	00:00	9
Move: '32011 - Базис АТ' from 2/20 to 1/11	36%	24%	0%	00:03	00:00	No	No	No	No	00:00	00:00	8
Move: '110994 - Лісний А.В.(Хорека)' from 15/10 to ...	32%	20%	0%	00:30	00:00	No	No	No	No	00:00	00:00	8

Unplanned Stops

Action	WUtil	VUtil	TUtil	TWF	TWT	Stps	GWLim	VehT	Vehicle	RtsOvr	RtDur	Savings
Insert: '93034 - Усик А.А. (Хорека)' to 7/1 (08:30)	32%	20%	0%	00:30	00:20	No	No	Yes	No	00:00	00:00	1
Insert: '61684 - Осадчук Т.С.' to 7/1 (07:30)	32%	20%	0%	00:30	00:00	No	No	Yes	No	00:00	00:00	-0
Insert: '42832 - Чебунін О.Д. (Хорека)' to 7/1 (07:30)	34%	21%	0%	00:30	00:00	No	No	Yes	No	00:00	00:00	-1
Insert: '75377 - Антонюк Н.І.' to 7/1 (07:30)	32%	20%	0%	00:30	00:00	No	No	Yes	No	00:00	00:00	-2
Insert: '88263 - Бордюк А.І.' to 7/1 (07:10)	32%	20%	0%	00:00	00:00	No	No	Yes	No	00:00	00:00	-2
Insert: '87554 - Герич Ю.О.' to 7/1 (07:30)	34%	21%	0%	00:30	00:00	No	No	Yes	No	00:00	00:00	-3
Insert: '4390 - Форум ВВ' to 7/1 (07:30)	31%	19%	0%	00:30	00:00	No	No	Yes	No	00:00	00:00	-3
Insert: '89366 - Балеян О.В.' to 7/1 (07:30)	32%	20%	0%	00:30	00:00	No	No	Yes	No	00:00	00:00	-5
Insert: '70088 - ЛЕГІОН 2015 ТОВ' to 7/1 (07:10)	37%	24%	0%	00:00	00:00	No	No	Yes	No	00:00	00:00	-6

Violations

The plan may contain a number of violations of the required restrictions. The system will generate a list of all such violations.

Analysis

Stops Violations Missed Stop Savings

No	Name	Km	Arriv	Dep	Time window	Violation	LdngStr	GWLim	VehT	Vehicle
83097	Сушкевич І. М.		13:07	13:13	09:00-17:00				40	
81186	Альянс маркет ТзОВ (Общий)		16:18	16:42	08:00-16:00	00:18				
110328	Бусел Л.М. (Хорека)		16:49	16:51	08:00-15:00	01:49				

Missed Delivery Savings

The table contains potential savings when specific orders is not delivered, including an estimate of the kilometres and time saved.

Analysis

Stops

Violations

Missed Stop Savings

No	Name	Comment	Comment	Wght	Vol	Third	WBack	VBack	TBack	Km	Time	Savings
83097	Сушкевич І. М.		С-2 (51 Отделение)	23	0.1	0	5	0.0	6	296.6	06:18	2,175.82
112038	ВІКТОРІЯ РІТЕЙЛ ГРУП ТОВ		ОБ-3 (51 Відділення) Order №100...	14	0.0	0	4	0.0	6	14.0	00:32	109.85
106386	АРІТЕЙЛ ТОВ		Заказ в 1С создан на основании ...	2,828	4.1	235	0	0	0	5.2	01:31	101.57

2.5.8. Plan export

When the plan is ready, it can be exported to a csv file, excel filr or via web services by pressing the **“Export”** button. It is also possible to set the delivery date, plan lock, plan name, send emails and SMS to all customers with specified e-mail in contacts and send routes to external navigation. All required fields must be entered for sending emails.

The screenshot shows the 'Routes' table with columns: Rt, Vehicle, Tr, Stops, Start, End, Wait, Usg, Driv, Km, WUtil. The 'Export' button is highlighted in the top right. Below it, the 'Export' dialog box is open, showing fields for Name (MK -), Delivery date (2/18/2022), and checkboxes for 'Save and lock plan', 'Send mails & SMSs', and 'Export routes to GPS provider'. The checkboxes are highlighted with a red box.

Rt	Vehicle	Tr	Stops	Start	End	Wait	Usg	Driv	Km	WUtil
1	AB 01 58 BK Hu...	1	26	06:30	00:37	00:05	18:07	12:37	599	33%
2	AB 19 12 BK Hu...	1	31	06:30	18:04	00:00	11:34	06:19	294	28%
3	AB 28 16 BO H...	1	45	07:06	19:01	00:00	11:55	04:22	167	81%

Export

Name:

Delivery date:

Save and lock plan: ☐

Send mails & SMSs: ☐

Export routes to GPS provider: ☐

OK Cancel

2.6. Plans

At any time of planning, the plan can be saved or older plan deleted. After pressing the **“Save”** button, the user is asked to complete the basic information regarding the saved plan.


- Name – Plan is stored under the specified name. Names are mainly used to navigate the user in the list of plans
- Delivery date – The system pre-sets the next business day, but the user can set this value arbitrarily. The date is mainly used when comparing the plan with GPS tracking from vehicles.
- Lock plan – If this field is checked, the system itself will delete all the orders contained in the plan. The plan can be unlocked at any time by pressing the “Unlock” button to restore your orders.
- Send mails & SMSs – Check this box to automatically send informative mails and text messages to customers, drivers and carriers.
- Export routes to GPS provider – Planned routes will be sent to the GPS device if this is possible.

Saved older plans can be also opened. It is only necessary to set the time interval from which the plans are to be loaded and press the **“Load”** button and simply open it with the **“Open”** button.

Only unlocked plans can be opened.

Load

12/1/2021



GPS

Open

Lock

Unlock

Delete

Save

Date	Time	Name	Delivery date	Delivery day	Status	Act	Vehicles	Routes	Stops	US	OutTW	Km	Duration	Costs
1/10/22	16:30	MK - test	1/6/22	Thu	Unlocked	<input type="checkbox"/>	13	13	483	0	0	2,576	139:44	30,153
2/17/22	10:12	MK -	2/18/22	Fri	Unlocked	<input type="checkbox"/>	16	16	484	91	16	3,236	176:23	36,700

The saved plan can be opened together with all others, e.g. late orders from the “Orders” sheet (plan view + Inbox). In this case, you must select the option “With unplanned stops” when opening the plan.

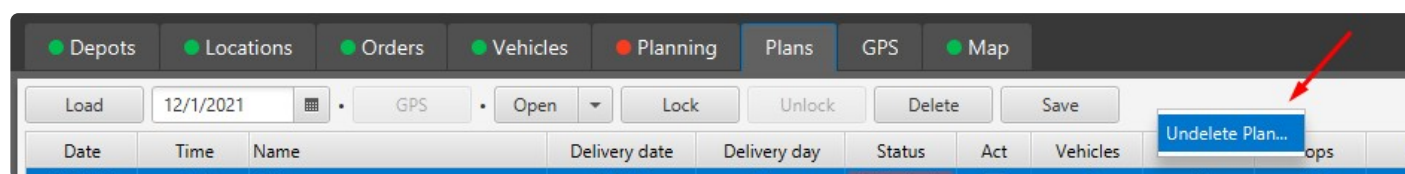
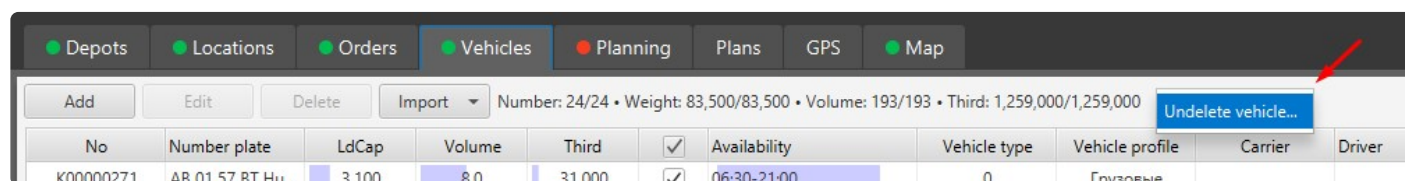
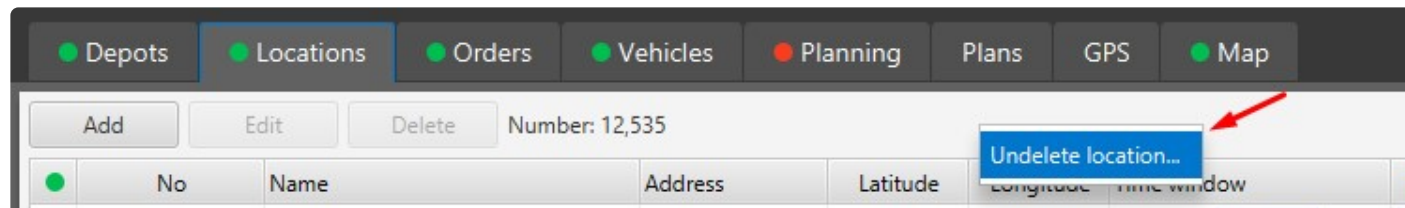
● Depots● Locations● Orders● Vehicles● PlanningPlansGPS● Map

Load12/1/2021GPSOpenLockUnlockDeleteSave

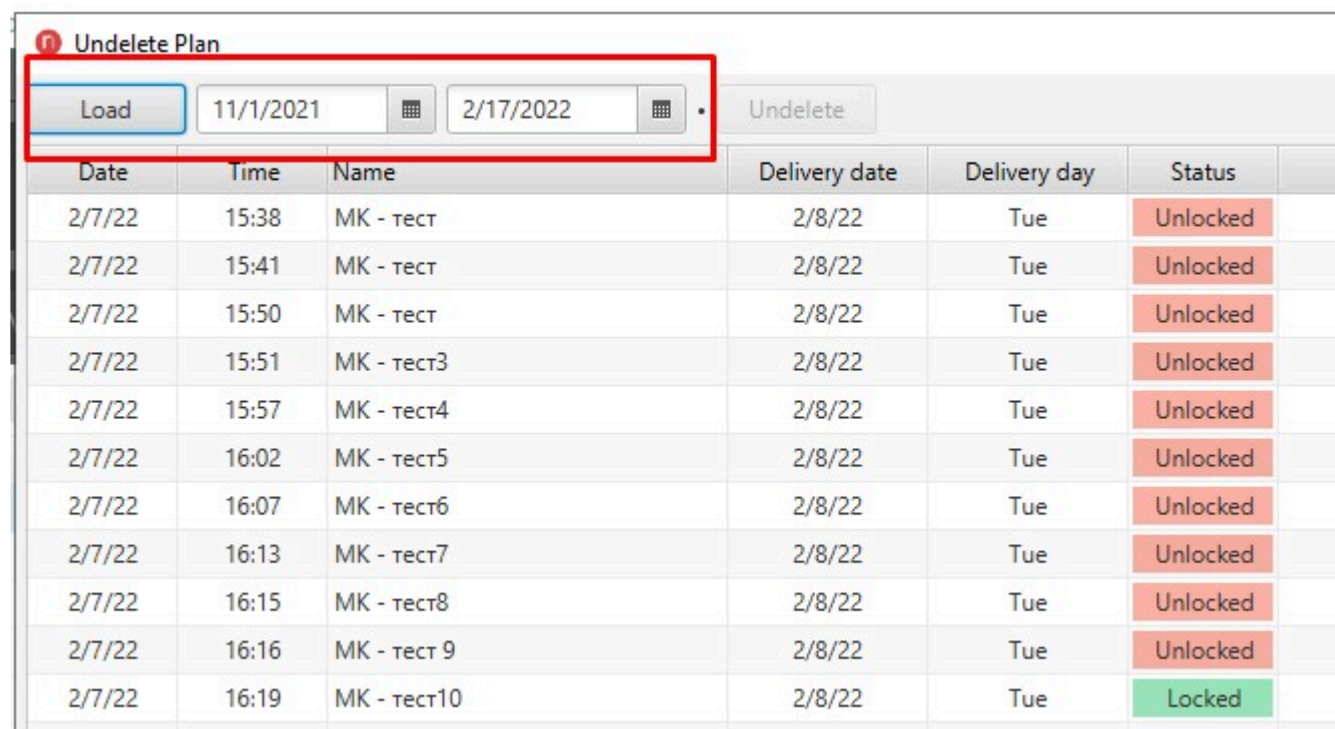
Date	Time	Name	Without unplanned stops	With unplanned stops	With unplanned stops and cumulation	Status	Act	Vehicles	Re
1/10/22	16:30	MK - тест	✓			Unlocked	<input type="checkbox"/>	13	
2/17/22	10:12	MK -				Unlocked	<input type="checkbox"/>	16	

2.7. Undelete plan/vehicle/location

If you accidentally have deleted: Vehicle/Location/Plan, then there is an opportunity to **restore** it. To do this, you need to right-click on the upper gray panel (near the buttons – add, edit, delete) and then click on “Undelete vehicle / location / plan”.



Next, select the dates you need and upload:



Select the plan /vehicle/location and click on the “**Undelete**” button.

Undelete Plan

Load

1/1/2022

2/17/2022

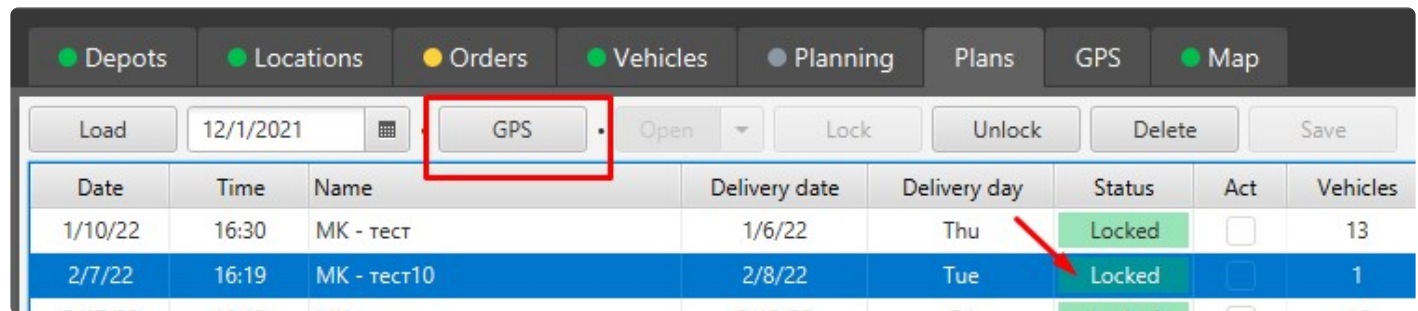
Undelete

Date	Time	Name	Delivery date	Delivery day	Status
2/7/22	15:38	MK - тест	2/8/22	Tue	Unlocked
2/7/22	15:41	MK - тест	2/8/22	Tue	Unlocked
2/7/22	15:50	MK - тест	2/8/22	Tue	Unlocked
2/7/22	15:51	MK - тест3	2/8/22	Tue	Unlocked

2.8. GPS

In the “**GPS**” section, it is possible to compare planned routes with actual departures.

The first step is to select a plan to compare. In the ‘Data’ section, the ‘Plan’ tab, select the schedule and press the ‘GPS’ button. Beware, the plan must be locked.



The screenshot shows the Rinkai TMS interface with the 'GPS' section selected. The top navigation bar includes tabs for Depots, Locations, Orders, Vehicles, Planning, Plans, GPS, and Map. The 'GPS' button is highlighted with a red box. Below the navigation bar, there is a table with columns: Date, Time, Name, Delivery date, Delivery day, Status, Act, and Vehicles. The table contains two rows of data. The first row has a 'Locked' status, and the second row has a 'Locked' status. A red arrow points to the 'Locked' status in the second row.

Date	Time	Name	Delivery date	Delivery day	Status	Act	Vehicles
1/10/22	16:30	MK - тест	1/6/22	Thu	Locked	<input type="checkbox"/>	13
2/7/22	16:19	MK - тест10	2/8/22	Tue	Locked	<input type="checkbox"/>	1

2.8.1. Information panel

The information panel provides basic information about the plan being compared.

Km ▾ 1,025 • 1,622 📈	Km difference ▾ 597 • 58% 📈	Not visited ▾ 0 • 0% 🟢	Outside window ▾ 3 • 4% 🚩	Date 12/18/2021 📅	Time --	Paramet...	Search	Actuals
-------------------------	--------------------------------	---------------------------	------------------------------	----------------------	------------	------------	--------	---------

- Km – Planned km | Actually driven km / Planned toll km | Actual toll km
- Km difference – Distance difference between plan and reality | Percentage of difference / Toll km difference between plan and reality | Percentage of difference.
- Not visited – The number of stops not visited according to GPS | Percentage of the not visited stops from all stops. / The number of visited stops | Percentage of visited stops from all stops.
- Outside window – Number of stops visited outside the time window | Percentage of stops outside the time window. / Number of stops visited after time window | Percentage of stops visited after time window.
- Date – Date of GPS positions.
- Time – Time of last update.

Parameters

Parameters
×

Arrival time tolerance

Depot pairing precision [m]

Stops pairing precision [m]

Don't count kms before & after ☐

- Arrival time tolerance – Set a tolerance to identify arrivals outside the time window. Arrival is marked as incorrect when the set limit is exceeded.
- Depo pairing precision [m] – To mark a depo as visited, the system must find an actual stop within a maximum of the specified number of meters.
The recommended radius should be between 100 and 250 meters.
- Stops pairing precision [m] – To mark a stop as visited, the system must find an actual stop within the specified number of meters from the planned stop.
The recommended radius should be between 100 and 250 meters.
- Don't count kms before and after – If checked, does not count first leg to depot and last leg from depot (e.g. trip to car park).

2.8.2. Route view

Number plate	Delay	PKm	Diff	AT@S	Diff	Speed	Diff													
06527ME	01:31	83	-7	00:11	00:04	30.1	-4.6													
ISUZU AA9592...	-06:30	396	91	07:58	-07:05	53.8	3.4													
ISUZU AA9578...	-00:50	310	-77	00:12	-00:05	40.8	-1.2													
AT804180 ISUZU...	-00:17	180	3	00:09	-00:01	35.0	3.6													

The first table lists all vehicles from the selected plan. For each vehicle, the license plate, the number of kilometres planned, the number of kilometres actually travelled and the total delay on the route are shown. If the actual route is ahead of the plan, the delay value is negative and green.

The timeline shows all expected stops for customers and depots. The meaning of colours is as follows:

Green – The planned stop was visited. I.e. The vehicle stopped at a predefined distance from the point of unloading. The unloading took place in the required time window.

Yellow – The planned stop was visited. I.e. The vehicle stopped at a predefined distance from the point of unloading. The unloading took place outside the required time window.

Red – Stop has not occurred.

Reasons why a system is marked as a non-executed stop may be several:

- The stop did not take place.
- The stop has taken place, but shorter than the defined minimum time (default setting is 90 seconds).
- The stop has taken place, but at a greater distance from the predefined point. Here you need to correct the coordinates of the location to match the actual stop.

The **“Refresh”** button updates the position data. This step should be performed if there is a change in setting of some parameters or if you want to get the current position data.

Refresh ▾

Analysis

Save

•

View

Without km	Delay	PKm	Diff	AT@S	Diff	Speed	Diff	—
✓ With km	01:31	83	-7	00:11	00:04	30.1	-4.6	
● ISUZU AA9592...	-06:30	396	91	07:58	-07:05	53.8	3.4	

You can click on the **“View”** button to display the actual route and planned route.

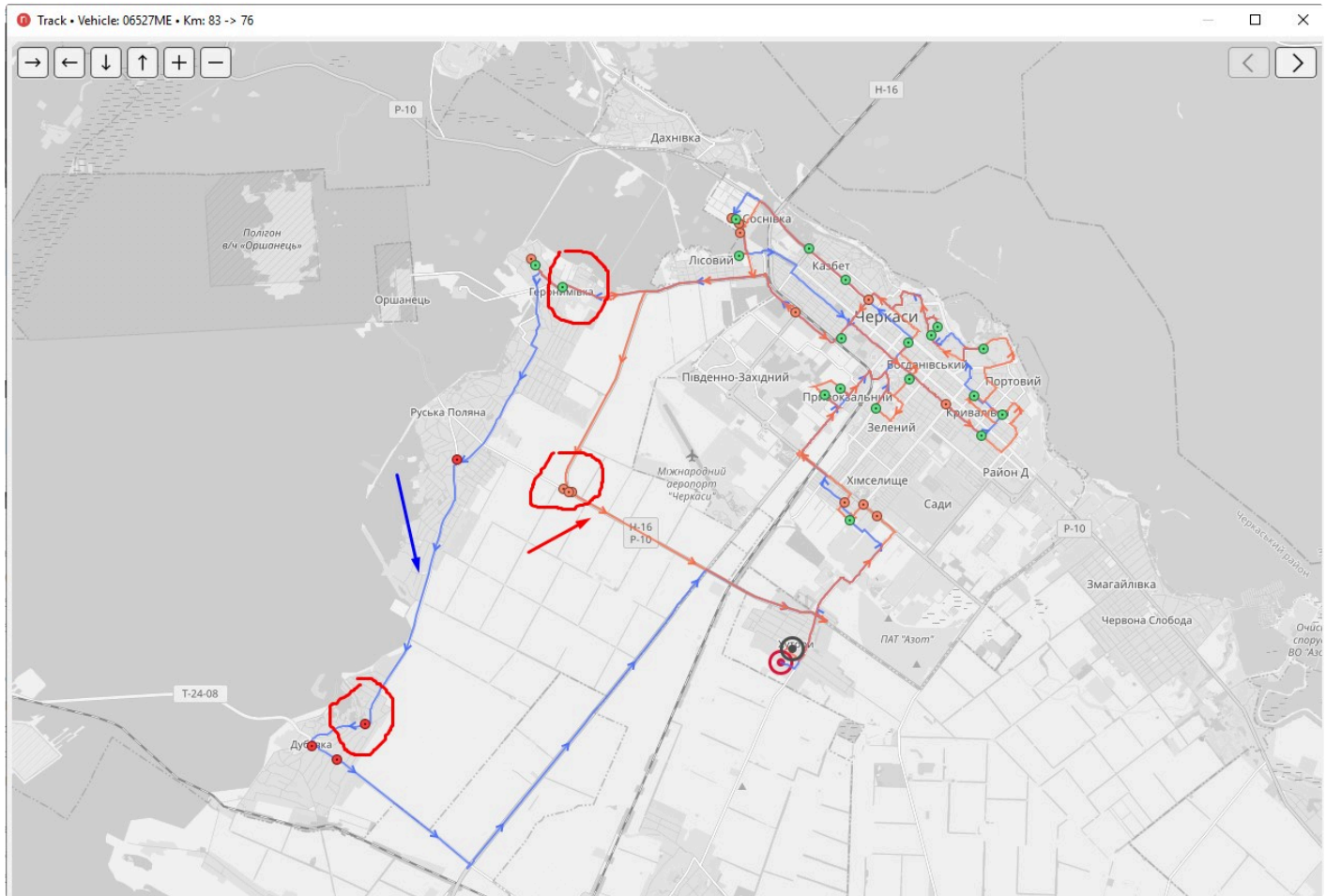
The screenshot shows a software interface with a table of data. At the top, there are four buttons: 'Refresh', 'Analysis', 'Save', and 'View'. The 'View' button is highlighted with a red rectangular box, and a red arrow points to it from the right. Below the buttons is a table with columns: 'Number plate', 'Delay', 'PKm', 'Diff', 'AT@S', 'Diff', 'Speed', 'Diff', and a slider control on the right. The table has three rows of data. The first row has a red circle icon in the first column. The second row has a red circle icon in the first column. The third row has a green circle icon in the first column.

	Number plate	Delay	PKm	Diff	AT@S	Diff	Speed	Diff	
●	06527ME	01:31	83	-7	00:11	00:04	30.1	-4.6	8
●	ISUZU AA9592	-06:30	396	91	07:58	-07:05	53.8	3.4	

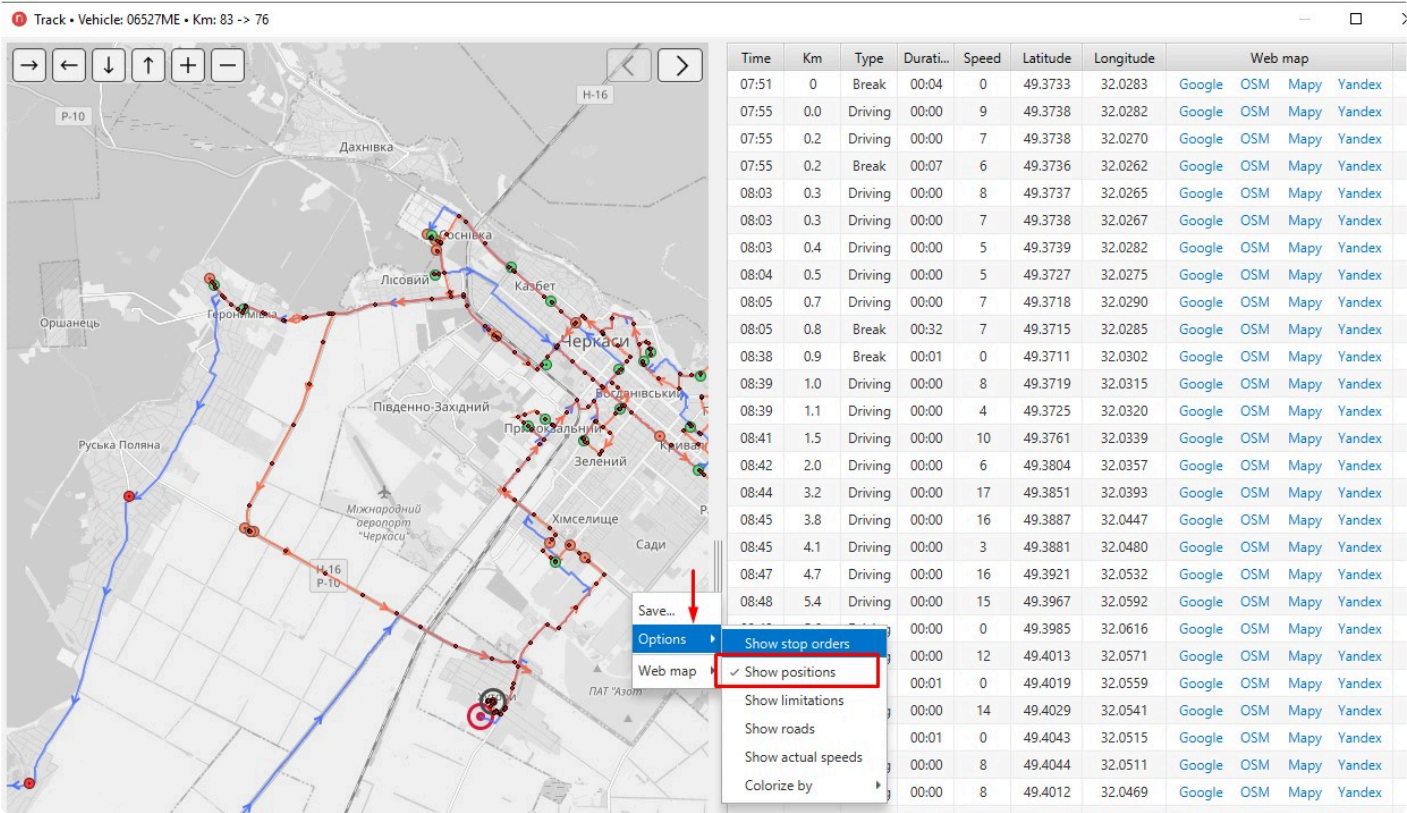
The planned route is displayed in **blue**, the real route is displayed in **red**.

The meaning of colours of stops is different:

- **Green** – A planned stop has been made.
- **Pale Red** – A real stop that was not planned.
- **Red** – No stop.



When displaying positions via the context menu, a list of measured GPS points is available. Several basic information is given for each point. In addition, each point can be displayed in other maps (Yandex, Google, Mapy, OSM).



2.8.3. Routes and Stops

Each vehicle has a number of data visible:

- License plate
- Delay – Total route duration vs. planned route duration.
- PKm – Planned km.
- Diff – Difference between planned and actual km. if the number is negative and is highlighted in green, it means underrun. Underrun most often occurs if the route is assembled manually in an illogical sequence or there are unvisited points in the route. If the number is positive and highlighted in red – overrun.
- AT@S – Average unloading time at customer.
- Diff – Difference of average unloading time from average planned unloading time.
- Speed – Actual average speed.
- Diff – Difference of actual average speed from planned average speed.

●	Number plate	Delay	PKm	Diff	AT@S	Diff	Speed	Diff	8	9	10
●	06527ME	01:31	83	-7	00:11	00:04	30.1	-4.6			
●	ISUZU AA9592...	-06:30	396	91	07:58	-07:05	53.8	3.4			
●	ISUZU AA9578...	-00:50	310	-77	00:12	-00:05	40.8	-1.2			
●	AT8041BO ISUZ...	-00:17	180	3	00:09	-00:01	35.0	3.6			

●	Km	Dep	Delay	Arriv	Delay	Dur	Delay	AT@S	Delay
●	396	07:30	00:43	22:49	--	15:19	--	07:58	-07:05

●	PISt	AcSt	No	Name	City	PairPrc	Time v
●	1	1	00-00000665	Kyushu Co., Ltd. (Kobe branch), C. ...	Kyushu Co., Ltd.	25	08:00-18:00

Other columns can be displayed via the context menu:

- No – Vehicle number.
- Actual km
- Confirmed extra km
- Confirmed extra duration
- Planned km toll
- Actual km toll

- Difference – The difference in toll km against the plan.
- Save Column Layout – Saves the selected column layout.

Also, if necessary, you can change the order of the columns.

2.8.3.1. Routes data

Routes data:

	Km	Dep	Delay	Arriv	Delay	Dur	Delay	AT@S	Delay
	180	07:30	00:11	18:18	-00:27	10:48	-00:38	00:09	-00:01

- Km – Planned km.
- Dep – Planned start of route.
- Delay – Delay of the route start.
- Arriv – Planned end of route.
- Delay – Delay of the route end.
- Duration – The total duration of the route.
- Delay – Delay of route duration.
- AT@S – Planned average unloading time.
- Delay – Delay of average unloading.

Other columns can be displayed via the context menu:

Edit...	
Columns	No
PairPrc	Driver
29	Co-driver
53	Km toll
36	Confirmed extra km
43	Confirmed extra duration
10	Actual departure time
6	Actual arrival time
7	Weight
93	Volume
16	Third
34	Weight back
35	Volume back
41	Third back
34	Save columns layout
53	

- No – Route number.

- Driver
- Co-driver
- Km toll
- Confirmed extra km
- Confirmed extra time
- Weight
- Volume

2.8.3.2. Stops data

Stops data:

	PISt	AcSt	No	Name	City	PairPrc	Time window	Arriv	Delay	ActArriv	Dep	Delay	Dur	Delay
●	1	44	217	Клиент 217	Носівка, вул. Ц...	41	05:00-15:00	06:11	08:46	14:57	06:21	09:01	00:10	00:15
●	2	45	219	Клиент 219	Носівка, вул. Ц...	48	04:00-13:00	06:22	09:01	15:22	06:30	09:03	00:08	-00:06
●	3	46	478	Клиент 478	Носівка, вул. Ц...	45	05:00-14:00	06:30	08:52	15:22	06:38	08:55	00:08	-00:06
●	4	47	546	Клиент 546	Носівка, вул. В...	27	04:00-15:00	06:38	08:44	15:22	06:48	08:49	00:09	-00:01
●	5	49	468	Клиент 468	Носівка, вул. В...	14	04:00-13:00	06:48	08:50	15:38	06:58	08:42	00:10	-00:07
●	6	60	637	Клиент 637	Носівка, вул. П...		03:00-17:00	06:59	--		07:07	--	00:08	--
●	7	52	528	Клиент 528	Носівка, вул. В...	58	04:00-15:00	07:14	08:48	16:02	07:23	08:56	00:10	00:07
●	8	53	232	Клиент 232	Носівка, вул. В...	84	04:00-15:00	07:24	08:50	16:14	07:31	08:49	00:07	-00:05
●	9	58	321	Клиент 321	Носівка, вул. К...	8	04:00-14:00	07:35	09:16	16:51	07:43	09:13	00:09	-00:03
●	10	42	228	Клиент 228	Володькова Ді...	32	04:00-14:00	08:08	06:09	14:18	08:18	06:14	00:10	-00:04
●	11	39	226	Клиент 226	Володькова Ді...	19	04:00-15:00	08:19	05:52	14:11	08:27	06:06	00:09	00:02
●	12	40	227	Клиент 227	Володькова Ді...	24	04:00-15:00	08:27	05:43	14:11	08:36	05:48	00:09	-00:05
●	13	41	433	Клиент 433	Володькова Ді...	43	04:00-16:00	08:36	05:34	14:11	08:44	05:34	00:07	-00:07
●	14	34	626	Клиент 626	Ніжин, вул. Си...	12	04:00-15:00	09:05	04:17	13:22	09:15	04:12	00:10	-00:05
●	15	17	571	Клиент 571	Носівка, вул. Б...	02	04:00-15:00	09:17	03:01	11:10	09:27	01:58	00:10	00:04

Identifiers:

- * Red – point not visited.
- * Green – the point has been visited.
- * Yellow – the point was visited outside the time window.

- PISt – Planned stop order.
- AcSt – Actual stop order.
- No – Location number.
- Name
- City
- PairPrc – Pairing precision, i.e. the distance of the actual stop from the expected point.
- Time window
- Arriv – Planned arrival at the stop.
- Delay – Delay of arrival.
- Dep – Planned departure from the stop.
- Delay – Delay of departure.
- Duration – Planned unloading duration.
- Delay – Delay of unloading.

If the planned stop is paired with the actual one, the next table is a list of GPS positions assigned to a specific scheduled stop. Each GPS point is a record of arrival time, standing time, pairing accuracy, and geographic coordinates.

Time	Duration	PairPrc	Latitude	Longitude	Web map			
14:57	00:25	41	50.9392	31.5818	Google	OSM	Mapy	Vandex

2.8.4. Confirmed extra km and duration

Based on GPS data, the dispatcher can add confirmed extra kilometres and extra time to each route. All you need to do is to display the “Confirmed km” or “Confirmed duration” columns in the context menu.

ISUZU AA9592...	-06:30	396	91	0	00:00	07:58	-07:05	53.8	3.4
ISUZU AA9578...	-00:50	310	-77	0	00:00	00:12	-00:05	40.8	-1.2
AT8041BO ISUZ...	-00:17	180	3	0	00:00	00:09	-00:01	35.0	3.6

Notifications...

Go to

Columns

No

Expected arrival at

Expected arrival in

Actual km

Difference %

✓ Confirmed extra km

✓ Confirmed extra duration

Km	Dep	Delay	Arriv	Delay	Dur	Delay	AT@S	Delay
396	07:30	00:43	22:49	--	15:19	--	07:58	-07:05

PISt	AcSt	No	Name	City	PairPrc	Time window	Arriv
------	------	----	------	------	---------	-------------	-------

The extra mileage can then be edited via the context menu, option “Edit”. Then just enter confirmed data, including the possibility to select the reason for confirmation and insert a comment.

Edit

Confirmed extra km

Confirmed extra duration

Reason

Comment

OK

Cancel

2.8.5. Wire map and unmatched positions

The wire map shows all stops. Grey colour displays **unplanned stops**. The green ones are **planned and visited**, the red ones are **not visited**.

The table below is a list of all unplanned stops, including the duration and the ability to scroll through other map data.

→

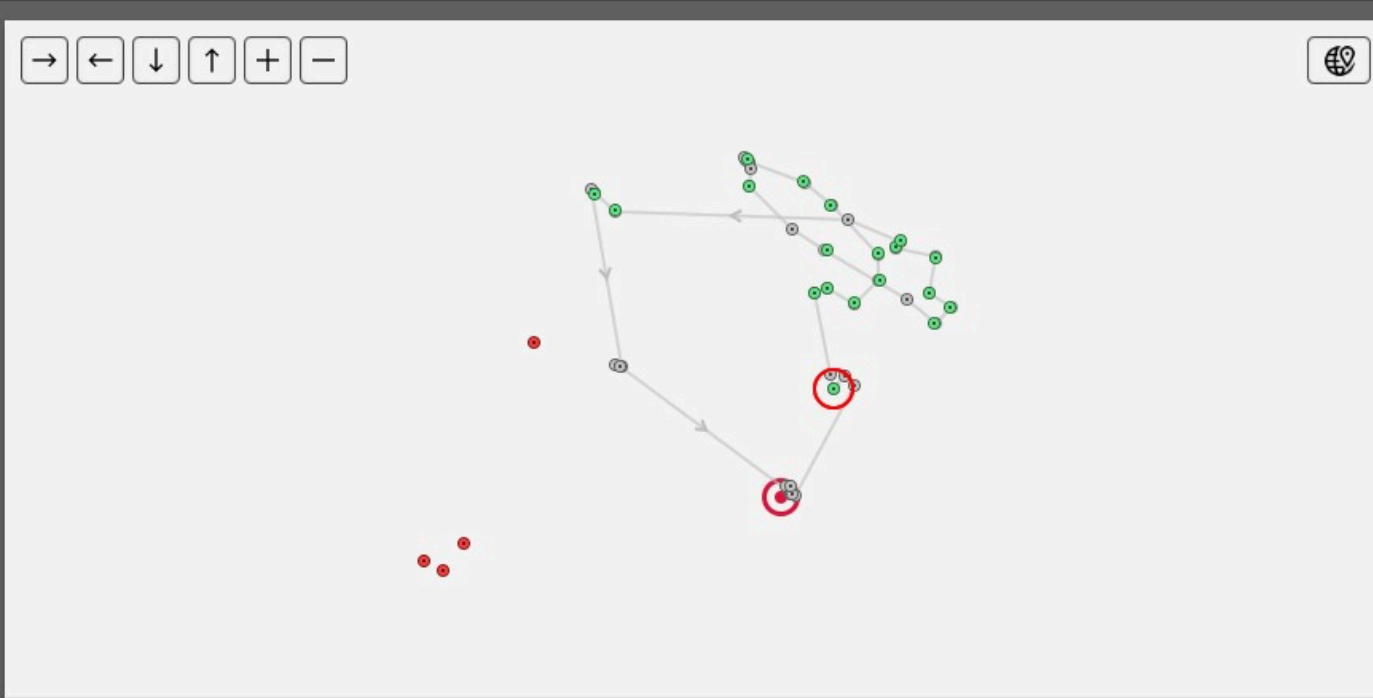
←

↓

↑

+

-



Unpaired positions

Time	Duration	Latitude	Longitude	Web map			
08:51	00:01	49.4019	32.0559	Google	OSM	Mapy	Yandex
08:53	00:01	49.4043	32.0515	Google	OSM	Mapy	Yandex
09:07	00:01	49.4048	32.0451	Google	OSM	Mapy	Yandex
13:00	00:01	49.4656	32.0080	Google	OSM	Mapy	Yandex
13:02	00:01	49.4645	32.0107	Google	OSM	Mapy	Yandex
13:04	00:05	49.4623	32.0108	Google	OSM	Mapy	Yandex

2.8.6. Edit location geocodes

The wire map sometimes shows that the customer’s location on the map is not accurate and the actual stop is grey point in the map and listed in the **“Unpaired stop”** table. Then you can simply adjust location position according to reality.

→

←

↓

↑

+

−

Unpaired positions

Time	Duration	Latitude	Longitude	Web map			
00:09	05:51	50.5234	30.6374	Google	OSM	Mapy	Yandex
10:43	00:02	50.6419	31.0250	Google	OSM	Mapy	Yandex
12:11	00:03	50.6265	30.9103	Google	OSM	Mapy	Yandex
12:59	00:06	50.5621	30.7749	Google	OSM	Mapy	Yandex
13:24	00:04	50.5557	30.6470	Google	OSM	Mapy	Yandex
14:02	10:04	50.5233	30.6374	Google	OSM	Mapy	Yandex

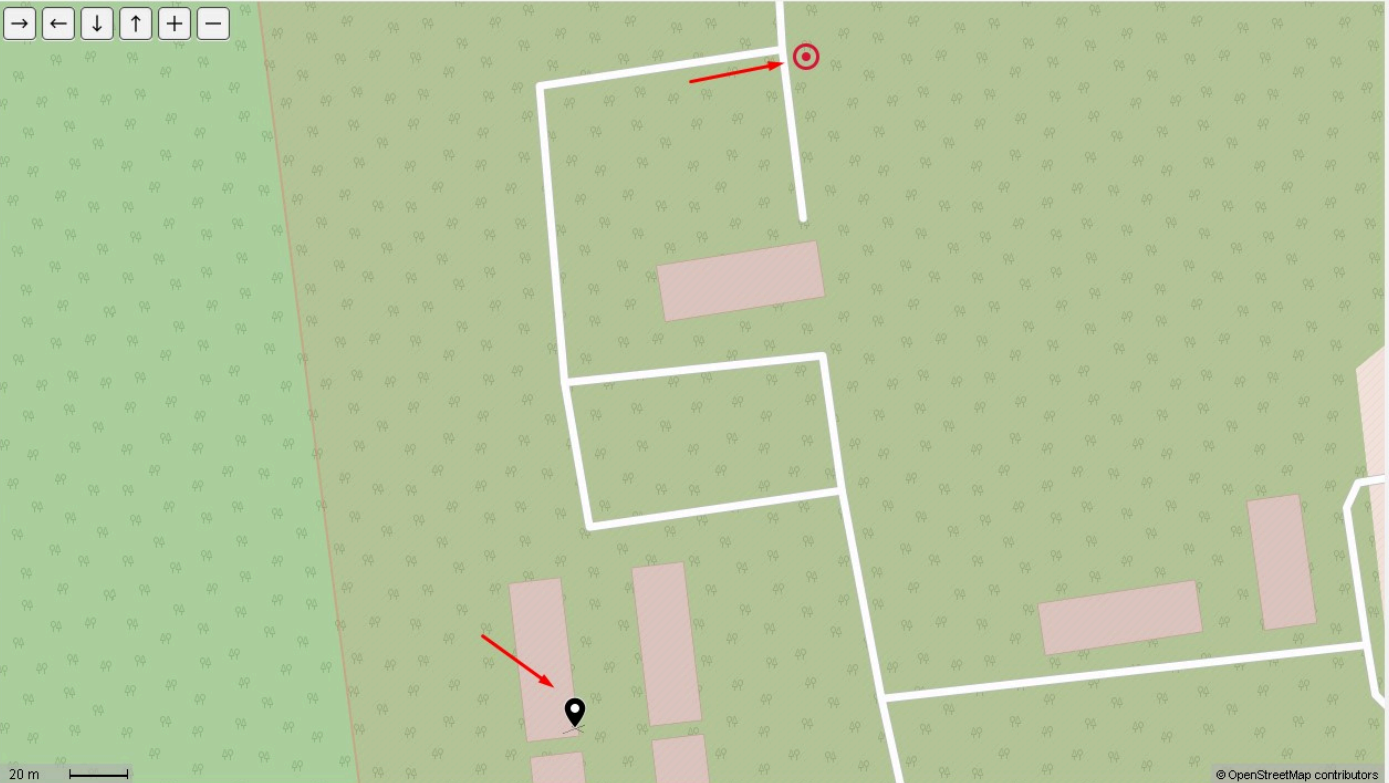
Select a stop outside the plan on the schematic map (after clicking on the stop, a line with information about the stop will be highlighted in the table under the map) and an unvisited point, then click the **“Geocode”** button.

An additional window with a map will be opened, there you can confirm the changes simply by pressing the **“OK”** button.

On the map, the original location is marked with a red circle and the new location is marked with a black icon.

Page 86 of 151

Geocode • Клиент 420 • Km: 26.6 • Violation: No



20 m

© OpenStreetMap contributors

Street	No	Postcode	City	Country	Latitude	Longitude
No content in table						

Street

No

Postcode

City

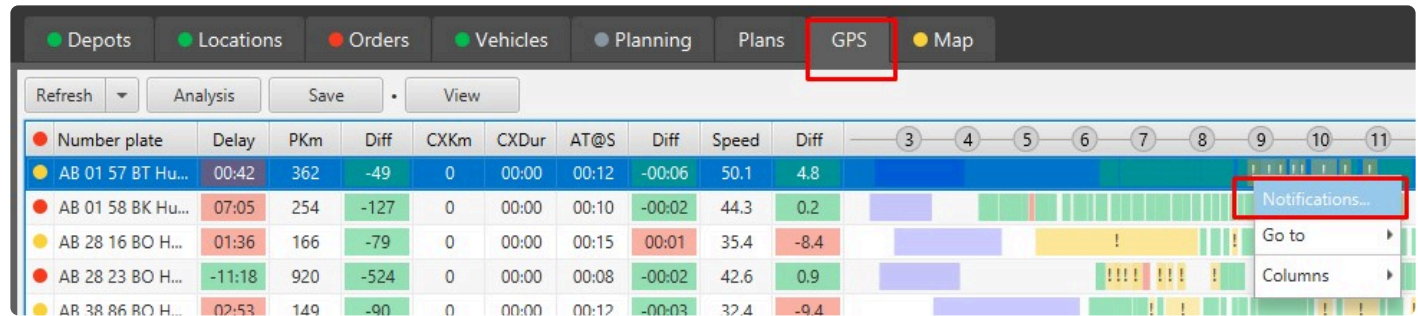
Country

[Google](#) [OSM](#) [Mapy](#) [Yandex](#)

2.8.7. Mail

In case of a delay of vehicle delay on the route, it is possible to simply send an email message to all remaining customers via the context menu above the specific vehicle, the “**Notification**” option (GPS tab, right click – Notifications).

The user can still manually edit the mailing list.



The screenshot displays the Rinkai TMS interface with the 'GPS' tab selected. A table lists vehicle data, and a context menu is open over the first row, showing the 'Notifications...' option.

Number plate	Delay	PKm	Diff	CXKm	CXDur	AT@S	Diff	Speed	Diff	3	4	5	6	7	8	9	10	11
AB 01 57 BT Hu...	00:42	362	-49	0	00:00	00:12	-00:06	50.1	4.8									
AB 01 58 BK Hu...	07:05	254	-127	0	00:00	00:10	-00:02	44.3	0.2									
AB 28 16 BO H...	01:36	166	-79	0	00:00	00:15	00:01	35.4	-8.4									
AB 28 23 BO H...	-11:18	920	-524	0	00:00	00:08	-00:02	42.6	0.9									
AB 38 86 BO H...	02:53	149	-90	0	00:00	00:12	-00:03	32.4	-9.4									

2.8.8. Analysis

For quick orientation in comparing plan with GPS data, there are a number of analytical reports available by pressing the “**Analysis**” button.

Analysis

Km

Vehicle	PKm	AKm
AB 62 67 BO Hundai HD65	468	665
AB 83 47 BE Isuzu NQR	407	426
AB 71 29 CK Scania	53	72
AB 47 21 CO Mers 513	72	72
AB 62 63 BO Hundai HD65	87	68
AB 38 90 BO Hundai HD65	338	313
AB 47 09 CO Mers 513	215	176
AB 48 16 CO Mers 513	129	84
AB 01 57 BT Hundai HD72	362	313
AB 28 16 BO Hundai HD65	166	87
AB 62 72 BO Hundai HD65	233	154
AB 38 86 BO Hundai HD65	149	59
AB 46 14 CO Mers 513	158	62
AB 62 68 BO Hundai HD65	341	215
AB 01 58 BK Hundai HD72	254	126
AB 62 73 BO Hundai HD65	346	198

Average time at stop

Vehicle	AT@S	Diff
AB 62 68 BO Hundai HD65	00:11	00:00
AB 28 16 BO Hundai HD65	00:15	00:00
AB 71 29 CK Scania	00:39	00:00
AB 62 73 BO Hundai HD65	00:11	-00:00
AB 47 21 CO Mers 513	00:11	-00:00
AB 48 16 CO Mers 513	00:12	-00:00
AB 62 63 BO Hundai HD65	00:13	-00:00
AB 47 14 CO Mers 513	00:13	-00:00
AB 01 58 BK Hundai HD72	00:10	-00:00
AB 47 09 CO Mers 513	00:11	-00:00
AB 28 23 BO Hundai HD65	00:08	-00:00
AB 46 14 CO Mers 513	00:11	-00:00
AB 62 72 BO Hundai HD65	00:13	-00:00
AB 38 90 BO Hundai HD65	00:13	-00:00
AB 38 86 BO Hundai HD65	00:12	-00:00
AB 01 57 BT Hundai HD72	00:12	-00:00

Routes

Vehicle	Dep	DTD	ATD
AB 62 68 BO Hundai HD65	03:08	04:06	02:37
AB 01 58 BK Hundai HD72	03:24	02:58	-01:16
AB 46 14 CO Mers 513	03:29	04:10	-00:03
AB 28 23 BO Hundai HD65	03:52	02:29	-14:09
AB 01 57 BT Hundai HD72	03:57	03:35	00:18
AB 62 72 BO Hundai HD65	03:57	03:42	01:29
AB 38 90 BO Hundai HD65	04:14	02:48	01:14
AB 62 63 BO Hundai HD65	04:18	03:42	05:12
AB 47 21 CO Mers 513	04:22	02:13	03:19
AB 47 14 CO Mers 513	04:30	02:58	-00:57
AB 28 16 BO Hundai HD65	04:35	02:25	-09:09
AB 62 73 BO Hundai HD65	04:40	02:27	-01:03
AB 62 67 BO Hundai HD65	04:47	02:54	-04:05
AB 47 09 CO Mers 513	04:49	02:54	01:01
AB 48 16 CO Mers 513	05:15	02:44	03:01
AB 71 29 CK Scania	05:20	04:55	06:39

Unpaired positions

Vehicle	Time	Duration
AB 01 58 BK Hundai HD72	14:02	10:04
AB 71 29 CK Scania	14:26	09:24
AB 62 67 BO Hundai HD65	21:24	08:52
AB 71 29 CK Scania	00:10	08:44
AB 28 23 BO Hundai HD65	20:56	08:18
AB 28 23 BO Hundai HD65	15:51	08:09
AB 38 86 BO Hundai HD65	00:03	07:24
AB 62 72 BO Hundai HD65	16:38	07:21
AB 46 14 CO Mers 513	00:00	07:06
AB 62 63 BO Hundai HD65	00:08	07:02
AB 47 09 CO Mers 513	00:09	07:00
AB 46 14 CO Mers 513	16:52	06:58
AB 48 16 CO Mers 513	00:07	06:53
AB 62 72 BO Hundai HD65	00:01	06:50
AB 62 67 BO Hundai HD65	00:06	06:46
AB 01 57 BT Hundai HD72	00:08	06:36

Unpaired stops

Vehicle	Location	City
AB 01 58 BK Hundai HD72	Клиент 401	Бог
AB 01 58 BK Hundai HD72	Клиент 420	Кал
AB 28 23 BO Hundai HD65	Клиент 637	Но
AB 28 23 BO Hundai HD65	Клиент 196	Низ
AB 28 23 BO Hundai HD65	Клиент 272	Низ
AB 46 14 CO Mers 513	Клиент 473	Ки
AB 46 14 CO Mers 513	Клиент 319	Ки
AB 46 14 CO Mers 513	Клиент 1	Ки
AB 47 09 CO Mers 513	Клиент 491	Вас
AB 47 14 CO Mers 513	Клиент 621	Ки
AB 47 21 CO Mers 513	Клиент 481	Ки
AB 47 21 CO Mers 513	Клиент 361	Ки
AB 47 21 CO Mers 513	Клиент 259	Ки
AB 62 63 BO Hundai HD65	Клиент 162	Ки
AB 62 67 BO Hundai HD65	Клиент 317	Че
AB 62 67 BO Hundai HD65	Клиент 523	Че

Arrival outside the time window

Location	Time window	Arriv	Diff
Клиент 614	03:00-04:00	15:24	10:24
Клиент 510	05:00-08:00	17:48	09:48
Клиент 17	05:00-08:00	16:07	08:07
Клиент 483	04:00-07:00	13:23	06:23
Клиент 330	05:00-09:00	15:05	06:05
Клиент 273	05:00-08:00	13:49	05:49
Клиент 419	04:00-07:00	12:40	05:40
Клиент 534	05:00-11:00	16:40	05:40
Клиент 596	05:00-08:00	13:30	05:30
Клиент 558	05:00-13:00	18:22	05:22
Клиент 365	04:00-08:00	13:12	05:12
Клиент 615	06:00-11:00	16:11	05:11
Клиент 346	04:00-13:00	17:58	04:58
Клиент 591	04:00-12:00	16:55	04:55
Клиент 57	04:00-08:00	12:53	04:53
Клиент 579	06:00-14:00	18:46	04:46

Time at customer shorter

Location	Duration	Duration	Diff
Клиент 578	01:06	00:06	-01:00
Клиент 561	01:51	01:09	-00:42
Клиент 612	00:51	00:17	-00:34
Клиент 617	00:34	00:02	-00:33
Клиент 614	00:46	00:14	-00:32
Клиент 620	00:38	00:07	-00:32
Клиент 619	00:34	00:03	-00:31
Клиент 618	00:32	00:03	-00:29
Клиент 615	00:34	00:06	-00:29
Клиент 172	00:35	00:07	-00:28
Клиент 616	00:32	00:05	-00:27
Клиент 624	00:35	00:09	-00:27
Клиент 49	00:30	00:06	-00:24
Клиент 613	00:34	00:10	-00:24
Клиент 498	00:37	00:13	-00:24
Клиент 540	00:36	00:12	-00:24

Time at customer exceeded

Location	Duration	Duration	Diff
Клиент 544	00:20	01:14	00:54
Клиент 430	00:08	00:51	00:43
Клиент 257	00:07	00:46	00:39
Клиент 314	00:20	00:56	00:36
Клиент 483	00:13	00:39	00:26
Клиент 425	00:06	00:30	00:24
Клиент 233	00:35	00:59	00:24
Клиент 47	00:40	01:01	00:21
Клиент 101	00:10	00:30	00:20
Клиент 504	00:10	00:29	00:19
Клиент 312	00:20	00:38	00:18
Клиент 141	00:08	00:24	00:17
Клиент 213	00:07	00:23	00:15
Клиент 217	00:10	00:25	00:15
Клиент 575	00:14	00:28	00:14
Клиент 169	00:08	00:22	00:14

Close

Km – A list of all vehicles showing the planned kilometres, actual kilometres and the absolute difference between plan and reality.

Average time at stop – A list of all vehicles showing the planned average unloading time, actual average unloading time and the absolute difference between the plan and the actual situation.

Routes – List of all routes with information about delays on the start, end and total duration of the routes

Unpaired positions – List of all unplanned vehicle stops, stop time and stop duration. The stop position can be checked by clicking on the different maps using the link.

Unpaired stops – A list of all planned stops that were not tracked by GPS tracking. Possible causes may also be wrong geocoding or extremely short unloading times.

Arrival outside the time window – List of all customers who have violated the requested time window, arrival time, and violation value.

Time at customer shorter – List of all stops where the loading time was shorter than the plan (Customer / Planned unloading duration / Actual unloading duration / Difference).

Time at customer exceeded – A list of all stops where the landing time was longer than the plan (Customer / Planned unloading duration / Actual unloading duration / Difference).

2.9. Map

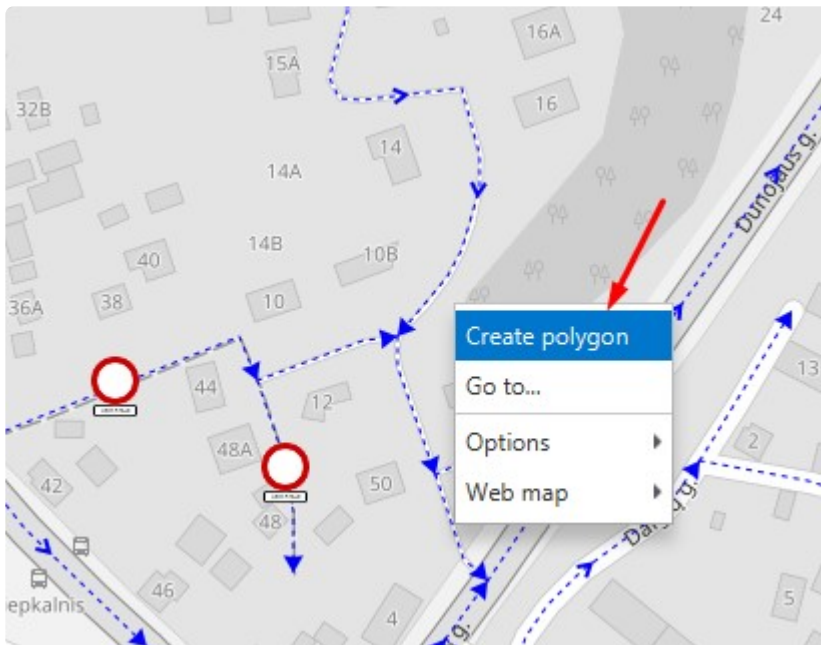
In the **“Map”** tab, the user can edit map data.

You can close or add restrictions to individual road sections, or you can mark a polygon on the map.

Individual adjustments can be freely edited or deleted.

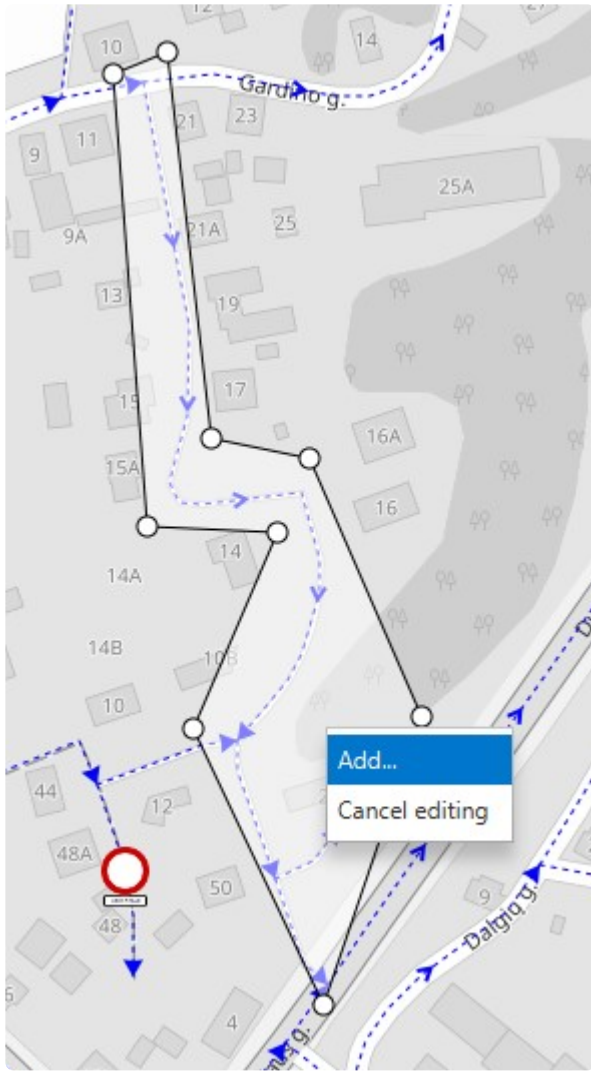
Add restriction to route section

First, you need to zoom in to see road sections as blue arrows. Then find the needed road or several roads and select **“Create polygon”** through the context menu on the map.

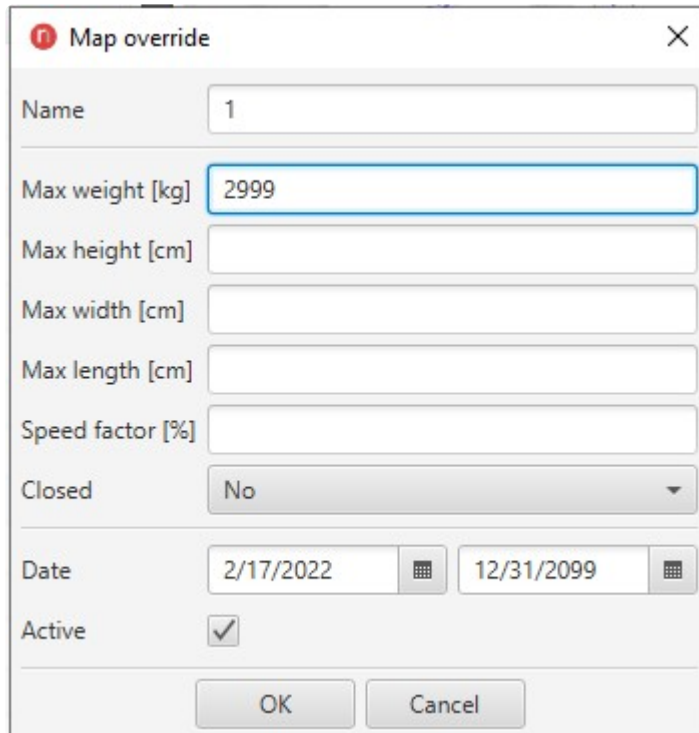


Edit the polygon to the desired shape. To add another vertex, hold down the **“Ctrl”** key and click any edge of the polygon.

Then click **“Add”** in the context menu above the polygon.



Next, fill in the restriction information:



The image shows a 'Map override' dialog box with a red 'i' icon and a close button (X). It contains several input fields: 'Name' with the value '1', 'Max weight [kg]' with '2999' (highlighted with a blue border), 'Max height [cm]', 'Max width [cm]', 'Max length [cm]', 'Speed factor [%]', 'Closed' with a dropdown menu showing 'No', 'Date' with start and end date pickers (2/17/2022 and 12/31/2099), and 'Active' with a checked checkbox. At the bottom are 'OK' and 'Cancel' buttons.

- Name – The description of the restriction.
- Max weight [kg] – No entry of vehicles heavier than the specified value. If the road needs to be closed for the reason that it is not entry for any vehicles then indicate the weight of 1 kg;
- Max height [cm] – No entry of vehicles higher than the specified value.
- Max width [cm] – No entry of vehicles wider than the specified value.
- Max Length [cm] – No entry of vehicles longer than the specified value.
- Speed factor – Decelerates or accelerates a given section. If you need to slow down a section of the road, then set the coefficient less than 100%, if you need to speed up, then more than 100%, respectively.
- Closed – “yes” – in this case, the road disappears and isn’t readable by the system (not recommended), “no” – the road is closed due to all restrictions, but if a delivery point appears there, a route will be built to it (recommended option).
- Date – we recommend that the start date be indicated a day earlier than the restriction being made, the end date – if temporary, for example, road repair, then you need to select the approximate end date, if the road needs to be closed forever – 2099.
- Active – The restriction is / is not active.

2.10. Menu

At the top of the screen is a basic menu through which you can set other parameters of the system or access other functionalities.



2.10.1. Depot

2.10.1.1. Units

Any units (kg, pallets, ADR points, etc.) can be used during import of orders from the master system or manually entered.

User-defined units are then converted to units in which the vehicle capacity is defined, depending on the settings.

It is also possible to define a number of parameters for every unit that have an impact on optimization.

Units can be added, changed or deleted. **Note that if a unit is deleted, it will not be possible to open older plans that contain orders with a deleted unit!**

[illegible]

- Id – User defined id of the unit.
- Unit – Name of the unit.
- Weight – The weight of specified unit.
- Volume – The volume of the specified unit.
- Third – What is the size of the unit in the third dimension.
- WBack – How many kilograms will be delivered back in case of single unit delivery.
- VBack – What is the volume that will be delivered back in case of single unit delivery.

- TBack – What is the size of unit that will be delivered back in case of single unit delivery.
- T@D – How many seconds it takes to load one unit in the warehouse.
- T@C – How many seconds it takes to unload one unit at the customer.
- T@DB – How many seconds will it take to control the delivery of one unit when returning to the depot.

2.10.1.2. Vehicle types

Vehicle types are used for definition of different vehicle characteristics.
The table is used to described them. The vehicle type of given vehicle is then compared with the required vehicle type for the location or order. The properties are stored and further displayed in the form of a bitmap, where the individual properties correspond to the positions from the “Digit” column.

Vehicle Types

Add

Edit

Delete

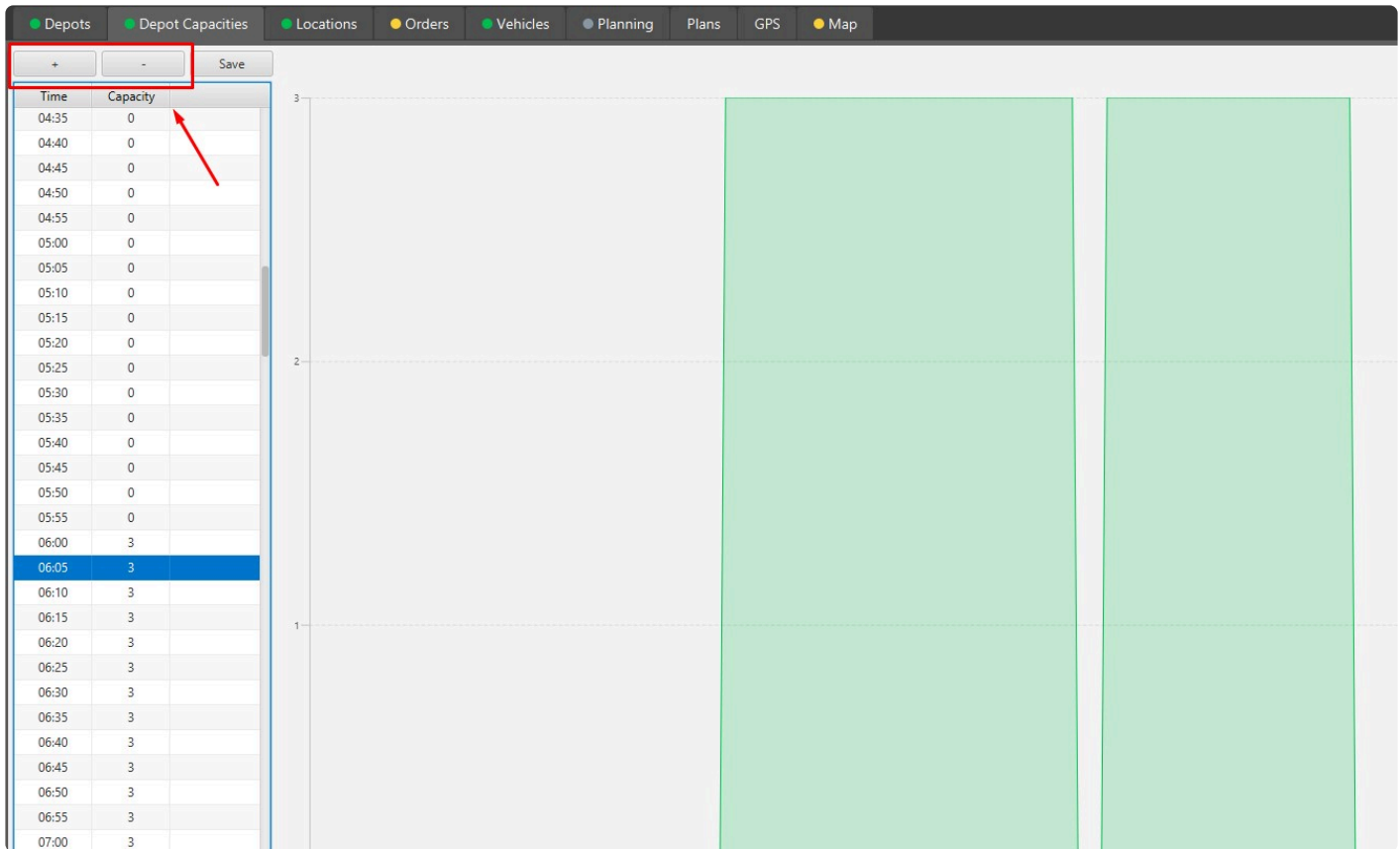
Digit	Name
1	tst

2.10.2. View

2.10.2.1. Depot capacity

Using this option, you can show or hide the number of vehicles that can be loaded in the depot at the same time, i.e. the number of available ramps depending on the time of day.

You can adjust the capacity by selecting the desired time from the list and pressing the “+” or “-” buttons.

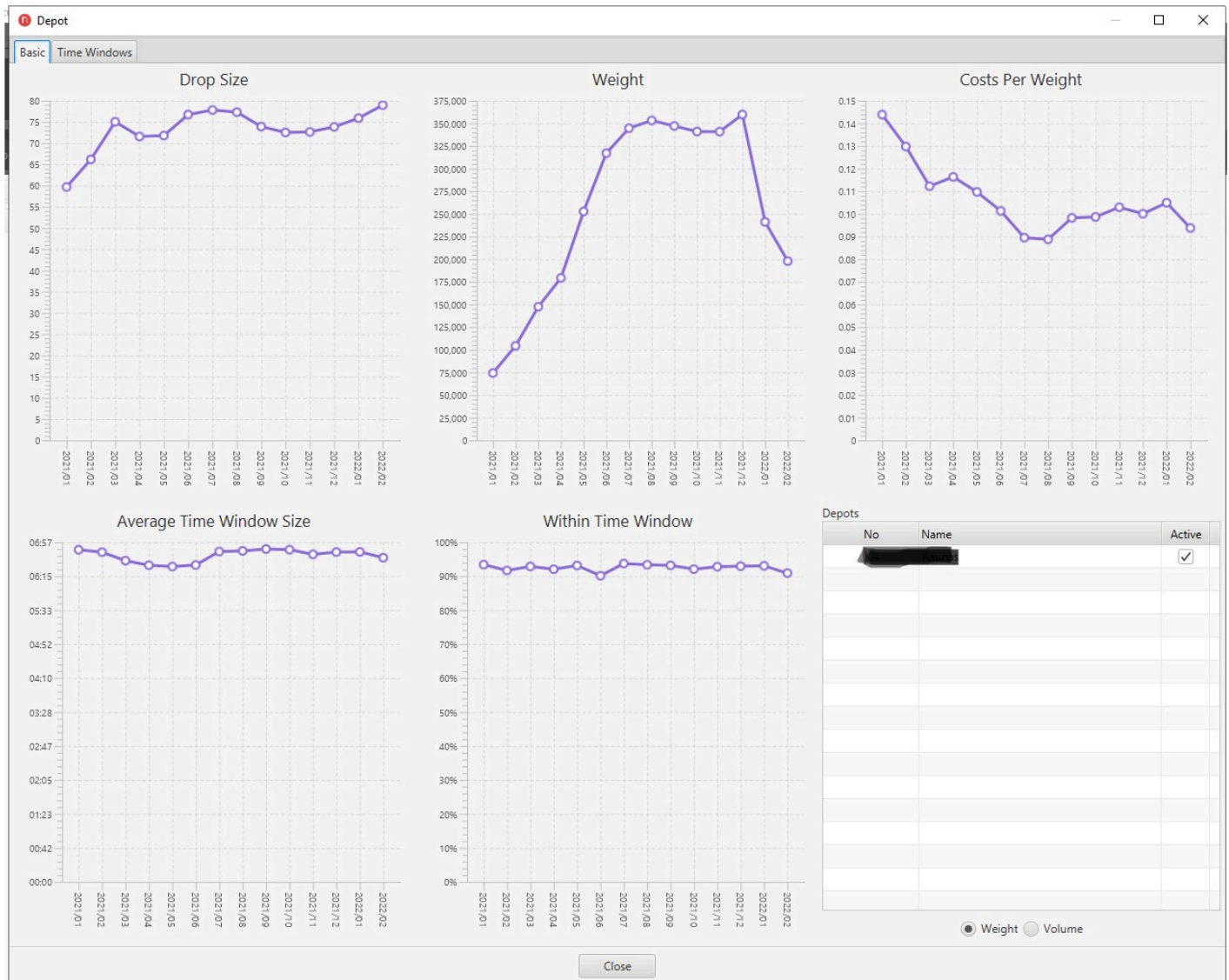


2.10.3. Reporting

2.10.3.1. Depot

Basic

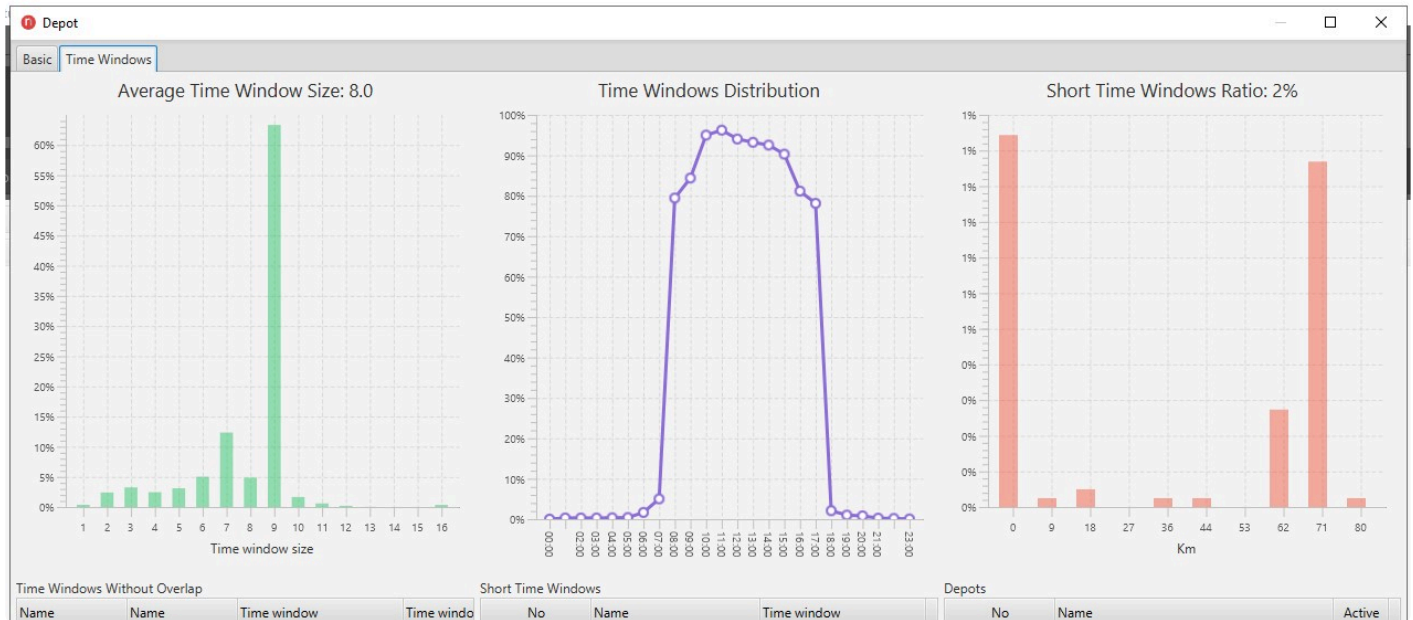
This report is presented in the form of charts, where the following parameters are distributed by month:



1. Drop size – the amount of delivery for each month for the year;
2. Weight – the total weight of the delivery for each month for the year;
3. Costs per weight – expenses per unit of weight per month;
4. Average time window size
5. Within time window – the percentage of deliveries that took place exactly within the time window.

Time Windows

With this option, you can display multiple time window reports for clients.



1. Average time window size – Graphical representation of the time window width distribution for the selected objects (all locations or active orders). The wider the time windows, the better the optimization results.
2. Time window distribution – A graphical representation of the time window layout on the timeline for the selected objects. The ideal condition for planning is a uniform and as wide distribution as possible.
3. The ratio of short time windows – part of short time windows. The width of the time window can be set in the lower right corner.
4. Time windows without overlap – Displays a list of all pairs of clients that don't have overlapping time windows and at the same time are at the maximum distance from each other (in the lower right corner).

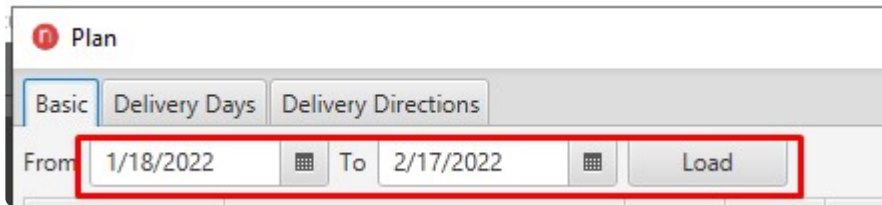
If such customers order at the same time, they cannot be served by the same vehicle without waiting time. Usually in such cases, two vehicles have to go to the same place.

5. Short time windows

In the "Time" field in the lower right corner, you can enter the width of the time window and after clicking the "Refresh" button, a list of clients with time windows that are less than the entered value will be displayed.

2.10.3.2. Locations

This section contains location-related reports, based on both saved plan data and GPS data. In each report it is possible to choose the time interval for data collection.



The screenshot shows a web interface for a 'Plan' report. At the top, there is a red circular icon with a white 'i' followed by the word 'Plan'. Below this, there are three tabs: 'Basic' (which is selected and highlighted with a blue border), 'Delivery Days', and 'Delivery Directions'. Under the 'Basic' tab, there is a section for date selection. It starts with the word 'From' followed by a text input field containing '1/18/2022'. To the right of this field is a small calendar icon. This is followed by the word 'To', another text input field containing '2/17/2022', and another small calendar icon. To the right of these date fields is a button labeled 'Load'. A red rectangular box highlights the entire date selection area, including the 'From' field, the first calendar icon, the 'To' field, the second calendar icon, and the 'Load' button.

2.10.3.2.1. Plan

Location data from saved plans are displayed in three tabs:

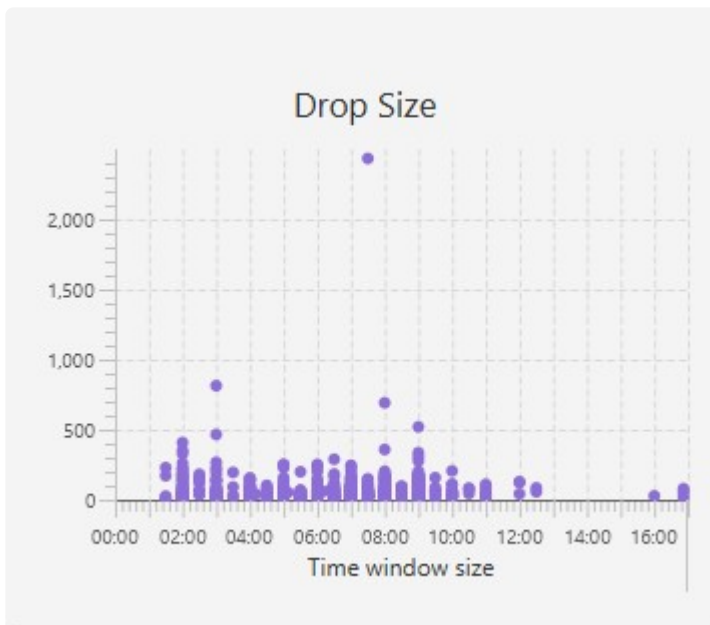
Basic

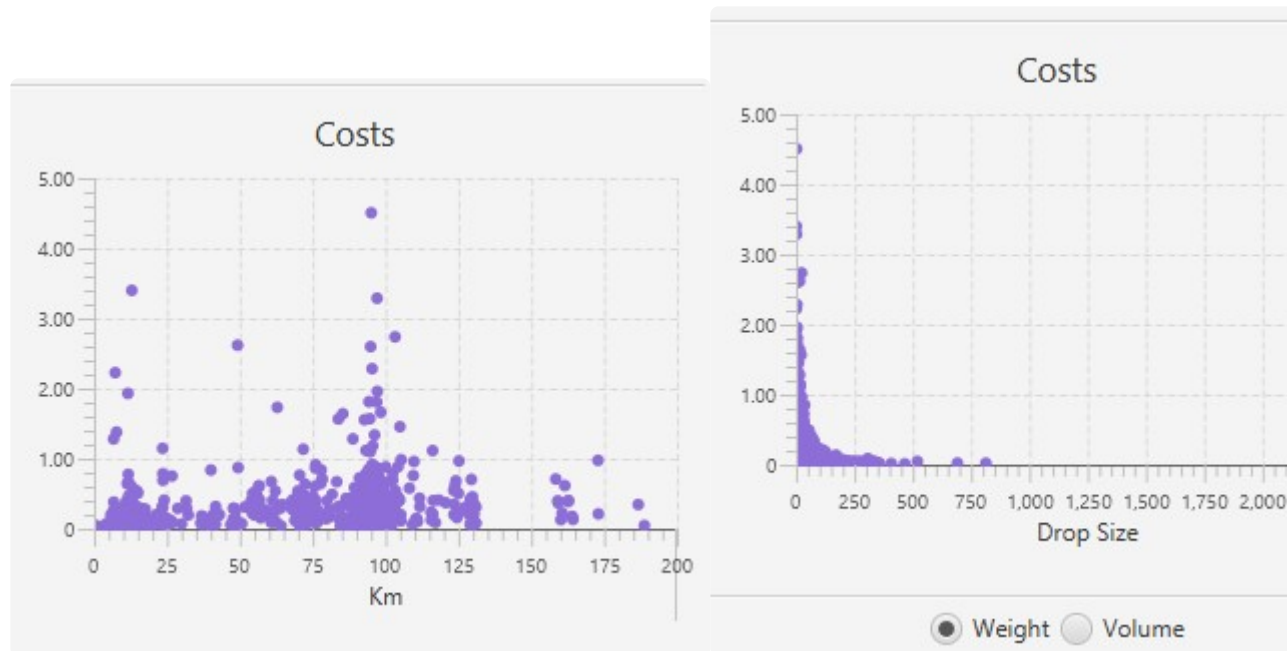
- Km – Distance from depot.
- TWS – Average width of time window.
- Stops – Number of stops in given period.
- Costs – Total cost of delivery in given period.
- Wght – Total weight of all orders in given period.
- Vol – Total volume of all orders in given period
- \$/Wei – Average cost per delivery of one weight unit.
- \$/Vol – Average cost per delivery of one volume unit.

Plan										
Basic Delivery Days Delivery Directions										
From	1/19/2022	To	2/18/2022	Load						
No	Name	Km	TWS	Stops	Costs	Wght	Vol	\$/Wei	\$/Vol	
11834	Almora sports y balvalado cast...	102.4	12:00	3	13.80	127	0.3	0.11	54.97	
10295	Indes UAB Aligned g 27 a	93.0	08:00	2	7.15	69	0.1	0.10	60.54	

Graphs on the right represents:

- Drop size – The dependency between the size of the order and the width of the time window.
- Costs – The dependency between delivery unit cost and distance of a location from depot.
- Costs – The dependency between delivery unit cost and average drop size.





Delivery days

This tab shows the uniformity of the distribution of traffic between the individual days of the week. Customers who do not comply with the set delivery days are marked in red. They are marked in red on the map too.

Plan

Basic **Delivery Days** Delivery Directions

From 11/1/2021 To 2/18/2022 Load

Day	NoOfLoc	OutDD	Wght	Vol
Sunday	0	0	0	0
Monday	701	0	270,609	808.1
Tuesday	638	0	235,760	729.0
Wednesday	875	0	207,835	707.6
Thursday	792	0	237,790	780.1
Friday	683	0	187,672	658.5
Saturday	0	0	0	0

No	Name	Delivery days	Sun	Mon	Tue	Wed	Thu	Fri	Sat
10005	Ukrainetisk patiekalai UAB	--	0	1	5	6	6	3	0
10014	Balgansmone UAB, Ilandijos p. 3...	--	0	0	1	0	0	3	0


Delivery directions

Here you can change the assigned delivery directions for customers and at the same time check the uniformity of deliveries on individual days of the week. Customers can be selected either from a table or directly from the map using a polygon. For selected customers, the delivery days can be easily set by

pressing the **“Edit”** button. The changes are not saved until the **“Save”** button is pressed.

2.10.3.2.2. GPS

This analysis is focused on the average duration of the stop at a particular customer and compliance with the required delivery window.

 GPS

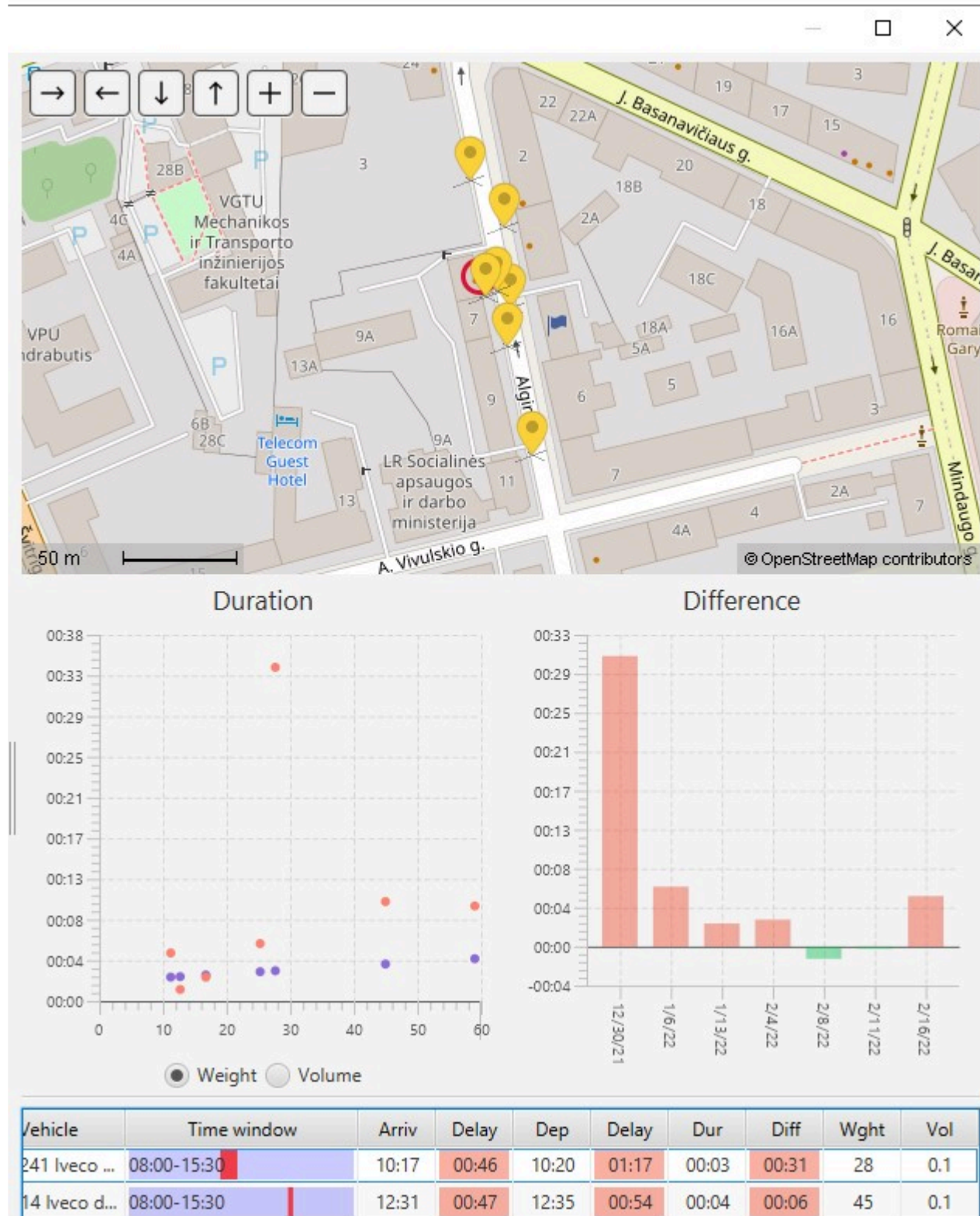
From To

No	Name	AT@S	Delay	PairPrc	Stops	BefTW	AfterTW
10005	Ukrainietiški patiekalai UAB	00:03	00:07	31	7	0%	0%
10014	Bajorų smuklė UAB, Islandijos pl. 3...	00:07	-00:01	76	1	0%	0%

The table lists:

- all locations
- the average stop time
- the average difference from the planned time
- the total number of stops for given period.
- percentage of points that were visited before and after time window

Detailed information can be obtained for each location by pressing the “**Details**” button.



Details include a graphical representation of the vehicle's physical stops, a comparison of the planned and actual durations of the stops, and an analysis of the timeliness of arrivals.

2.10.3.2.3. Depot

The report is used to check the assignment of locations to individual depots.

More than one depots must be activated for analysis. After pressing the “**Analysis**” button, the assignment of all locations to the optimal depot will be calculated on the basis of the distance.

Locations can also be selected in a table or in a map (using a polygon) and change the assigned depot by pressing the “**Edit**” button. The current assignment can be exported, but it is not possible to save it directly to system.

You can also check the locations assignment on the map and switch between current setting and a new one using buttons “**Current**” and “**New**”.

2.10.3.3. Vehicles

Summary table on the use of transport for the period.

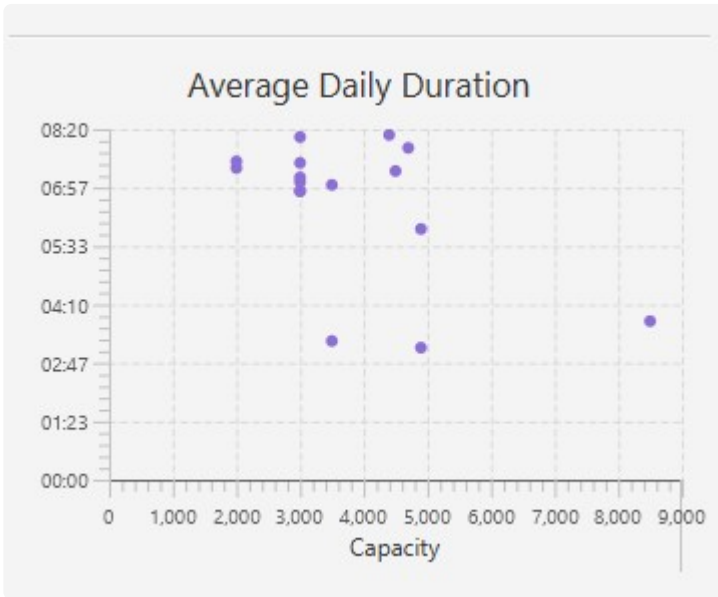
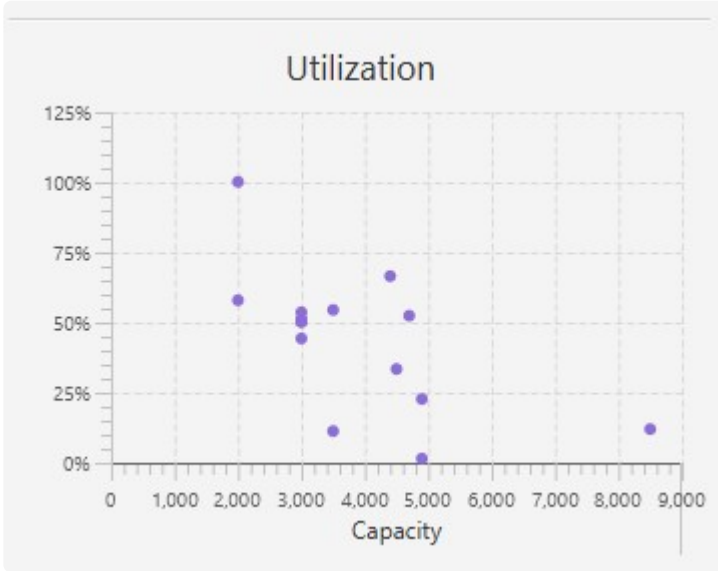
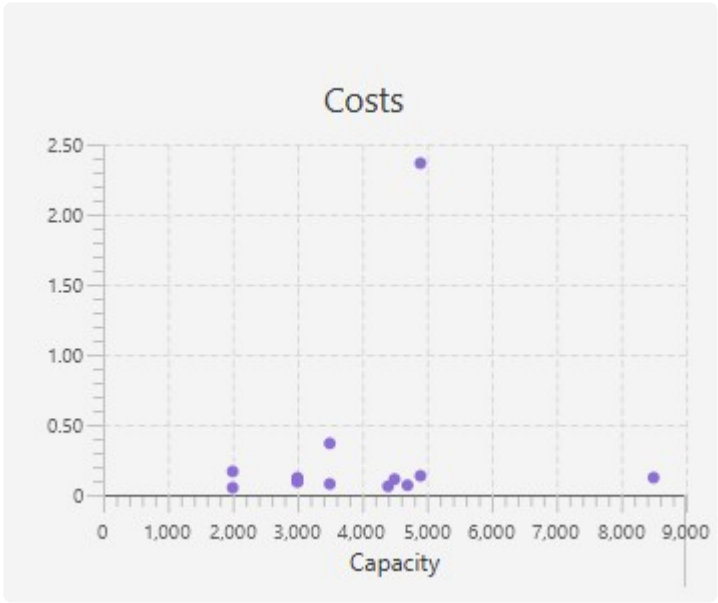
Basic

- Vehicle weight;
- The volume of the vehicle;
- The number of days the vehicle has been used;
- Number of routes per vehicle for the period;
- Average daily mileage;
- Paid mileage;
- Average daily use of a particular vehicle;
- Loading by weight in %
- Loading by volume in %
- Cost per unit of weight
- Costs per unit of volume

Vehicles													
Basic		GPS											
From	1/19/2022		To	2/18/2022		Load							
Number plate	✓	Wght	Vol	Days	Routes	Km	Km toll	Duration	WUtil	VUtil	\$/Wei	\$/Vol	
GTB 579 MB At...	✓	4,700	15.0	12	12	226.0	0	07:53	52%	41%	0.07	27.23	

The graphs on the right show:

- The dependence of the cost of weight on the capacity of the vehicle
- The dependence of the percentage load of a vehicle on its capacity
- The dependence of the average daily time of using a vehicle on its capacity



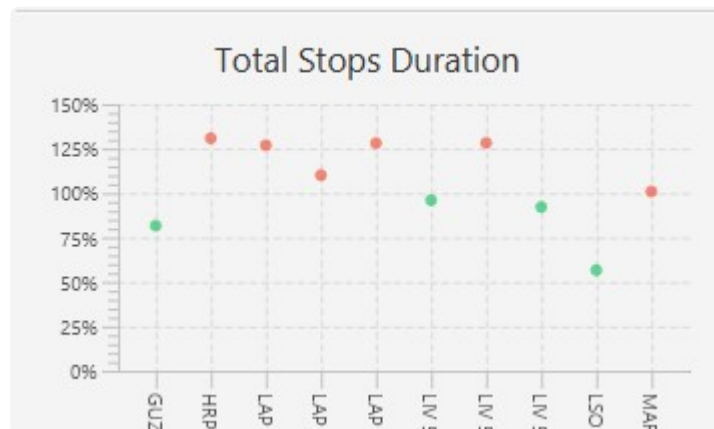
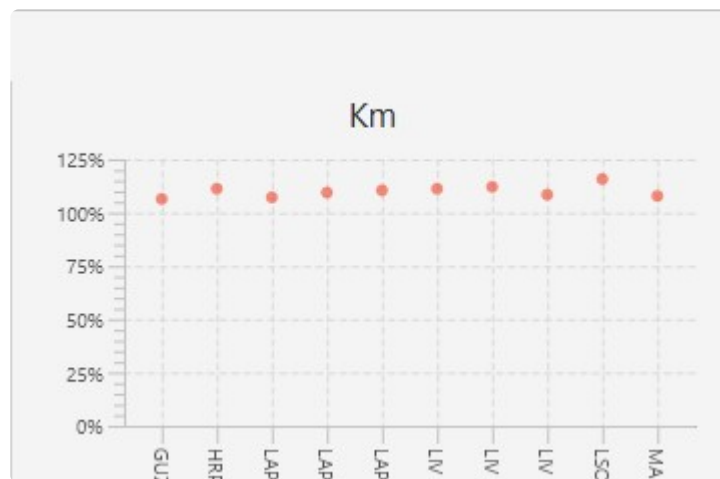
The **GPS** tab provides the following information:

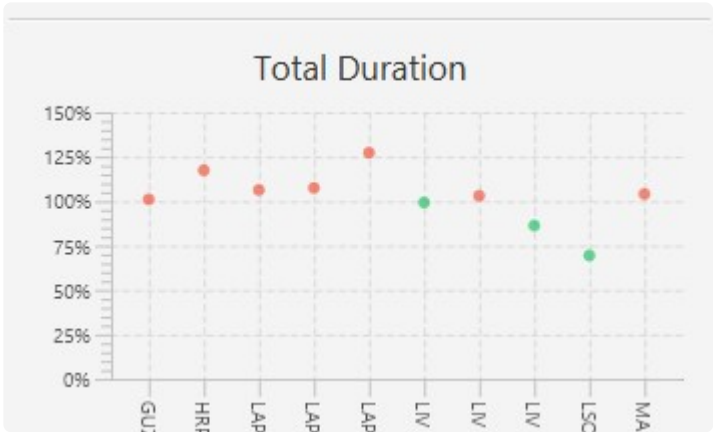
- Planned mileage by vehicle
- Difference in mileage (red indicator – overrun, green indicator – fewer kilometers than planned)
- Total duration of stops
- Actual stop duration difference (red indicator – stops lasted longer, green – faster)
- Total route duration
- Actual difference in route duration

Vehicles										
Basic		GPS								
From	1/19/2022	To	2/18/2022	Load						
Number plate	✓	Wght	Vol	Days	Km	Diff	StpDur	Diff	Duration	Diff
GUZ 927 MB At...	✓	4,500	16.0	6	1,343.5	106%	16:13	82%	44:20	101%

The graphs on the right show:

- Difference in mileage for all vehicles
- Difference in stop times
- The difference in the total duration of routes

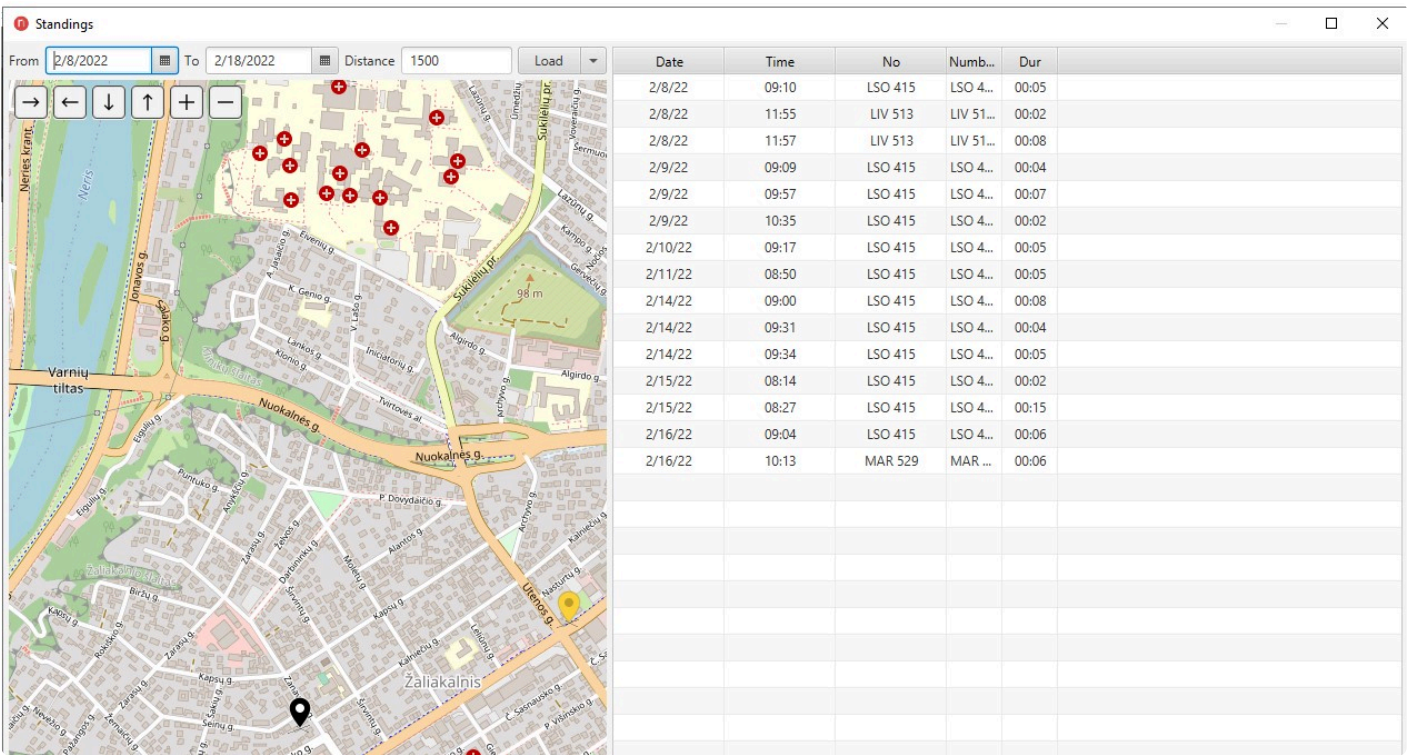




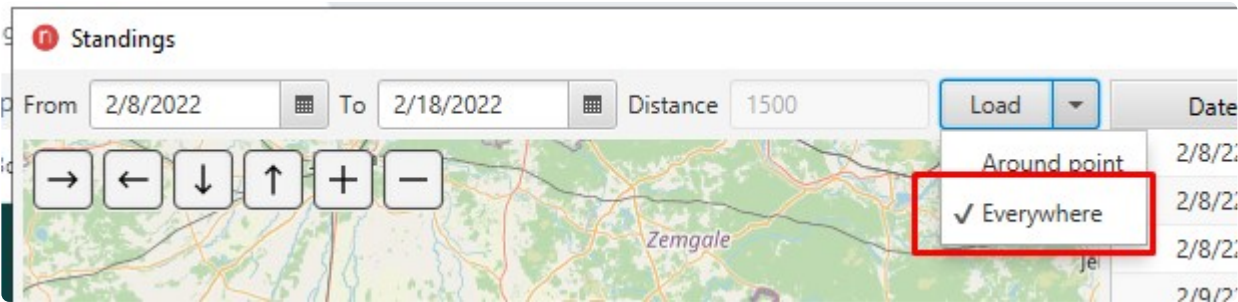
2.10.3.4. Standings

The report allows you to display the standings of vehicles for a given time period to a predefined distance from a specified point.

You can select a point on the map by holding down the “Ctrl” key and clicking on the map.



The second option is to display all points on the map where vehicles stop often, without any planned stop. Just select “Everywhere” for this option.



2.11. Admin

2.11.1. Files

Here you can to download files to work with the system.

These are always zipped files that need to be saved to a local disk and then unzipped.

CSV

- Reader – Excel file that allows you to print itineraries. The source is a csv plan file.
- Writer – Excel file generating csv file with orders, that can be uploaded into Rinkai.

Reporting – Excel file with a pivot table linked to saved and evaluated plans.

Manual – Download the latest version of the manual.

2.11.2. User management

A user with local administrator rights can create new users, user groups, manage permissions and passwords in this section.

2.11.3. Web services

- Delete locations and orders – Clean up the communication tables with orders.
- Delete plans – Clean up communication schedules with schedules.

2.11.4. Computer

- CPU benchmark – Local processor performance test.
- Java info – Information about the available version of Java on the local computer.

2.11.5. User

- Change password – Change of user's password.
- Logout – Logout from the system. You can also sign out using the icon in the top right corner of the screen.

2.11.6. Errors

Displays a list of errors that occurred during the current system run.

2.11.7. Log

Log – Displays a list of operations and system messages that occurred during the current system run.

Server Log – Displays a list of operation for the selected period.

3. Web-portal for drivers

Access to the portal can be found at the [link](#)

It can be used both from your phone and from your computer.

3.1. Authorization

Mandatory fields for authorization:

12:36



Key

.....

Depot

Demo (clients_5)

Driver

Vehicle

16


Navigation

- ☐ Default
- ☒ Google Navigation
- ☐ HERE WeGo

Theme

☒ Dark

☐ Light

 Save

- Key;
- Depot number;
- Driver/Vehicle number.

Next, choose a navigation method from the list.

The following navigation methods are currently available: Google, HERE WeGo, OsmAnd, Sygic, Waze, Yandex

The route is laid to each point separately, depending on the current location.

Then choose mode convenient for you – light or dark.

Save data.

After saving the data, you will be transferred to a page with a list of all available routes for the current and next day.



Routes

B2 • 2/21/2022 • 12:34:28 PM



21 Monday

FEB



13



296 km



08:00-15:07



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3.2.

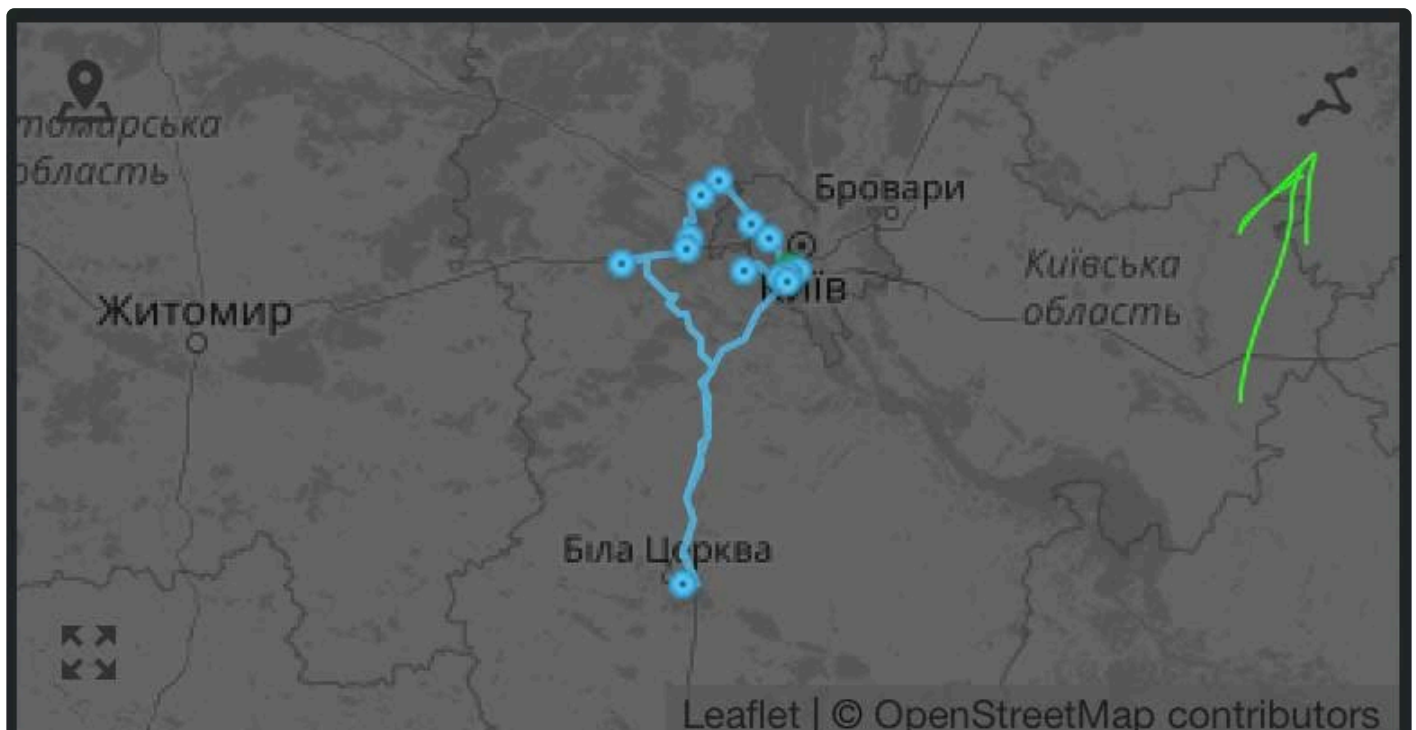
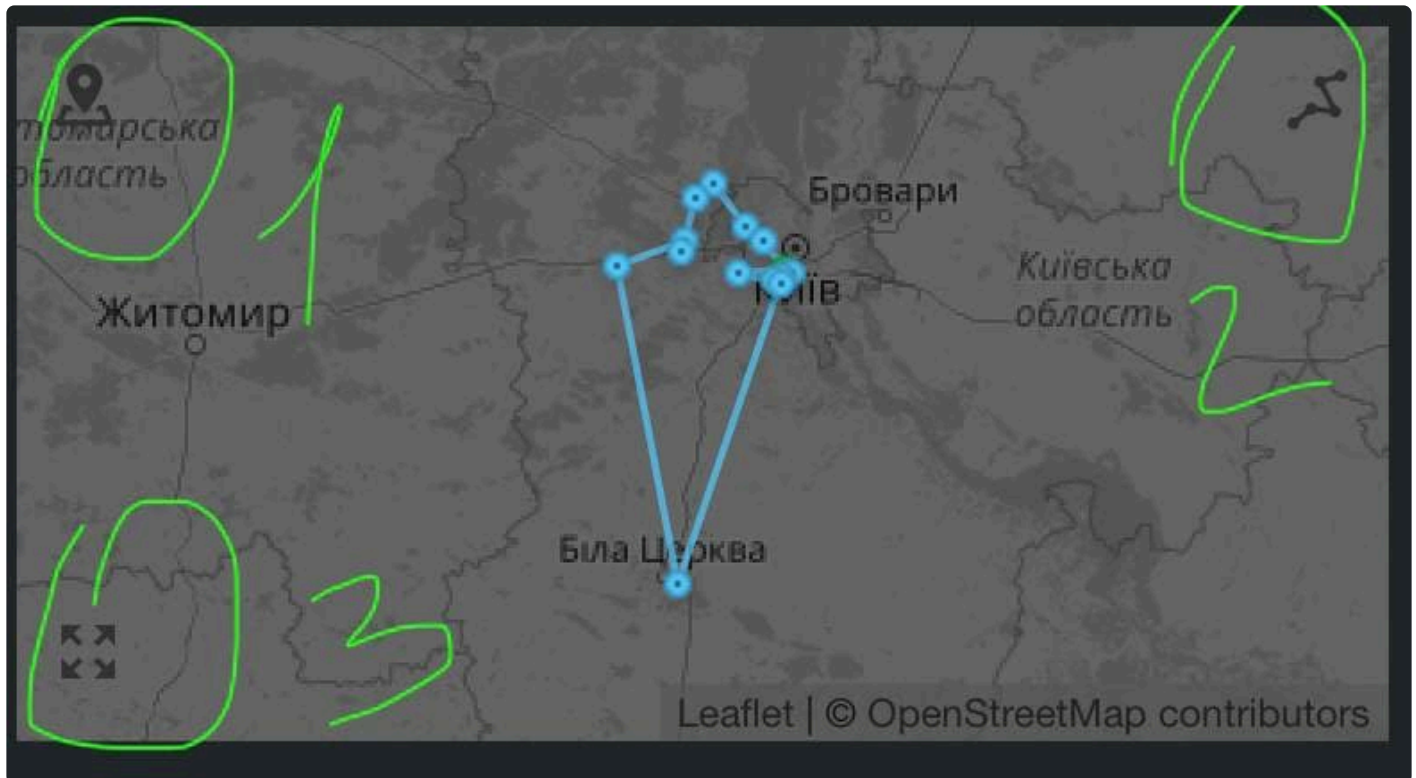
3.3.

3.4. Functionality

3.4.1. Map

When you open the selected route, the first thing you can see is the map.

All waypoints are displayed on the map. There are some buttons on the top corners:



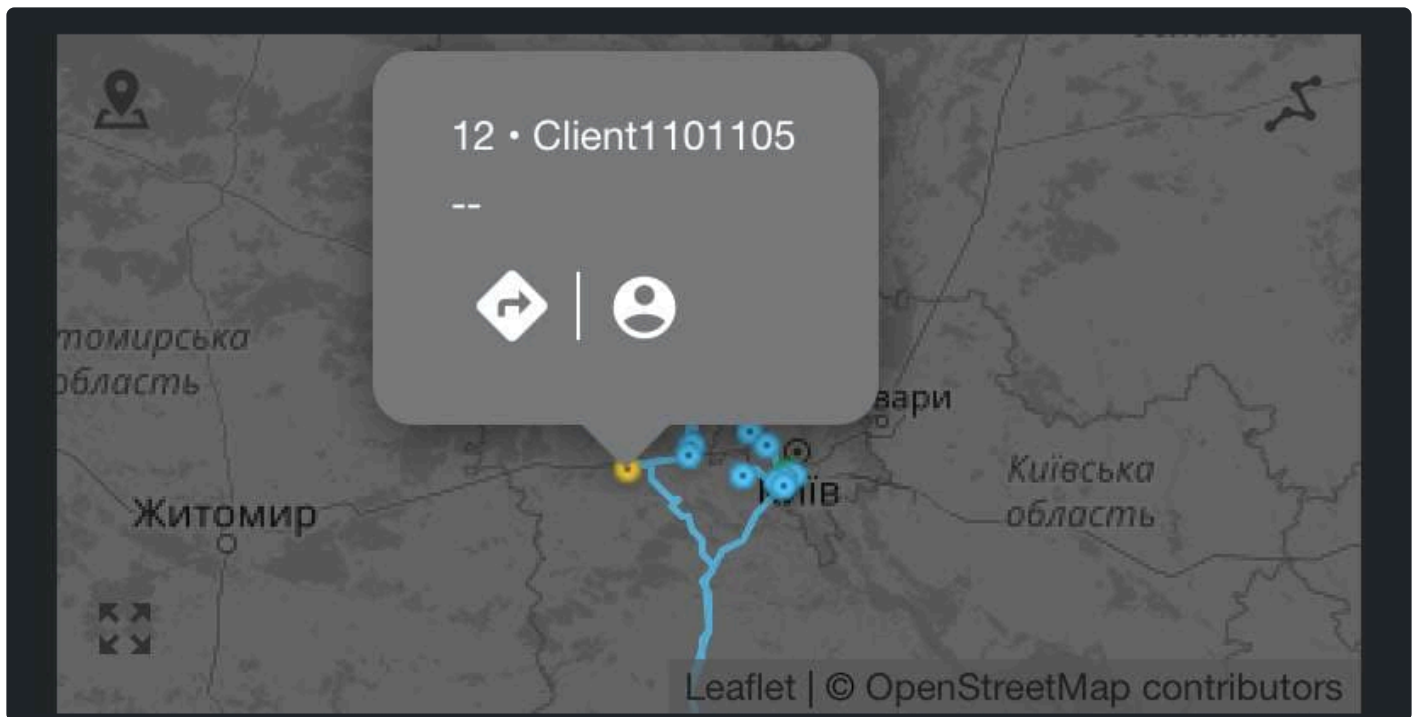
1. Shows current location
2. Changes the vector image to a road route
3. Map zoom

You can tap on any point to show:

- Sequence number in the route;
- Name;
- Address

The following buttons are also available:






- Navigation to this point from the current location;
- Maintenance button.



3.4.2. Information panel

Under the map there is an information panel, which displays data about the entire route:

- Start time;
- End time;
- Duration of the route;
- Number of points in the route;
- Total mileage of the route;
- Quantity – all information that you transmit in units, i.e. weight, volume, number of pieces, pallets, etc.

Start time	End time	Duration
 08:00	 15:07	 07:07
Stops	Distance	Quantities
 13	 296 km	 V: 197, W: 372, третье: 175

3.4.3. Point card

Point cards are arranged in the order they are planned to visit along the route.



1

Client1101104



08:35



08:00-18:00



16 km



2

Client1101113



09:03



08:00-19:00



12 km



3

Client1101118



09:12



09:00-12:00



2 km



4

Client1101116



09:22



08:00-21:00



2 km



5

Client1101119



In the header of the card:

- Serial number;
- Scheduled time of visit;
- Point name;
- Address;
- Time window;
- Distance to it from the previous one in km;
- Comment (if it is);

If it will be opened:

- Location number as in the system;
- Name;
- Address;
- Time window;
- Order number as in the system;
- Time for unloading at the point;
- Quantity – units that are transferred;
- Comment.



1

Client1101104



08:35



08:00-18:00



16 km

No Client1101104

Name Client1101104

Address --

Time window 08:00-18:00

Order 104

Time at customer 00:05

Quantities V: 26, W: 52, третье: 26

**Navigate****Serve**

3.4.4. Maintenance

When you tap on the **"Serve"** button then will be opened the page where the driver could fill a data:

- Status – “delivered” / “not delivered”
- Comment – you can write any comment why the order was not delivered;
- Activities;
- Attach a photo;
- Attach a signature;



< Client1101104

Status

☐ Delivered

☒ Not delivered

Comment

Photos



Signature



All this information becomes available to the dispatcher in the Rinkai system in the GPS tab by selecting the vehicle – this route – the list of points in the route – display the columns through the context menu with the right-click of mouse:

PISt	AcSt	No	Name	City	PairPrc	Time window	Arriv	Delay
1	1	Client1101104	Client1101104			08:00-18:00	08:35	--
2	2	Client1101113	Client1101113				09:03	--
3	3	Client1101118	Client1101118				09:13	--
4	4	Client1101116	Client1101116					
5	5	Client1101119	Client1101119					
6	6	Client1101102	Client1101102					
7	7	Client1101103	Client1101103					
8	8	Client1101115	Client1101115					
9	9	Client1101012	Client1101012					
10	10	Client1101101	Client1101101					
11	11	Client1101117	Client1101117					
12	12	Client1101105	Client1101105					
13	13	Client1101114	Client1101114					

Images And Signature...

Go to

Columns

Street

Images

Orders

Notification

✓ Arrival time delay

Actual arrival time

✓ Departure time delay

Actual departure time

✓ Duration delay

Actual duration

Comment

Comment

Comment 2

Delivered

Comment

Activities

Images

Signature

Save columns layout

Time

Duration

PairPrc

Latitude

Longitude

No content in table

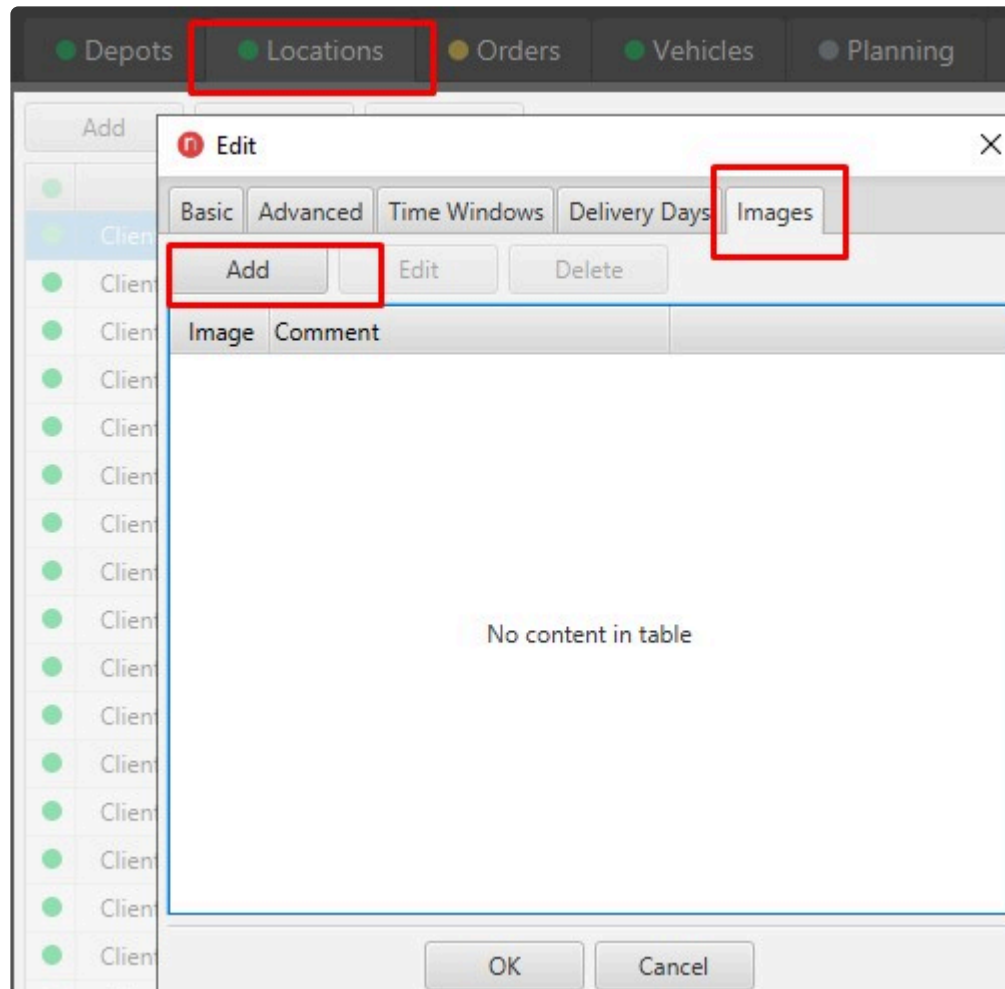
3.5. Location Photo

That the driver who is driving on the route for the first time knows how the point looks like, there is a function for adding a photo for the location.

There are two ways to do this:

1. If you already have a photo, then in the Rinkai system on the “Location” tab, select the one you need – click on the “**Edit**” button – add a photo in “Photos”.

In the driver’s portal, it will be available if you open the client card and tap on the “Images” button.



1

Client1101104



--



08:35



08:00-18:00



16 km

No Client1101104

Name Client1101104

Address --

Time window 08:00-18:00

Order 104

Time at customer 00:05

Quantities V: 26, W: 52, третье: 26



< Client1101104



© Rinkai Routing

2. The driver, in turn, can also add a real photo of the location through the “Serve” – attach a photo. Further, through the Rinkai system, the GPS tab, the dispatcher can immediately assign this photo to the location:

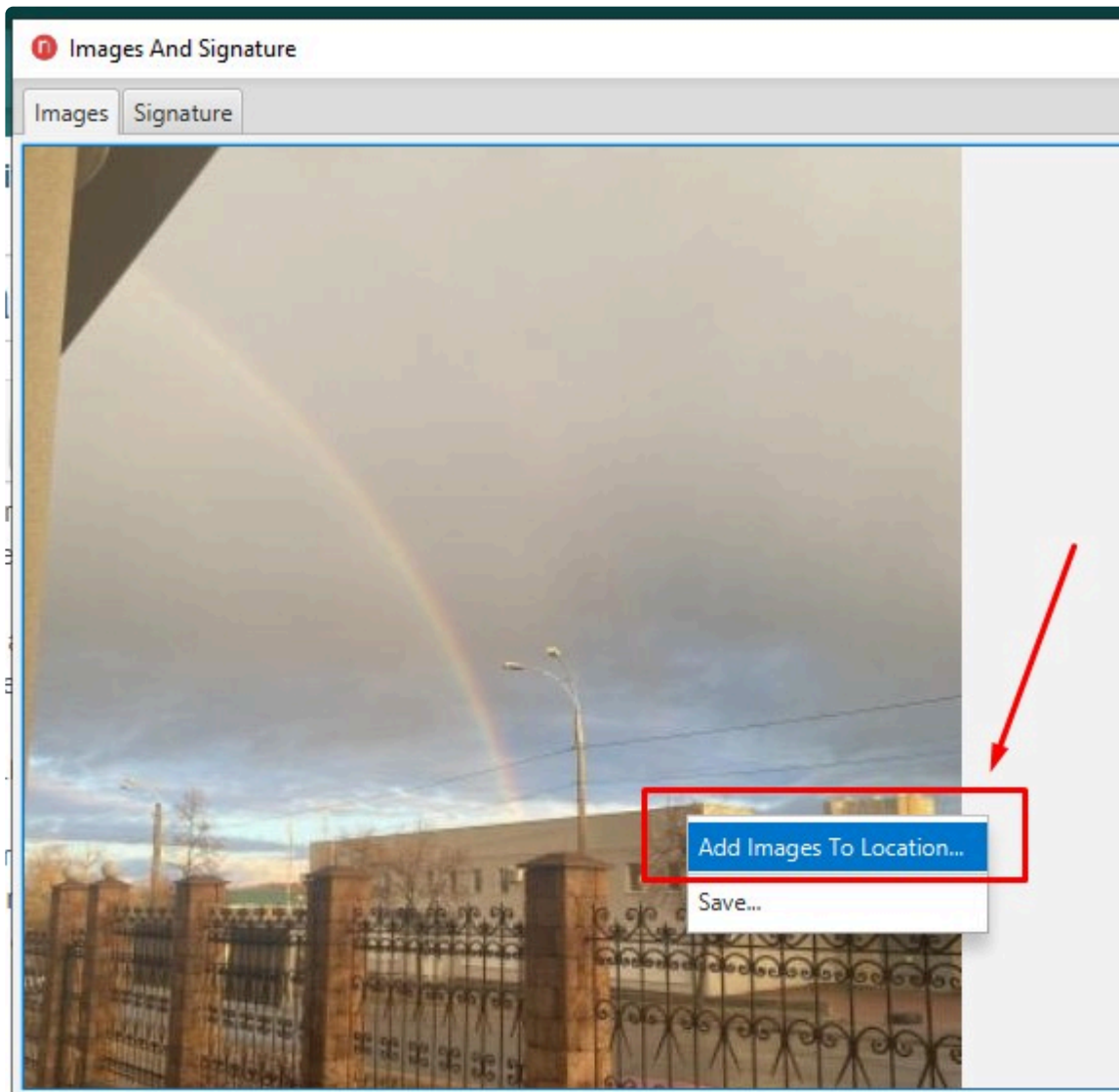
Select the desired point and click “Images and Signature” through the context menu. A tab with a photo will open, you need to right-click “Add Images to location”.

	PISt	AcSt	No	Name	City	PairProc
●	1	1	Client1101104	Client1101104		
●	2	2	Client1101113	Client1101113		
●	3	3	Client1101118	Client1101118		
●	4	4	Client1101116	Client1101116		
●	5	5	Client1101119	Client1101119		

Images And Signature...

Go to

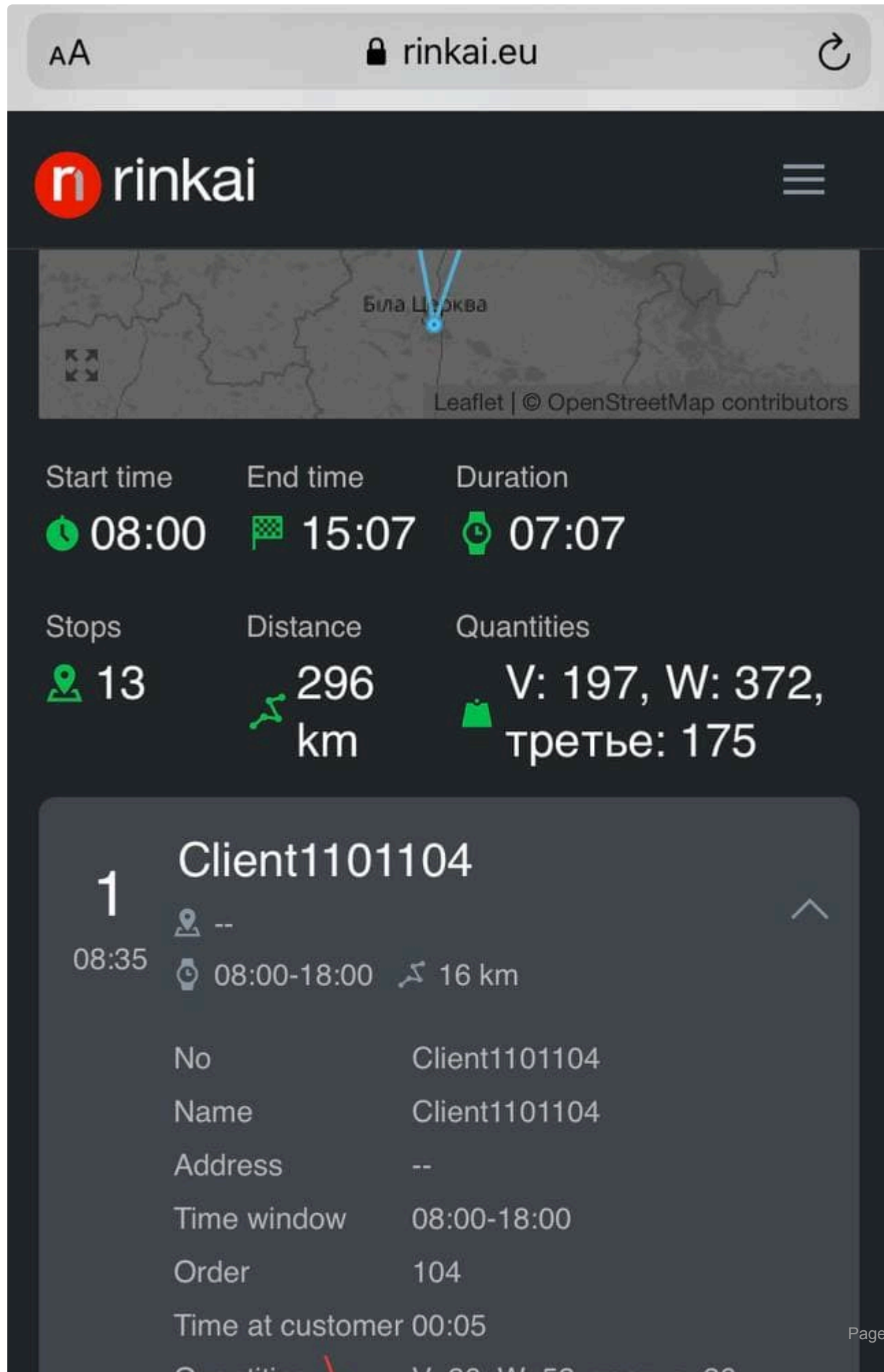
Columns

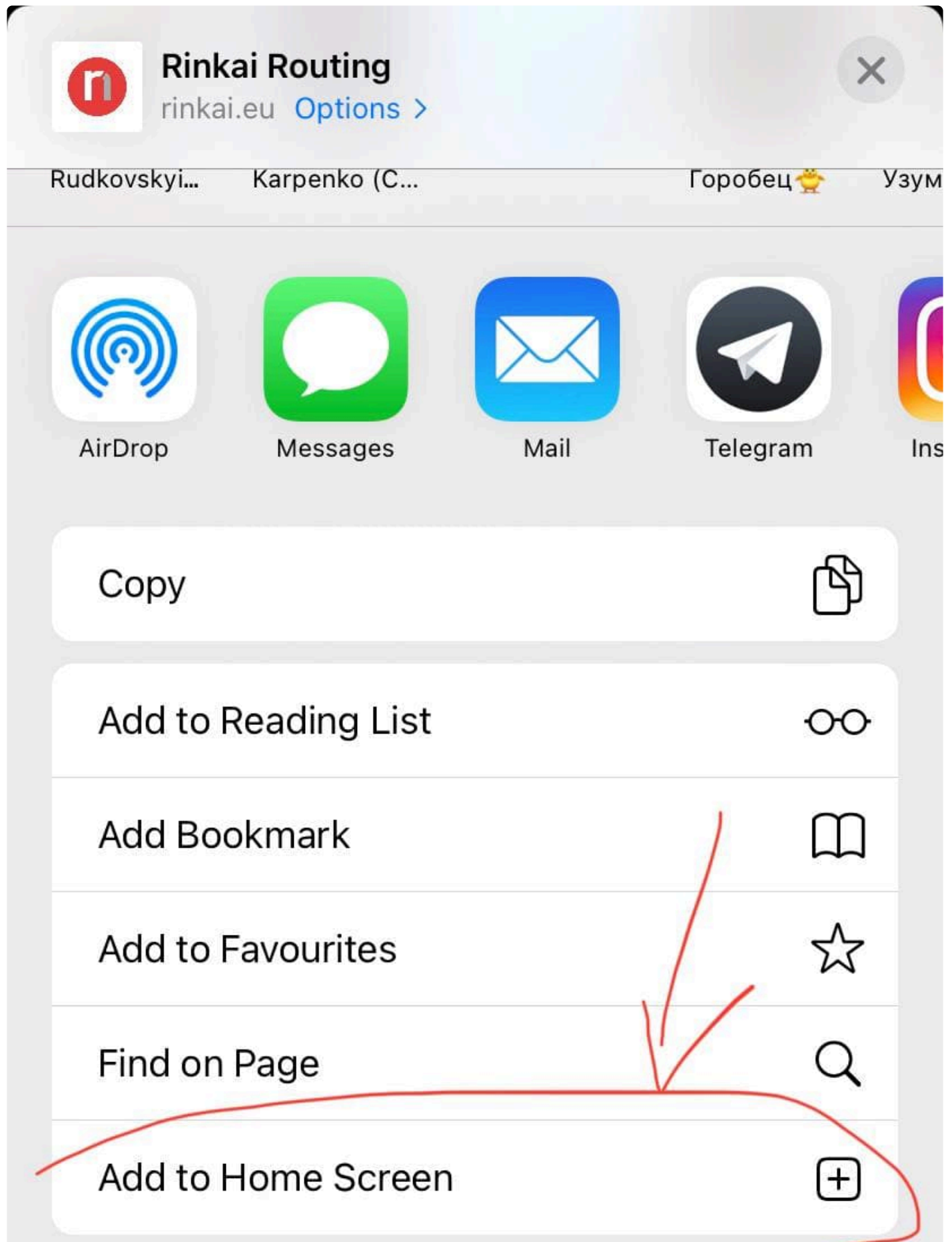


3.6. Adding a portal to your phone's home screen

For convenience, in order not to enter the browser every time, it is possible to bring the portal to the main screen of the phone.

IOS:





Android:

