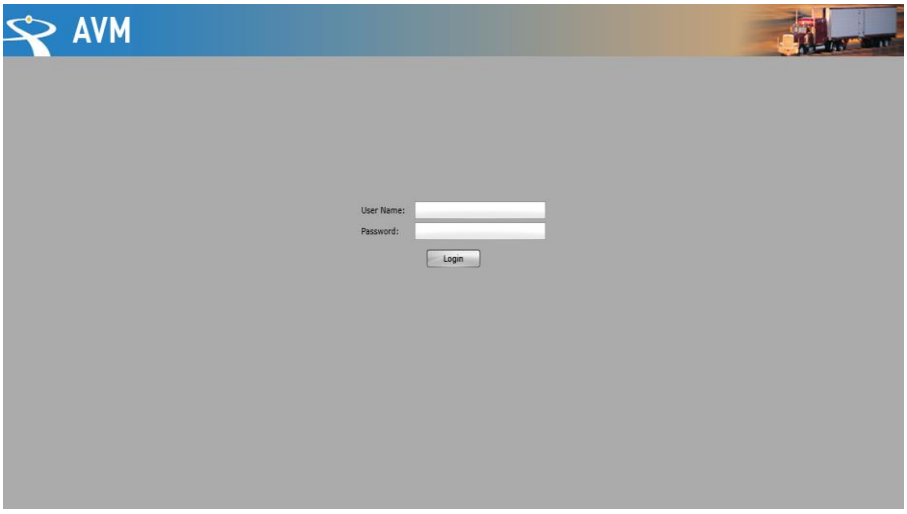
# Pinpoint AVM Set Up

# And

# Admin User Manual



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# 1 INTRODUCTION

Thank you for purchasing the Pinpoint Web AVM.

The Pinpoint AVM system is a web-based application that collects and stores data collected by the TRK Series In-vehicle unit (IVU) which has been installed in your equipment or vehicle.

On purchasing the Web AVM service and the TRK IVU, Pinpoint Communications may:

1. Arrange Installation of the TRK Series IVU.
2. Collect a record of installation. Including Serial Number, Vehicle Identity and Installation location.
3. Provide an administration-level username and password for the Web AVM website.
4. Provide this user manual.

This manual provides you with information to enable you to complete the necessary set up required in order to successfully use Pinpoint AVM system. This guide should be used in conjunction with the on-line help provided within the Web AVM system.

# 2 INITIAL SET UP

To start using the Pinpoint AVM system, you will need the admin user name and password provided by Pinpoint communications. Customers can discuss the desired user name and password with their sales representative and have it set up by Pinpoint support team. Alternatively, Pinpoint can create a user name and password for the customer, set this up and communicate the login credentials to the customer via e-mail.

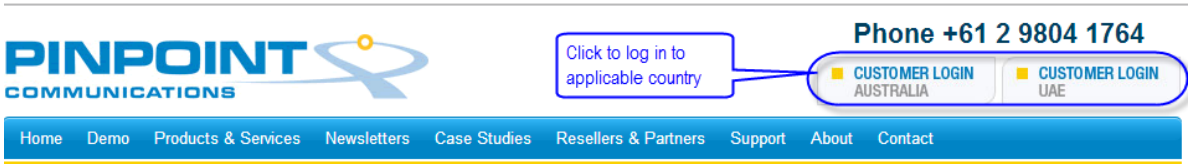
## 2.1 *Quick set up steps*

In order to completely set up the AVM system, you will need to complete all of the steps outlined in this section.

However, we have highlighted the Quick Set Up steps with the clock (🕐) icon. Please follow these steps in their order of appearance to complete the basic set up to enable you to at least get started.

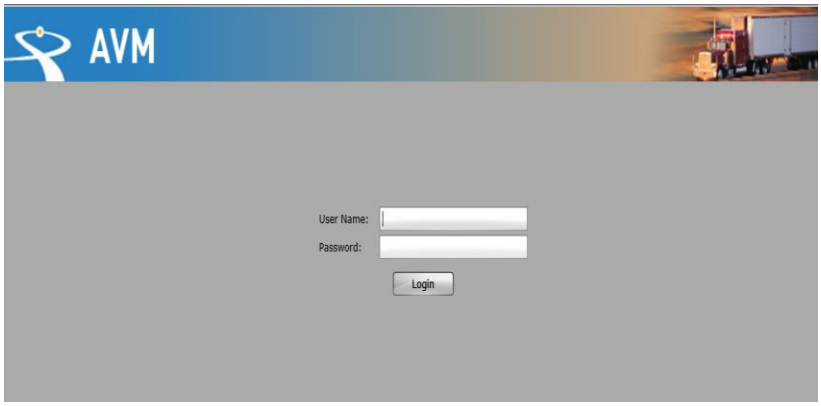
### 2.1.1 Accessing Web AVM

The Pinpoint AVM website can be accessed by navigating to the Pinpoint Communications website at www.pinpointcomms.com.au, and click on the *Customer Login l*ink.




A new window will open as shown below.

It is recommended that you bookmark this page for quick access by saving as a Favorites in your internet browser.




**Tip:** To ensure that all the information is correctly displayed and aligned on the screen, please ensure that your browser display is set to 100%.

### 2.1.2 Silverlight

Web AVM requires Microsoft Silverlight to be installed (this is not required for Locator or DOO). You will be prompted to install this software when you first visit the login page. Silverlight is a technology made by Microsoft to help industry develop richer websites. It is easy and safe to install in any computer.

Silverlight is required because the common technologies used in websites were not enough to support all the features and performance that we wanted. So Pinpoint created our AVM website entirely in Silverlight to enable a much richer/faster user experience.

**Note:** You only need to install Silverlight the first time you access Web AVM. After that, your computer will access Pinpoint website seamlessly, without any delay. Once Silverlight is loaded you will be able to access thousands of other websites that use Silverlight as well.

You will have been provided with a username and password to log in with. The manual will cover how to change your password, and create additional users if required.

Please remember to keep your username and password secure, and note that usernames and passwords are case sensitive.

The website has been designed for use with Microsoft Internet Explorer version 6.0 or above. If you use an alternate browser such as Firefox or Safari you may not have access to all the AVM features.

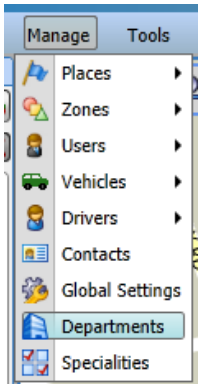
### 2.1.3 General AVM set up.

Now that you have installed Silverlight and have logged in for the first time, you need to complete basic set up.

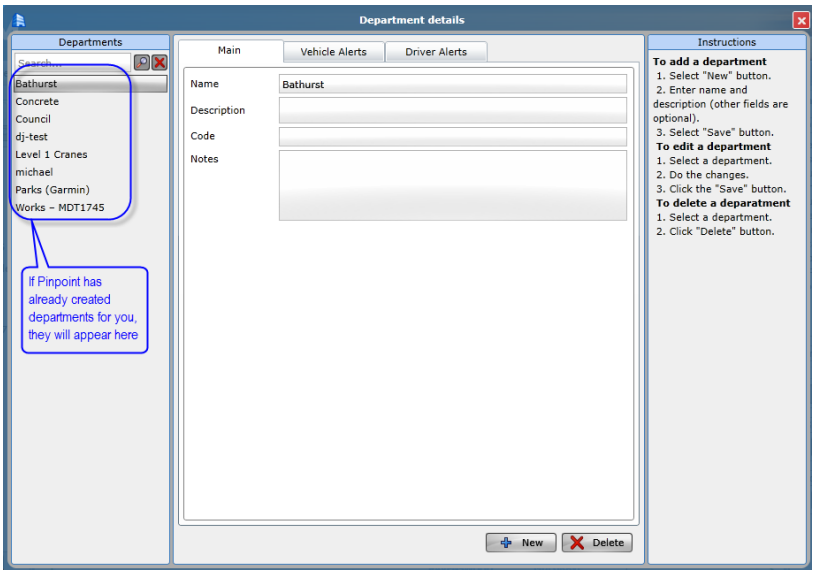
### 2.1.4 Departments

Departments allow customers to associate a vehicle with an organizational department. The department defines the highest level of filtering after the organization. This can be used for other functionalities customers may require in the system. This is typically setup by Pinpoint Customer Service or your sales representative prior to installation for use with mobile data terminals. Customers may require to add or edit additional departments as desired. Once a department is created you can assign drivers and vehicles to it.

To access departments, from the main menu click "**Manage/Departments**".

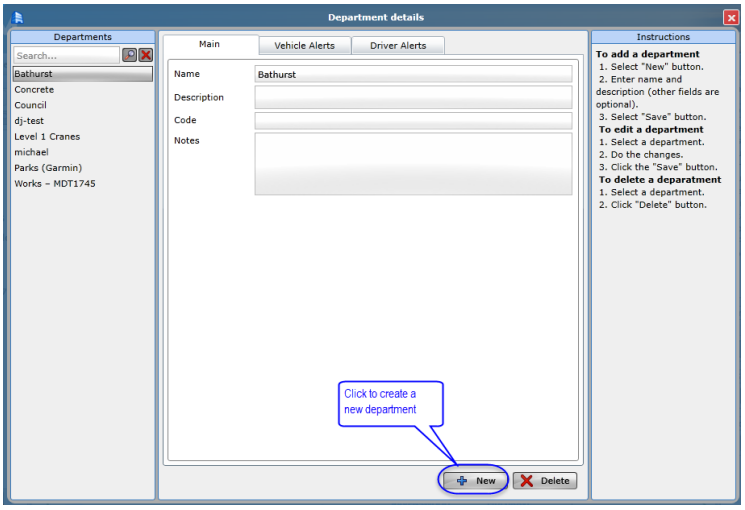



The screen below will pop up.

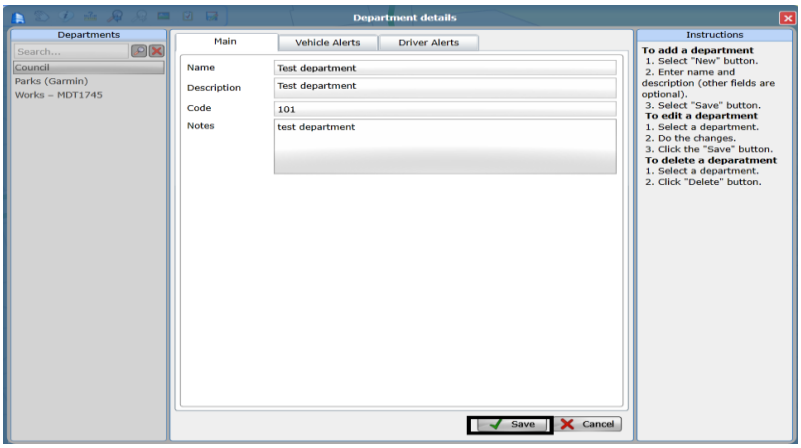



If Pinpoint has already created your departments for you at set up, they will be listed in the department tree on the left as shown above.

To create a new department, in the pop up window, click “New”




Add all the department details as desired. The code field is used when integrating to third party applications and is not applicable to all customers. Click “Save after entering all the desired department information.




The newly created departments will now be listed on the left and after adding drivers/runs/vehicles, you will be able to allocate them to the newly created department.

**How to create a department video**

**Allocation** of vehicles, drivers and users to departments is described below in sections Vehicle Details, Driver Details and User Details sections respectively.

***Note: You do not have to setup a department if you do not require departments, but Pinpoint recommends that departments be created especially where customers have a large number of vehicles belonging to various departments within the organization. Having departments makes it easier to manage vehicles and departmental equipment/vehicle utilization.***

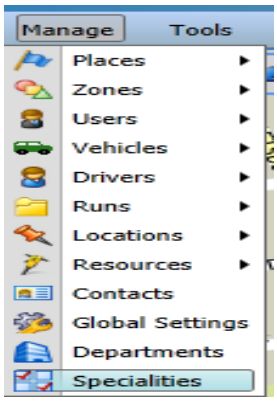
### 2.1.5 Specialties

Specialties are a pre-qualification that can be attached to a driver, resource, or vehicle. The system has the ability to assign a specialty against a vehicle, driver and resources. An example of this may be a unique configuration of a vehicle or a type of vehicle such as a bobcat and only drivers with a special license to operate bobcats are allowed to operate this vehicle. You can assign this specialty to this vehicle. A driver can also have a specialty to operate bobcat and this can be assigned to this driver.

If a driver without a bobcat operation specialty logs on to operate the bobcat, an alert will be sent through to the contacts set on the vehicle alert settings.

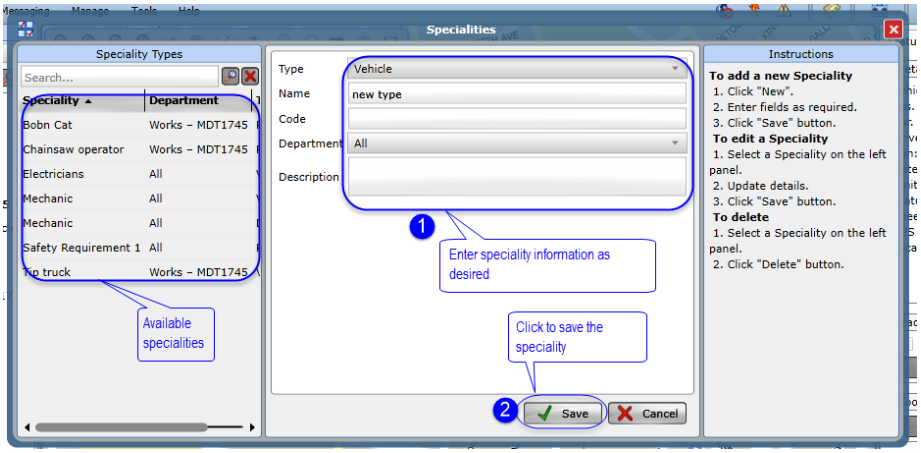
To create a specialty:

1. From the main menu select **Manage/Specialties**.




The specialty management form will be displayed on the screen.

2. Click “New” and enter all the desired information as shown below. The unique code is for integration with third party software where applicable.




3. Click save after entering all the desired information. The newly created specialty will now be displayed on the specialty types list on the left.

Once created, the specialty can now be assigned to vehicles, drivers and resources. Please refer to sections **2.3.4, 2.4.1** and **3.4.2** for assigning resources for vehicle, driver and resources respectively.

[How to create speciality video]

### 2.1.6 Contacts

Contacts are how you setup external notification of alerts and reports via SMS and email. You can have as many Contact groups as you like and up to 15 persons in each Contact group. If the 15 contacts, only 5 per group can have SMS option.

There are 4 alert types - Vehicle Alerts, Place Alerts, Zone Alerts, and Emergency Alerts. These alerts are triggered by an event on the tracker.

**Vehicle Alerts are** an event that the tracker has detected and is alerted and reported by the software, email and SMS. (SMS are additional fee)

**Place and Zone Alerts are** an action or event when a tracker enters or exits a place or zone. These are used to alert and report when a vehicle has entered or exited the place by the software, email and option SMS. (SMS are additional fee)

**Emergency Alerts are** an event that the tracker has detected such as rollover, a dash mounted duress switch activated, and remote duress pendant is activated and is alerted and reported by the software, email and SMS. (SMS are included in the monthly AVM service fee)

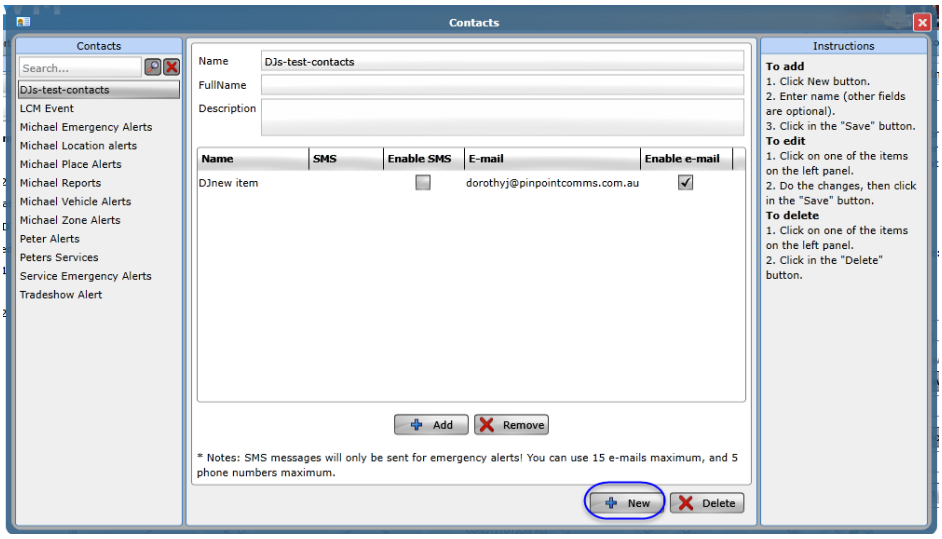
For the above alerts and reports you need to setup a contact group so you can enter contact details within that group. Although you can have as many Contact groups as you like and up to 15 persons in each Contact group. You can only assign one contact group to each of the 4 Alert types.

You do not have to setup contact groups if you do not require alerts by email or SMS. Pinpoint recommend you setup Report Contacts so you can schedule reports and these reports be automatically emailed. Reports cannot be sent via SMS.

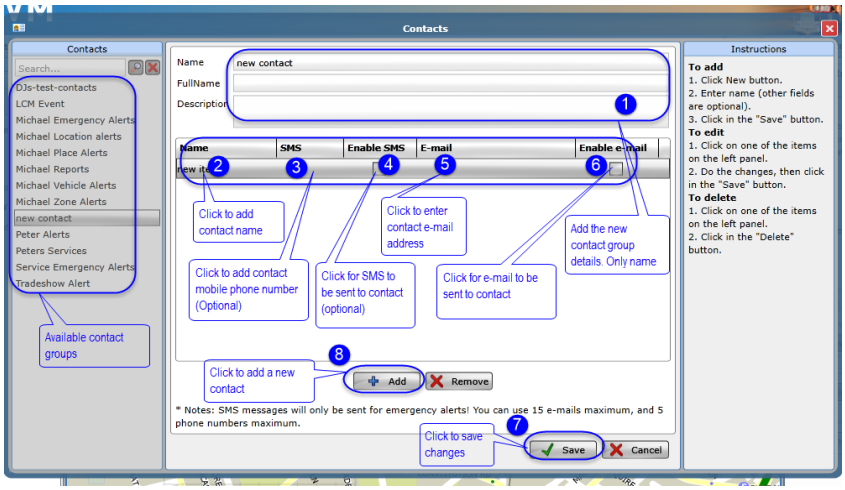
**Creating Contacts**

To create a contact template:

1. Select from the main menu **Manage/Contacts**




2. The above form will be displayed on the screen. Click “New” and enter the desired contact details as shown below:
   Remember to check the box to ensure the contact is active. SMS is reserved for emergency alerts however special cases may be arranged after discussions with Pinpoint.




After clicking save, the newly created contact is now displayed on the contact list on the left as shown above. You are now ready to assign this contact for alerts/alarms as desired.

You can have as many contact groups as required. Only one contact group can be applied to each alert/alarm type (Vehicle Alerts, Place Alerts, Zone Alerts, and Emergency Alarms) against each vehicle.

Pinpoint recommends setting up a contact group for emailing reports in the report scheduler. Typical reports that most customers would schedule includes:

- Daily Log Report (please note: this is based on ignition on/off)
- Stopped at Location Report (please un tick “use ignition” unless this is required)
- Zone Report (this is only applicable if customer has set up zones).

How to create contacts video

### 2.1.7 Global Settings

Global settings enable customers to cascade settings from an organizational, departmental or group level for password security, vehicle alert and driver alerts.

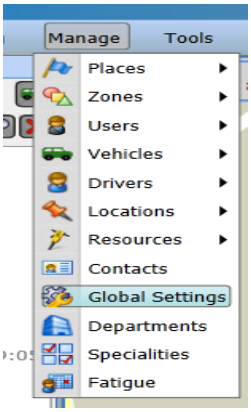
This is particularly useful for customers with large number of fleet or users that may need to be organized in departments or groups with common characteristics or requirements.

The global settings functionality is available across the following Pinpoint products:

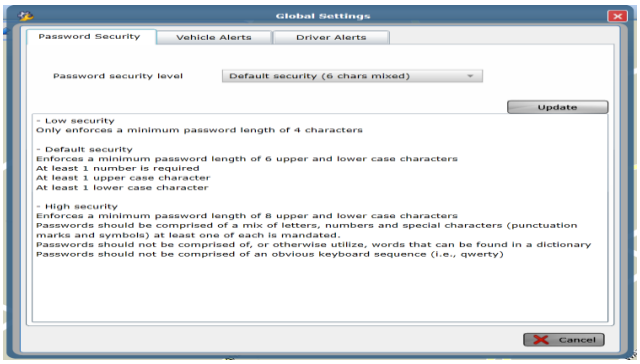
- Web AVM
- Smart Locator
- DOO

#### 2.1.7.1 Applying Global Settings

To access Global Settings, click **Manage/Global Settings** as shown below:




The form below will be displayed:




#### 2.1.7.2 Password security

**Background:**

Pinpoint employs high security for client software and password protection required for customer data security.

- Pinpoint's website is https:// meaning it is a secure website
- For Smart Locator 6, all communications are encrypted. We have a Secure Socket Layer (SSL).
- Pinpoint offers an option for a stronger password with 3 security settings as described below:

##### 2.1.7.2.1 Low security

- Low security – Password must have a minimum length of 4 characters.
- Example: pin1

##### 2.1.7.2.2 Default security

By default, all new users created from now on will have this as the default password security.

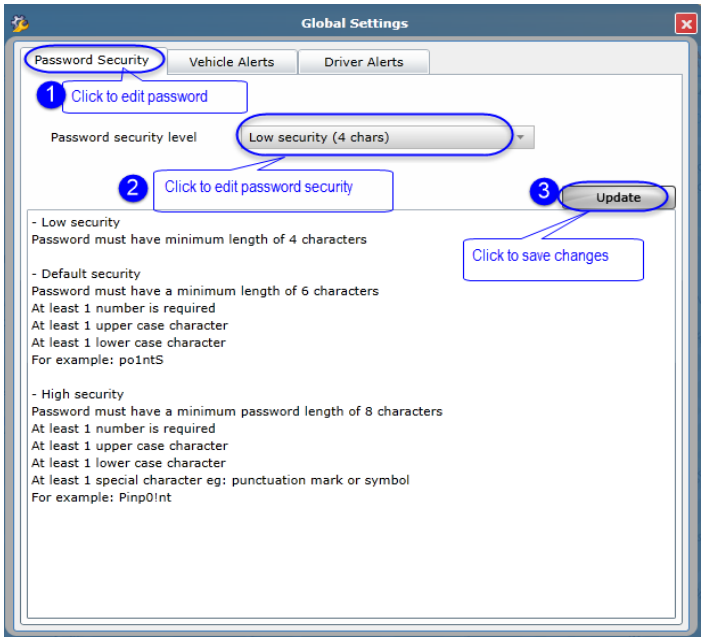
- Password must have a minimum length of 6 characters mixed.
- At least 1 number is required.
- At least 1 upper case character.
- At least 1 lower case character.
- Example: po1nts

##### 2.1.7.2.3 High security

- Password must have a minimum password length of 8 characters.
- At least 1 number is required.
- At least 1 upper case character.
- At least 1 lower case character.
- At least 1 special character e.g.: punctuation mark or symbol.

- Example: Pinp0!nt

To manage password security using global settings, click on the “Password Security” tab.



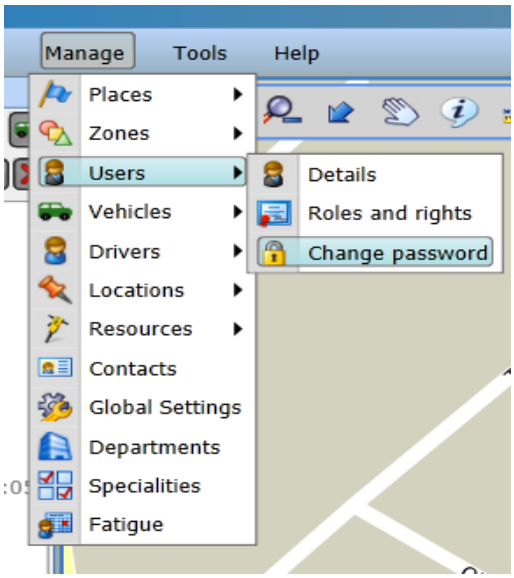

Select the desired password and click “update”.

Click “Cancel” to cancel the settings before updating.

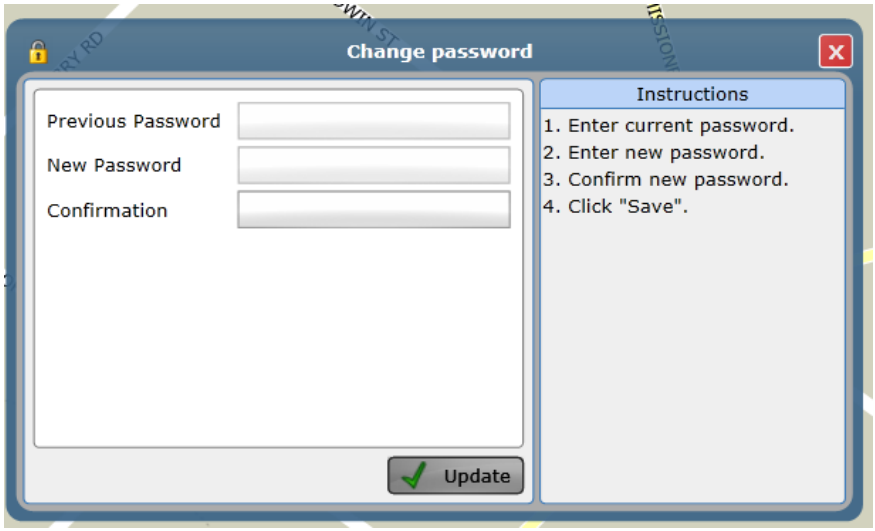
Global security settings: - Password security video

**NOTE:** *Existing users will now need to change their passwords in order for the new password security to be effective.*

To change existing user password, from the main menu click **“Manage/Users/Change Password”**




The following form will be displayed on the screen:

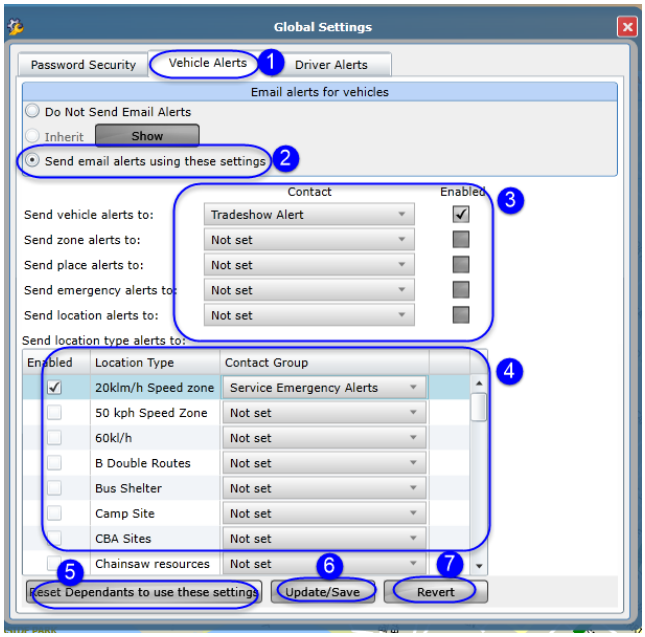



Enter your current password, enter new, confirm new password and click “update”.

The new password is now saved and the new password security applies.

### 2.1.7.3 Global Vehicle Alert Setting

To set Global Vehicle Alerts, click on the “Vehicle Alert” tab and follow the steps outlined on the diagram below.



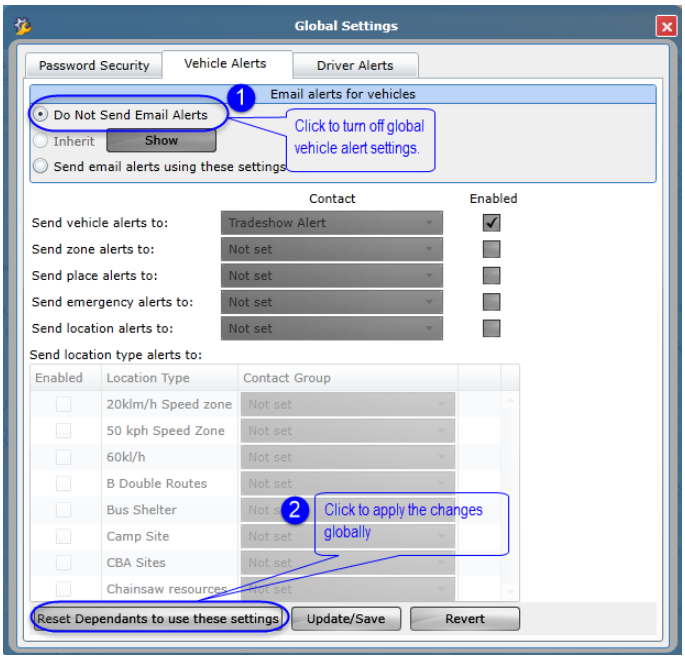

1. Click vehicle Alerts
2. Check Send email alerts using these settings
3. Select contact list for all the Alert types desired. ***Please note that contact list must be created beforehand before being selected here. Please refer to section 2.1.6.***
4. Select location type alert contact list. (Please note: Location Alerts sends alerts for all location types (***If you want to send a particular location type alerts to a different contact list, then select this from the available location types list. If the contact list location alerts is the same as any location type contact list, then an e-mail is only sent once***).
5. If setting up global settings for the first time, click “Reset Dependents to use these settings”. This will cascade all the settings to all vehicles in the organization. (Please note: If there are pre-existing department, group or individual settings, these will be re-set to the current settings).
6. If you have pre-existing global settings and just need to make changes, click “update/save” to save your changes. In this case, all settings currently set to **NOT** inherit will remain unchanged.
7. If you have made contact list changes and have not yet clicked 5 or 6, then you can click “Revert” to undo the contact list selections.

### 2.1.7.4 Global Driver Alert Setting

Global Driver Alert settings follow the same principles as Global vehicle settings. To complete these settings, please click the “Driver Alerts” tab and follow the same instructions as described for Global Vehicle Alert settings above.

### 2.1.7.5 Turn off Global Vehicle and Driver Alert Settings

To turn off the global alert settings for vehicles and drivers, simply click on either vehicle alerts or driver alerts tab, then click on “Do not send email alerts” and then click “Reset Dependents to use these settings” as shown below.

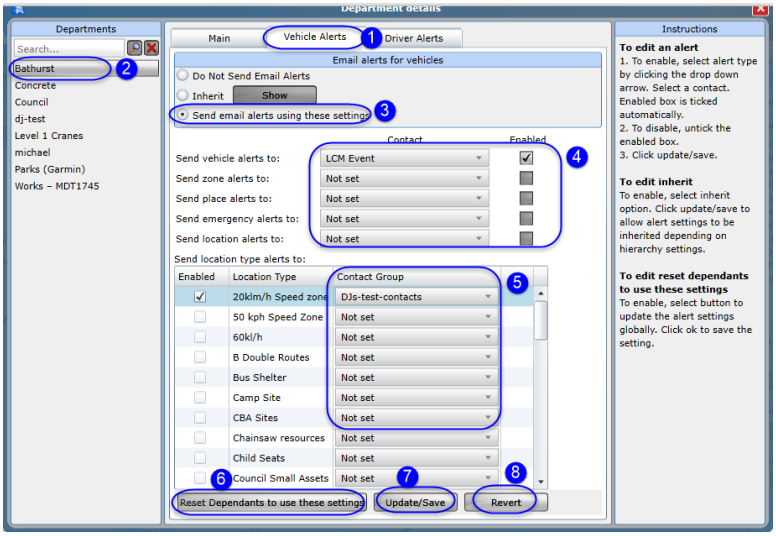



### 2.1.7.6 Department Alert/Alarm Settings

Driver and vehicle alerts can also be managed from the department level.

### 2.1.7.7 Departmental Vehicle and Driver Alert Settings

To manage vehicle alerts from a departmental level, from the main menu click Manage/Department.




1. Click the “Vehicles Alerts” tab to manage vehicle alerts or “Driver Alerts” tab to manage driver alerts.
2. Select the department.
3. Check Send email alerts using these settings to activate alert contact selection.
4. Select contact list for all the Alert types desired. ***Please note that contact list must be created beforehand before being selected here. Please refer to section 2.1.6.***
5. Select location type alert contact list. (Please note: Location Alerts sends alerts for all location types (***If you want to send a particular location type alerts to a different contact list, then select this from the available location types list. If the contact list location alerts is the same as any location type contact list, then an e-mail is only sent once***).
6. If setting up departmental alerts for the first time, click “Reset Dependents to use these settings”. This will cascade all the settings to all vehicles in the organization. (Please note: If there are pre-existing department, group or individual settings, these will be re-set to the current settings).
7. If you have pre-existing global settings and just need to make changes, click “update/save” to save your changes. In this case, all settings currently set to **NOT** inherit will remain unchanged.
8. If you have made contact list changes and have not yet clicked 6 or 7, then you can click “Revert” to undo the contact list selections.

How to set departmental vehicle alert video

### 2.1.8 Inherit Function

The inherit function allows the settings to cascade down the hierarchy from organizational, departmental, and group and driver/vehicle detail levels.

Inherit is not available from global level because this is the top of the hierarchy and nothing above to inherit.

When the inherit button is checked from a department level, then the department inherits the global settings for vehicle/driver alert settings.

This principle applies for driver/vehicle groups and driver/vehicle detail settings.

## 2.2 *Users*

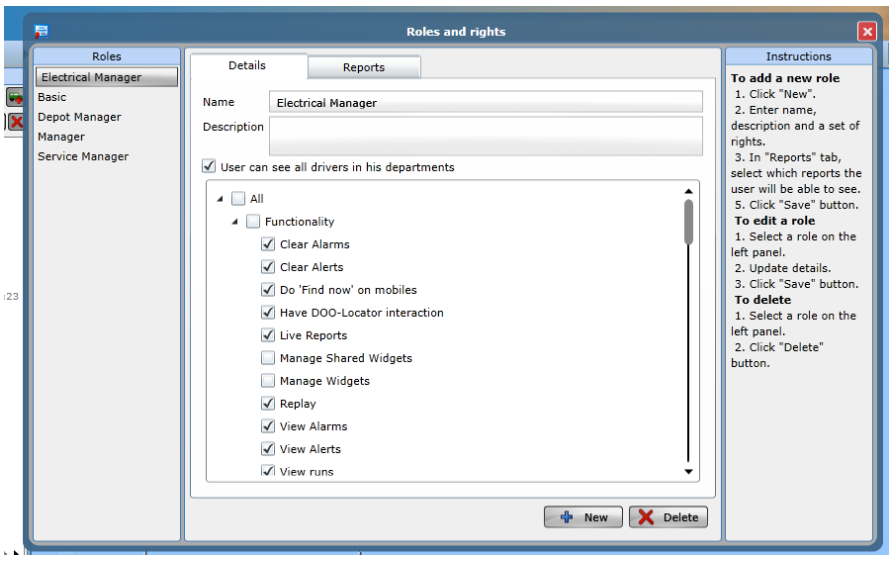
Customers can create additional users and assign them different roles and rights. This enables customers to manage which users have access to various vehicles, resources, etc., and what they can do, for example some users may be able to add, delete and edit vehicles and vehicle details, while other users can have read only permissions- can only see vehicles, but cannot add new one ones or delete any vehicles. Some users may have rights to run certain reports only but not management type reports.

First, customers need to define roles and rights before creating users so that they can assign these roles and rights to the users once they are created.

### 2.2.1 Roles and Rights

To create user roles and rights, from the main menu, Manage->Users->Roles and Rights.

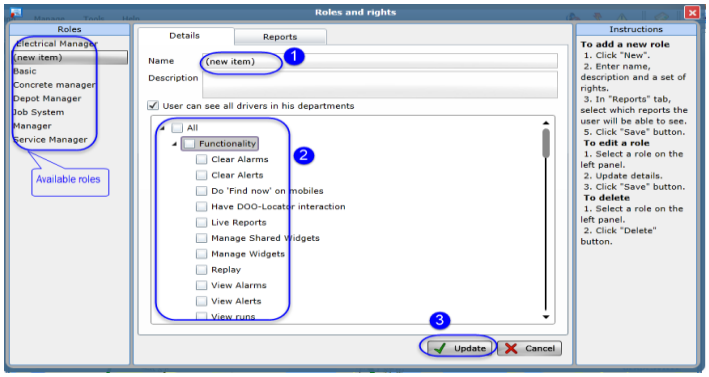
The following window will open.



This window allows creation of role types. A role defines the level of application access including application tools, management functions and reports. Roles are assigned to users to control their level of access.

You can create, edit or delete roles.

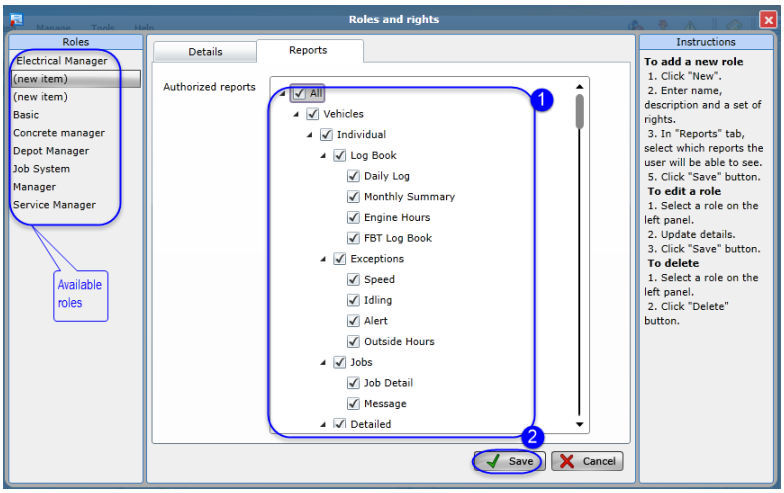
To add a new role, click the details tab and then click ‘New’ button.




1. Type in the Role name, description
2. Tick functionalities as desired. Tick “All” to grant access to all functionalities.
3. Click “Update to save your changes

The reports tab allows you to select the reports that a user is authorized to see.

Click on the “Reports” tab and then click “New”



1. Check all the reports you would like the user to see/run
2. Click save to keep your edits

To edit a role select it from the Role List on the left. You can now change the role preferences.

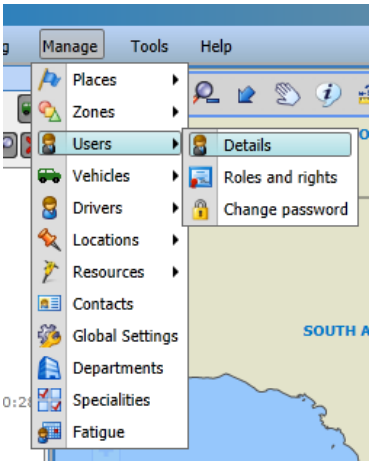
To delete a Role, click the delete button.  You must not delete roles assigned to users.

How to set user roles and rights video

### 2.2.2 User Details

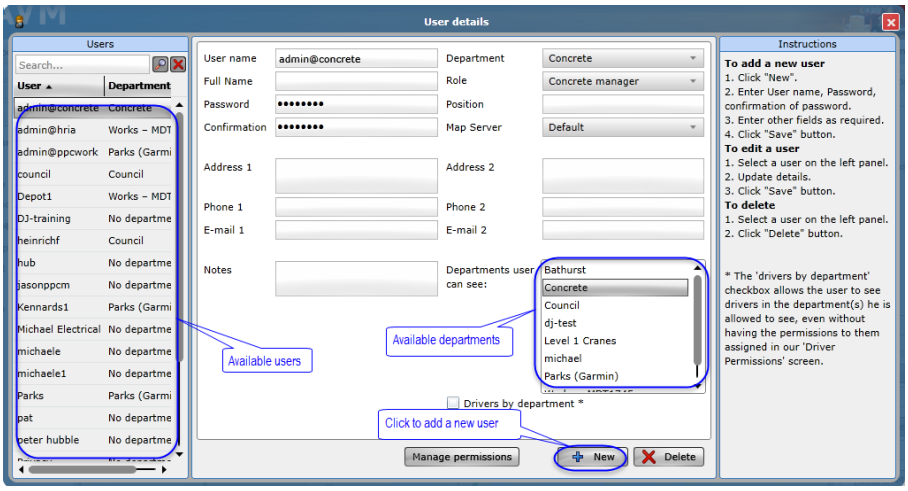
After creating user roles and rights, you can now add your users.

To add new users, from the main menu, select “Manage/Users/Details”




A user details form will be displayed on the screen.

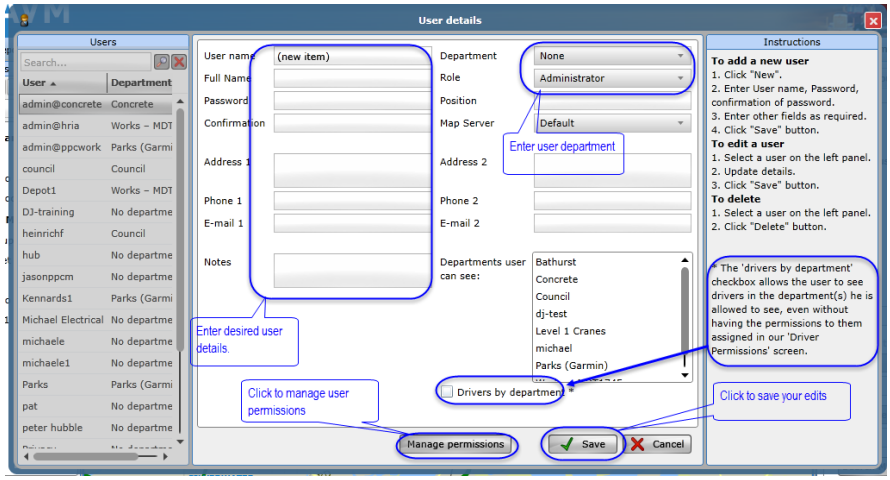
If Pinpoint customer support already created some users for you, they will be displayed in the “Users List” on the left.




This window allows management of all the users on the system. You can create, edit or delete users.

To edit a user select it from the list. You can now change the user login name, reset the password, change the user ***Role*** or delete the user.

To add a new user, click the ‘New’ button. Now enter the username, password and access level.




A user should be assigned a ***Department*** and may be allocated other departments. This provides user permission to manage vehicles in selected departments to the extent of their defined ***Role.***

Addresses, notes etc. are limited to 20 characters.

Note that these changes will not take place for users that are currently logged in. Changes made will take effect when they next log in.

To manage **user vehicle permissions,** click on "**Manage Permissions**" shown above.

The window below will be displayed. Follow the outlined instructions to manage vehicle permissions from available vehicles or vehicle groups.

If you grant a user permission to a vehicle group, the user will see all the vehicles in that group.

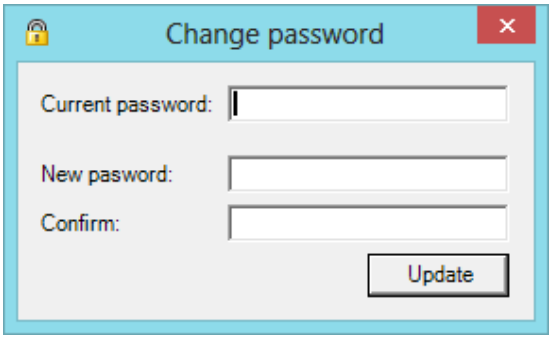
Please refer to **section 2.3.1** on how to manage **vehicle groups**.

How to manage user vehicle permissions video

### 2.2.3 Changing User Password

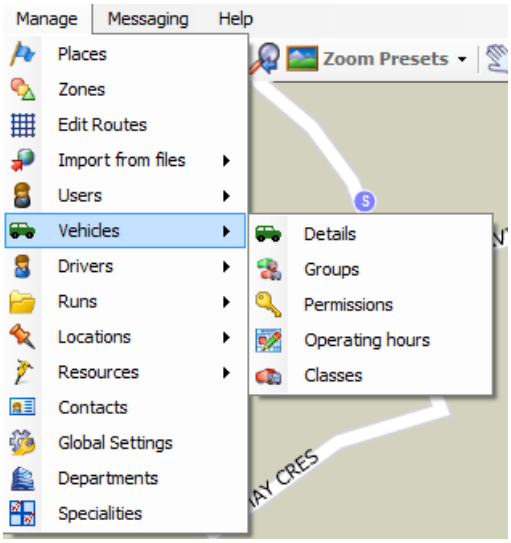
Select from the main menu **Manage->Users->Change Password**. The following window will open.

First enter the current password, then a new password and confirm then update. Please refer to Section 2.6.6.1.1 (Password Security) for password rules.




## 2.3 *Vehicles*

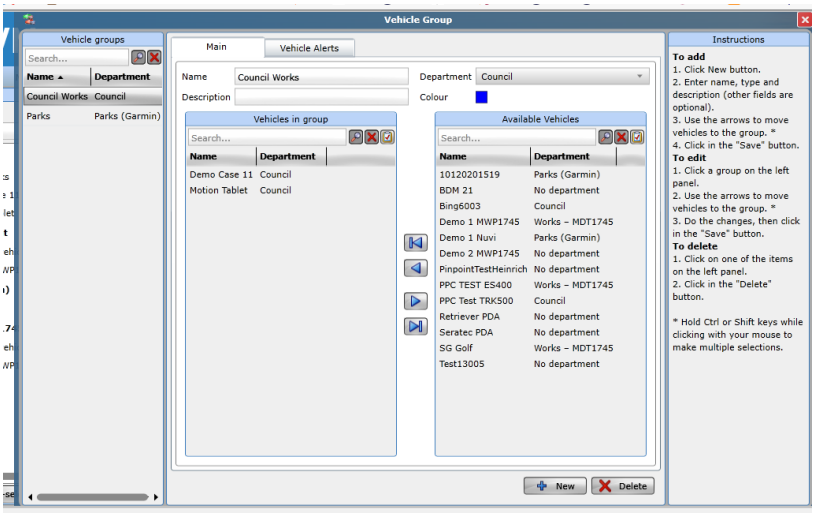
This menu allows users to manage various vehicle attributes including vehicle details, groups, permissions, operating hours and classes.




### 2.3.1 **Groups**

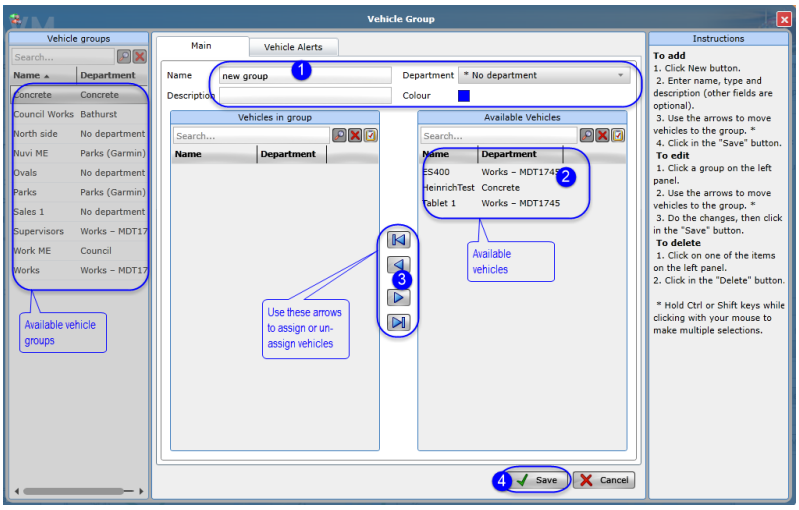
The vehicle group feature allows customers to put vehicles belonging to a particular team/section in one group. Members of the same group are able to see all vehicles within the group.

To manage groups, select from the main menu **Manage->Vehicles->Groups**. The following window will open.




From this window, you can edit or create a new vehicle group, and have vehicles assigned to or removed from a group.

To create a new vehicle group, click “New”.




1. Enter group name, select department (optional), colour (optional) and description (optional)
2. From the list of available vehicles, select the vehicles to assign to the group
3. Use the arrows to assign to or un-assign from the group.
4. Click ‘Save’.

To edit a group, select the group from the left hand list. You can change the group’s name, group colour and add or remove vehicles.

To add a vehicle to a group, select the vehicle from the ‘Available Vehicles’ list, then click the ‘<<’ button.

To remove a vehicle from a group, select the vehicle from the ‘Vehicles In Group’ list, then click the ‘>>’ button.

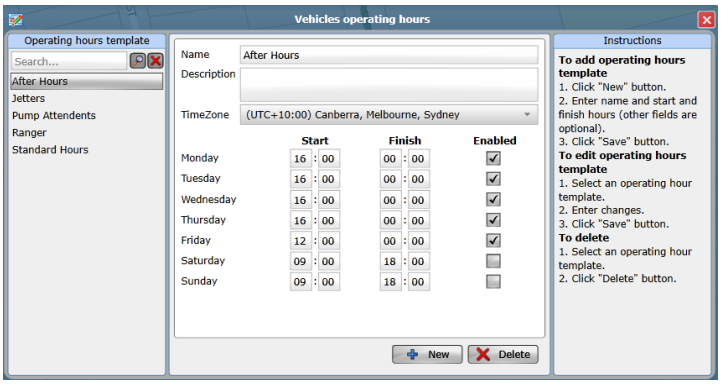
How to create vehicle group video

### 2.3.2 Operating Hours

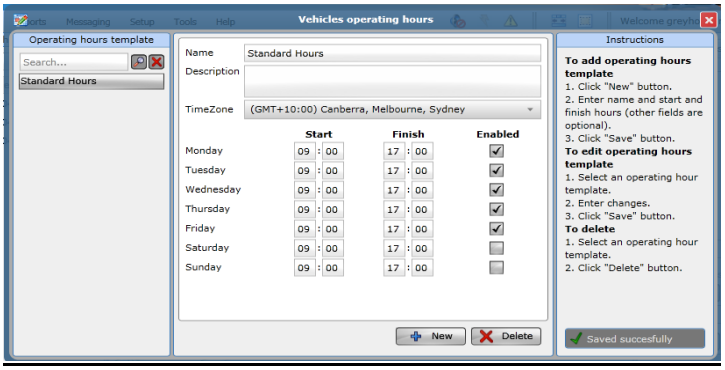
Operating hours allows customers to associate a vehicle with typical operating hours of the vehicle.

Operating Hours are used for reports and alerts. This is typically used to show vehicles operating after normal working hours.

To set vehicle Operating Hours, from the main menu, select **Manage/Vehicles/Operating Hours**.




Click “New”, then enter the details as desired and click “Save”.




You can create operating hour templates for time of day and nominate days of the week. This can then be assigned to a vehicle type (under Vehicle Details) or applied to a place or zone.

[How to set vehicle operating hours’ video]

Operating Hour templates can be applied to individual vehicles. The effect of the operating hours is to provide various reports, privacy function and alerts if vehicles operate inside/outside these operating hours. Once created these templates are available to be selected in the Vehicle Details edit screen.

Applications for this feature are:

1. Applying operating hour vehicle restrictions to special purpose vehicles based on time of day, day of week and/or specific location (e.g.: CBD, or certain bridges).
2. They can also be used to monitor working hours of a vehicle for the calculation of private and work use of the vehicle

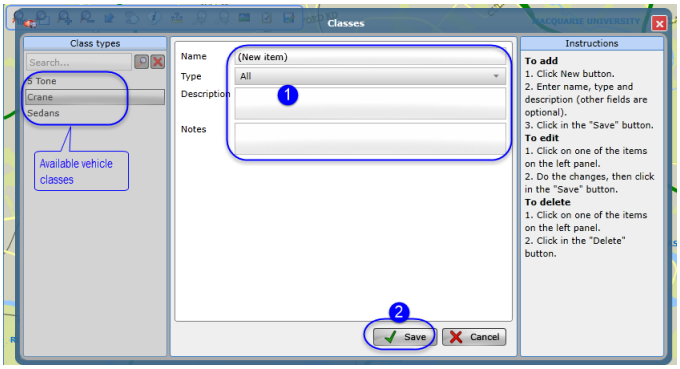
***Note: You do not have to setup Operating Hours if you do not require it.***

### 2.3.3 Classes

Vehicle classes allow customers to categorize vehicles using a specific characteristic. Examples of vehicle classes could be 1 ton, 5 ton, 0r 10 ton, or by a specific function or type. Vehicle classes can be used in the search function to show the closes vehicle of that class to a location.

Example use case: Customer needs a 10 ton truck urgently for a job, where is the nearest one?

To manage Vehicle Classes, from the main menu select Manage/Vehicle/Classes. The window below will pop up.




1. Enter the details as indicated below and as per instructions on the right.
2. Click “Save”

The vehicle classes can now be assigned to vehicles in the vehicle details section below for efficient vehicle management.

How to create vehicle classes’ video

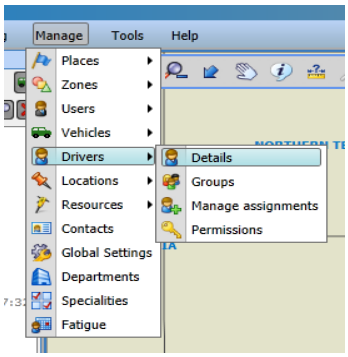
### 2.3.4 Details

The vehicle details form allows customers to enter detailed information about the vehicles and set them up for effective use and management.

Generally Pinpoint customer support will add the vehicle registration and tracker ID during tracker installation. Customers need to edit vehicle details to include all of the additional required information.

To manage vehicle details,

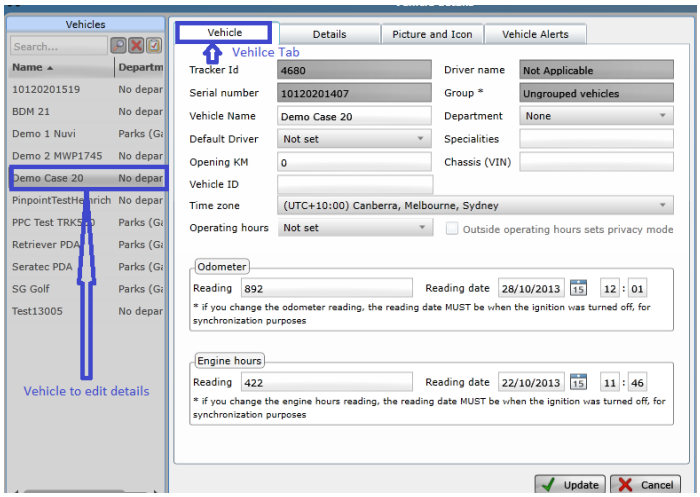
1. From the main menu, select Manage/Vehicle/Detail



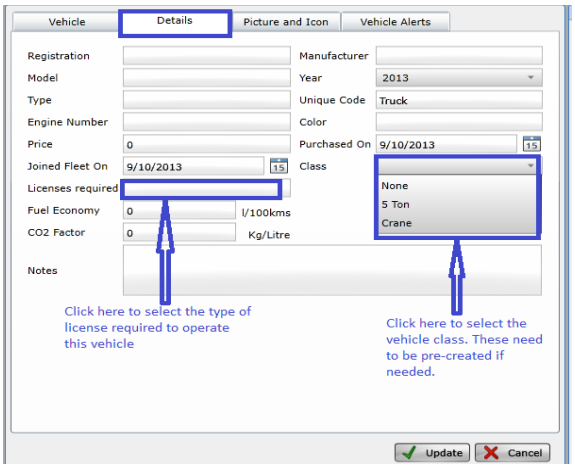

2. A vehicle detail form will be displayed as below. Select a vehicle to edit details from the vehicle tree on the left:

   **Note**: The greyed out fields are information only and cannot be edited.

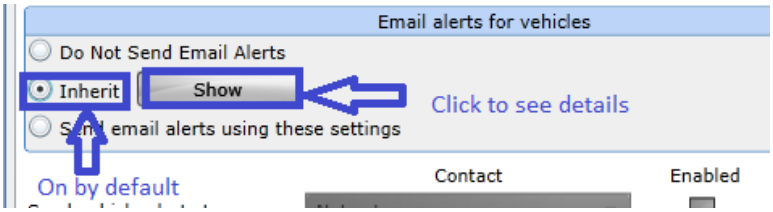
   Click on the “Vehicle” tab to enter general vehicle details,
   Edit details and click “Update” to save edits




3. Click on the “Details” tab to enter additional vehicle details. Click “update” to save the changes

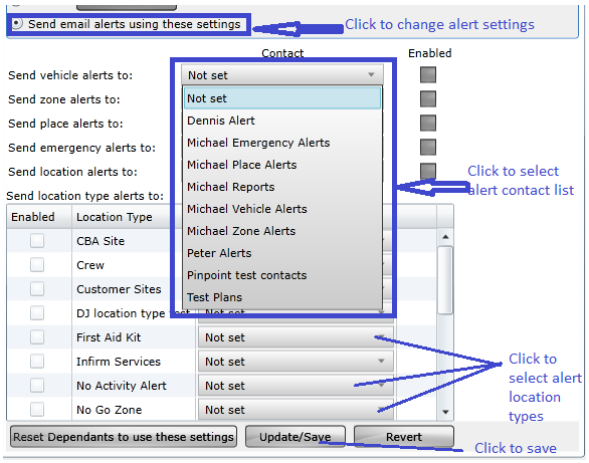



4. Click “Picture and Icon” to select a picture or icon for the vehicle
5. Click “Vehicle Alerts” to set alerts for the vehicle.




Inherit is on by default. This means that the vehicle alert settings will inherit the global alert settings. Click on “Show” to see the global settings

6. If you want to change the vehicle’s alert settings, then click “send email using these settings” and then manually select the contact list.

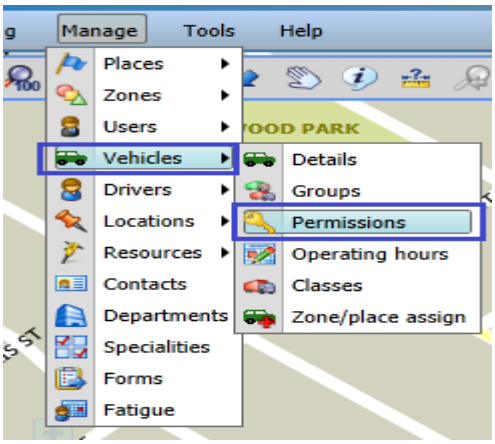



7. If you do not want any alert settings for the vehicle, then click “Do not send e-mail Alerts”

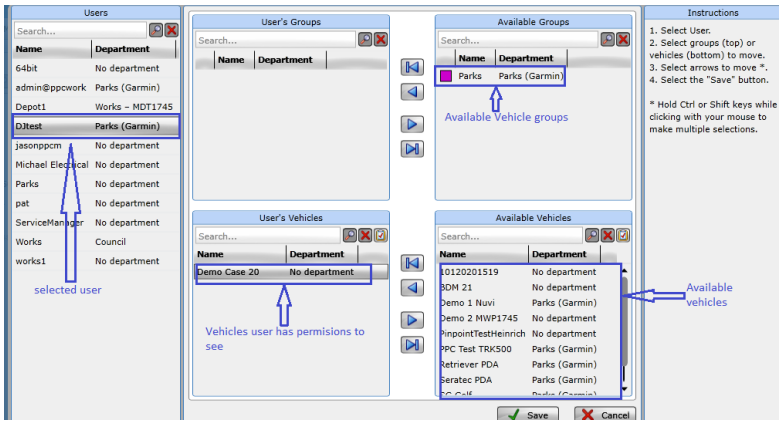
### 2.3.5 Vehicle permissions

Vehicle permissions allows customers to grant permission to users so that they can see the vehicles. Users need to have permission to see vehicles otherwise they will not have any vehicles listed in the vehicle tree.

To edit vehicle permissions, from the main menu click “Manage/Vehicle/Permissions” as shown below:




A vehicle permission form will be displayed as shown below:




**Note:** Click “save” after any changes to keep your edits.

1. Select a user from the user tree on the left
2. The vehicles and vehicle groups that the user already has permissions to will be displayed on the middle pane.
3. The vehicles and vehicle groups that are available to be assigned are shown on the right pane.
4. To give a user permission to all the vehicles in a vehicle group, select the group from the available vehicle groups on the right and then click . To give permission to all available vehicle groups, click .
5. To remove a user’s vehicle group permission, select the on the vehicle group in the middle pane and click . To remove all vehicle groups, click .
6. To give a user permission to an individual vehicle, select the vehicle and click . To give permission to all available vehicles, click .
7. To remove a vehicle permission form a user, select the vehicle from the user’s vehicle list in the middle pane and click . To remove all vehicles click .

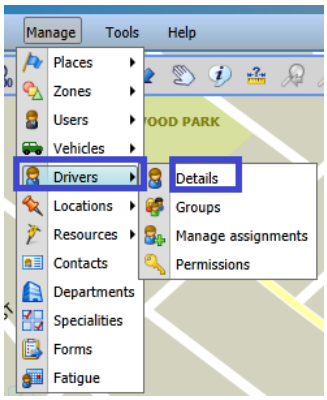
How to assign vehicle permissions from group video

How to assign vehicle permissions from vehicle list video

### 2.4 *Drivers*

Pinpoint AVM system gives customers a driver management option. Customers can add, delete drivers, or manage driver details.

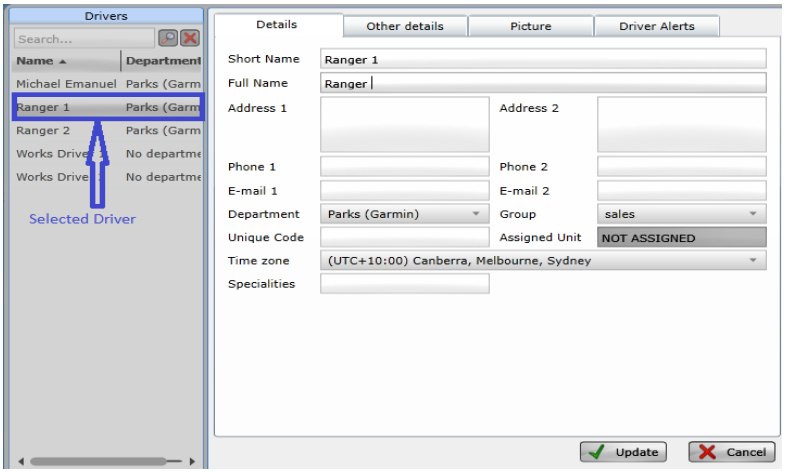
To manage driver details, from the main menu click “manage/driver/details”




This screen enables you to record driver name, address and assign a Driver RFID number or Mobile Data pin number if purchased as part of the solution. Once a Driver ID is created you can then assign drivers manually in two ways; Pick form list in Vehicle Details Screen or if managing a large number of vehicles and drivers use the ‘Assign Drivers screen’**.**

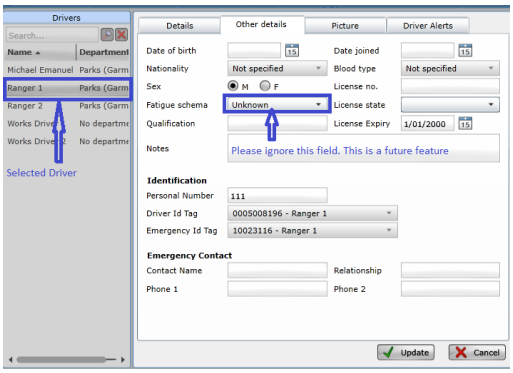
### 2.4.1 **Driver Details**

To edit existing driver details, click on the “Detail” tab and enter the driver details as desired. Click “update to save your edits.



#### 2.4.1.1 Other details

Click on “other details” tab to add additional driver info.




Click “update” to save your edits

If drivers are setup for automatic in the vehicle details page a RFID number or Pin Number is required. This is entered or selected in the Other Details pane and identification. If using a MDT then enter a 4 or more digit number in the Personnel Number field. If the drivers have been provide with a swipe tag or remote active pendant then select the number the driver has on the tag with the number from the drop down list in the RFID Tag field.

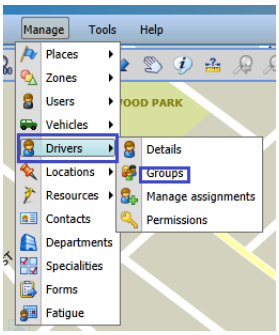
#### 2.4.1.2 Pictures

Click on “Pictures” tab to add/delete driver photo/image.

### 2.4.2 Groups

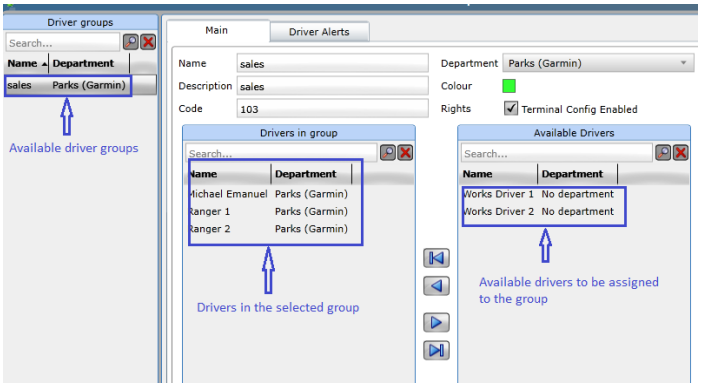
Driver groups is a feature that makes it easier for administrators to manger driver permissions, etc. For example if you want several drivers to have access to a particular vehicle/s, you can create a driver group and give that group permission to see that vehicle/s rather than assigning the vehicles to drivers individually.

To manage driver groups, from the main menu select “manage/driver/groups”.




The driver group form will be displayed.

Here you can create a new driver group or edit an existing driver group.




To add a driver to an existing driver group:

1. Select a driver group from the left pane
2. Select the driver from the available driver list on the right pane and click on the add arrow  .
3. To add all available drivers to the driver group simply click  .
4. To remove a driver from the driver group, select the driver from the drivers in the group list and click  .
5. To remove all drivers from the group, simply click  .
6. Click “Update” to save your edits

**Adding an new driver group**

To add a new driver group, click on “New” and enter the group details as desired and click update.

You can now add drivers to the new driver group as explained above.

How to create a new driver group video

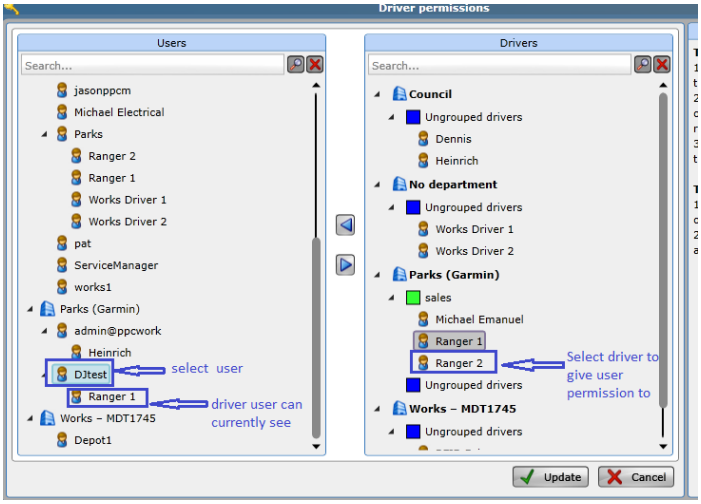
**Deleting a driver group**

To delete a Driver group, select the driver group from the left pane and click “delete”

### 2.4.3 Permissions

This form enables administrators to give users permission to see drivers. The user will only be able to see and manage drivers that he/she has the permission to see.

To manage driver permissions, from the main menu click “manage/driver/permissions”.



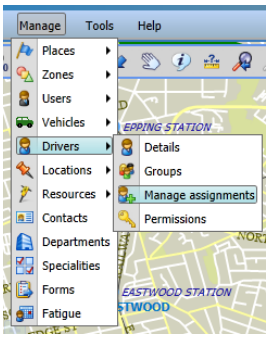

1. Select a user from the user tree on the left
2. Select driver on the driver tree on the right
3. Click  to assign driver
4. To un assign driver, select the driver under the user on the left and click 

How to manage driver permission video

### 2.4.4 Assignments (users)

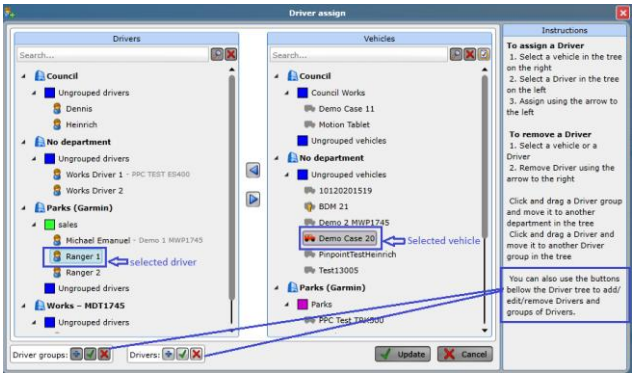
This function gives customers the option to manually assign a vehicle to a driver if the driver wasn't already assigned to the vehicle by Pinpoint customer support. Customers can use this option if they have new drivers or a driver has left or there is a need to change drivers.

To assign a vehicle to a driver, click "manage/drivers/manage assignments"




To assign a vehicle to a driver:

1. Select a vehicle from the vehicle tree on the right.
2. Select a driver from the driver tree on the left
3. Click the assign arrow to the left 
4. To remove a vehicle from a driver, repeat step 2 and click the un-assign arrow to the right  .




[How to manage driver vehicle assignment video]

## 2.5 *Runs*

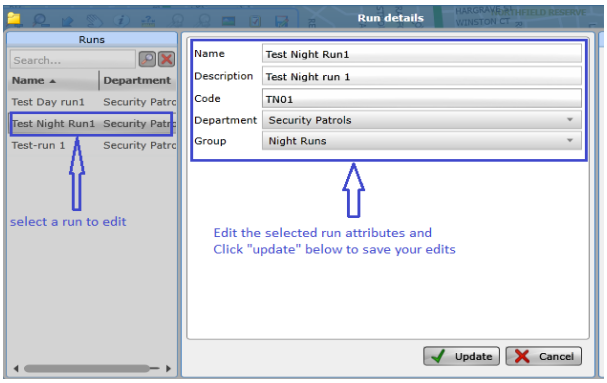
This function gives customers with runs the option to manage their runs. Customers can create new runs, edit or delete existing runs and assign runs to vehicles or drivers.

To manage runs, from the main menu click “manage/

### 2.5.1 Details

Here you can edit/delete existing runs or create new runs

From the main menu, click “manage/runs/details”




How to create a new run video

How to delete a run video

### 2.5.2 Groups

Customers can put runs in groups for easier run management. For example, a customer may have several runs that cover a particular geographical area e.g. north, or of a particular nature, e.g. sample pick up, or parcel drop off etc. These can be grouped respectively and runs and vehicles can then be assigned to these groups.

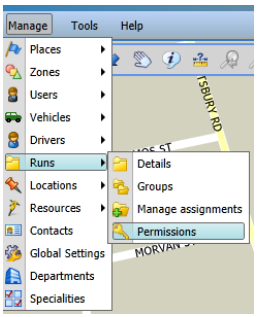
Advantages of runs groups are:

- Run reports based on run groups
- Easily manage runs, vehicles and drivers within the run group.

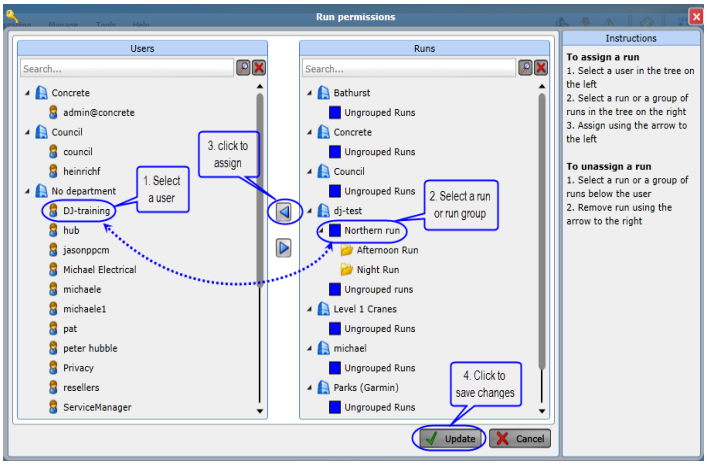
### 2.5.3 Permissions

Once a run or a run group is created, customers can decide which users have access to these runs or run groups. Only users with permission will be able to see and manage the runs or run groups.

To assign runs/run groups to users, from the main menu click “manage/runs/permissions”.




A permissions window will pop up.



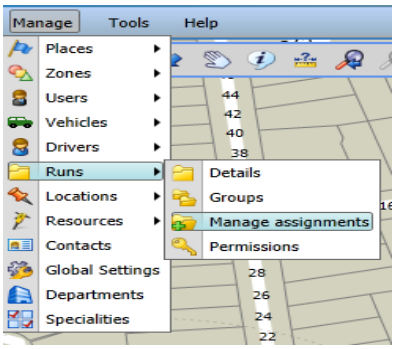

1. Select a user or user group on the left
2. Select a run or run group on the right
3. Click the assign error (top arrow)
4. Click update to save the changes

**How to manage run permissions video**

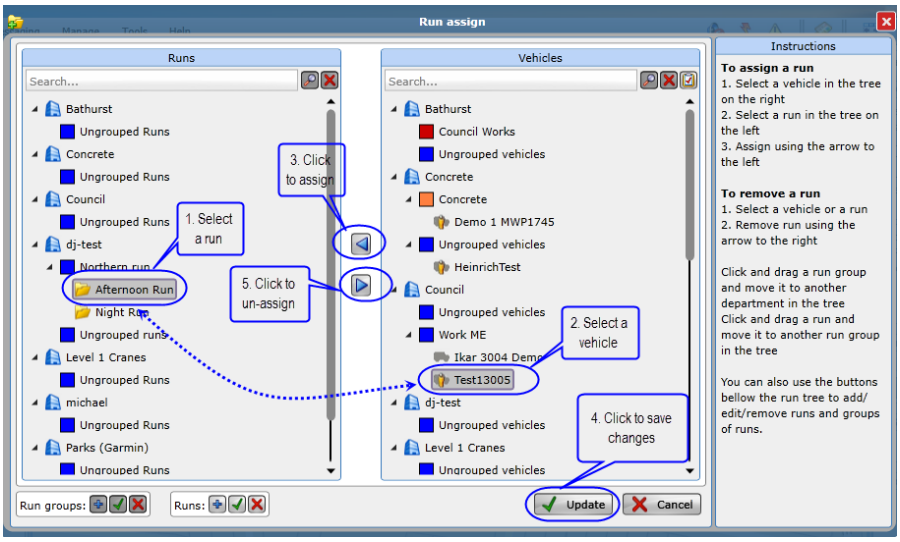
### 2.5.4 Assignments

Once the runs and run groups are created, customers can assign the runs or run groups to vehicles.

To do this from the main menu select “Manage/Runs/Manage assignments”




A runs assignment window will pop up.




1. Select a run or run group on the left
2. Select a vehicle or vehicle group from the right
3. Click on the assign arrow (top arrow) to assign
4. Click “update to save changes
5. Click on the un-assign arrow (bottom arrow) to un-assign.

**How to manage run assignment video**

# 3 ADDITIONAL SETTINGS

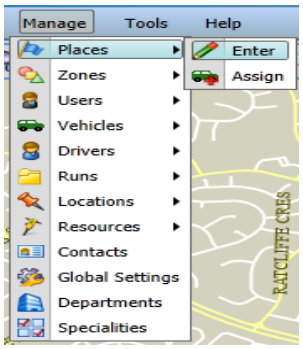
## 3.1 *Places*

Places are spatial locations/points on the map that are important for customers. These could be depots, delivery sites, collection sites or customer offices.

Customers can create places with a desired radius on the map which can then be used for reporting and management purposes. For example, create a point on the map with a radius of 100m using the depot address. Vehicle activity is then recorded every time a vehicle comes within 100m of the depot. Once places are created, customers can run reports for example so show when a vehicle entered the place, left the place, how much time the vehicle spent at the place, etc. Customers can also get alerts whenever a vehicle enters and leaves the place.

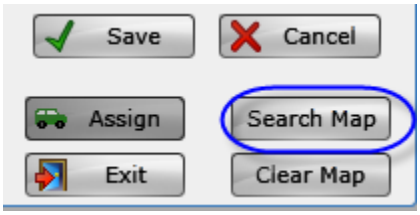
### 3.1.1 Enter

To create a place, from the main menu select “Manage/Places/Enter”.

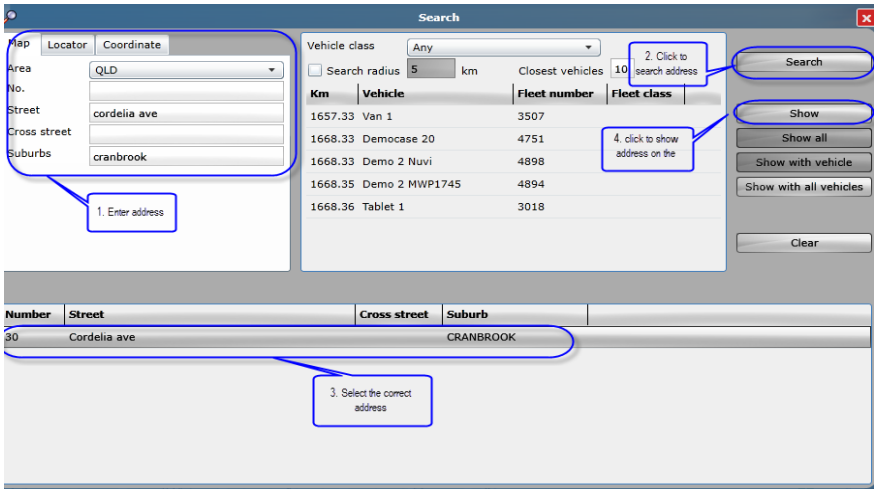



An “edit place” window will pop up. Click on “New”


- Find the place location by panning, zooming in/out of the map
- Alternatively click on “search map” enter the place address and click search.

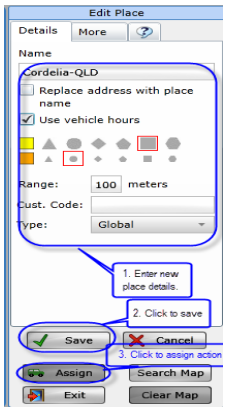



- Enter the address and then click search on the right.
- A list of possible addresses will be returned. Select the correct one and click “show” on the right hand panel.

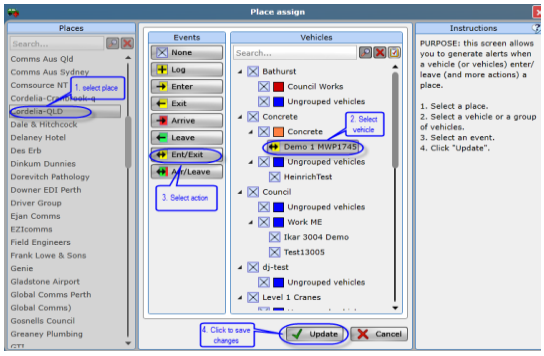



- A bubble will appear on the screen. Click “create a place”.


- Enter the place details on the right and click “Save” to save the new place details.



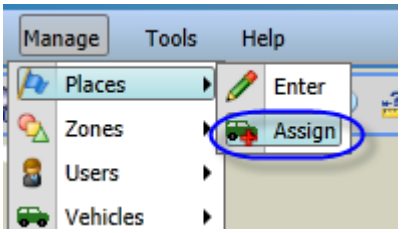

- Then click “Assign” to assign the vehicle action to be recorded when a vehicle is within set radius of the place.




### 3.1.2 **Assign**

Vehicles can be assigned to places at a later stage. For example if you have new fleet that need to be added to the places.

To do this, from the main menu, click “Manage/places/assign”.



The Place assign window shown in section 3.1.1 above will be displayed on the screen. Follow the above steps to assign the vehicles to a place.

**How to create places video**

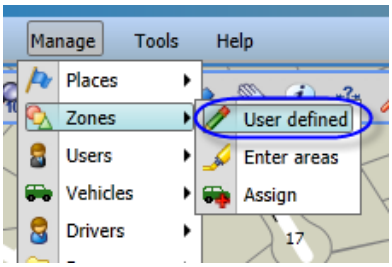
## 3.2 *Zones*

Zones are geo-fences on the map that can be created by customers to allow them to report on vehicle's location by the Zone name as well as provide alerts when a vehicle enters or exits a Zone. The AVM system allows customers to assign a number of actions to vehicles which can then be reported on.

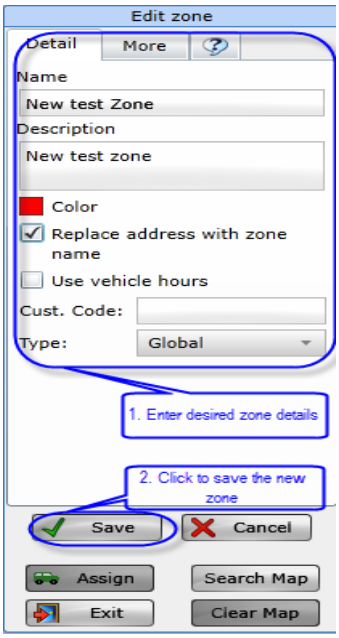
### 3.2.1 User defined

This option allows customers to define the details of the zones to be created.

1. To edit or create a new zone, from the main menu click "Manage/zones/user defined"




2. An "Edit Zones" window will pop up on the left hand side. Click on New
3. Enter the name you wish to label the Zone with.
4. Tick in the box to replace the map address with the Zone name you created above.
5. Select the colour and shape of the outside box and the colour and shape of the inside box that will be displayed on the map.
6. Click on Search Map to find the location on the map that you wish to place the icon on the map.
7. Select the type of zone and its allocation. Global is default and operates when the tracker downloads its data. Vehicle sends the zone details to the tracker and is saved in the tracker so the tracker can perform an immediate event or action when it enters that Zone geo-fence.
8. Move cursor to map and click once for the first point of the zone. Draw the shape of the zone, click at each inflection point. To complete zone 'double click on map.
9. Save the new Zone before exiting the page.



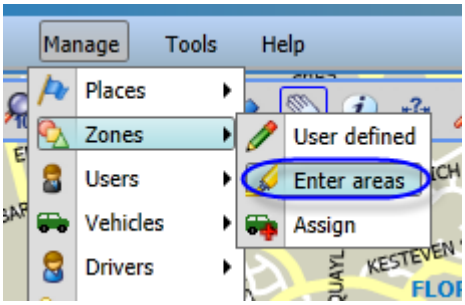

10. After saving the zone you must assign an action to a vehicle for that zone as detailed in section 3.2.3 below.

How to create zones video

### 3.2.2 Enter areas

Zones can also be created such that it includes an entire suburb (i.e. the zone boundary is defined by the suburb boundary). These are called Area Zones. Typically these zones can be used for example by franchisees who can set the suburbs within which the franchises are located as zones in a particular state. Customers can then run reports based on the suburbs/area zones.

To create and area zone, from the main menu, select “Manage/Zones/Enter area”



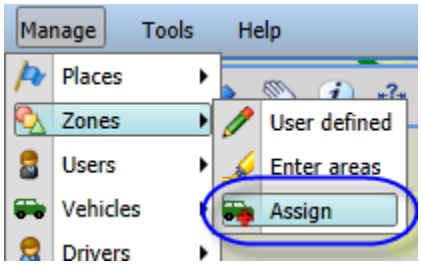

1. Click “Edit area list” to enter the list of suburbs that you want to include in the area zone.

2. Select the state from the drop down list, type the suburb name and click search.
3. Select a suburb from the returned suburbs list and click the add arrow ( ).
4. Click OK to return to the “edit area zones” window.
5. Enter the desired zone details and click “save” to save the area zone information.
6. You must assign vehicles to the zones to be able to run reports based on the newly created area zone. Please see section 3.2.3 below.

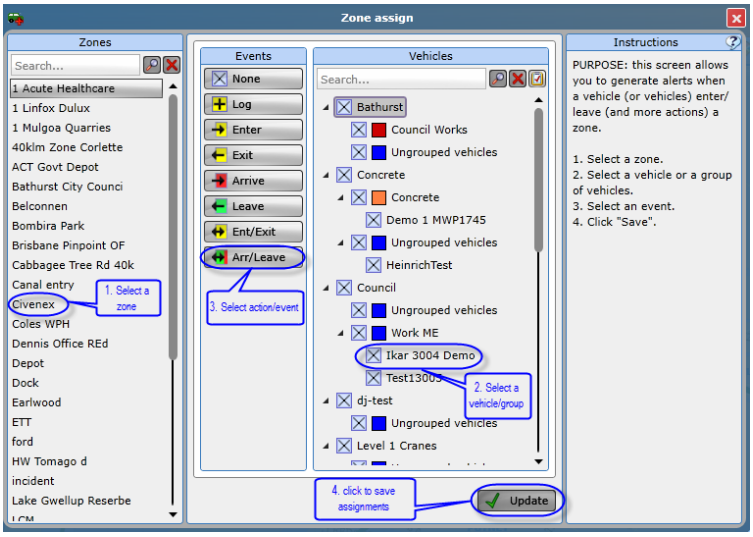
**How to create an area zones video**

### 3.2.3 Assign

To activate the zones, customers must assign vehicles or groups of vehicles to the zones.




A “zone assign” window will pop up.




1. Select a zone on the left
2. Select a vehicle or group of vehicles from the right

3. Select an event/action from the list of available events in the middle
4. Click “update” to save the assignments

***Events glossary:***

**Log** – Logs Entry and Exit into zone.

**Enter** – Generates Alert that vehicle has entered zone

**Exit** – Generates Alert that vehicle has exited zone

**Arrive** – Generates Alert that vehicle has entered zone and turned off ignition

**Leave** – Generates Alert that vehicle has exited zone and turned ignition on.

**Enter/Exit** – Generates Alert that the vehicle is driving through a zone

**Arrive/Leave** –Generates Alert that the vehicle is has entered the zone with ignition off then on.

Please see the video below for more details.

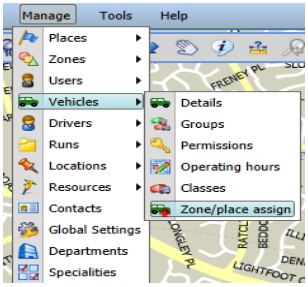
How to create assign vehicles to zones video

### 3.2.4 Vehicles Zone/Place assignment

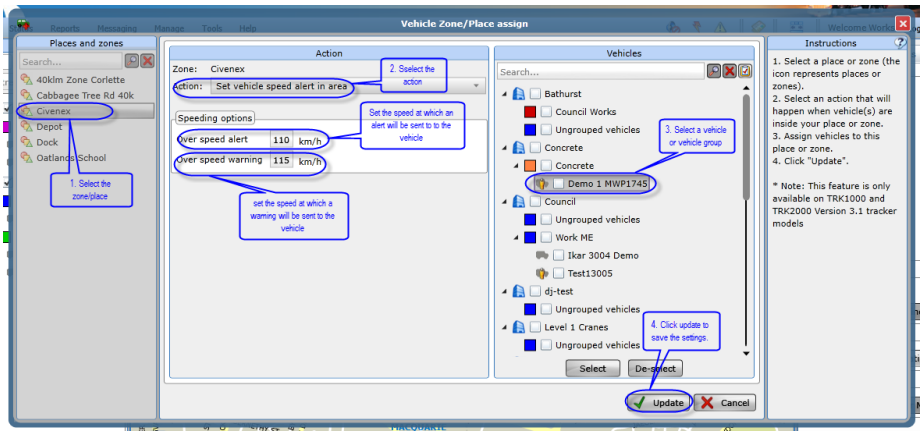
This section only applies to Vehicle zones and places, but not relevant to Global Zones and Places. Vehicle zones and places are necessary when a customer wants a speed alert at the vehicle itself and the vehicle doesn’t have a MDT. In this case an alert will be delivered via a buzzer to alert the driver that they are speeding. Customers can run a report for more details on the zones/places.

After you create a vehicle zone/place, you must assign vehicles to it and also specify the action to be executed when a vehicle enters the zone/place.

To do this, from the main menu click “Manage/Vehicles/Zone/place assign”.




A vehicle zone/place assign window will pop up as shown below.




1. Select a zone/place on the left panel
2. Select an action that will happen when a vehicle(s) is in the zone/place. There are various actions available
    a. ***No action*:-** Nothing happens when a vehicle(s) is in the zone/place
    b. ***Turn off communications inside area***:- Switches off GSM communication when vehicle(s) is inside zone/place
    c. ***Send alert immediately on enter/exit area***:- Sends and alert immediately vehicle(s) enters/exits zone/place
    d. ***Set Vehicle speed alert in area***:- Customer can set speeding options for alerts/alarms to be sent out to vehicle when vehicle(s) is in the zone/place
3. Select a vehicle(s) to assign
4. Click update to save the settings

[Vehicle Zone/place assign video]

### 3.3 *Locations*

A location maybe a variety of spatial items. Locations can be allocated to a type that relates to locations that have the same attributes. Location also may be allocated to groups. These groups can have a variety of location types and can have work assigned to them.

Below are a summary of locations attributes:

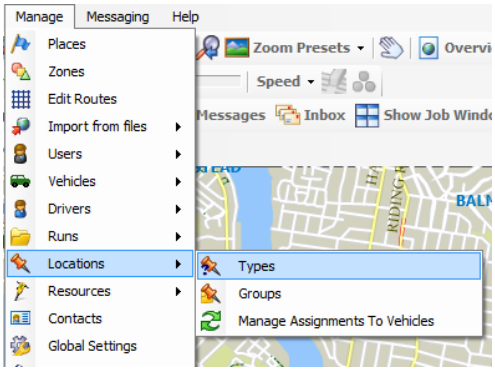
- Location are items in the field, i.e. gullies, trees , benches
- Location Zones can be converted into sweeper routes and ‘road mesh’
- Location can be created in the field with an attached form.
- Location can be assigned to a route with an attached processing form i.e. a gully inspection.
- Location can be displayed in locator and searched.

- Location can be assigned to a route which can be attached to a Job.
- Location can be categorised as ‘Hot Spot’ hazards and viewed on the MWP with driver alerts
- Location are created manually or can be imported
- Location can be attached as a sub-location. E.g. A suburb or street may have multiple gullies attached as a sub location
- Location hot spots can be created by smart locator (SLC) user or field device
- A location type defines the functionality of the location. E.g. Gully location can have attached creation/process form; sweeper type, hot spot type.
- Management of location is defined by user role
- Users can allocate location to Jobs
- You can create data collection, processing and deletion forms for each type of location.
- These forms define the required data to be collected when creating, processing or deleting and location

### 3.3.1 Types (Smart Locator only)

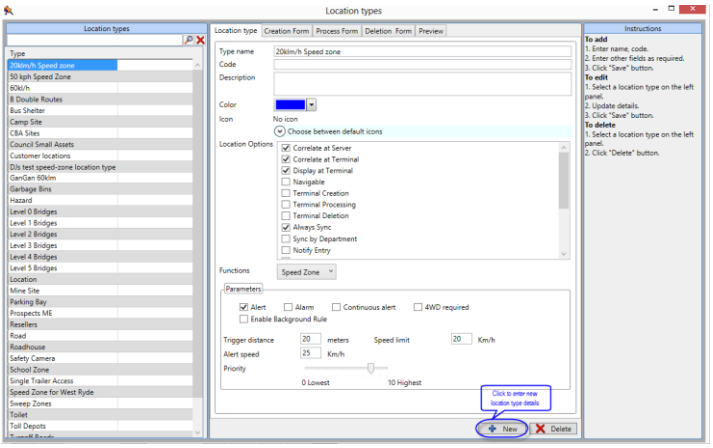
Location types identify locations with like attributes and also control the options that may be applied. You need to create a location type first before you will be able to create locations.

To create a location type, from the main menu click “Manage/Locations/Types”.

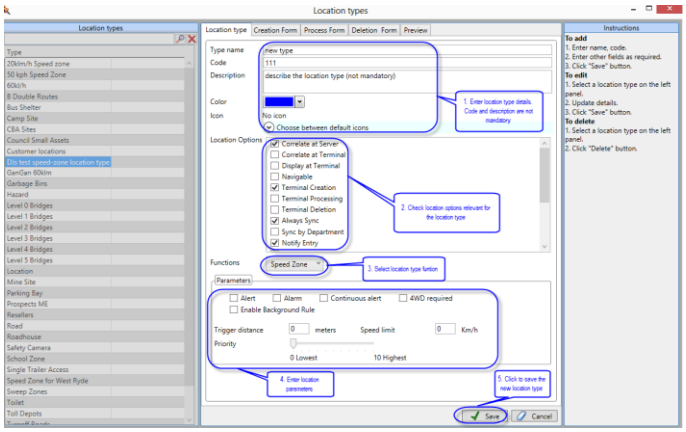



A locations type window will pop up.

1. Click on “New” at the bottom right corner of the window to create a new location type.




2. Enter location type details and save.




Please note that Creation, Processing, and Deletion forms are only required for the “Terminal Creation”. Terminal Processing” and “Terminal Deletion” location options respectively.
The forms define what information is available at the termination during creation, processing or deletion a location.

How to create a location type video

### 3.3.2 Location option details

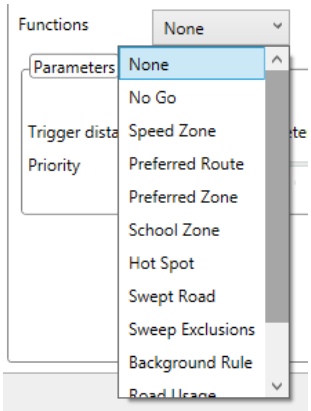
There are several location options available as outlined below:

| Option | Function |
|---|---|
| Correlate at Server | Everything is done at the server |
| Correlate at Terminal | The terminal knows that you are at that location, this allows you to do speed notifications etc. This is typically for alerts, where the terminal has to know that you are in this location in order to issue alerts. Typically used for speed alerts, hazard alerts, e.g. fire hazard zones. Location needs to be at terminal in vehicle |
| Display at Terminal | Displays the alerts/warnings on the terminal when a location is allocated to vehicle |
| Navigable | Location can be navigated to |
| Terminal creation | Able to create a location on the terminal. User can create the location at the vehicle from the terminal. Requires a creation form |
| Terminal processing | Processing of the location information is done at the terminal i.e. add/delete/modify. Requires a processing form. |
| Terminal deletion | Able to delete a location from the terminal. Requires a deletion form |
| Always sync | Shows on map on all mobility client |
| Sync by department | Shows on map on all mobility client by department |
| Notify Entry | Entry alert |
| Notify Exit | Exit alert |
| Notify Arrive | Arrive alert with ignition off |
| Notify Leave | Leave alert with ignition on |
| Set High Priority | Send this type by any means including satellite |
| Notify User | Notify mobility user of approaching location |
| Tracker Piezo Alert | Audible driver exception alert via in-vehicle speaker. |
| Silent Alert | A silent alert is displayed on the screen. |

When creating a location type, be sure to select the right option for your location type.

### 3.3.3 Location function details

This defines the function of the location being created, for example, speed zone, fire hazard, hot spot, etc. Each function requires specific parameter settings.




Available functions are outlined in the table below:

| Function | Description | Parameter |
|---|---|---|
| None | Locations without a specific function have only one parameter, trigger distance. This parameter alert the vehicle operator of the proximity to a location based on this parameter. If this parameter is 0, no alert is given | Trigger distance |
| No Go | This triggers a warning when the vehicle approaches the location and an alert when the vehicle enters the zone. Entry into the zone may also trigger an alarm transmission to the AVM system. | *Trigger distance:* Distance in metres to prior warn the vehicle operator.<br>*Send Alert:* Send an alert if the vehicle enters this zone.<br>*Alert on entry:* Single beep on entry into the zone.<br>*Continuous Alert*: Driver alert if over threshold for xx seconds.<br>Parameters Per Location Expires: Date/Time is set in “more Location details’ once a location is created |
| Speed Zone | Speed zones allow the monitoring of vehicles speed within an area or on predefined road segments. A default road speed can be allocated which | *Trigger Distance*<br><br>*Speed Limit*: Shows driver if over speed threshold. |

| Function | Description | Parameter |
|---|---|---|
| | sets the speed when not in any other speed zone. This zone can have optional spatial data. E.g. location or hot spot. If no spatial data is attached the speed zone is global. | *Priority:* If multiple speed zones are specified for a location, the priority is used to determine which one to use 0- Lowest, 10 -Highest. (Default 0).<br>**Options:**<br>*Alert:* Secondary speed threshold and delay parameter.<br>*Alarm:* Third speed threshold xx seconds.<br>*4WD Required:* Optional speed threshold and delay.<br>*Enable Background Rule*: Use sign posted speed limits (Navteq data). |
| Preferred Route | Not used | |
| Preferred Zone | Not used | |
| School Zone | Operates the same as a speed zone but with optional time parameter | Trigger Distance.<br>*Speed limit*: shows the driver the speed threshold.<br>Options:<br>*Alert:* Secondary speed threshold and delay parameter<br>*Alarm*: Third threshold and delay parameter<br>*Continuous Alert*: Driver alert if over threshold > xx seconds.<br>*Enable Background Rule*: Use sign posted speed limits (Navteq data).<br>*Operational times*: Options to set date, days of the week and time when |

| Function | Description | Parameter |
|---|---|---|
| | | school zone speed limits are active |
| Hot Spot | A hot spot produces a warning on the navigation panel when the vehicle approaches the hot spot. Speed may be set for a hot spot. | Trigger Distance.<br>*Alert on Entry* (to trigger distance); Driver is alerted on entering the hot zone trigger distance.<br>*Continuous Alert*: Driver alert if over threshold for xx seconds<br>*Notify message*: A message that is sent to the driver on entering the hot spot<br>*Additional Fields*:<br>*Speed, alarm speed, alert speed and expires*: adding these fields allows customers to set these parameters when creating a hot spot location. |
| Swept Road | A swept road generates functionality to report on sweeper activity on the location. This type of location will be a road segment that must be swept in both directions | None |
| Swept Exclusion | Within a sweeper road mesh some roads may be excluded from sweeping due to being parked out or otherwise unavailable. These can be marked as sweeper exclude. | None |
| Background Rule | This is the default rule that will be applied for a zone. If this rule is broken, then some alerts will be triggered. | Alert: Secondary speed threshold and delay parameter.<br>Alarm: Third speed threshold and delay parameter.<br>Continuous Alert: Driver alert if over threshold >xx seconds |

| Function | Description | Parameter |
|---|---|---|
| Road Usage | This reports vehicle movements along a particular road at a particular location | Trigger distance |
| | Reports if a vehicle has entered a particular location but remains inactive for a given period of time even if ignition is on. This is typically used for OH&S purposes | Trigger distance and set duration |

### 3.3.4 Location Parameters

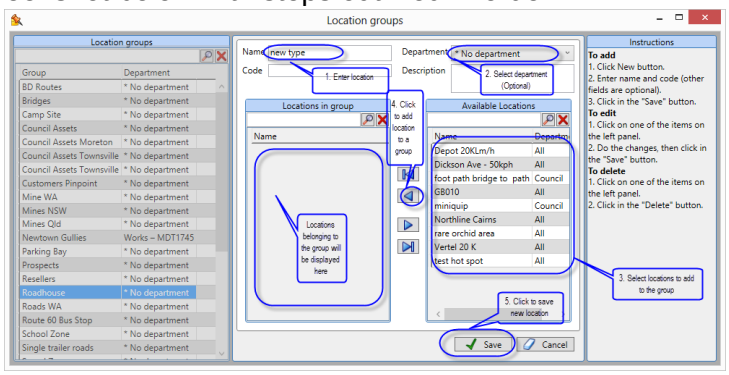
Location parameters depend on the location type and function. Some functions do not require parameters. Customers can set the parameters as desired.

### 3.3.5 Groups (Smart Locator only)

A location group is a collection of locations that maybe related to specific tasks e.g. a list of gullies to be cleaned in a set inspection.

To create, select, edit location groups, from the main menu click “Manage/Locations/Groups”. A Location group’s window will pop up.

To create a new location group, click “New”, enter the new location group details as desired and save. Please see screenshot below with steps outlined in order.




To edit a location group, select a location group on the left panel, make the desired changes and click “save”

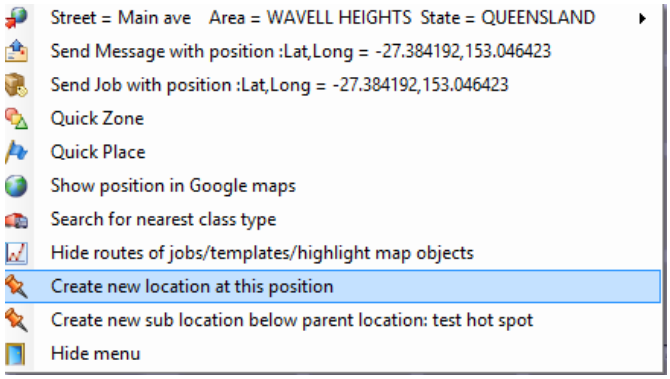
### 3.3.6 Create Locations (Smart Locator only)

From locator, locations can be created directly from the map or by clicking the Locations fly out menu.

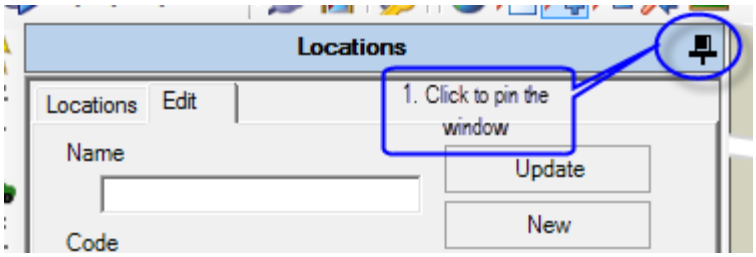
#### 3.3.6.1 Creating locations from the map

To create a location directly from the map;

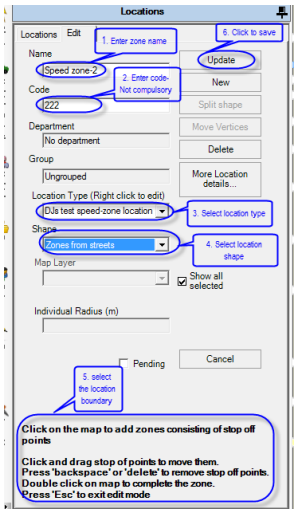
1. Right click anywhere on the map where you want to create the location
2. Select “create a new location at this position”.



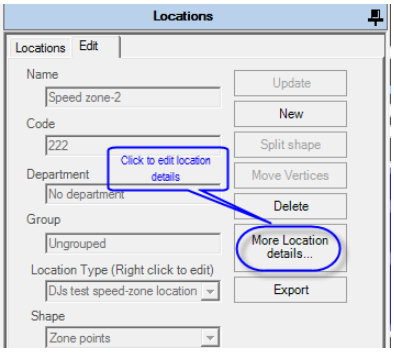

3. A location form will pop up. Click on the pin as shown below so the window doesn’t disappear.



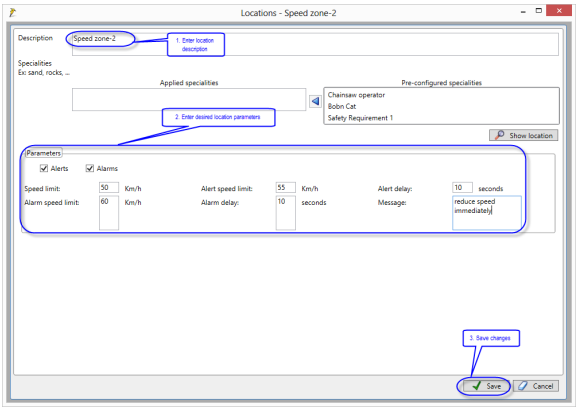

4. Enter the location details as desired.
5. Select the location type.
6. Click update to save the new location details.




7. Select the newly created location and click the edit tab
8. Click “More location details”




9. Enter the location parameters as desired and click save



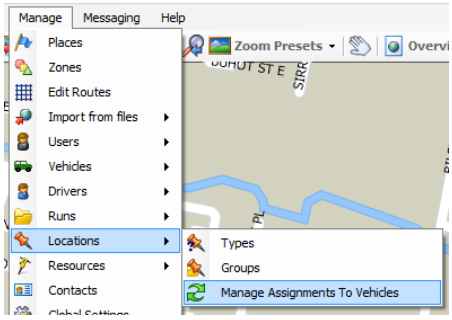
10. To delete a location click “delete”
11. To create a new location click “New” and follow the same process outlined above.

How to create a location from a map

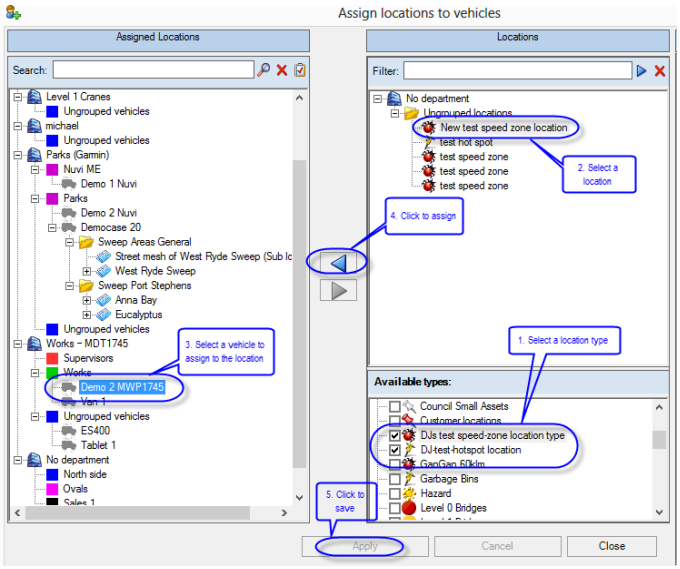
### 3.3.7 Location assignments to vehicles (Smart Locator only)

After you create a location, you must assign vehicles to it so that it is activated.

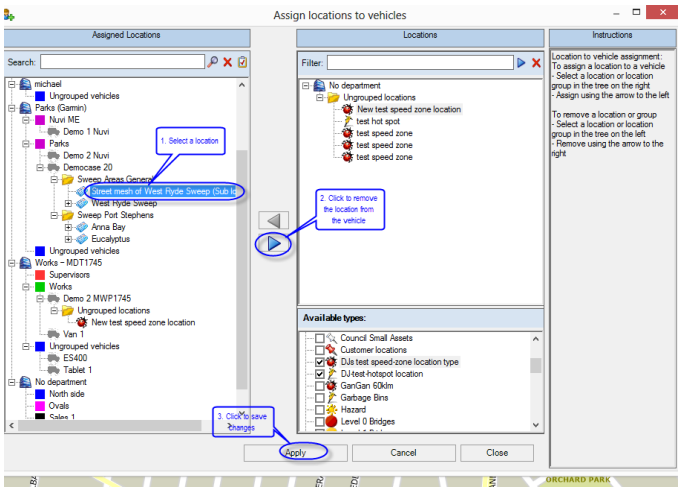
1. From the main menu, select “Manage/Locations/Manage Assignments to Vehicles”. A vehicle assignment window will pop up.




2. Select a location type/types to view available locations
3. Select the location to assign
4. Select a vehicle to assign the location to
5. Click the assign arrow to complete the assignment
6. Click “apply” to save the assignment.




7. To un-assign a vehicle from a location, select the location from the assigned locations on the left and click the “un-assign” arrow.

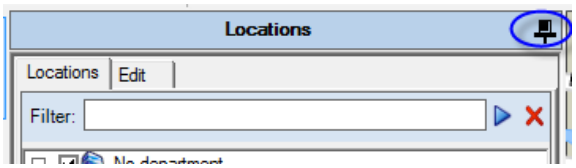



### 3.3.8 Edit Locations (Smart Locator only)

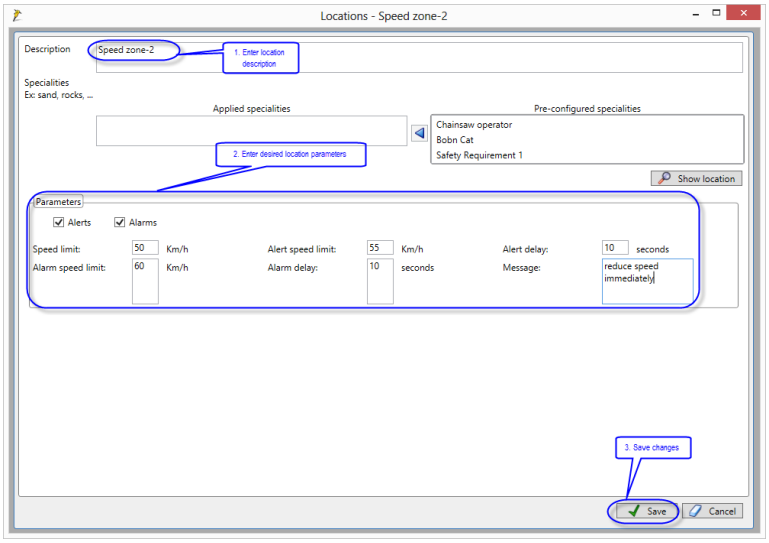
To edit a location:

1. Click on the Locations fly out tab on the left pane.


2. A locations window will fly out.
3. Pin it to the screen so it doesn't disappear.




4. Tick the desired location types from the "Available locations type" list at the bottom half of the window. Locations available within the selected types will be listed in the top half of the window
5. Select the location to edit from the list of available locations
6. Click the edit tab
7. A location edit window will be displayed.
8. To delete the selected location, click "delete"
9. To edit additional location details click "More location details"



10. Edit the location details as desired and click save to apply the changes.

[How to assign Locations to a vehicles]

## 3.4 *Resources*

A resource is something that can be assigned to a task to assist in completing the task. E.g. a staff member or a piece of plant like a generator attached to a vehicle. Resources maybe of varying types E.g. personnel or plant. Resources maybe allocated to jobs where they help in the task and their effort/cost can be measured. Resources maybe allocated to groups to assist in allocation E.g. By allocating a group, multiple resources are allocated.

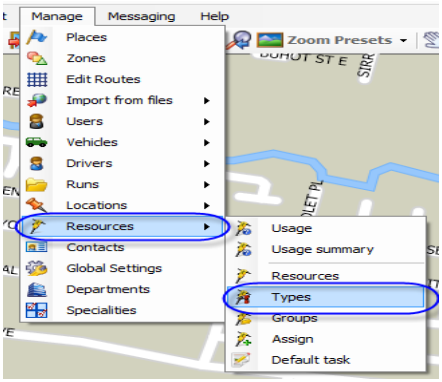
Below are some of the characteristics of resources:

- Resources have a type.
- Resources are assigned to a vehicle.
- You can measure resource use against work items.
- Resources can have default tasks i.e. Training that can be assigned in the field.
- Default tasks can be created for non-work items.
- Resources can be displayed in Locator and searched.
- Visibility is defined by user role, department and/or assignment.
- Management of resource is defined by user role.
- User may change resource assignment.
- User may group resources for quick assignment (optional).

### 3.4.1 **Type**

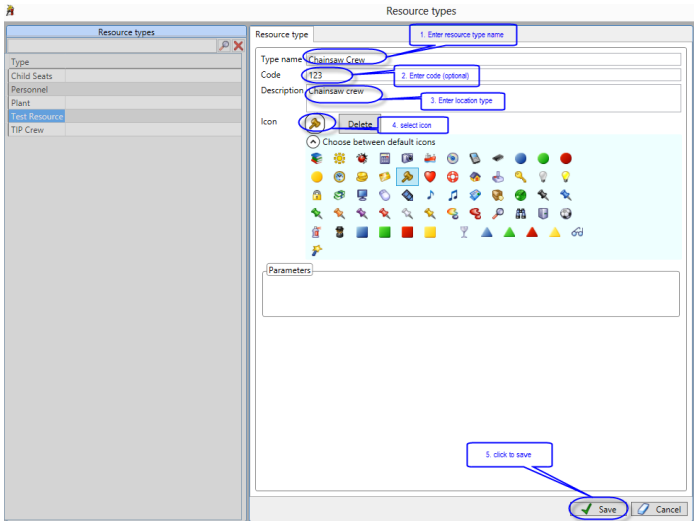
A resource type defines the resource e.g. Personnel, Fleet/Plant. Resource types would normally be an initial set up and only added to/amended where necessary.

To create a resource type, from the main menu click “Manage/Resource/type”



A resource type management window will pop up.

1. Click “New” and enter desired new resource details



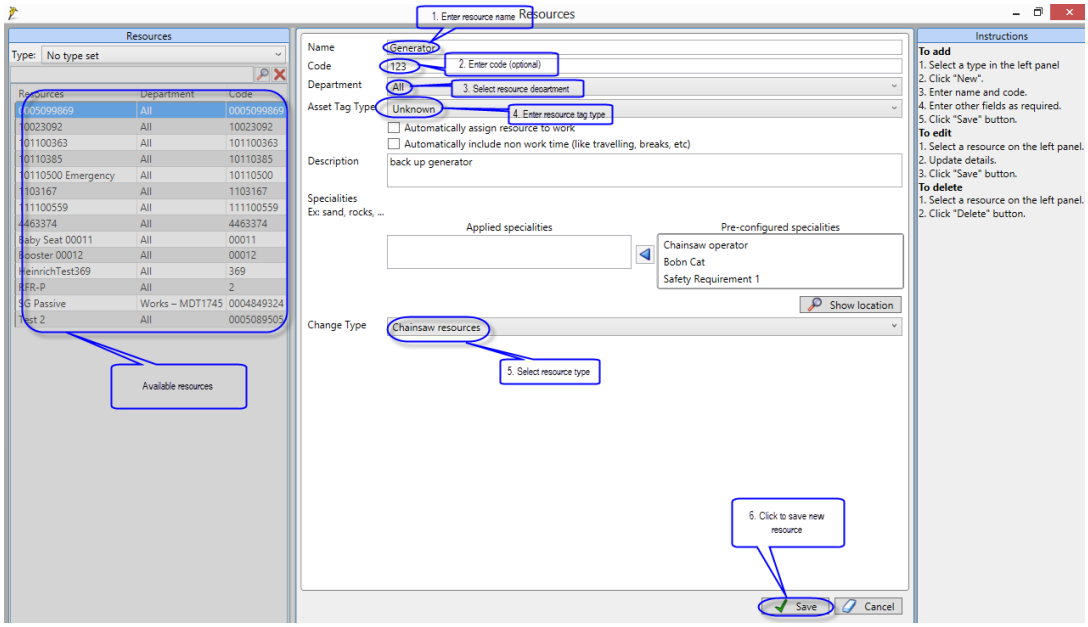

2. Click “save” to save the new resource type.

[How to create resource type video]

### 3.4.2 **Creating a Resource**

To create a resource, from the main menu click “Manage/Resource/Resources”. A resource window will pop up.

To create a new Resource select the “New” button and then enter the Resource type, Resource name, Code, Department (select from drop down), Location tag type, Resource Tag ID, indicate by checking the box where appropriate whether the work/non work time is to be automatically assigned/included, Description and then save.



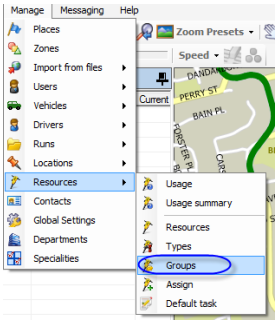

To amend/delete a resource, select it and amend as desired and click save, or click “delete” to delete it.

How to create a new resource video

### 3.4.3 Resource Groups (optional)

A resource group identifies like resources that maybe allocated to tasks together e.g. Crew. Having a resource groups makes it easier to manage the resources within the group. Groups would normally be an initial set up and only added to/amended where necessary.

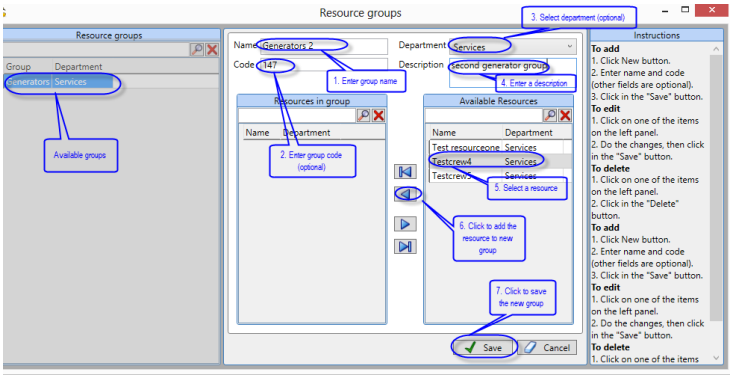
To create a resource group from the main menu click “Manage/Resources/Groups”




A Resource Group form below will be displayed.

1. Click “New” to create a new location group.

2. Enter the desired resource group details.
3. Add resources to the new resource group: - select resource from the available resources list on the left and click the add arrow  to add them to the group.
4. Click “Save” to keep the changes.

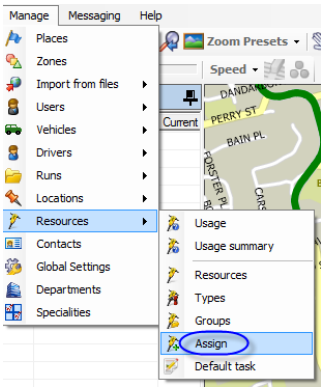



How to create a resource group video

### 3.4.4 **Assign**

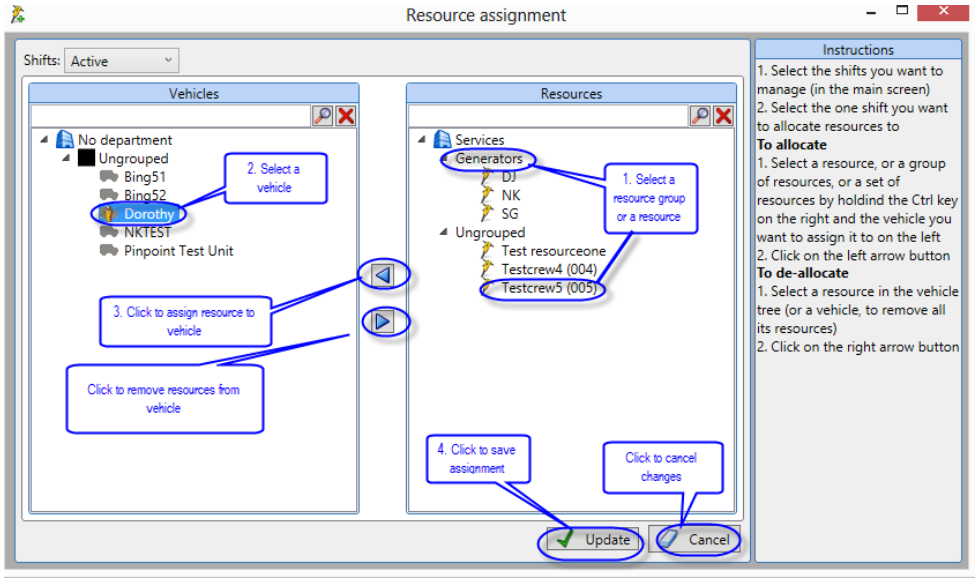
Resource can be assigned to vehicles and remain with that vehicle until moved elsewhere or deleted.

To assign resource, from the main menu click “Manage/Resources/Assign”




A resource assignment form will be displayed.

1. Select a resource or resource group from the right
2. Select a vehicle from the vehicles list on the left
3. Click the assign arrow  to assign the resources/resource group.
4. Click “save” to save the assignments

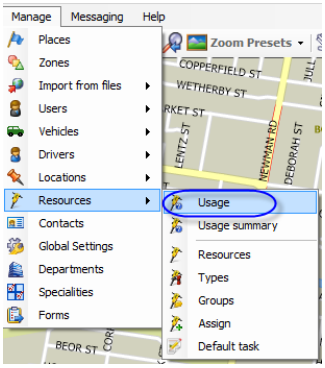



[Resource assignment video]

### 3.4.5 **Usage**

Resource usage may be viewed in detail. This gives customers an opportunity to view and edit resource usage.

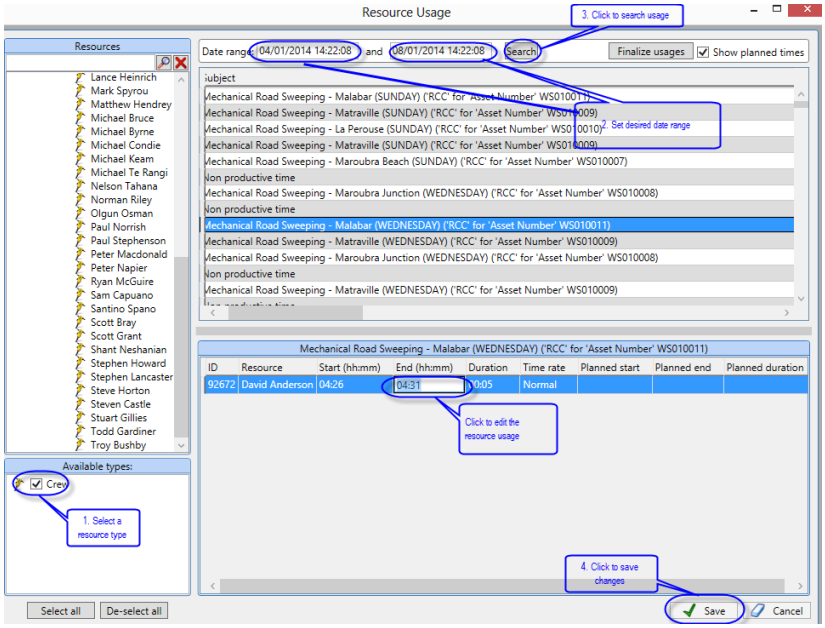
To view resource usage detail, from the main menu click “Manage/Resources/Usage”.




A resource usage window will pop up.

1. Select a resource type for the list of available resource types on the bottom left of the window
2. Set the date range as desired
3. Click “Search” to display the resource usage.

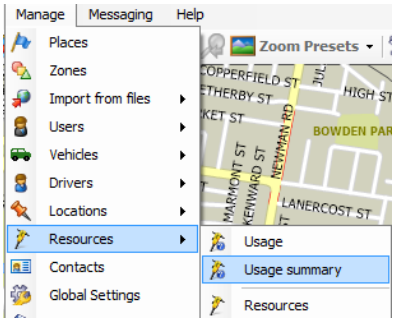
4. To edit resource usage, click on a resource on the top panel. The resource details will be displayed on the bottom panel.
5. Click on a cell to change to edit mode. Make desired edits and click save to keep your changes.




### 3.4.6 **Usage summary**

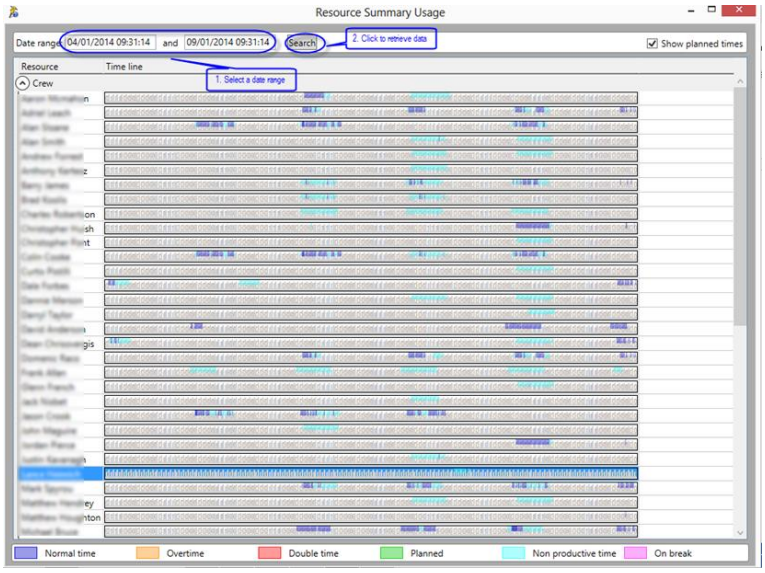
Resource usage summary gives a snap short overview of resource usage in a graphical representation.

To view resource usage summary, from the main menu click “Manage/Resources/Usage summary”




A resource usage summary window will pop up as shown below.

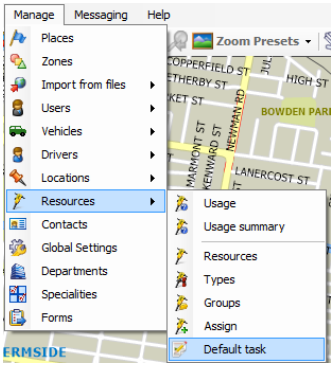
1. Set the date range
2. Click search to retrieve the data



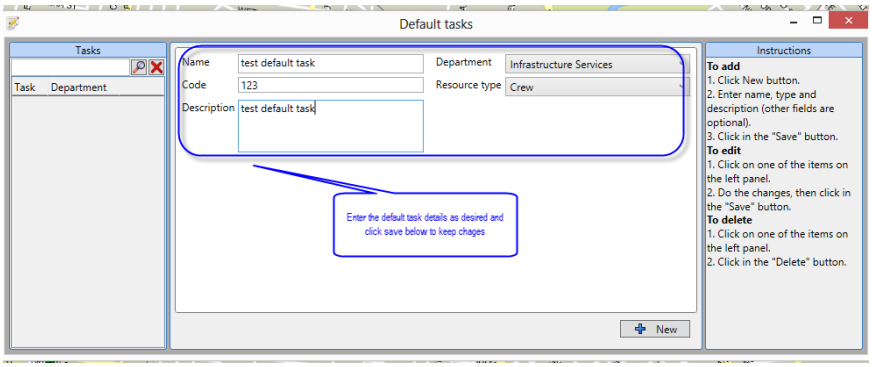

### 3.4.7 **Default task**

Default tasks can be assigned to resources.

To create a default task select Manage/Resources/Default Tasks




Enter name, code, select a department, a resource types and enter a description then save.




Default types maybe amended or deleted. From main menu, click “manage/Resources/Default Tasks”.

Select the default task to amend/delete and click “save”

# 4 TOOLS

## 4.1 *Service Schedule*

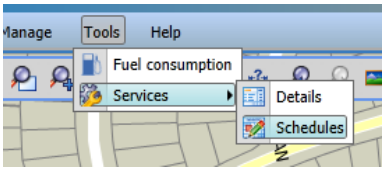
This feature enables you to capture and edit servicing costs and set up a schedule for service and reminders. Typically the service set up should only be done once, it can however be edited at a later data if needed.

Once data is entered you can then generate reports on the costs of servicing over time and as an average cost per 100kms. (See reports)

### 4.1.1 Instructions:

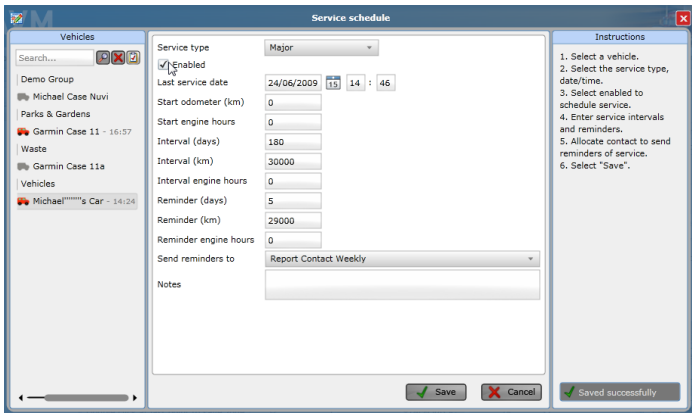
Set up a Service Schedule:

1. From the AVM menu, select Tools/Service schedule




2. Select the vehicle you are setting the schedule for.
3. Select service type
4. Check the Enabled box.
5. Select your start date. This date should be the last service date recorded for the vehicle
6. Start Odometer value is normally left as 0. If you change the odometer reading the new start value will be the point from which service reminders will be calculated.
7. Choose the number of days between services.
8. Choose number of kms before next service

9. Choose the reminder days. You will be sent a reminder email to book the vehicle in for service. .
10. Choose number of reminder kms. You will be sent a reminder email to book the vehicle in for service.
11. Select the send Reminders to from the drop down list of contacts.
12. Remember to save any changes.

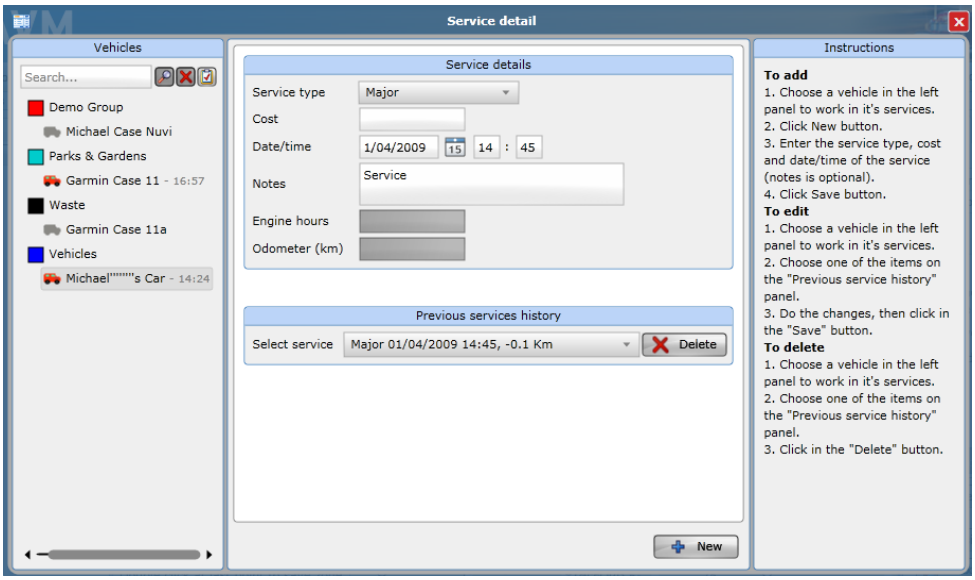



How does it work?

Once the service schedule is set the system will automatically notify you via email that a service is due for the selected vehicle. The system will notify you on a either the time interval or the km interval trigger, whichever occurs first.

Once the service is complete you need to enter the following details. In the Tools/Service Detail enter “new” Service details’ screen. Once data is entered the date reminder is re-set.

1. Select the vehicle
2. Choose service type
3. Enter Cost and Date of Service and any notes that are relevant.
4. Click on Save to save the entry.




Once entered this data can be reviewed or edited in the 'Previous Services History' screen.

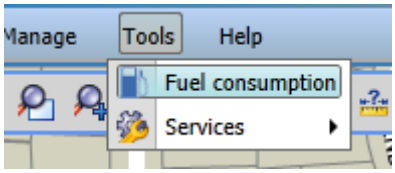
1. Select the vehicle
2. Click on type of service, you can then review the last service details, including odometer reading
3. You can update this data by selecting the edit feature, then submit to save any changes.

## 4.2 *Fuel consumption*

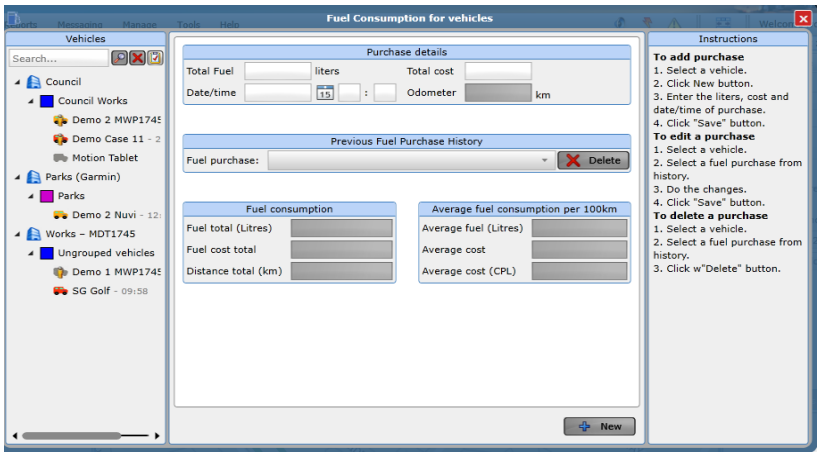
This feature enables you to record the cost of fuel purchases. When data is entered you can view the total fuel consumed and the average fuel consumption per 100 Kms. You can also run reports displaying historical data about fuel and service costs.

How to enter fuel data:

From the main menu, click Tools/Fuel consumption.




Complete the displayed form:




1. Enter quantity and cost of fuel purchase.
2. Enter the date and time of fuel purchase.
3. Save the record

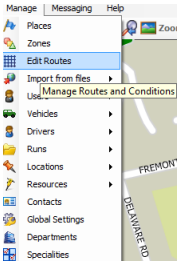
Important notes: The fuel record must be entered +/- 30minutes of an ignition on or off. This ensures the fuel record is inserted against the appropriate odometer reading. Fuel records that cannot find an ignition on/off signal will not be recorded to the database.

## 5 EDIT ROUTES (SMART LOCATOR ONLY)

Customers can capture a certain route which they can then set as the preferred route for drivers. For example a customer can capture a sweeper route that can then be given to sweeper drivers as the preferred route for a particular suburb sweeping run.

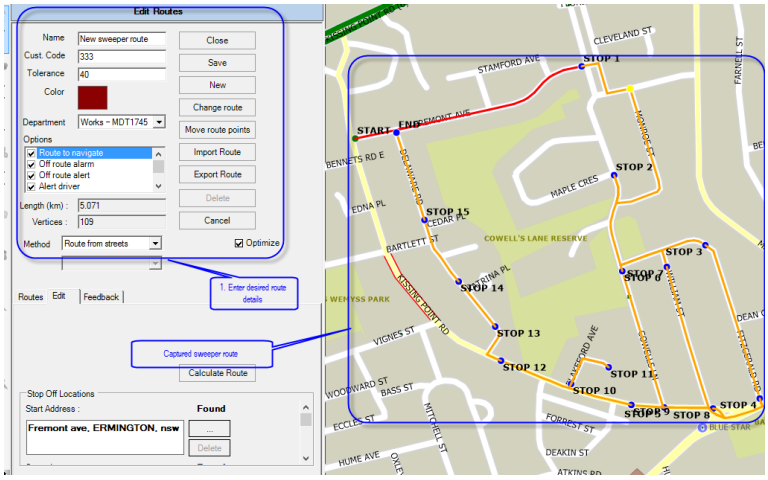
A route can be record in the field with the Vehicle Work Platform software and saved on the AVM system.

To create/edit a route, from the main menu click “Manage/Edit Route”



An Edit route window will pop up.

1. Click “New” to create a new route
2. Enter all the new route details as desired
3. Click on the map to enter the route start location.
4. Double click on a location to finish selecting the route.
5. Click save to keep the route.




To delete a route, select the route and click “Delete”

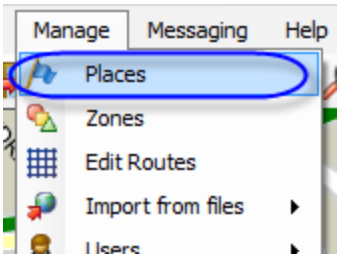
# 6 IMPORT FILES

Importing files gives customers the option to bulk import places, locations, zones, and jobs.

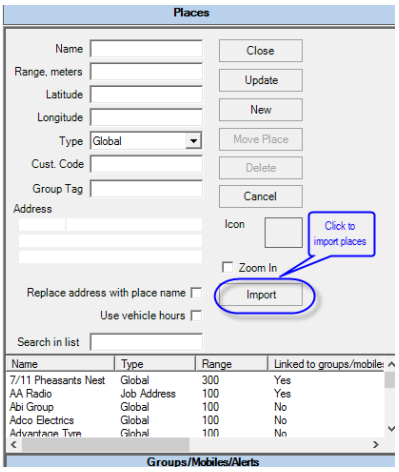
## 6.1 *Places (Smart Locator only)*

Customers can import places from a file that contain the places details.

To import places from a file, from the main menu click “Manage/Places”.

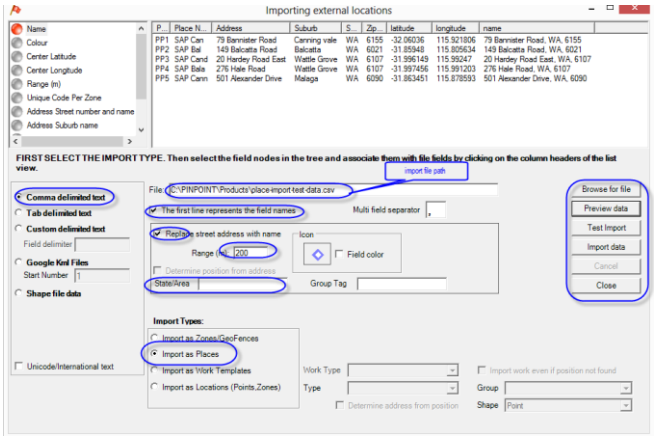



A Places management window will pop up. Click “import” to open an import window.




1. Select the file type in this case Comma delimited CSV
2. Tick the first line represents the field names
3. Tick replace street address with name, this show in reports and system as the place name and not the street address
4. Select range
5. Select an Icon and colour. You can import an icon and colour from your excel spreadsheet if required.
6. Enter State (you can import state from your excel spreadsheet if importing multiple locations from different states).
7. Select Browse for file and select the csv file with the places that you want to import.
8. Click on preview data, this will display the places data with the column names.
9. Click on the Name in the left column shown by a Red dot, then click on the column that relates to the name, this will add a green dot and the column name. This is the name that will be displayed on the map and in the reports.
10. Click on address street number and name and click on the column
11. Click on the Address Suburb name and click on the column
12. Click on the Detail Description name and click on the column that relates to the details you wish to attach to the place.
13. Test the import, this will test the places against the street data base in the system and provide a report on places that could not be matched.
14. If happy with test import then click on import data.
    **Note 1:** always test a small sample before importing a large amount of data as there is no mass way of deleting places if you make a mistake. Check this by going into map system and see that the place and icon a view on the map as required.

**Note 2:** Some places may not be in the correct spatial location that the vehicle stops at or correct on the map and may need to be manually moved**.** Do this by selecting the place and click on Move Place then click on the map at the correct location and click on update.
**Note 3:** Places that were not imported are typically due to the suburb in the data base different to the location you have, or no street number is allocated to that street. The best way to test is to do a search for the street location in the street search and do different combinations until you find the matching location. You can then manually enter the location or update your spreadsheet and re import.




How to import places from a file video

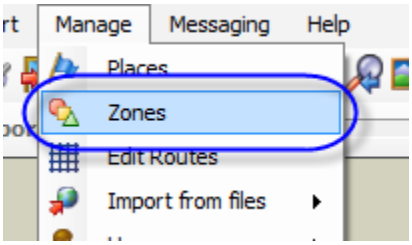
### 6.2 *Zones (Smart Locator only)*

Customers can bulk import zones from existing files which can be:

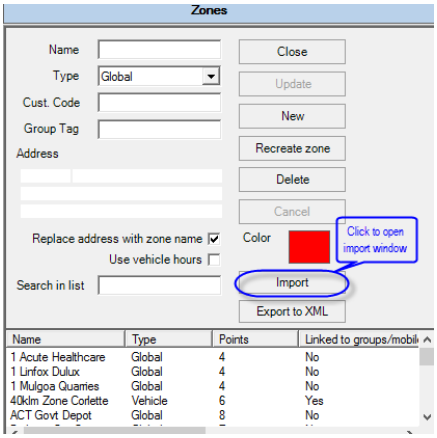
1. CSV files (comma, tab or custom delimited)
2. Google KML files or
3. Shape files

Google KML files and shape files allows customers to import the zones in pre-existing shapes if this information exists in the files.

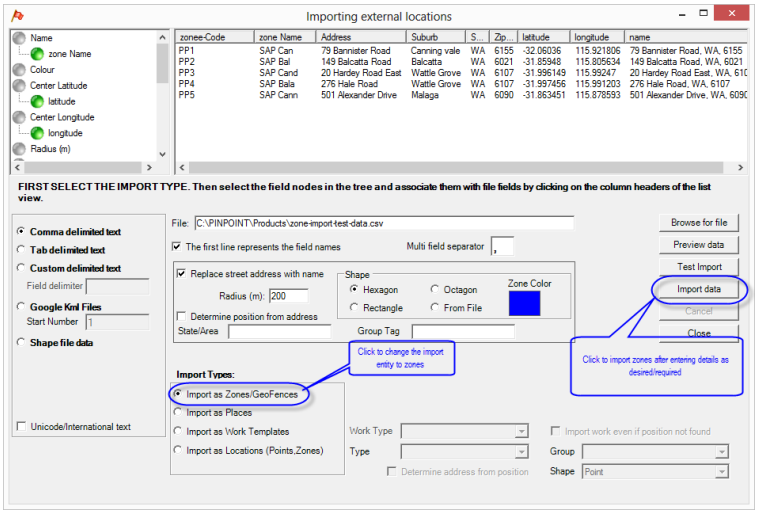
To import zones in Locator, from the main menu select “Manage/zones”




A zone management window will open. Click “Import” to open import window.




The steps for importing zones are the same as those for importing places. Follow the import places steps outlined above but in this case tick “import as Zones/Geofence” instead. Please see screen shot below:

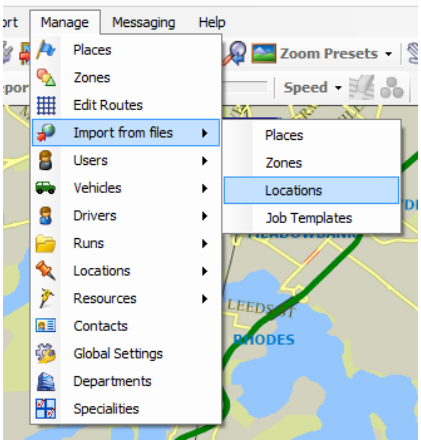


Close the window when the import is complete.

How to import zones form a file video

### 6.3 *Locations (Smart Locator only)*

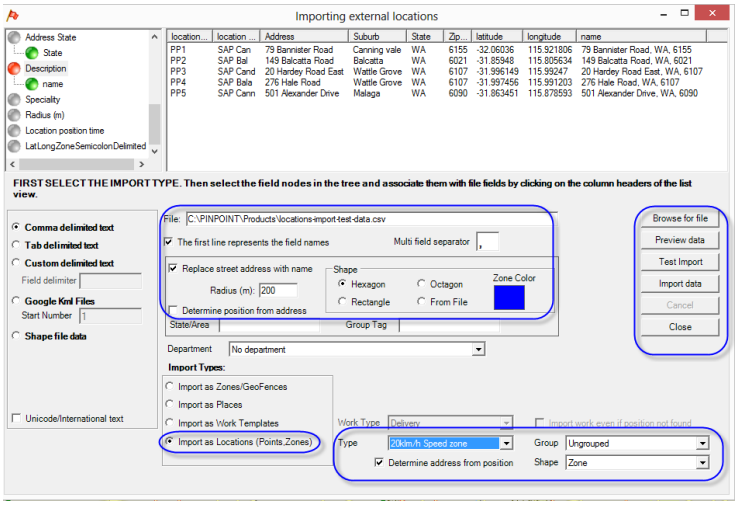
Customers can also bulk import locations from a file. To do this, from the main menu “Manage/Import from files/Locations” as shown below.




1. Select the file type in this case Comma delimited CSV
2. Tick the first line represents the field names
3. Tick replace street address with name, this show in reports and system as the place name and not the street address
4. Enter radius
5. Select zone colour (optional). You can import an icon and colour from your excel spreadsheet if required.
6. Enter State (you can import state from your excel spreadsheet if importing multiple locations from different states).
7. Select Browse for file and select the csv file with the places that you want to import.
8. Click on preview data, this will display the places data with the column names.
9. Click on the Name in the left column shown by a Red dot, then click on the column that relates to the name, this will add a green dot and the column name. This is the name that will be displayed on the map and in the reports.
10. Click on address street number and name and click on the column
11. Click on the Address Suburb name and click on the column
12. Click on the Detail Description name and click on the column that relates to the details you wish to attach to the location.
13. Select location type, group and shape.
14. Test the import, this will test the places against the street data base in the system and provide a report on places that could not be matched.

15. If happy with test import then click on import data

Please see below screen shot.



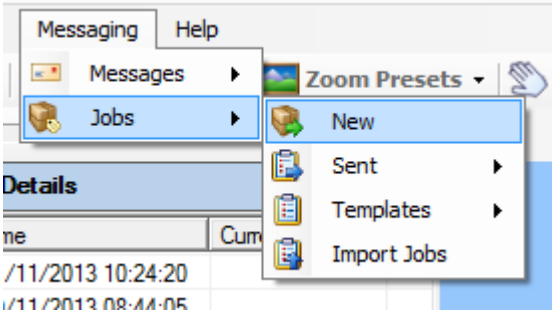

Click close to exit locations import window.

## 6.4 *Jobs (Smart Locator & Day of Operations only)*

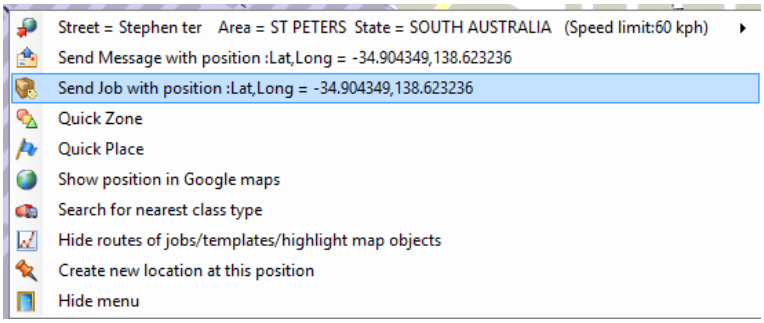
If the vehicle is configured to use an in car terminal device (PDA, laptop, MDT etc.) then jobs can be sent to those vehicles.

### 6.4.1 **Sending a Job**

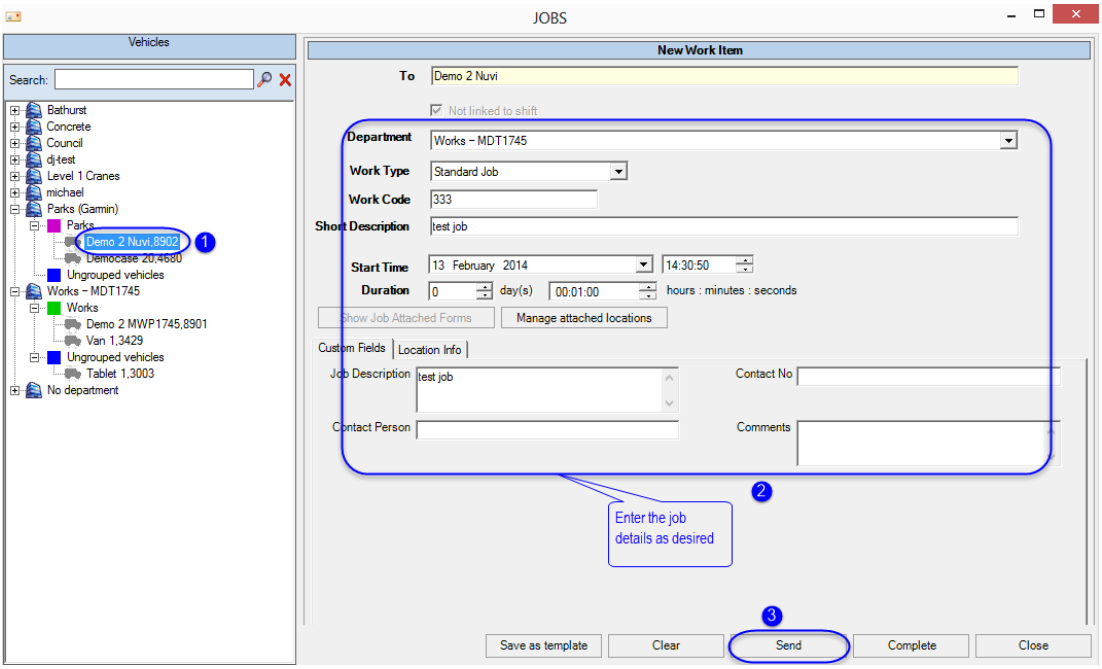
To send a job to a vehicle, from the main menu click “Messaging/Jobs/New”




Or right click the map and select “Send Job with position” (Locator only).




In both cases the job detail form below will be displayed on the screen.



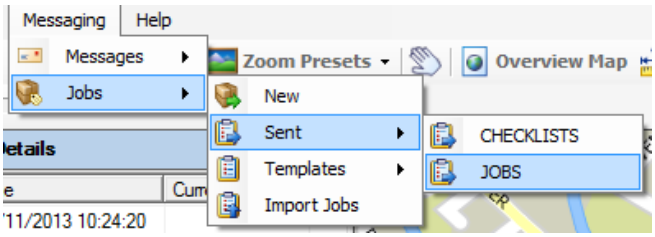

1. Select a vehicle to send the job to
2. Enter the job details as desired
3. Click “Send” dispatch the job to the vehicle

If the job is to be used more than once, it can be saved as a Template for reuse at a later date. This can be recalled from the ‘Templates’ menu.

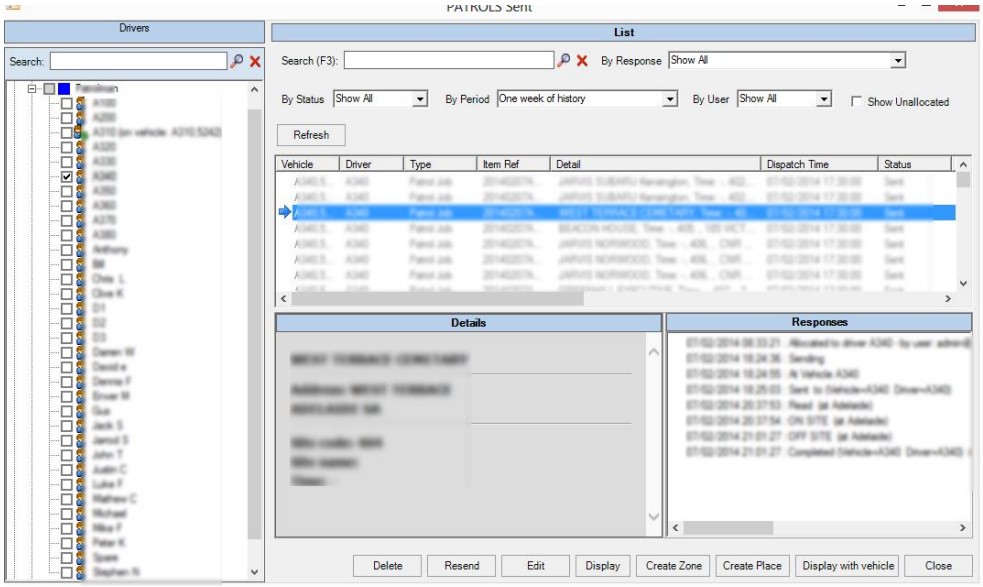
[How to send a new job video]

### 6.4.2 Viewing Current Jobs

To view current jobs, from the main menu select “Messaging/Jobs/Sent/Jobs”.




The sent jobs details will be displayed as shown below:




This list of jobs can be filtered by vehicle just by ticking the vehicles you want to view items for. Selecting the listed item will display details about the message.

- Details: shows detail of text sent in the message.
- Responses: shows details of message life, i.e. time it was sent, time it was read, time it was accepted etc.

To delete an item, select it and click “Delete”.

If an item failed to be sent, it can be resent by selecting it then clicking ‘Resend’.

To display the location of the job, press the ‘Display’ button.

To display the job location relative to vehicle location, click “Display with Vehicle”

How to view sent jobs video

# 7 BROWSER COMPATIBILITY

AVM uses Silver light, therefore you need to use a browser that is compatible with Silverlight.

If you are having issues running AVM, you can choose to run it on “compatibility mode”.

## 7.1 *Example of browser compatibility issue*

When running a report, the report is not displayed in the screen as expected.

The list of compatible browsers are shown below:

**Compatible Operating Systems and Browsers**

| Operating System | Internet Explorer 10 | Internet Explorer 9 | Internet Explorer 8 | Internet Explorer 7 | Internet Explorer 6 | Firefox 3.6+ | Safari 4+ | Chrome 12+ |
|---|---|---|---|---|---|---|---|---|
| Windows 8 Desktop | Y * | - | - | - | - | Y | - | Y |
| Windows Server 2012 | Y * | - | - | - | - | Y | - | Y |
| Windows 7 | - | Y | Y | - | - | Y | - | Y |
| Windows 7 SP1 | - | Y * | Y | - | - | Y | - | Y |
| Windows Server 2008 SP2 | - | - | - | Y | - | Y | - | Y |
| Windows Server | - | Y * | Y * | - | - | Y | - | Y |

| Operating System | Internet Explorer 10 | Internet Explorer 9 | Internet Explorer 8 | Internet Explorer 7 | Internet Explorer 6 | Firefox 3.6+ | Safari 4+ | Chrome 12+ |
|---|---|---|---|---|---|---|---|---|
| 2008 R2 SP1 | | | | | | | | |
| Windows Vista | - | Y | Y | Y | - | Y | - | Y |
| Windows Server 2003, Windows XP SP2, SP3 | - | - | Y | Y | - | Y | - | Y |
| Macintosh OS 10.5.7+ (intel-based) | - | - | - | - | - | Y | Y | - |
| * Supports 64-bit mode | | | | | | | | |

For additional information on compatibility, please click the link below:

http://www.microsoft.com/getsilverlight/Get-Started/Install/Default.aspx

# 8 WEB AVM FAQS

## 1. Harsh Braking Definition

The TRK series has a defined setting of 0.5G which is a deceleration of 4.8m per second. The TRK uses GPS speed being sampled every second and requires 2 seconds to trigger a harsh brake if greater than 4.8m per second.

For example going from ~35kph to 0 in 2 seconds would generate an alert.

2. **Harsh Acceleration**

The TRK series has two settings for acceleration.

Harsh acceleration is set to 0.4G or 3.81m per second.

The TRK uses GPS speed being sampled every second and requires 2 seconds to trigger, greater acceleration than the above settings to trigger an alert.

3. **Roll Over (may require firmware upgrade)**

The TRK series has a 3 axis sensor for detecting rollover detection which is set to 90 degrees, a rollover alarm will be sent and logged when a in vehicle unit is greater than 90 degrees in angle.

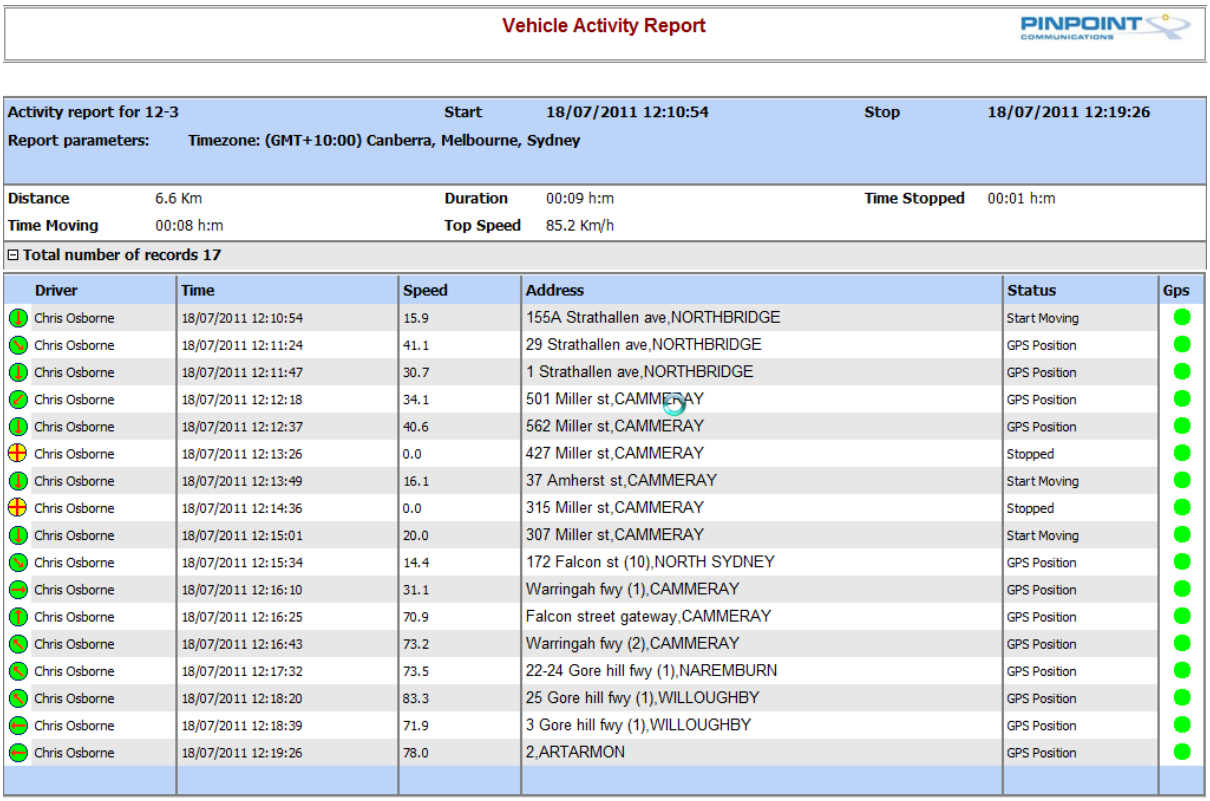
4. **Crash Detection (may require firmware upgrade)**

The TRK series has a crash detector providing and alarm in the event of rapid deceleration. The crash detector is set for 1.5G, the unit will send an alarm after a crash detection with the proceeding 2 minutes of second by second data, including; date; time; speed and location.

5. **GPS Speed Records**

Speed records generated by GPS devices are generally more accurate that the speedometer of the vehicle. A speedometer of a vehicle can be effected by tyre pressure and tyre wear, whereas GPS speed is generated based on actual speed across the ground. Caution should be used however as most GPS devices that are recording GPS data are doing so on a time or event basis. This means it only records the speed of the vehicle for a specific moment in time, or event such as start, stop moving, change of direction etc. GPS speed is also conditional upon the quality of the GPS signal. The signal can be influenced by environmental interference such as installed location of GPS antenna; bridges, tunnels, trees and tall buildings. Consequently when analysing GPS data you should review the speed profile over a period of plus or minus 5 minutes. This will provide the analyst with a good sample of data to test consistency of location, time and speed. If the analyst encounters inconsistent data over the time period then the user should contact the vendor to determine data accuracy.

Fig 1: Example of a consistent speed profile.



Vehicle Activity Report

PINPOINT COMMUNICATIONS

| | | | | | |
|---|---|---|---|---|---|
| **Activity report for 12-3** | | **Start** | **18/07/2011 12:10:54** | **Stop** | **18/07/2011 12:19:26** |
| **Report parameters:** | **Timezone: (GMT+10:00) Canberra, Melbourne, Sydney** | | | | |
| **Distance** | 6.6 Km | **Duration** | 00:09 h:m | **Time Stopped** | 00:01 h:m |
| **Time Moving** | 00:08 h:m | **Top Speed** | 85.2 Km/h | | |

**Total number of records 17**

| Driver | Time | Speed | Address | Status | Gps |
|---|---|---|---|---|---|
| Chris Osborne | 18/07/2011 12:10:54 | 15.9 | 155A Strathallen ave,NORTHBRIDGE | Start Moving | |
| Chris Osborne | 18/07/2011 12:11:24 | 41.1 | 29 Strathallen ave,NORTHBRIDGE | GPS Position | |
| Chris Osborne | 18/07/2011 12:11:47 | 30.7 | 1 Strathallen ave,NORTHBRIDGE | GPS Position | |
| Chris Osborne | 18/07/2011 12:12:18 | 34.1 | 501 Miller st,CAMMERAY | GPS Position | |
| Chris Osborne | 18/07/2011 12:12:37 | 40.6 | 562 Miller st,CAMMERAY | GPS Position | |
| Chris Osborne | 18/07/2011 12:13:26 | 0.0 | 427 Miller st,CAMMERAY | Stopped | |
| Chris Osborne | 18/07/2011 12:13:49 | 16.1 | 37 Amherst st,CAMMERAY | Start Moving | |
| Chris Osborne | 18/07/2011 12:14:36 | 0.0 | 315 Miller st,CAMMERAY | Stopped | |
| Chris Osborne | 18/07/2011 12:15:01 | 20.0 | 307 Miller st,CAMMERAY | Start Moving | |
| Chris Osborne | 18/07/2011 12:15:34 | 14.4 | 172 Falcon st (10),NORTH SYDNEY | GPS Position | |
| Chris Osborne | 18/07/2011 12:16:10 | 31.1 | Warringah fwy (1),CAMMERAY | GPS Position | |
| Chris Osborne | 18/07/2011 12:16:25 | 70.9 | Falcon street gateway,CAMMERAY | GPS Position | |
| Chris Osborne | 18/07/2011 12:16:43 | 73.2 | Warringah fwy (2),CAMMERAY | GPS Position | |
| Chris Osborne | 18/07/2011 12:17:32 | 73.5 | 22-24 Gore hill fwy (1),NAREMBURN | GPS Position | |
| Chris Osborne | 18/07/2011 12:18:20 | 83.3 | 25 Gore hill fwy (1),WILLOUGHBY | GPS Position | |
| Chris Osborne | 18/07/2011 12:18:39 | 71.9 | 3 Gore hill fwy (1),WILLOUGHBY | GPS Position | |
| Chris Osborne | 18/07/2011 12:19:26 | 78.0 | 2,ARTARMON | GPS Position | |

### 6. Why does a trip report show a different distance value than the all activity report?

The Pinpoint IVU collects two types of data. Event data and Trip Data.

### 7. Event Data is defined as an event that occurs at a time and place.

Ignition on/off
Start/Stop Moving
Change of Direction
Exception Events (speeding, harsh braking etc.)
Distance Events (e.g.: record event every 500 meters)
Time Events (e.g.: record event every 2 minutes)

I/O Events (e.g.: PTO on/off)

Each of these events are sent to the AVM server for processing and form a data set that can be used for some reports or plotting activity on the Map.

*Event data provides the most accurate record for an event at a time and place. Cumulative records such as distance travelled, total time stopped / moving may have some degree of error as they are calculated using the event records.*

8. **Trip Data is defined as a record that must have a start and finish.**

A Trip log is created based on the starting event such as Ignition ON or movement detected > x seconds
A trip log captures:
Start and Finish Times (usually based on Ignition ON / OFF)
Distance Travelled
Top Speed recorded
Time moving / stopped.
The trip log is sent based on the Ignition off signal.

The trip log data is used in some reports and for updating the Engine Hour and Odometer Readings in the AVM system.

*Trip type data provides the most accurate Start / Stop times and distance travelled during the trip.*

**Example Reports**

Fig 1 is an **All Activity Report**. The all activity report is calculated based on Event data.
The report parameters are set as 23/6 0600 to 23/6 1200.
The report results show the first event (10:43 Ignition On) and the last event (11:23) that were recorded inside the time parameter.
Total distance travelled 16.3Km is the total distance calculated by the server during the time period based on all events.
All event data recorded is displayed in this report.

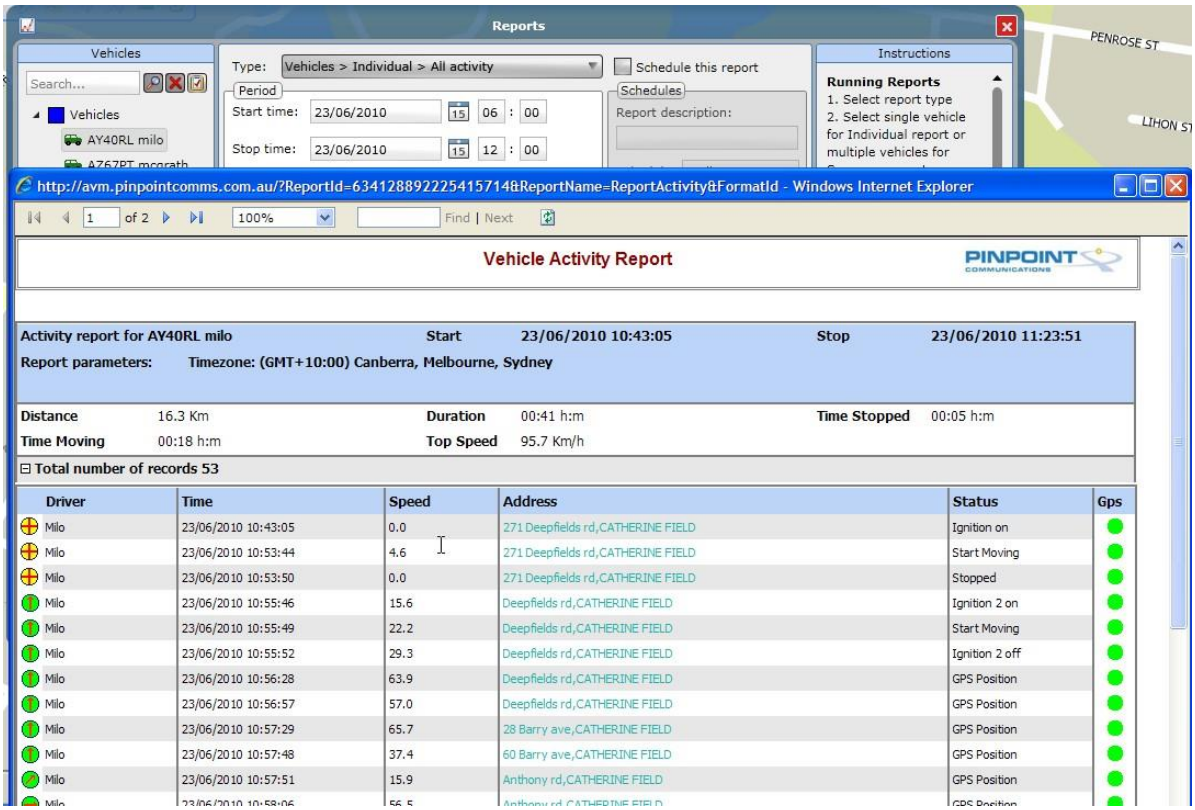



*Fig1 All Activity Report*

Now let's compare this report with the **Trip Report (Fig2).** Using the exact same parameters you will see this report gives a different result. The reason for this, is that the Trip report only reports on COMPLETED Trips as defined by an Ignition off Event.
**In this example there was only one trip recorded for this vehicle. 10:43 to 11:16 with a distance of 13.7km.**

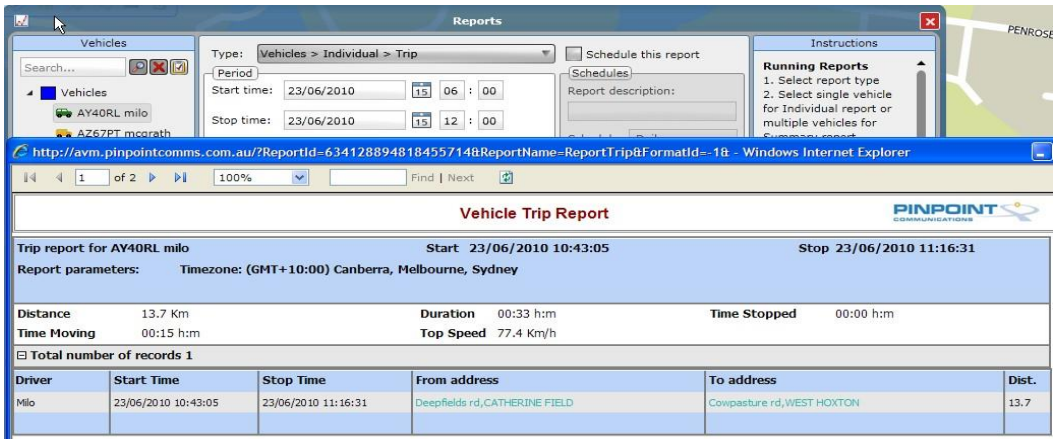



*Fig2 Trip Report*

## 9 REPORTS

The AVM system provides extensive productivity, performance and operational information about vehicles and their drivers. Some of the key features include:

- Graph or plot* the path travelled on a map.
- All reports can be easily exported to Adobe .pdf, excel or .csv formats for further analysis or distribution.
- A report scheduler that enables you to automate the distribution of reports to up to 15 email addresses.

### *Summary of Reports and Data Types*

| Type | Report | Data Type |
|---|---|---|
| **Individual Reports** | Daily Log | Trip[1] |
| Vehicle / Driver | Monthly Summary | Trip[2] |
| | Engine Hours | Trip[2] |
| | Speed | Event |
| | Idling | Event |
| | Alert | Alert Table |

| Type | Report | Data Type |
|---|---|---|
| | Outside Hours | Trip[2] |
| | Journey | Event |
| | Trip | Trip[1] |
| | Stopped at Location | Trip if Ign used, Event if No Ign. |
| | All activity | Event |
| | Fuel Consumption | User Data |
| | Services | User Data |
| | Multi-Sensors | Event |
| **Multi Reports** | Daily Operation | Trip[1] |
| Vehicle / Driver | Weekly Operations | Trip[1] |
| | Monthly Operations | Trip[1] |
| | Vehicle Performance | Trip[2] |
| | Message Summary | User Data |
| | Job Summary | User Data |
| | Service Cost | User Data and Odo |
| | Service | Trip[3] |
| | Alerts | Alert Table |
| | Place | Event |
| | Zone | Event |
| | Outside Zone | Event |
| | Sensor | Event |

**Notes:**

1. Third party tracking devices such as the G-sat personal tracker or Satellite devices do not have Trip functionality. In this case the trip data is replaced by event data.
2. These trip reports do not operate or work with third party devices such as the G-sat personal tracker
3. If no data has been reported in the time period, the Service Summary will display the date and location of the last report.

### 9.1 *Report description and explanation*

The reports are grouped by Vehicle, Driver, Runs and Management, which are further split by Individual and Multi vehicle reports.

### 9.1.1 Individual Vehicle Reports

Ideal for analysing vehicle activity and performance of individual vehicles

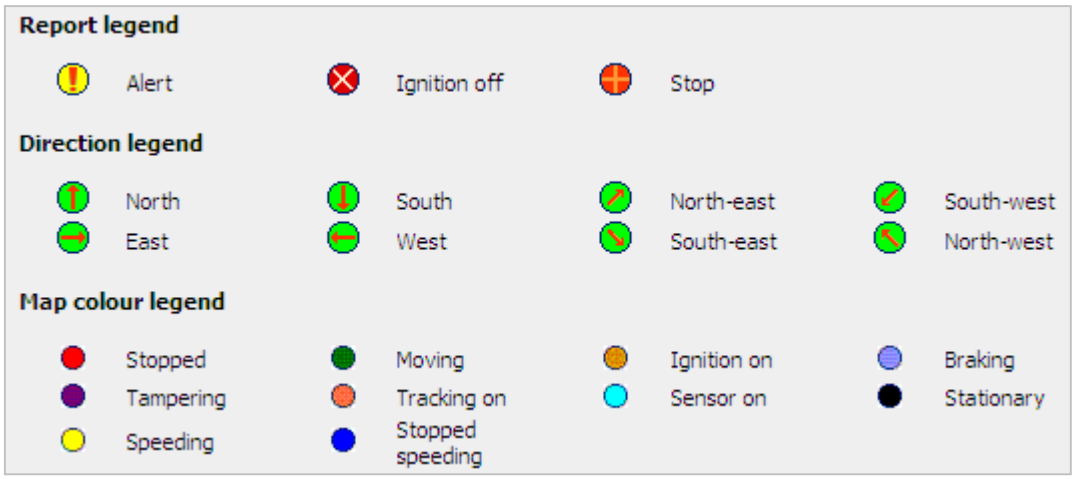
| ***Report Name*** | ***Report Description*** | ***Applicable Entity*** | | | |
|---|---|---|---|---|---|
| | | ***Vehicle*** | ***Driver*** | ***Runs*** | ***Locations*** |
| Daily Log (This report is limited to the last 92 days) | A summary showing distance travelled inside and outside vehicle working hours and percentage of distance inside and outside working hours. Reports on user defined date range | Y | Y | Y | |
| Monthly Summary Log (This report is limited to the last 92 days) | A summary showing distance travelled inside and outside vehicle working hours and percentage of distance inside and outside working hours on a month to month basis. | Y | Y | Y | |
| Engine Hours Log (This report is limited to the last 92 days) | Summary report that details engine hours over chosen time period. Start and Finish Location of each use. | Y | Y | Y | |
| FTB Log (Maximum start to stop report period is 3 months) | This reports displays detailed information on vehicle usage. The purpose of this report is to allow fleet managers to report on the vehicle usage for FBT or other business usage related reasons.<br>Note: this report is based on the trip report with additional information being shown. | Y | N | N | |
| Exceptions-Speed (This report is limited to the last 7 days) | This report allows you to review vehicles that have gone above a speed limit. In addition, it also represents the information graphically on the last page of the report. | Y | Y | Y | |

| Report Name | Report Description | Applicable Entity | | | |
|---|---|---|---|---|---|
| | | Vehicle | Driver | Runs | Locations |
| Exceptions-Idling Speed (This report is limited to the last 7 days) | This report allows you to review vehicles idling time and look for excessive idling violations. | Y | Y | Y | |
| Exceptions-Alert Speed (This report is limited to the last 92 days) | This report allows you to review all alert information including geo-fence and place alerts | Y | Y | Y | |
| Exceptions-Outside Hours (This report is limited to the last 92 days) | Reports on use of vehicles outside operating hours. | Y | Y | Y | |
| Job Detail (This report is limited to the last 92 days) | Gives a detailed report on a job including all fields and status | Y | Y | Y | |
| Job Type | Gives detailed information for all your selected job types. The parameters for this report are job types. You can also choose to generate a report only for completed jobs or all job types. | Y | N | N | |
| Job Message (This report is limited to the last 92 days) | This report gives message details by vehicle including subject, response (times, locations and more). | Y | Y | Y | |
| Journey (This report is limited to the last 7 days) | For each journey (ignition on/off). Summary and location information including: Distance travelled, average speed, top speed, time moving and time | Y | Y | Y | |

| Report Name | Report Description | Applicable Entity | | | |
|---|---|---|---|---|---|
| | | Vehicle | Driver | Runs | Locations |
| | stopped. This report shows a location every 5 minutes. | | | | |
| Trip (This report is limited to the last 92 days) | For each trip in data range. Summary information including: Distance travelled, top speed, time moving and time stopped. | Y | Y | Y | |
| Stopped at Location (This report is limited to the last 92 days) | Reviews how long a vehicle has stopped at a location and shows information about each stop. Each stopped location will then be displayed giving details of arrival time, address, time spent at destination and distance travelled to get there. You can choose to run this report based on ignition or time stopped for > x minutes. You can also choose to report those places that are 'known' i.e.: if you have created a zone or place. | Y | Y | Y | |
| All Activity (This report is limited to the first 7 days) | This report allows you to review the full log for the vehicle. Plotting this information enables full replay of vehicle journey. | Y | Y | Y | |
| Services (This report is limited to the first 3 months) | This report gives a summary showing detail for vehicle service type cost, and date.<br>Customers can use this information to program services for each vehicle within a specified period of time or distance travelled. | Y | N | N | |
| Detail Sensor | This report is displays information on input and output sensor usage by the vehicle. This report can be used for the for the following reasons: | Y | N | N | |

| Report Name | Report Description | Applicable Entity | | | |
|---|---|---|---|---|---|
| | | Vehicle | Driver | Runs | Locations |
| (This report is limited to the first 7 days) | • showing work compliance, i.e. road sweeping, number of bin collections<br>• driver compliance, i.e. monitoring speed while an input or output is active<br>• monitor where equipment is used, i.e. unauthorized work at a location<br><br>The report will show detailed information about where and when the sensor in used.<br><br>A map and usage graphs can also be generated for this report. | | | | |

- When plotting a journey on the map pane, various coloured icons will appear dictating what was occurring at that particular point. The image below describes these various states.



### 9.1.2 Multi Vehicle Reports

These reports compare vehicle performance and productivity for multiple vehicles.

| ***Report Name*** | ***Report Description*** | ***Applicable Entity*** | | | |
|---|---|---|---|---|---|
| | | ***Vehicle*** | ***Driver*** | ***Runs*** | ***Locations*** |
| Operations Daily/Weekly/Monthly (These reports are limited to the last 32, 32, and 92 days respectively) | This report gives you a summary of all the operations for your selected vehicles including start/finish times, operating hours, top 3 stops and more.<br><br>This report also gives you a graphical summary of number of stops, total kilometres travelled and total operation hours.<br><br>You can run this report for more than one vehicle at time.<br><br>This report can be generated daily, weekly or monthly. When generating reports the default setting is for an operating hour window of 24 hours. You can change this operating window by selecting one of the three options provided (business switch, vehicle hours or user definable).<br><br>For stops the default setting is to use ignition only. This can be further filtered by selecting 'Known Places' and/or greater than a number of minutes. | Y | Y | Y | |
| Operations – Weekly with Sensor (This report is limited to the first 7 days) | A variation on the above report with the added parameter of Sensors. The output of this report generates total engine hours, distance travelled and time or count of your selected senor reading. (e.g. Sweep time or number of Bin Lifts) | Y | N | N | |

| Report Name | Report Description | Applicable Entity | | | |
|---|---|---|---|---|---|
| | | Vehicle | Driver | Runs | Locations |
| Operations – Weekly with Zone (This report is limited to the first 7 days) | A variation on the above report with the added parameter of Zone. The output of this report is slightly different in that it will provide you with a summary of each days operations with enter and exit times of your selected zone | Y | N | N | |
| Risk Management | This report displays information on specific exceptions set by customers e.g. 4X4 WD, speeding, seat belts, etc.<br><br>Managers can use this report to enforce good driving habits.<br><br>This report is only available to IVMS configured customers. | Y | Y | N | |
| Risk Exceptions | This report displays a drill down of the information from risk management reports. Customers can get more details like the type of exception, location, time etc.<br><br>This report is only available to IVMS configured customers. | Y | Y | N | |
| Jobs (This report is limited to the first 92 days) | Provides historical view of all jobs that have been sent/received and their current status. | Y | Y | Y | |

| Report Name | Report Description | Applicable Entity | | | |
|---|---|---|---|---|---|
| | | Vehicle | Driver | Runs | Locations |
| Jobs Message (This report is limited to the first 92 days) | This report gives a summary of message details including subject, response (times, locations and more). | Y | Y | Y | |
| Jobs Canned Message (This report is limited to the first 92 days) | This report gives a summary of all the canned messages sent/received including subject and response (times, locations and more). | Y | Y | Y | |
| Road Usage Details | Customers can create locations on certain roads whose usage they would like to monitor. This report displays information on counts and details of individual roads (with the locations) used by vehicles.<br><br>This information can be used for reporting on road to government organization and stake holders.<br><br>This report is only available to IVMS configured customers. | Y | Y | N | |
| Road Usage summary | This report displays a summary of the above report. | Y | Y | N | |
| Performance | This report can be generated for a user definable period. Select the user definable operating hours and threshold speed and idling value. | Y | Y | Y | |

| Report Name | Report Description | Applicable Entity | | | |
|---|---|---|---|---|---|
| | | Vehicle | Driver | Runs | Locations |
| Message Summary (This report is limited to the first 92 days) | If you use a MDT, you can generate a report which will show messages sent to and from the unit | Y | N | N | |
| Service Cost (This report is limited to the first 92 days) | This report shows a summary of vehicle service cost over a period of time including distance travelled, service counts, total cost and cost/100 Kms. | Y | N | N | |
| Service (This report is limited to the first 92 days) | This report is to help fleet managers know when vehicle servicing is due.<br>It summarizes the current odometer or engine hour meter reading. Displays next scheduled service threshold. | Y | N | N | |
| Alert (This report is limited to the first 92 days) | Used to show a summary of alerts or alarms generated by selected vehicles over a specified period of time. This can be restricted to alerts related to vehicle operation, alerts related to zone violations, or to Place proximity. | Y | Y | Y | |
| Place (This report is limited to the first 7 days) | Generates a report which displays summary information pertaining to if and how often a selected range of vehicles are in the proximity of any Places or POIs you have created | Y | Y | Y | |
| Zone (This report is limited to the first 7 days) | Generate a report which displays summary information pertaining to if and how often a selected range of vehicles enter or leave Zones you have created. | Y | Y | Y | |
| Outside Zone (This report is | Generate a report which displays summary information pertaining to if and how often a | Y | Y | Y | |

| Report Name | Report Description | Applicable Entity | | | |
|---|---|---|---|---|---|
| | | Vehicle | Driver | Runs | Locations |
| limited to the first 7 days) | selected range of vehicles operate outside of Zones you have created | | | | |
| Equipment Usage (This report is limited to the first 32 days) | This report gives a summary of when an equipment leaves a zone e.g. depot, and how long the equipment was working at a jobsite by capturing engine hours. A jobsite is classified as ignition usage that occurs within a defined range, and an equipment is classified as machinery that is not driven from a zone to a job.<br><br>User parameters:<br><br>Date Range<br><br>Zones: Select Zones that are relevant to this report<br><br>Ignore Assignment: Select if your chosen zones have NOT been assigned to a vehicle.<br><br>Show Detail: Select this parameter to display detail usage.<br><br>Results:<br><br>At Zone: Shows vehicle At zone or 'None' at the time of the report generation; No data indicated vehicle was not operated inside the date parameter.<br><br>Note: Generally this report should be used for equipment that is towed to site. | Y | N | N | |
| Sensor (This report is limited | This report displays summary information on input and output sensor usage for the | Y | N | N | |

| Report Name | Report Description | Applicable Entity | | | |
|---|---|---|---|---|---|
| | | Vehicle | Driver | Runs | Locations |
| to the first 7 days) | selected vehicles. This report may be used for the following reasons:<br>• showing work compliance, i.e. road sweeping, number of bin collections<br>• driver compliance, i.e. monitoring speed while an input or output is active<br>• monitor where equipment is used, i.e. unauthorized work at a location<br>This report includes sensor usage Vs Vehicle and sensor count Vs Vehicle graphs. | | | | |
| Drivers Log On | This report gives summary vehicles drivers log on/off for all selected vehicles/drivers. Including log on/off times and locations, as well as total hours logged on/off | Y | Y | N | |
| Job Journey (This report is limited to the first 7 days) | This report gives a summary for each journey (ignition on/off). Summary and location information including: Distance travelled, average speed, top speed, time moving and time stopped and more | Y | Y | N | |
| Location Activity (This report is limited to the first 7 days) | This report shows activities that have occurred at a location.<br>Information on other processes that are carried out at the location can also be reported. These processes can either be an Asset process form or a job.<br>A map can also be plotted for this report if needed. | Y | N | N | Y |

| Report Name | Report Description | Applicable Entity | | | |
|---|---|---|---|---|---|
| | | Vehicle | Driver | Runs | Locations |
| | | | | | |
| CO2 and Fuel Usage (This report is limited to the first 92 days) | This report displays details of fleet fuel usage and green house impact.<br>Fleet managers can use this report to show vehicles that require servicing due to excess fuel usage, or even to show which drivers are more fuel efficient.<br>Fuel usage figures will be taken from the details entered by the user in the fuel entry screen. | Y | N | N | |
| Vehicle Checklist (This report is limited to the first 92 days) | This report displays details of the completed checklists created at the vehicle i.e. start of shift vehicle checklist and end of shift vehicle checklist.<br>A summary of vehicle checklist information confirmation that the driver has checked all the items on the vehicle check list and reported any vehicle issues before operating the vehicle. | Y | N | N | |
| Runs Not Resourced (This report is limited to the first 92 days | A summary of all the runs that have not been allocated to a vehicle | N | N | Y | |
| Driver/Vehicle Without Runs (This report is | A summary of all drivers/vehicles that do not have any runs allocated to them | N | N | Y | |

| Report Name | Report Description | Applicable Entity | | | |
|---|---|---|---|---|---|
| | | Vehicle | Driver | Runs | Locations |
| limited to the first 92 days | | | | | |
| Current Allocation (This report is limited to the first 92 days) | A summary of all the runs that are currently allocated and the vehicles/drivers to whom they are allocated | N | N | Y | |
| | | | | | |

### 9.1.3 Management Reports

All management reports are multi vehicle reports.

| Report Name | Report Description |
|---|---|
| User Activity (This report is limited to the first 92 days) | A summary of user activities including last log in time and log in count. |
| Tracker Activity (This report is limited to the first 180 days) | A summary of tracker activities including vehicles, last heard, total bytes and more. You can use this report to identify which trackers are in which vehicles, faulty trackers, and any notes attached to the trackers. |
| Vehicles not Heard From (This report is limited to the first 3 days) | This reports gives a summary of all vehicles not heard from within the past 72 hours including when and where they were last heard from. |
| GPS Error (This report is limited to the first 10 days) | A summary of all trackers that have had GPS errors within the last 72 hours including counts of no GPS connection, no GPS coverage and no GPS lock. |
| Vehicle Detail | This report displays information of all the vehicles currently in the system. |

| *Report Name* | *Report Description* |
|---|---|
| | This information can be used to reconcile vehicle information to customer's own fleet maintenance systems as well as checking what vehicles in his fleet have tracking equipment fitted. |
| Driver Detail | This report displays information on all drivers currently in the system. Customers can reconcile this information with existing HR database or for other reporting purposes. |
| Location Detail | This report displays information on all locations (assets) currently in the system. |

# 10 APPENDIX

## 10.1 *Emergency Alarms*

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| Emergency (Alarm) | Emergency Alarm from a dash mount button, IO or active pendant | Set In Tracker | Emergency | Y | Y | Inclusive | I/O Setup: Select Alarm Type by I/O |
| Crash Detection | Emergency Alarm | Set In Tracker | Emergency | Y | Y | Inclusive | Crash detection |
| Vehicle Roll over detected | Vehicle has tilted further than threshold | Set In Tracker | Emergency | Y | Y | Inclusive | Crash detection |

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| | (Activated in accelerometer). Note tracker must be mounted flat for this alert. | | | | | | |

## 10.2 *Place & Zone Alarms*

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| Enter Geofence | vehicle has entered a geofence programmed in the tracker (i.e. drove inside) | Set In Tracker or AVM | Place & Zone | Y | Y | Chargeable | Geofence: This can be configured manually in the tracker or by the Web AVM in Setup/Vehicles/zone place assign |
| Arrive Geofence | vehicle has entered a geofence programmed in the tracker (i.e. ignition off inside) | Set In Tracker or AVM | Place & Zone | Y | Y | Chargeable | Geofence: This can be configured manually in the tracker or by the Web AVM in Setup/Vehicles/zone place assign |
| Exit Geofence | vehicle has entered a geofence programmed in the tracker (i.e. drove outside) | Set In Tracker or AVM | Place & Zone | Y | Y | Chargeable | Geofence: This can be configured manually in the tracker or by the Web AVM in Setup/Vehicles/zone place assign |

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| Leave Geofence | vehicle has entered a geofence programmed in the tracker (i.e. ignition on, then drove outside) | Set In Tracker or AVM | Place & Zone | Y | Y | Chargeable | Geofence: This can be configured manually in the tracker or by the Web AVM in Setup/Vehicles/zone place assign |

## 10.3 *General Alerts*

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| Power Fail | Main power has been removed from the Tracker | Set In Tracker | Vehicle Alerts | Y | Y | | Power Setup |
| Power Low | Main power is low (threshold set in tracker typically 10V) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | Power Setup |
| Power Recovered | Main power has recovered | Set In Tracker | Vehicle Alerts | Y | Y | | |
| Battery Backup Low | Internal battery backup is low | Set In Tracker | Vehicle Alerts | Y | Y | | Power Setup |
| Battery Backup OK | Internal battery backup has recovered | Set In Tracker | Vehicle Alerts | Y | Y | | Power Setup |
| Movement Sensor | Movement has been detected by movement sensor (Stolen Vehicle Tracking SVT alarm) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | Alarm Mode ( enable Movement Sensor) |
| Geofence Violate | Tracker has violated a geofence (geofence rule programmed into tracker I.e. speeding in a zone) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | This is configured by the Web AVM in Setup/Vehicles/zone place assign |
| Movement by GPS | Movement has been detected by GPS (SVT alarm) | Set In Tracker | Vehicle Alerts | Y | Y | | Alarm Mode ( enable SVT Alarm Mode Operation ) |
| GPS location change | Anchor watch has been triggered ( this is setup in the Tracker if the | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | Geofence: setup programmed in metres |

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| | tracker moves x metres without ignition on) | | | | | | |
| Driver Fatigue Alert | Driver fatigue rules have been violated (programmed into the tracker) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | Logging Options: allows you to program driving hours in maximum driving time in minutes and minimum rest time in minutes |
| Stationary | Vehicle has been stationary for more than threshold (programmed into the tracker) | Set In Tracker | Vehicle Alerts | Y | Y | | Logging Options: allows you to select when Ign is on and select the amount of time in minutes |
| GPS Failure Alert | Vehicle has been moving but GPS has failed to get lock (set at tracker) | Set In Tracker | Vehicle Alerts | Y | Y | | Advanced: |
| Start Speeding | vehicle has started speeding | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | Log Rate Setup: sets over speed alert in Klms |
| Extreme Acceleration | vehicle has accelerated faster than threshold (set in tracker uses the GPS and averages over 3 seconds) Not in V3.01 or later | Set In Tracker | Vehicle Alerts | Y | Y | | Crash detection: set as +g |
| Extreme Braking | vehicle has braked harder than threshold (set at tracker uses the GPS and averages | Set In Tracker | Vehicle Alerts | Y | Y | | Crash detection: set as -g |

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| | over 3 seconds) Not in V3.01 or later | | | | | | |
| Harsh Acceleration | vehicle has accelerated faster than threshold (set in tracker uses the GPS and averages over 3 seconds) | Set In Tracker | Vehicle Alerts | Y | Y | | Crash detection: set as +g |
| Harsh Braking | vehicle has braked harder than threshold (set at tracker uses the GPS and averages over 3 seconds) | Set In Tracker | Vehicle Alerts | Y | Y | | Crash detection: set as -g |
| Operation Outside Hours | vehicle has been operated outside of hours | Set In AVM | Vehicle Alerts | Y | Y | Chargeable | |
| GPS Ant Disconnected | GPS antenna has been disconnected | Set in Tracker | Vehicle Alerts | Y | Y | | |
| GPS Ant Shorted | GPS antenna has been short circuited | | Vehicle Alerts | Y | Y | | |
| GSM Ant Disconnected | GSM antenna has been disconnected ( Not used) | Not Used | Vehicle Alerts | Y | Y | | Connection Setup: |
| Ignition Disconnect | Ignition sense has been disconnected | Set in Tracker | Vehicle Alerts | Y | Y | | IO Setup: Ignition |
| Unit Reset | Unit has been reset (due to GSM) | | Vehicle Alerts | Y | Y | | |

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| Operate ignition outside hours | Vehicle ignition is active outside of hours (Future release) | Set In AVM | Vehicle Alerts | Y | Y | | |
| No driver logged in | No driver has logged on to vehicle | Set In Tracker | Vehicle Alerts | Y | Y | | Driver ID |
| High speed impact detected | High speed impact detected (Activated in accelerometer) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | Crash detection |
| Low speed impact detected | Low speed impact detected (Activated in accelerometer) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | Crash detection |
| High speed crash detected | High speed crash detected (Activated in accelerometer) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | Crash detection |
| Low speed crash detected | Low speed crash detected (Activated in accelerometer) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | Crash detection |

### 10.4 *General I/O Alerts*

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| Sensor 1 Alert | vehicle input set to generate an alert (i.e. something other than a panic button) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | IO Setup |

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| Sensor 2 Alert | vehicle input set to generate an alert (i.e. something other than a panic button) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | IO Setup |
| Sensor 3 Alert | vehicle input set to generate an alert (i.e. something other than a panic button) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | IO Setup |
| Sensor 4 Alert | vehicle input set to generate an alert (i.e. something other than a panic button) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | IO Setup |
| Sensor 5 Alert | vehicle input set to generate an alert (i.e. something other than a panic button) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | IO Setup |
| Sensor 6 Alert | vehicle input set to generate an alert (i.e. something other than a panic button) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | IO Setup |
| Sensor 7 Alert | vehicle input set to generate an alert (i.e. | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | IO Setup |

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| | something other than a panic button) | | | | | | |
| Sensor 8 Alert | vehicle input set to generate an alert (i.e. something other than a panic button) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | IO Setup |
| Sensor 9 Alert | vehicle input set to generate an alert (i.e. something other than a panic button) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | IO Setup |

## 10.5 *IVMS Alerts*

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| Sensor 1 Vehicle moving | vehicle moving with an input active (i.e. seat belt) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 2 Vehicle moving | vehicle moving with an input active (i.e. seat belt) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 3 Vehicle moving | vehicle moving with an input active (i.e. seat belt) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 4 Vehicle moving | vehicle moving with an input active (i.e. seat belt) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 5 Vehicle moving | vehicle moving with an input active (i.e. seat belt) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 6 Vehicle moving | vehicle moving with an input active (i.e. seat belt) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| Sensor 7 Vehicle moving | vehicle moving with an input active (i.e. seat belt) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 8 Vehicle moving | vehicle moving with an input active (i.e. seat belt) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 9 Vehicle moving | vehicle moving with an input active (i.e. seat belt) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Start Speeding in zone | vehicle has started speeding in a geofence (geofence rule programmed into tracker I.e. speeding in a zone) | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | This is configured by the Web AVM in Setup/Vehicles/zone place assign |
| Stop Speeding in zone | vehicle has stopped speeding in a geofence (geofence rule programmed into tracker | Set In Tracker | Vehicle Alerts | Y | Y | Chargeable | This is configured by the Web AVM in Setup/Vehicles/zone place assign |

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| | I.e. speeding in a zone) | | | | | | |
| Sensor 1 With Ignition off | vehicle has an input active while the ignition is off (i.e. handbrake) | Set In Tracker | Vehicle Alerts | Y | Y | [redacted] | Input Combination |
| Sensor 2 With Ignition off | vehicle has an input active while the ignition is off (i.e. handbrake) | Set In Tracker | Vehicle Alerts | Y | Y | [redacted] | Input Combination |

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| Sensor 3 With Ignition off | vehicle has an input active while the ignition is off (i.e. handbrake) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 4 With Ignition off | vehicle has an input active while the ignition is off (i.e. handbrake) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 5 With Ignition off | vehicle has an input active while the ignition is off (i.e. handbrake) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 6 With Ignition off | vehicle has an input active while the ignition is off (i.e. handbrake) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 7 With Ignition off | vehicle has an input active while the ignition is off (i.e. handbrake) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 8 With Ignition off | vehicle has an input active while the ignition is off (i.e. handbrake) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 9 With Ignition off | vehicle has an input active while the ignition is off (i.e. handbrake) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 1 With Other | vehicle has 2 inputs active at the same | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| | time (i.e. door open and handbrake is off) | | | | | | |
| Sensor 2 With Other | vehicle has 2 inputs active at the same time (i.e. door open and handbrake is off) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 3 With Other | vehicle has 2 inputs active at the same time (i.e. door open and handbrake is off) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 4 With Other | vehicle has 2 inputs active at the same time (i.e. door open and handbrake is off) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 5 With Other | vehicle has 2 inputs active at the same time (i.e. door open and handbrake is off) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 6 With Other | vehicle has 2 inputs active at the same time (i.e. door open and handbrake is off) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 7 With Other | vehicle has 2 inputs active at the same time (i.e. door open and handbrake is off) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |
| Sensor 8 With Other | vehicle has 2 inputs active at the same time (i.e. door open and handbrake is off) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |

| Alert | Meaning | WEB AVM Alert | Alert Type | Email | Reports | SMS | Tracker Config Location |
|---|---|---|---|---|---|---|---|
| Sensor 9 With Other | vehicle has 2 inputs active at the same time (i.e. door open and handbrake is off) | Set In Tracker | Vehicle Alerts | Y | Y | | Input Combination |

## 10.6 *IVMS Alerts and Alarms and what do they mean*

| Type of Alert / Alarm | Reason |
|---|---|
| Hand Brake off with Ignition off | |
| Power Fail | |
| Power restored | |
| Sensor 5 with Ignition | |
| Sensor 5 with other input active | |
| Emergency Set | |
| Emergency Clear | |
| Vehicle Roll over detected | |
| Sensor 6 While Vehicle moving | Seat Belt off while vehicle moving. |
| Speeding: 115.4 Km/h | Vehicle Speeding over set threshold. |
| GPS Antenna Disconnected | |
| Ignition Sense Disconnected | |

## 10.7 *IVMS Alerts and Alarms and what do they mean*

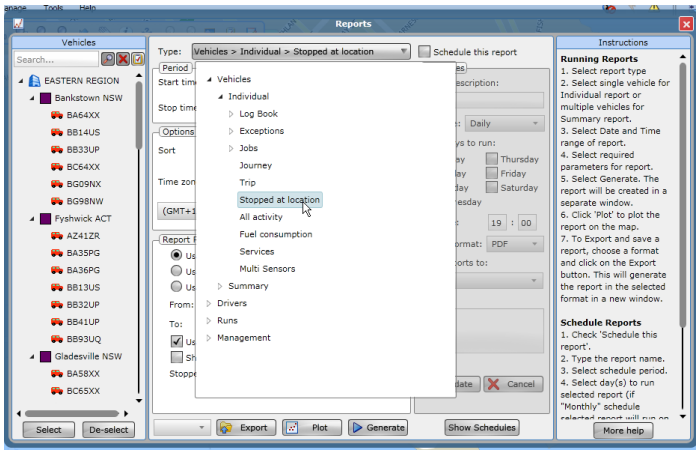
| Type of Alert / Alarm | Reason |
|---|---|
| Hand Brake off with Ignition off | |
| Power Fail | |
| Power restored | |
| Sensor 5 with Ignition | |
| Sensor 5 with other input active | |
| Emergency Set | |
| Emergency Clear | |
| Vehicle Roll over detected | |
| Sensor 6 While Vehicle moving | Seat Belt off while vehicle moving. |
| Speeding: 115.4 Km/h | Vehicle Speeding over set threshold. |
| GPS Antenna Disconnected | |
| Ignition Sense Disconnected | |

### 10.8 *AVM Tip: Creating Zones or Places*

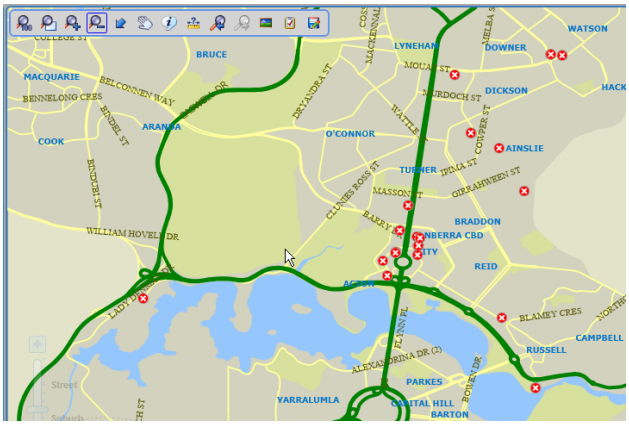
Somtimes it is difficult to find the exact location on the map when trying to create a place or zone. If you have a vehicle already operting the route running a stopped or all activity report can help you easily identify a location on a map.

**Step 1:**

Run a stopped at location reprot for a vehicel that you know operates in the area you want to geofence. Choose the ‘Plot’ option for map generation.




This will plot all stops on the map based on the parameters you selected.



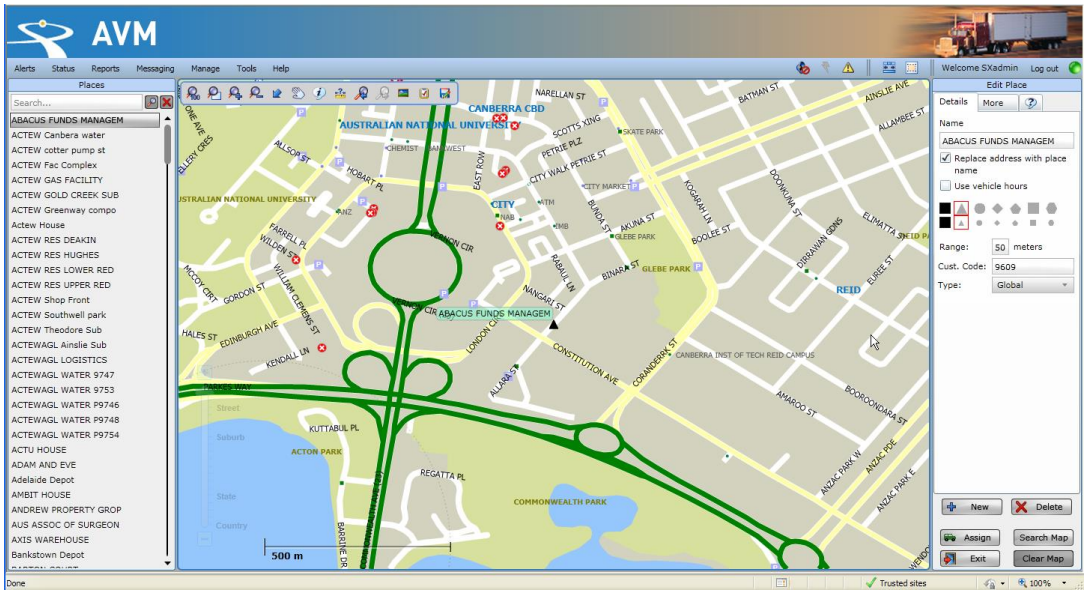

**Step 2:**

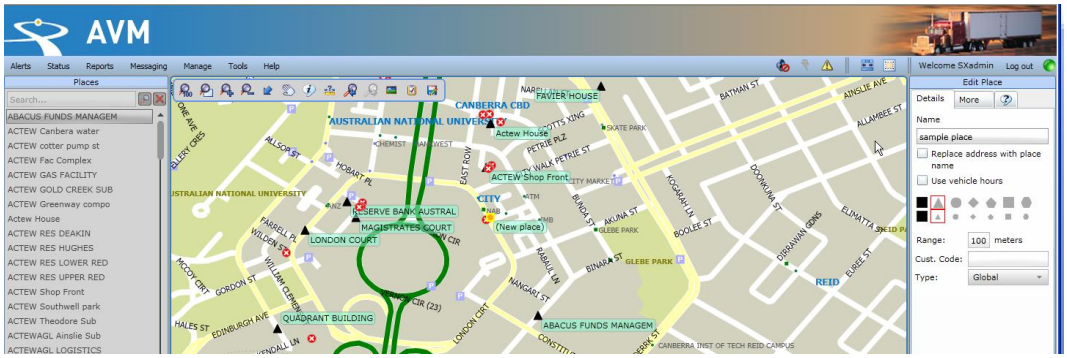
Navigate to Manage/Places (or Zones). Note that the plotted stopped location remain on the map.

You can use these points as a way of finding the correct location toe create your place (or zone).

Follow the place creation process to create your places on the choosen stopped point.

Clear the map of the reprot data by clicking on the clear map button located in the right hand panel of the screen.




If you are creating a zone you may find the “All Activity Report” more useful as this will show a vehicle enter/exit and activity inside a zone location more clearly.

1. Run an “Activity Report” and plot the report
2. Go to Manage/Zones
3. Fins zone area you need to geofence
4. Create your zone.

## 11 GLOSSARY

| **Table of Acronyms** | |
|---|---|
| AVM | Advanced Vehicle Manager |
| GPRS | General Packet Radio Service |
| FMS | Fleet Management System |
| IVU | In-Vehicle Unit |
| AVL | Automatic Vehicle Location |
| GPS | Global Positioning Satellite |
| GSM | Global System for Mobile Communications |
| FMS | Fleet Management System |
| IAP | Intelligent Access Program |
| IVMS | Intelligent Vehicle Management System |