Table of Contents

1 Introduction to Adaptive Lighting Platform

1.1 Overview

Adaptive Lighting Platform allows users to configure adaptive lighting based on traffic and/or weather data. The platform supports physical sensor and online traffic/weather data to control the lights.

1.2 User roles and rights

Adaptive Lighting Platform supports below user roles. The table below gives overview of user roles and accessibility.

User Role	Access Dashboard	User management	Download log	Dashboard user management	Configuration changes
Owner	Y	Y	Y	Y	Y
User	Y	Y	Y	N	N

The description of user role and their rights:

- User: This is an ideal role for viewing and monitoring the Dashboard.
- Owner: This role is for the customer who is also responsible for configuring Adaptive Lighting as per the needs. The user can perform all actions as mentioned in the User role table.

1.3 System requirements

The recommended browsers are:

- Google Chrome: Version 119.0.6045.200
- Microsoft Edge: Version 119.0.2151.97
- Firefox: Version 120.0.1
- Safari (macOS): Version 16.4

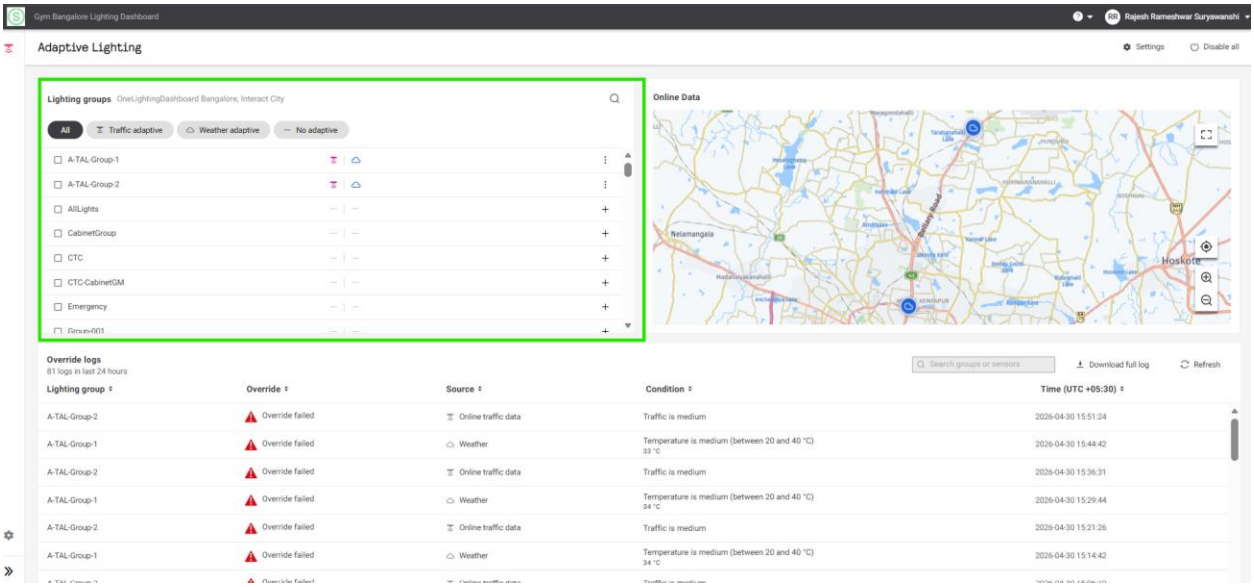
2 Adaptive Lighting Overview page

The user sees overview page when login. Overview page shows

- Lighting groups
- Sensors on map view and
- Override logs for last 24 hours

2.1 Lighting groups

The Lighting groups shows all the groups present in Lighting Management System (Interact City and/or Telensa PLANet).



2.1.1 Filters

The user can use filter buttons on top to filter the groups.

- All
  Shows all the lighting groups, irrespective of whether they are configured or not.

- Traffic adaptive
  Shows all the lighting groups configured for Traffic Adaptive Lighting.

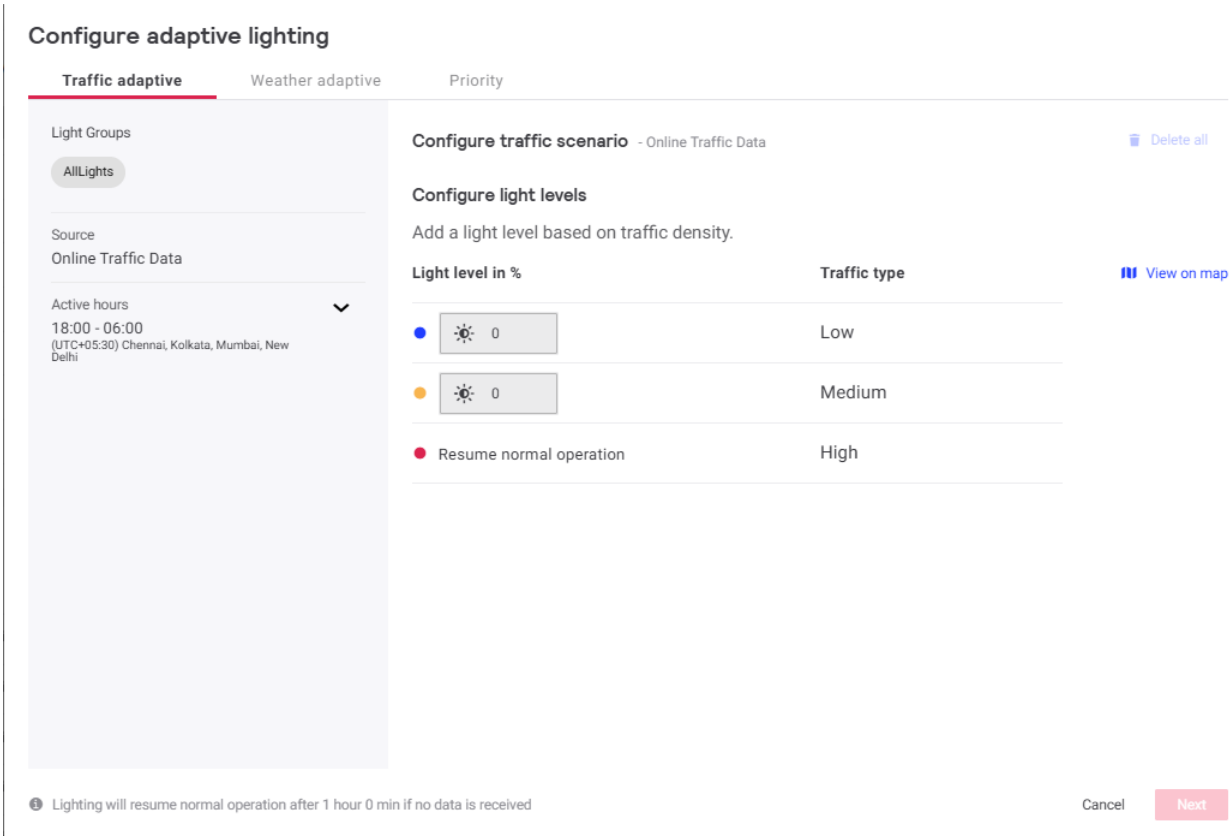
- Weather adaptive
  Shows all the lighting groups configured for Weather Adaptive Lighting.

- No adaptive
  Shows all the lighting groups that are not yet configured for Traffic or Weather Adaptive Lighting.

If the group is configured for Traffic and/or Weather Adaptive Lighting, Sensor and/or Weather icon is shown against the group.

2.1.2 Configure Traffic Adaptive Lighting (Based on Online Traffic Data)

To configure Traffic Adaptive Lighting group, select “+” icon against the group and select "Configure” option. Configure adaptive lighting page will be shown. Select tab “Traffic adaptive”. Users can select following options.



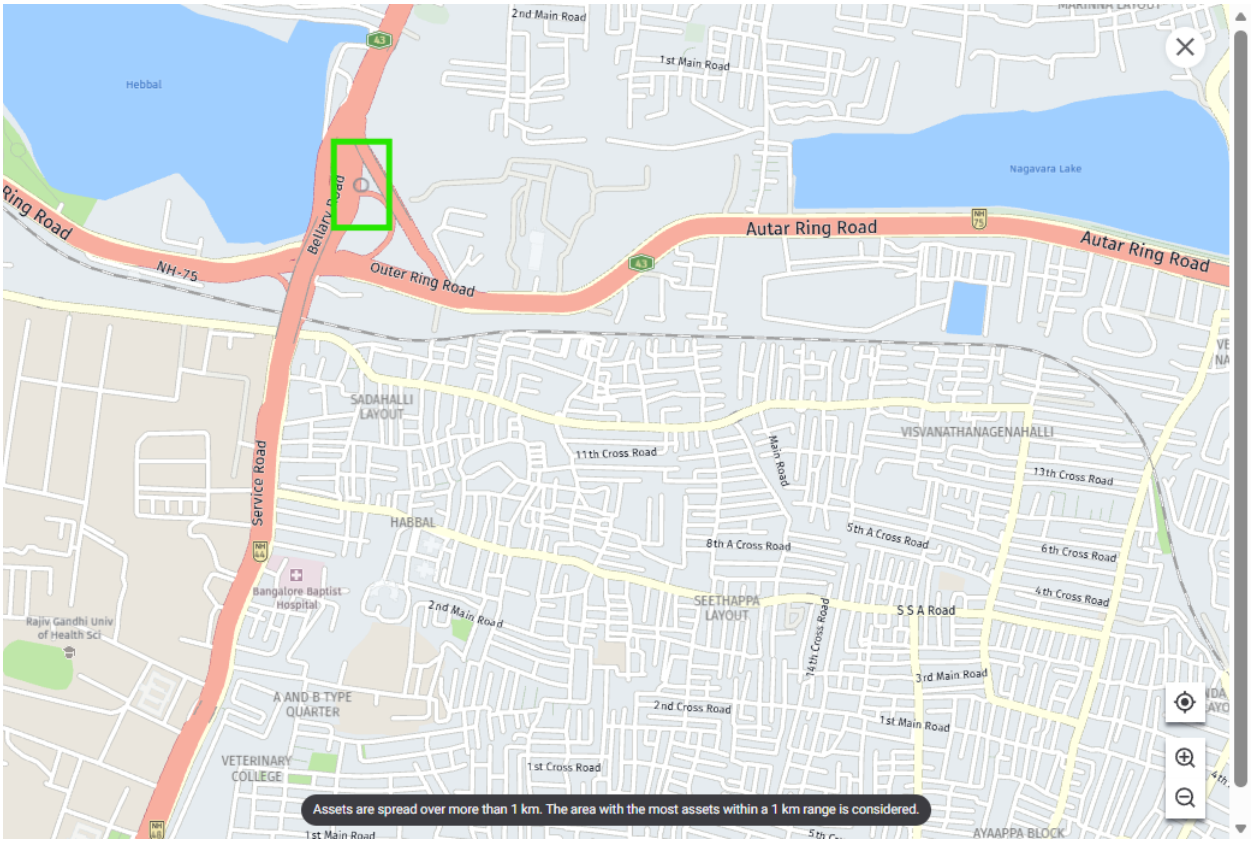
Active hours:

- Active hours
  Select this option if Adaptive Lighting shall be active fixed time.

- Sunset / Sunrise
  Select this option if Adaptive Lighting shall be active based on Sunset / Sunrise time. Users can provide offset.

Configure light levels:
Select light level in percentage for “Low”, and “Medium” traffic. For “High” traffic, system always go back to scheduler/calendar mode.

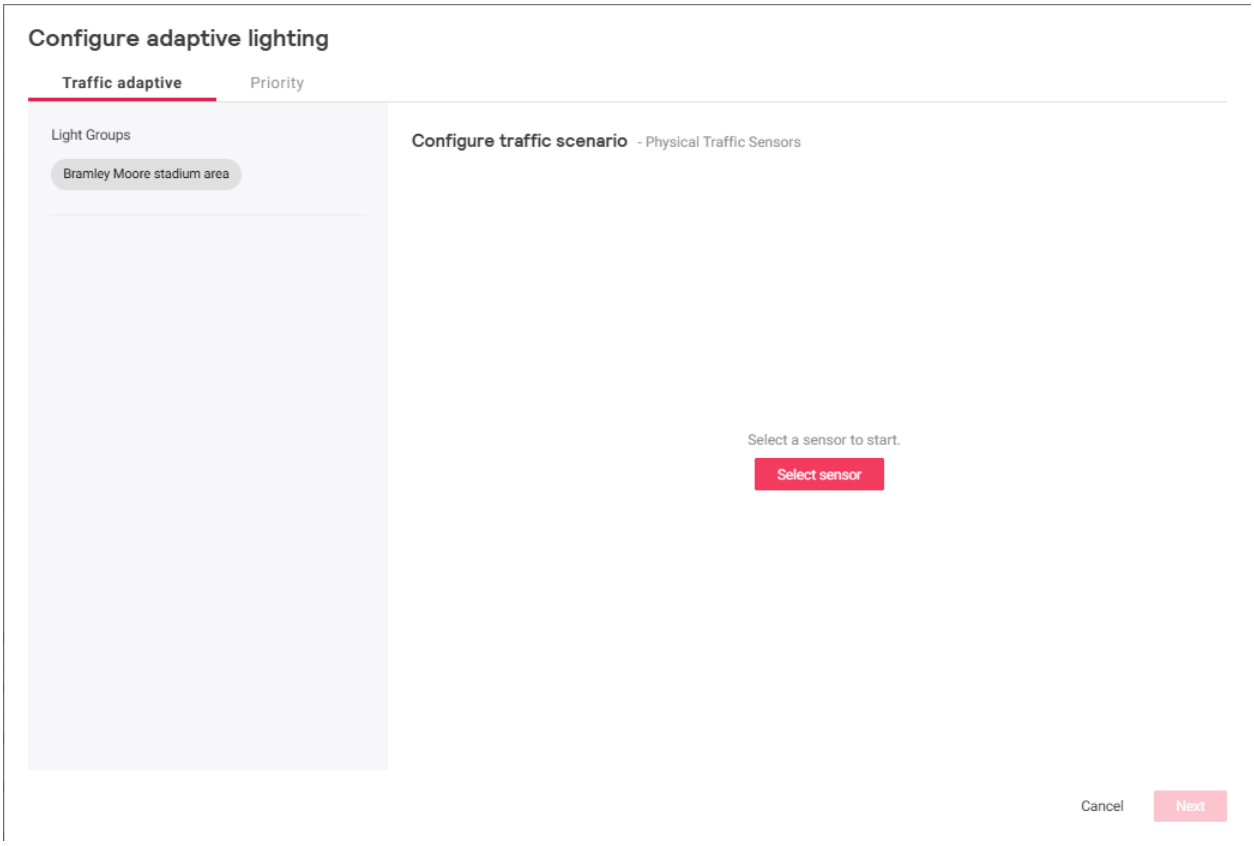
User can see all the assets on map view by clicking “View on map” icon as shown below.



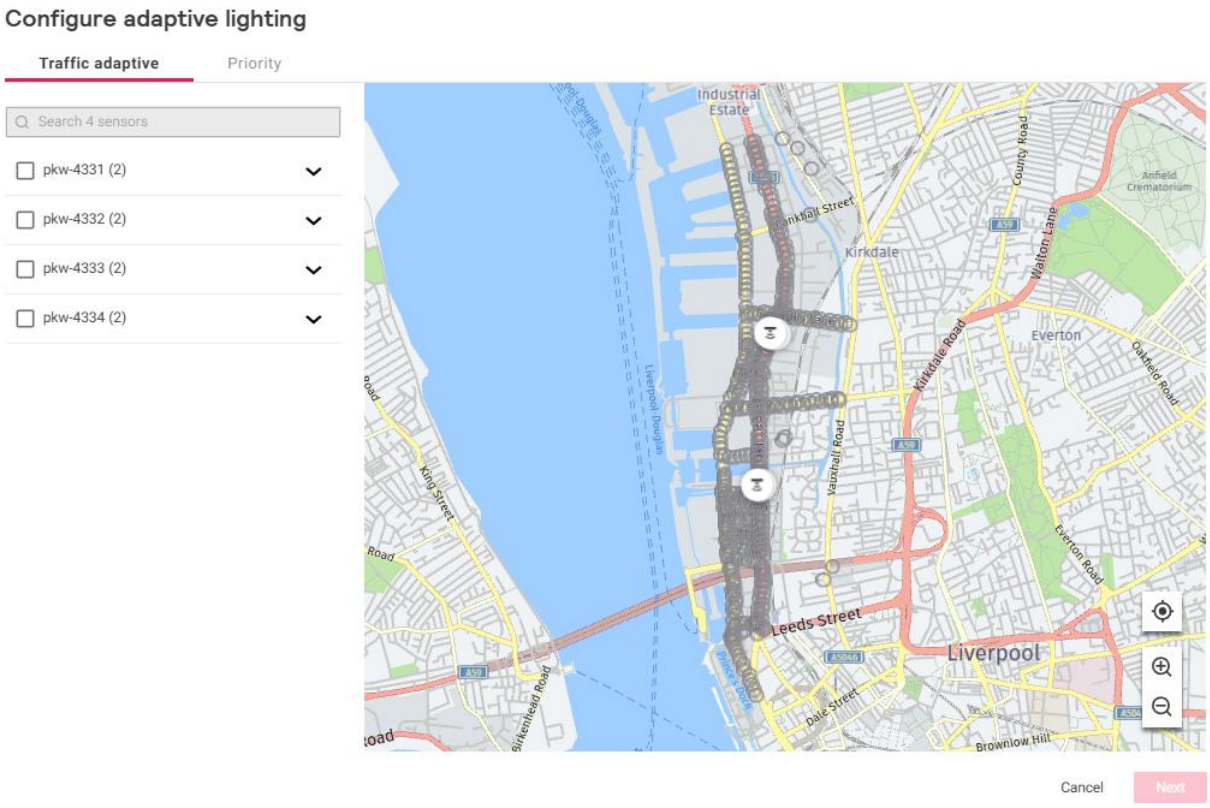
2.1.3 Configure Traffic Adaptive Lighting (Based on Physical Sensor)

To configure Traffic Adaptive Lighting group, select “+” icon against the group and select "Configure” option. Configure adaptive lighting page will be shown. Select tab “Traffic adaptive”.

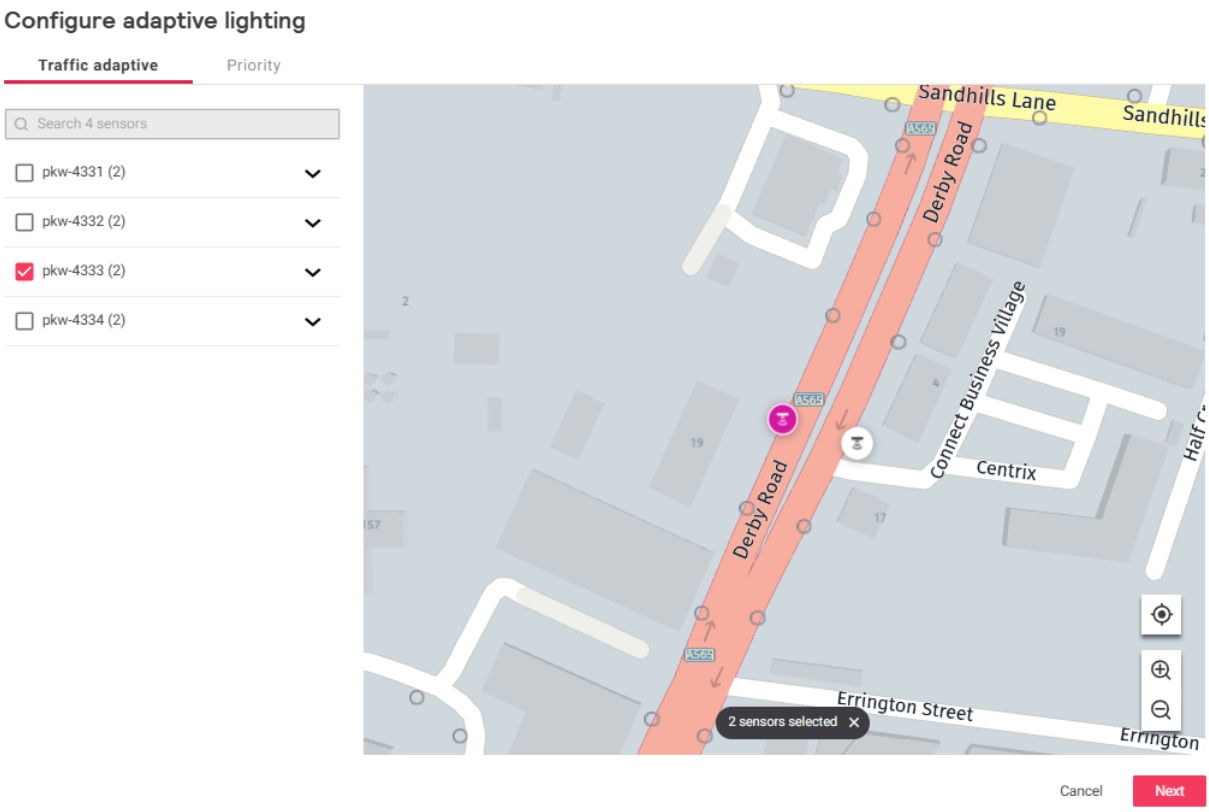
First select the sensor button.



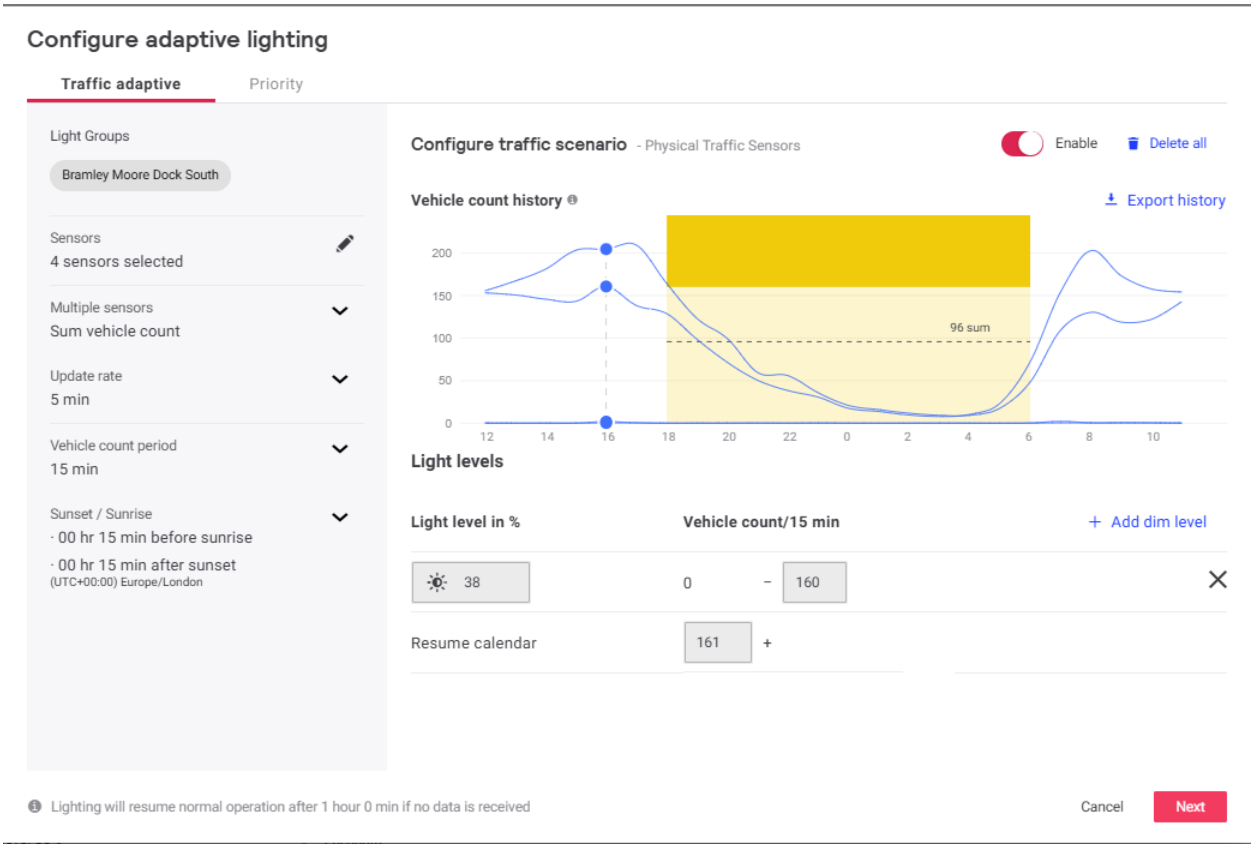
The sensor list page will be displayed.



The user can select one or more sensors. The sensor list on the left and icon on the map view are interactive. The user can either select from the list or select from the map.



Once the sensor(s) are selected, press next button to go to the next configuration.



The user is provided with multiple options to configure. Here are the details.

- Sensors
  It shows the number of sensors selected in the previous step. The user can modify sensor selection by clicking on edit button, it will take to the previous step.

- Multiple sensors
  This option allows users to configure how data is treated. Three options are provided
  1. Average vehicle count: Averaged vehicle counts for vehicle count period.
  2. Max vehicle count: Maximum vehicle counts for vehicle count period.
  3. Sum vehicle count: Sums the vehicle counts for vehicle count period.

  Here is illustration example (assuming “Update rate” is 5 min and “Vehicle count period” is 15 min).

- Update rate
  It is the frequency at which sensor data is fetched/received. The default value is 5 min.

- Vehicle count period
  It is period in which sensor data is observed and calculated based on option user has selected (average, sum, max) and checked against the configuration. For example, if the Vehicle count period is 15 minutes, sensor data is calculated every 15 min.

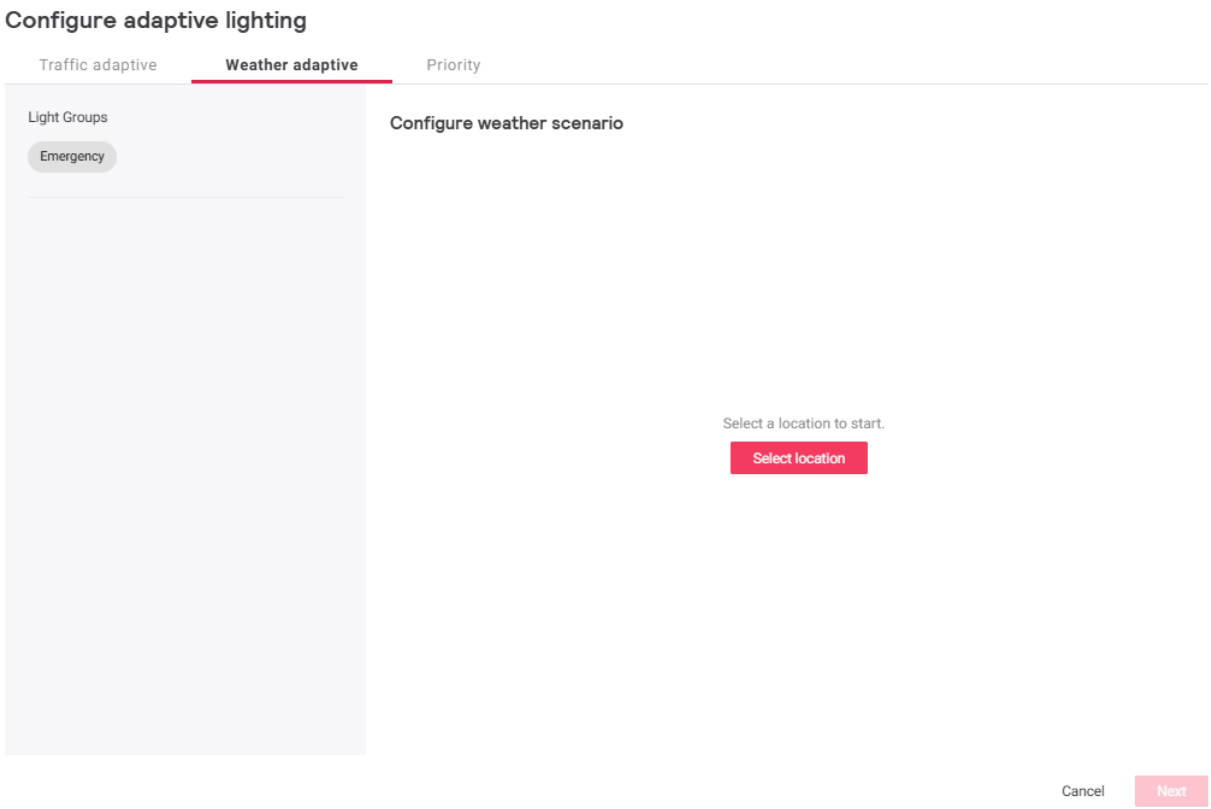
- Active hours
  Select either fixed active period or based on sunset/sunrise
  1. Active hours: Select this option if Adaptive Lighting shall be active fixed time.
  2. Sunset / Sunrise: Select this option if Adaptive Lighting shall be active based on Sunset / Sunrise time. Users can provide offset.

Light levels:
Click on “Add dim level” and configure light level in percentage for vehicle count. The user can add maximum 3 dim levels.

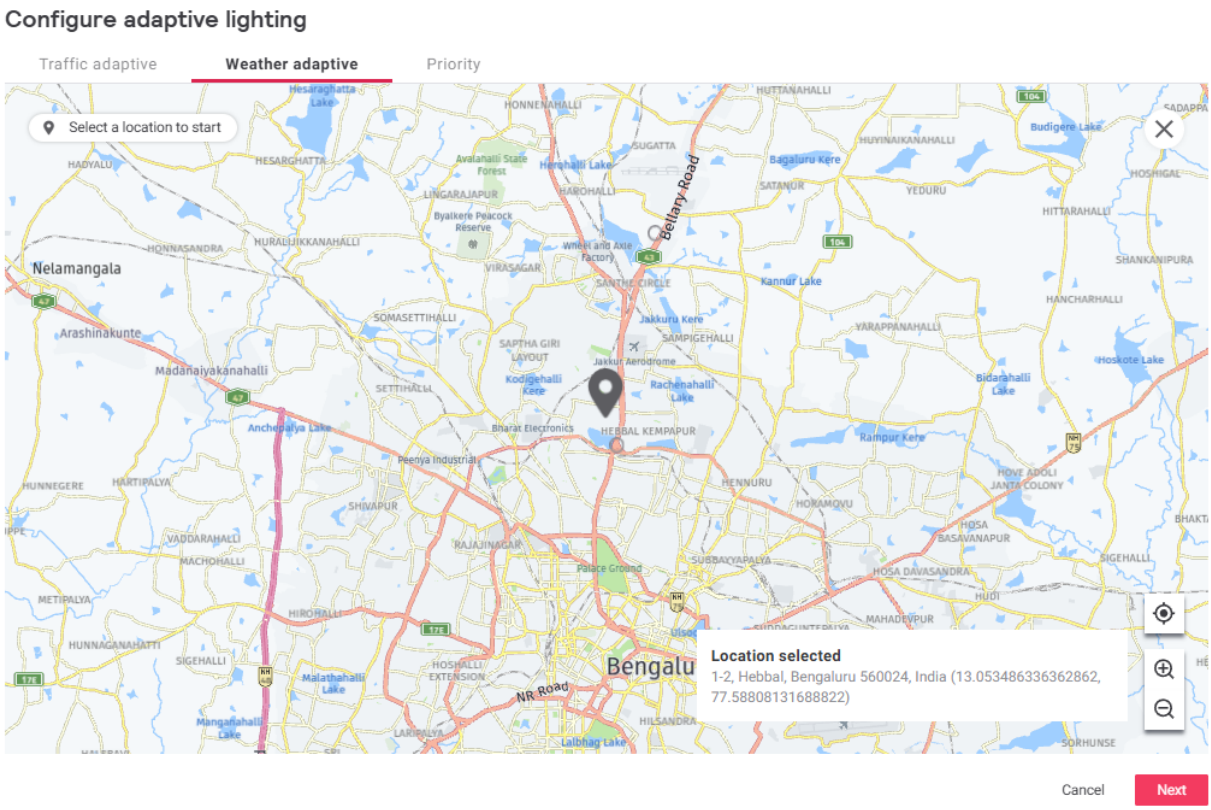
Vehicle count history:
The visual shows hourly vehicle count history wise for last 7 days.

2.1.4 Configure Weather Adaptive Lighting (Based on Online Traffic Data)

To configure Weather Adaptive Lighting group, select “+” icon against the group and select "Configure” option. Configure adaptive lighting page will be shown. Select tab “Weather adaptive”. Users can select following options.



The Light Groups will show the selected group name. Click on Select location to select the weather location. A map view will appear, select nearby asset’s location and confirm the location by clicking on “Next” button.

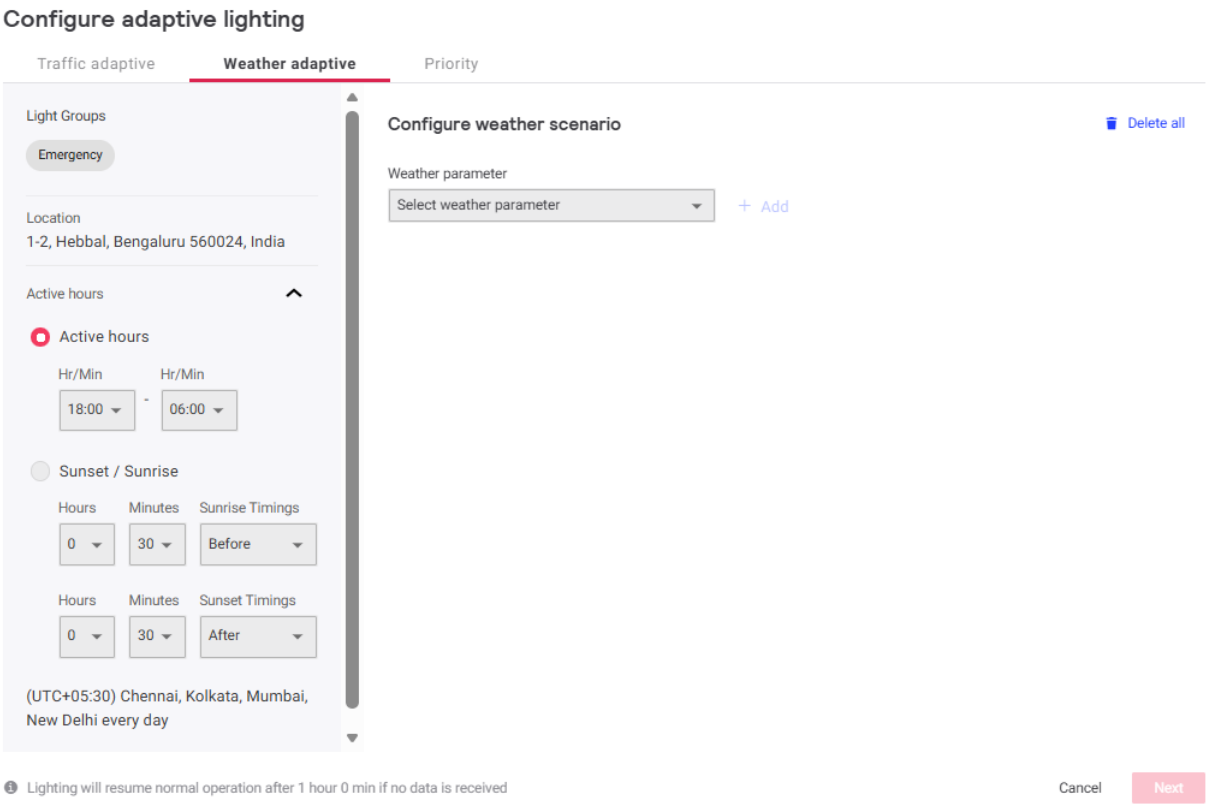


Then select the Active hours. Weather Adaptive Lighting will be active only during the defined time. The user can select fixed time or dynamic time based on sunset/sunrise time.

Active hours:

- Active hours
  Select this option if Adaptive Lighting shall be active fixed time.

- Sunset / Sunrise
  Select this option if Adaptive Lighting shall be active based on Sunset / Sunrise time. Users can provide offset.



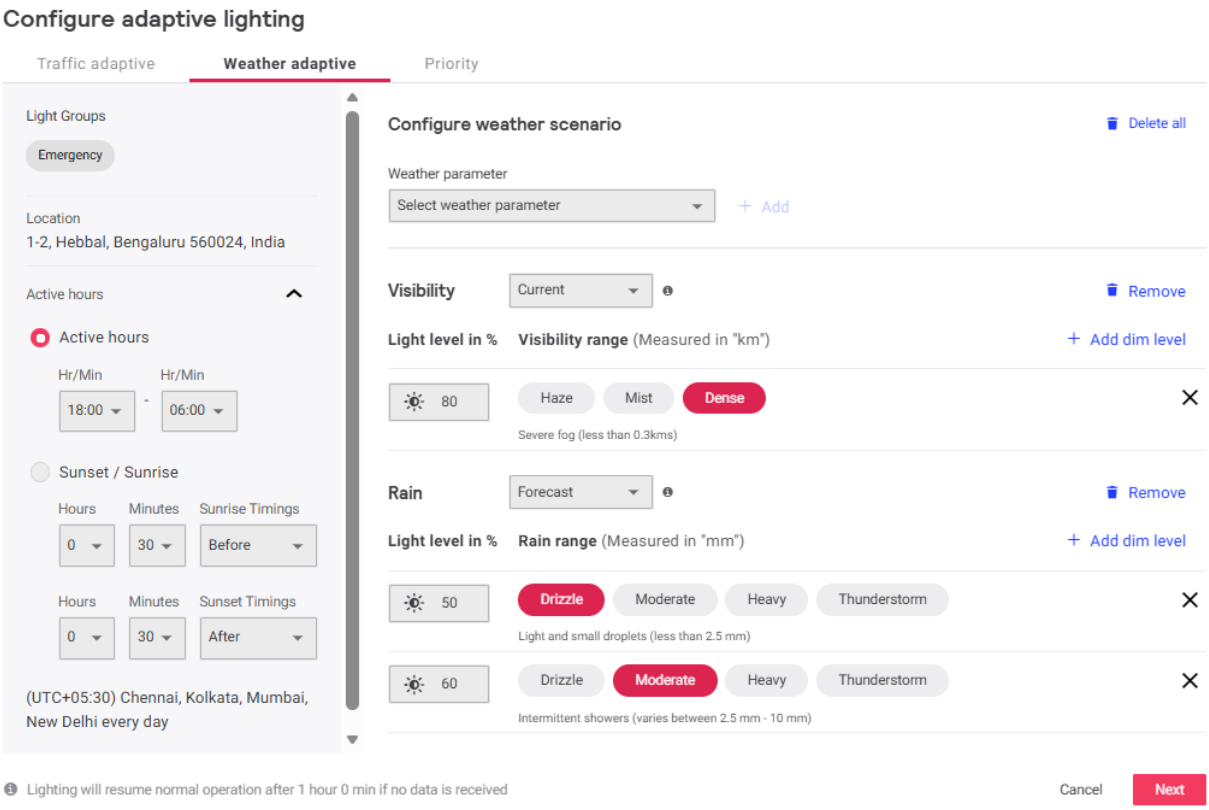
The next step is to configure light level based on applicable weather parameters. The Weather Adaptive Lighting supports following weather parameters, current and forecast.

- Humidity
- Rain
- Snow
- Temperature
- Visibility

Follow the steps to add weather parameters and light levels.

- Select weather parameter from the supported weather parameters and then click add
- The added weather parameters will be visible immediately in the UI
- Select Current or Forcast option for the selected weather parameter
- Then click on “Add dim level”, the UI will provide light level and weather parameters range options to select from.
- Configure the light level and select the range option and then confirm selection by selecting correct icon.

For example, below screen show light level based on Visibility and Rain weather parameters.



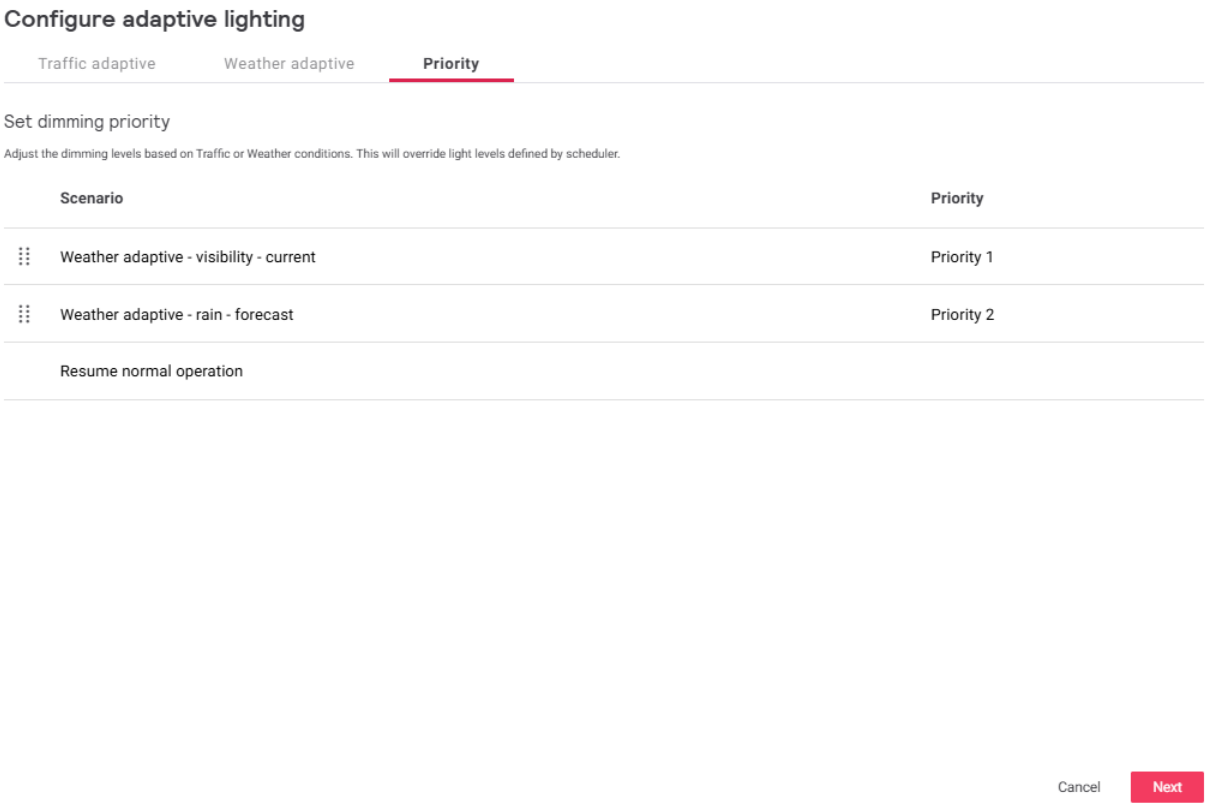
Select “Next” button once configuration is done.

2.1.5 Define priority

Users need to define priority in case

- Both Traffic and Weather Adaptive Lighting is configured or
- Multiple weather parameters are configured in case of only Weather Adaptive Lighting

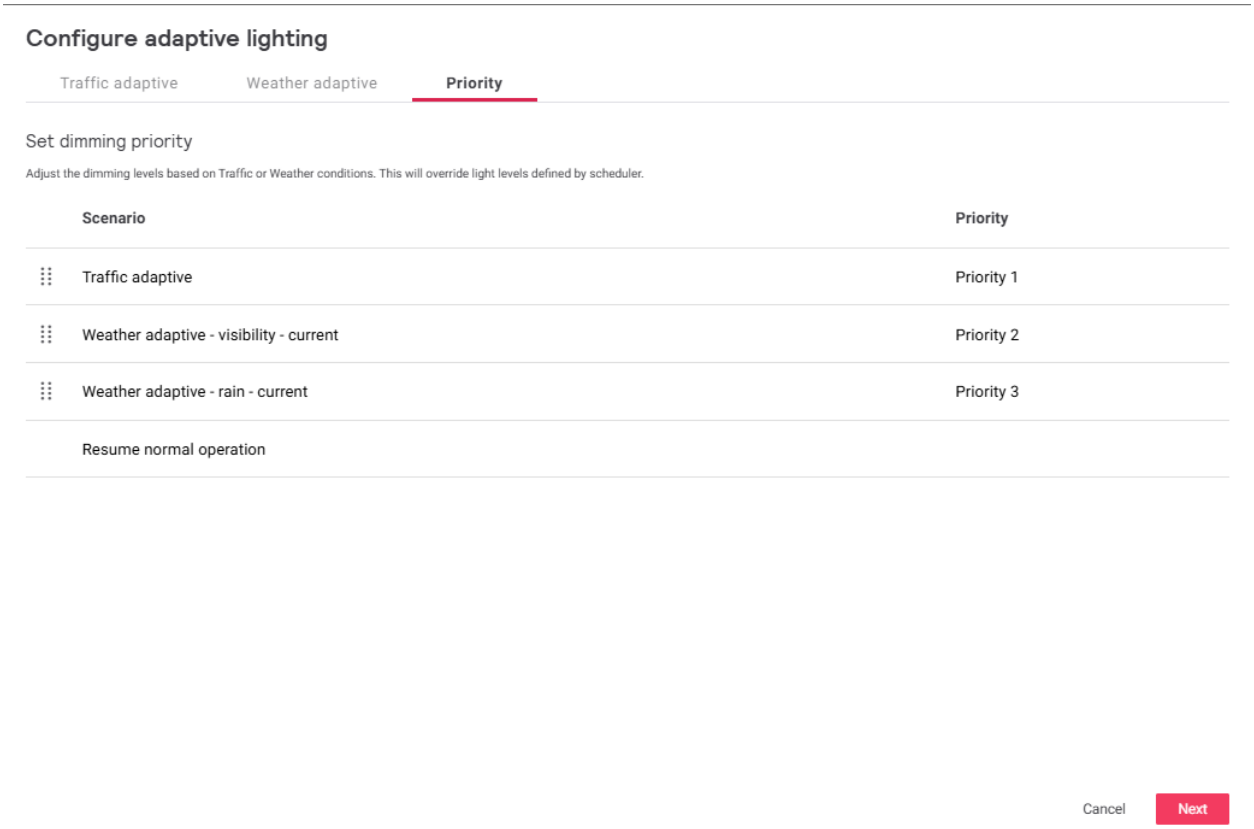
Select Tab Priority to define the priority. Below screen shot shows only Weather Adaptive Lighting configuration with two weather parameters configured, Visibility and Rain. Visibility has higher priority than Rain.



Here is how priority works:

- Application will first look into priority 1 parameter (Visibility in above screen shot), if conditions meet, light level associated with it will be executed. Application keeps the light level defined by priority 1 parameter until the condition does not meet anymore.
- Application will then look into the next priority parameter (Rain in above screen shot). If the conditions meet, light level associated with it will be executed. If not, it will go the next priority parameter. If there are no further priority parameters, it will go to schedule mode.
- At any moment, higher priority parameter condition is met, application will immediately go to light level defined by associated parameter.

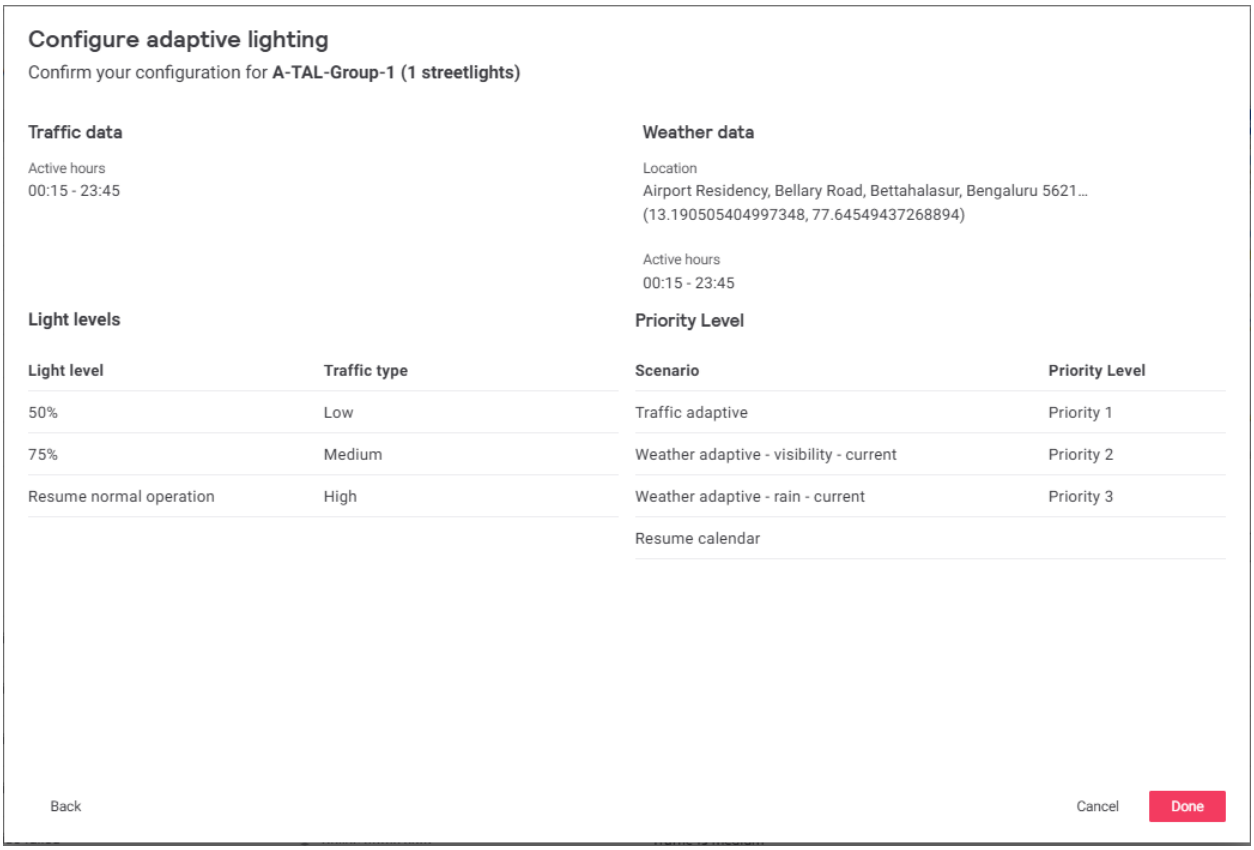
Below screen shot shows the priority when both Traffic and Weather Adaptive Lighting is configured.



Note: User can modify priority by moving parameters up and down using the mouse.

2.1.6 Adaptive Lighting Configuration Overview confirmation

After configuring the adaptive lighting, use get the overview of all the configuration. It is advisable to check all the details before confirming the changes.



2.2 Online Data (Map widget)

2.3 Override logs

Override logs view shows override details as part of traffic and weather adaptive lighting.

2.3.1 Filters

2.3.2 XXX