



## Transportation Master Plan for Qatar Strategic Transportation Model

### Book Five: The Manual

### QABM Qatar Transport Model Visualizer (QTMV)

### Part 1 – User Guide

December 2020

نقل متكامل ومستدام للجميع  
INTEGRATED & SUSTAINABLE TRANSPORT FOR ALL





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قامت وزارة المواصلات والاتصالات بإعداد هذا التقرير وفقاً لأحدث الممارسات العالمية في هذا المجال وبناءً على المعلومات، الإحصائيات والبيانات المتوفرة عند إعداد هذا التقرير. وعليه يجب التأكيد على أن وزارة المواصلات والاتصالات، لا تجيز أو تتعهد أو تُصدق على أن تكون المعلومات المتضمنة في هذا التقرير خالية من أي نوع من العيوب أو القصور.

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يجب التقدم بطلب رسمي من وزارة المواصلات والاتصالات في دولة قطر للحصول على النسخة الأولى من هذا التقرير. يجوز للمستخدم عرض محتويات التقرير ونسخها وطباعتها لاستخدام الخاص فقط، شريطة أن تحمل جميع النسخ والمطبوعات الخاصة بالمحتويات حقوق النشر وإشعارات الملكية وإخلاء المسؤولية الأخرى المعروضة على التقرير. كما لا يجوز للمستخدم الإعلان أو نشر أو الإفصاح عن البيانات و / أو الكشف عن أي معلومات مدرجة في هذا التقرير على الإطلاق دون موافقة كتابية مسبقة من قبل وزارة المواصلات والاتصالات

بالنسبة إلى التغييرات أو الإصدارات المستقبلية، ستقوم الوزارة بتوفيرها ويمكن الحصول عليها من خلال الاتصال بالإدارة المخولة في الوزارة. وعليه يتوجب على المستخدم التحقق بشكل متواصل بأن لديهم أحدث إصدار من هذا التقرير.

**ملاحظة:** ستقوم وزارة المواصلات بمواصلة تحديث وتعديل هذا التقرير مع الأخذ بعين الاعتبار النظريات الجديدة وأحدث الأساليب التكنولوجية والمواضيع المُستجدة التي تتعلق بتخطيط وتحليل وتصميم أنظمة النقل والمرور.

إن وزارة المواصلات والاتصالات تشجع المستخدم على تقديم الملاحظات والاقتراحات والتعليقات وردود الأفعال وذلك من خلال قنوات الاتصال الخاصة بالوزارة حيث سوف يتم مراجعة هذه الملاحظات والاقتراحات ومن ثم تقييمها وإمكانية إدراجها ضمن الإصدار القادم من التقرير.

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# ABBREVIATIONS

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## Abbreviations

<b>API</b>	<b>Application Programming Interface</b>
<b>GIS</b>	<b>Geographic Information System</b>
<b>IIS</b>	<b>Internet Information Services Web Server</b>
<b>MIME</b>	<b>Multipurpose Internet Mail Extensions</b>
<b>MOTC</b>	<b>Ministry of Transportation &amp; Communication</b>
<b>QABM</b>	<b>Qatar Activity Based Model</b>
<b>QTMV</b>	<b>Qatar Transport Model Visualizer</b>







# SECTION - 01

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## INTRODUCTION





## 1. Introduction

The QABM Qatar Activity-Based Models is using and producing many GIS-based information for which:

- The Linkage Tool was developed to exchange data between the QABM and the Qatar Transport Model Visualizer (QTMV) or any GIS System.
- QTMV was made to display QABM input and output data (exchanged through the Linkage Tool) in maps, tables, and graphs. The QTMV is a Web-based Portal and it can also visualize data produced by any GIS System in respect of the defined requirements and standards.

The QTMV allows the users to select single or multiple sets of information displayed in maps, tables, and graphs.

The navigation is user-friendly and in principle does not require any specific knowledge on the ABM.

The QTMV Manual is divided in three parts, as follow:

Part No.	Name	Scope
1	User Guide	This part is for any user to surf the QTMV web portal, search and visualize the requested information.
2	Installation Guide	This part is for advanced users to install and configure the QTMV.
3	Dictionary	This part provides the comprehensive data structure stored in the Geodatabase.

The purpose of this Part 1 is to give details on how to access and surf through the QTMV web server. The Manual explains which type of information is possible to display and how.

The Intended Audience for this Visualizer is any user admitted by MOTC permissions.



# SECTION - 02

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## SYSTEM ACCESS





## 2. System access

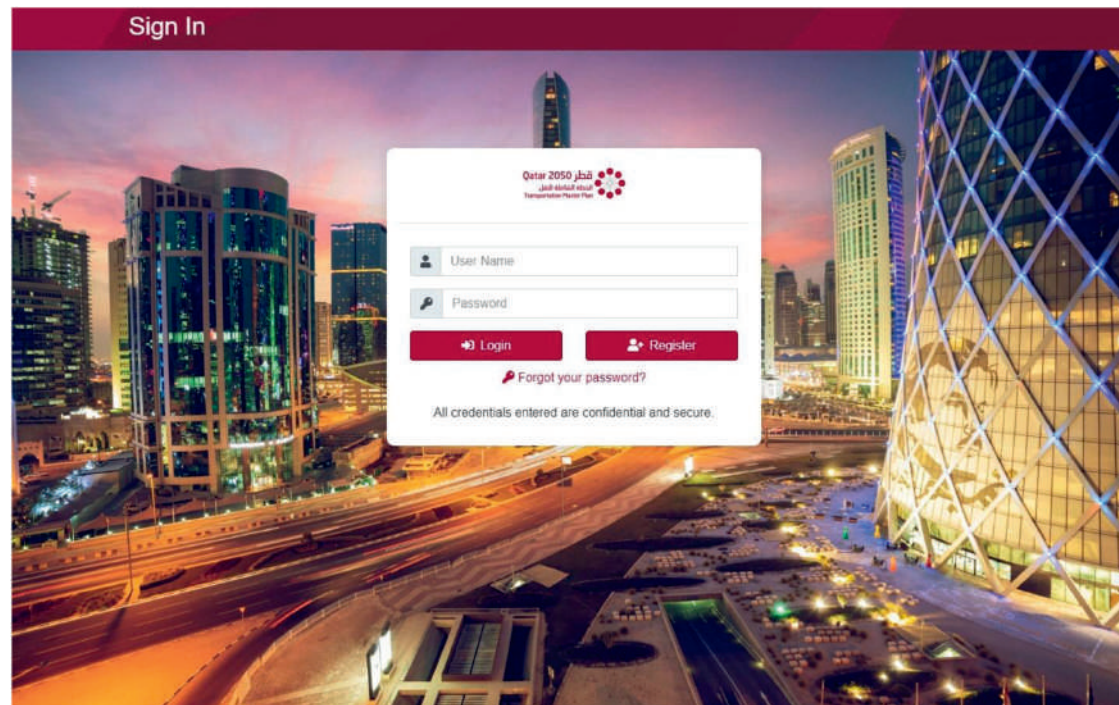
### 2.1. Login

To login to the QTMV portal, the user must be registered on the system.

Users can register themselves as shown in the next section and the system administrator can register and add new users to the system as well.

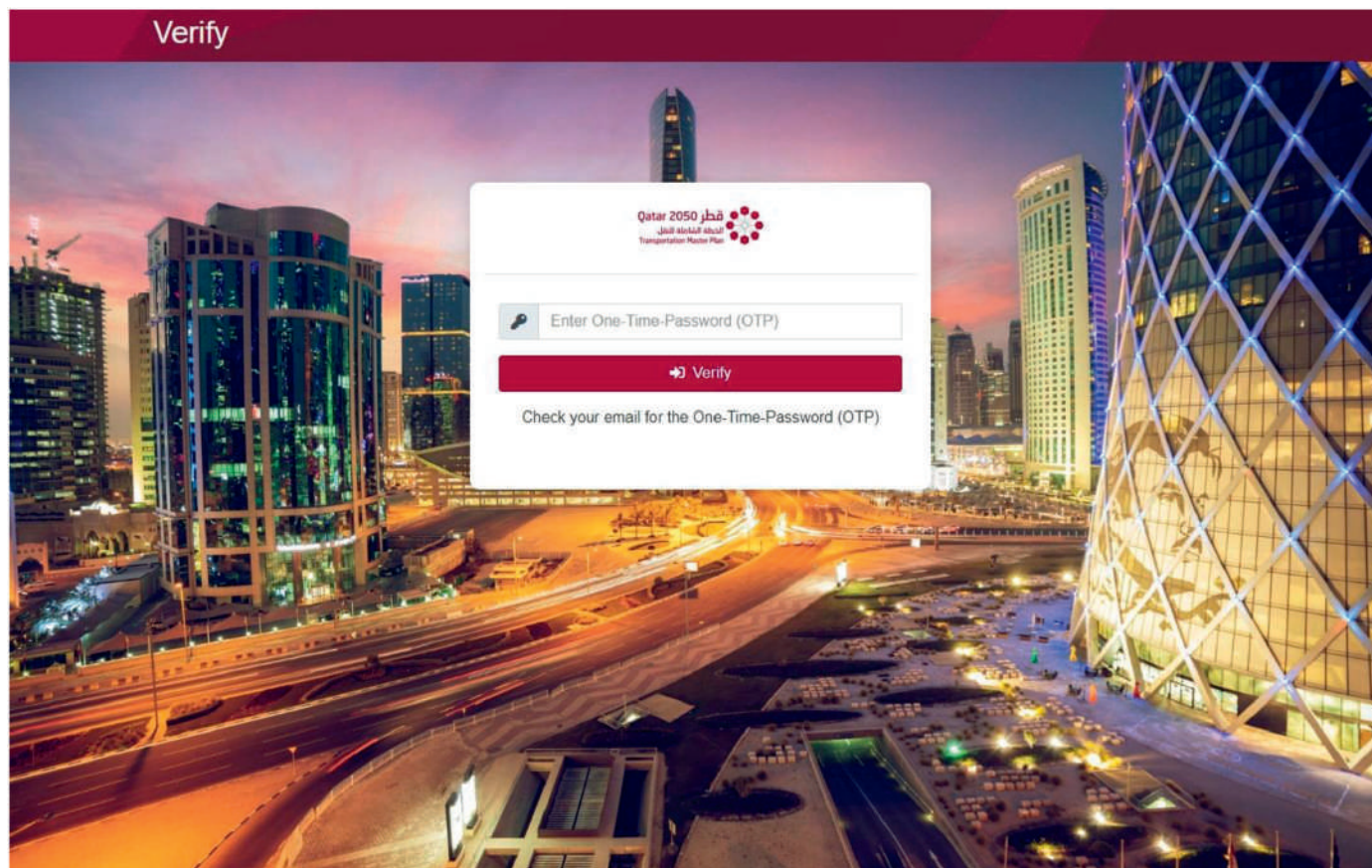
It is simply needed to enter the credentials in the screen below to access the system.

Users who are configured to user Active Directory Authentication must use their domain username and password to access the system.



## 2.2. One Time password (OTP) Authentication

If the One Time Password (OTP) feature is enabled, the requester will receive an Email from the system shortly which contains 4 digits OTP to be entered as shown in the below. Then, the authentication process to access the system is completed.





### 2.3. User Registration

Any user can simply register by clicking on the "Register" button located in the Login screen and by filling the requested information shown in the screen below.

Once a user submits the registration form, the system administrator will receive an Email to verify and assign the appropriate user permissions, if accepted.

Afterwards, the new registered user will be able to login and access the system immediately.

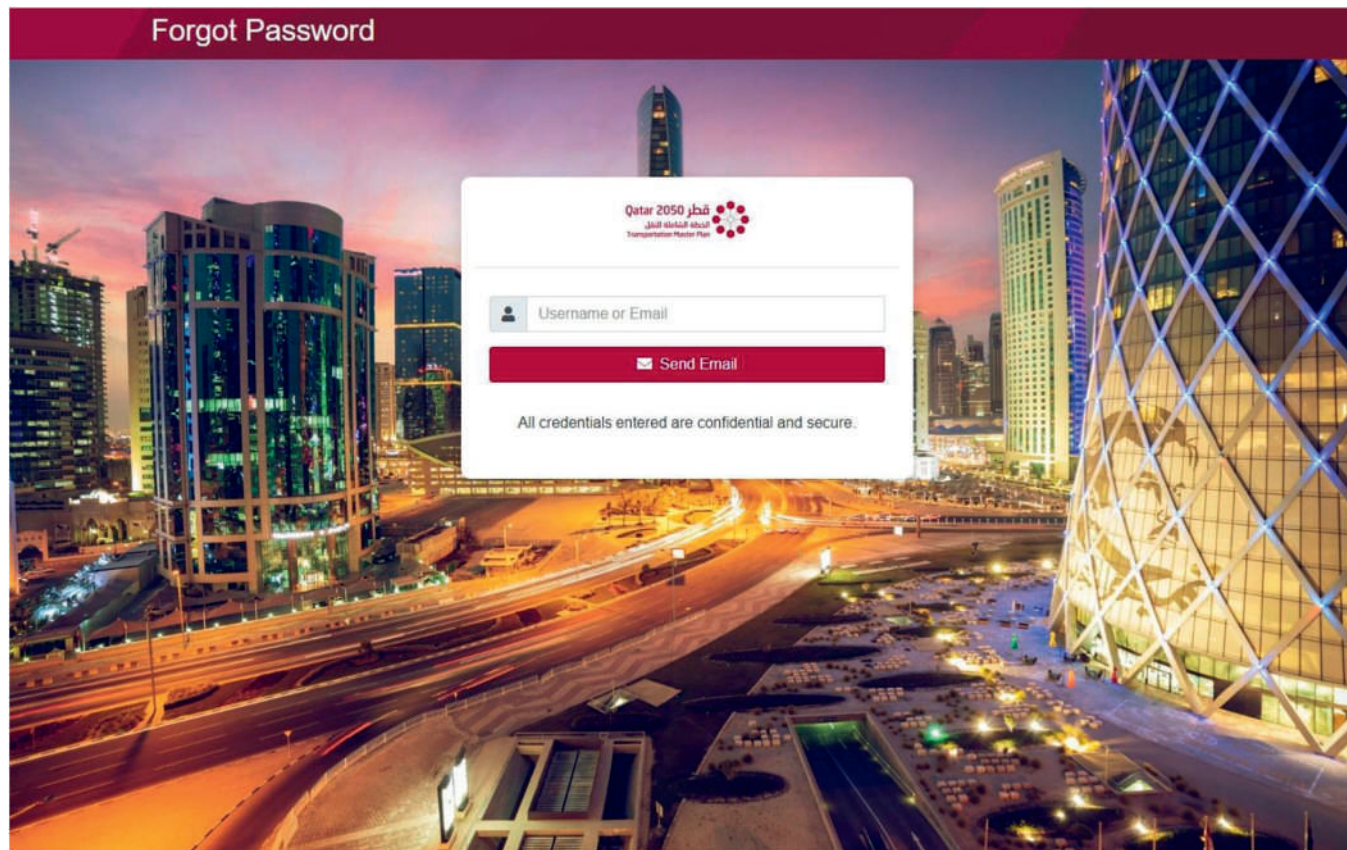
The screenshot shows a 'Sign In' page with a registration form. The form is titled 'قطر 2050 الخطة الشاملة للنقل Transportation Master Plan'. It contains the following fields:

- Prefix (Mr, Ms)
- Phone Number
- First Name
- Last Name
- Organization Name
- Job Title
- Email
- User Name
- Password
- Confirm Password

At the bottom of the form, there are two buttons: 'Register' and 'Back to Login'. Below the buttons, a message states: 'All credentials entered are confidential and secure.'

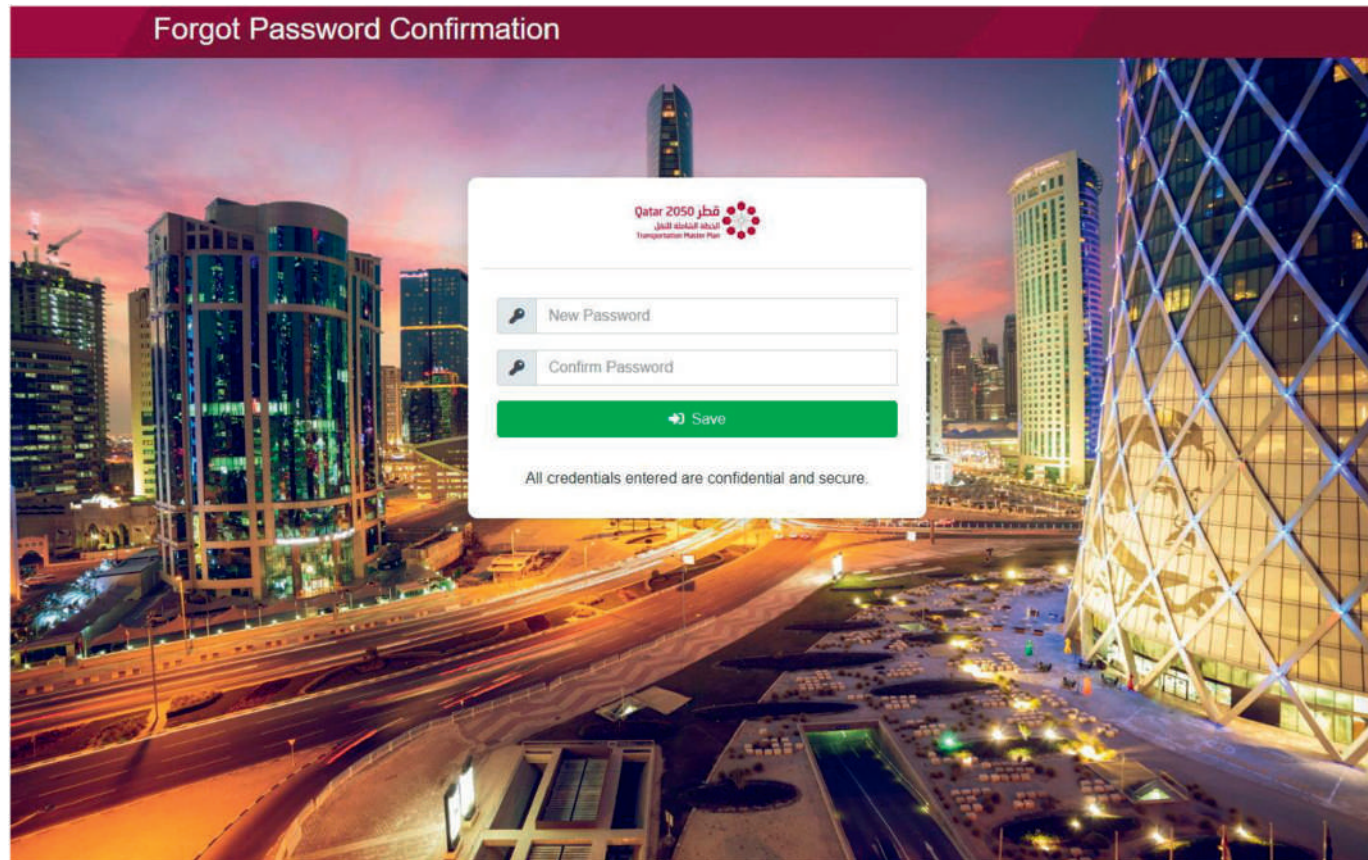
## 2.4. Forgot Password

If the user forgets his password at any time, he can easily request a password change by clicking on the “Forgot your password” option shown in the Login screen.



By entering the registered username or Email address, the user will receive an Email from the system shortly which contains a link will expire in less than 3 hours to change his password.

Upon submitting and confirming the new password shown in the screen below, the user will be able to login immediately using the new password.





# SECTION - 03

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## SYSTEM OVERVIEW





## 3. System Overview

### 3.1. Purpose

The QTMV web portal was designed and built to visualize Qatar Activity Based Model (QABM) data for the different scenarios through GIS maps, tabular views and rich graphical dashboard views.

### 3.2. Components

The system consists of the following high-level components:

**1- Scenarios Main Page:**

Contains the main data visualization components and tools.

**2- Scenarios Comparison:**

Provides capability to compare two different scenarios on GIS maps.

**3- Users Management:**

Provides ability to create new users and manage registered users details and permissions.

Each of the above high-level components will be described in detail in the preceding sections.







## SECTION - 04

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### SCENARIOS MAIN PAGE OVERVIEW





## 4. Scenarios Main Page Overview

The user will be redirected to the following scenarios main page once authenticated and logged in.

The screenshot displays the 'Scenarios Main Page' in a web application. The top navigation bar includes 'Qatar 2050 قطر', 'GIS Visualization', and menu items for 'Scenarios', 'Users', and 'Scenario Comparison'. A user profile 'admin admin' is visible in the top right. The main content area is divided into two sections. On the left, the 'General info' tab is active, showing a table of scenario details. On the right, a satellite map of a city area is displayed with various map controls and a scale bar.

Scenario Name	BY 2018
Requested By (Agency Name)	MOTC
Authorized By	MOTC
Developed By (Agency Name)	ITALCONSULT
Forecast Year	2018
Test Reason	MODEL RUN
Description	BASE YEAR 2018

The Scenarios Main Page contains several different tools and components which are:

1. **Data Visualization View (Left Side Pane):** which contains the following components and sections:
  - a) Scenario Year Selection
  - b) General Information
  - c) Scenario – Population Dashboard
  - d) Scenario – Network Dashboard
  - e) Scenario – Land Use Dashboard
  - f) Scenario – Employment Dashboard
  - g) KPIs & Statistics
2. **Map View (Right Side Pane):** which contains the following tools and widgets:
  - a) Map Navigation Tools
  - b) Map Scale and Coordinates Information Widget
  - c) Basemaps Widget
  - d) Layer Control Widget
  - e) Drawing Widget
  - f) Measurement Widget
  - g) Print Widget
  - h) Popup Info Tool
  - i) Bookmarks Widget
3. **Top Navigation Bar:** which contains the following links and functionalities:
  - a) Change Password: Allows the user to change his current password.
  - b) Logout: Ends the user session and redirects him to the Login Page.
  - c) Users Management Page Link: Redirects the user to the Users Management Page.
  - d) Scenario Comparison Page Link: Redirects the user to the Scenario Comparison Page.





## SECTION - 05

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### DATA VISUALIZATION VIEW (LEFT SIDE PANE)







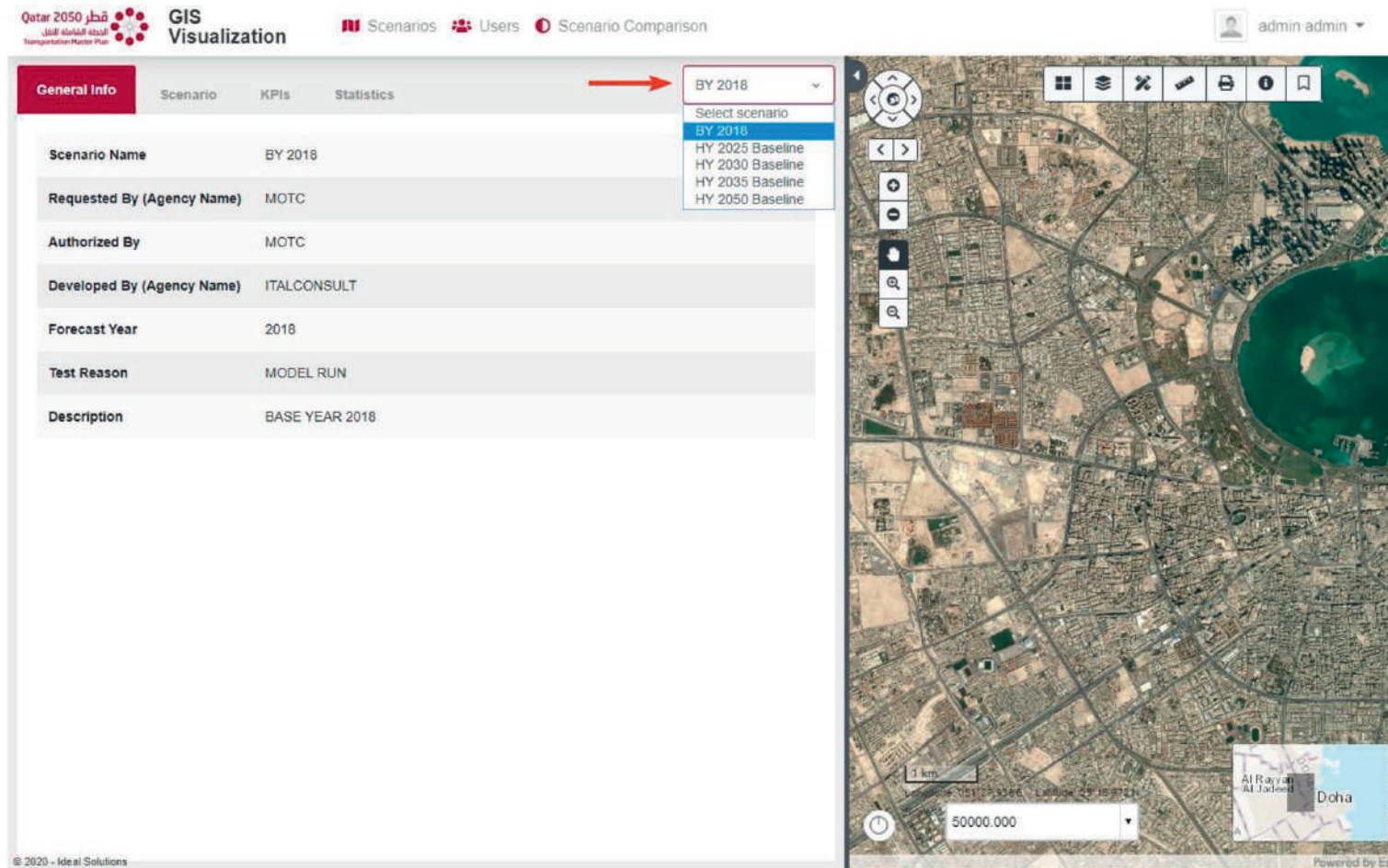
## 5. Data Visualization View (Left Side Pane)

### 5.1. Scenario Year Selection

Selecting a scenario year affects all data visualized within the Scenarios Main Page which are:

1. General Information
2. Scenario – Population Dashboard
3. Scenario – Network Dashboard
4. Scenario – Land Use Dashboard
5. Scenario – Employment Dashboard
6. KPIs & Statistics
7. Layers Shown within the Layers Control Widget
8. Popup Information

The user can simply select the desired scenario year from the list and the change will take effect immediately as shown below:



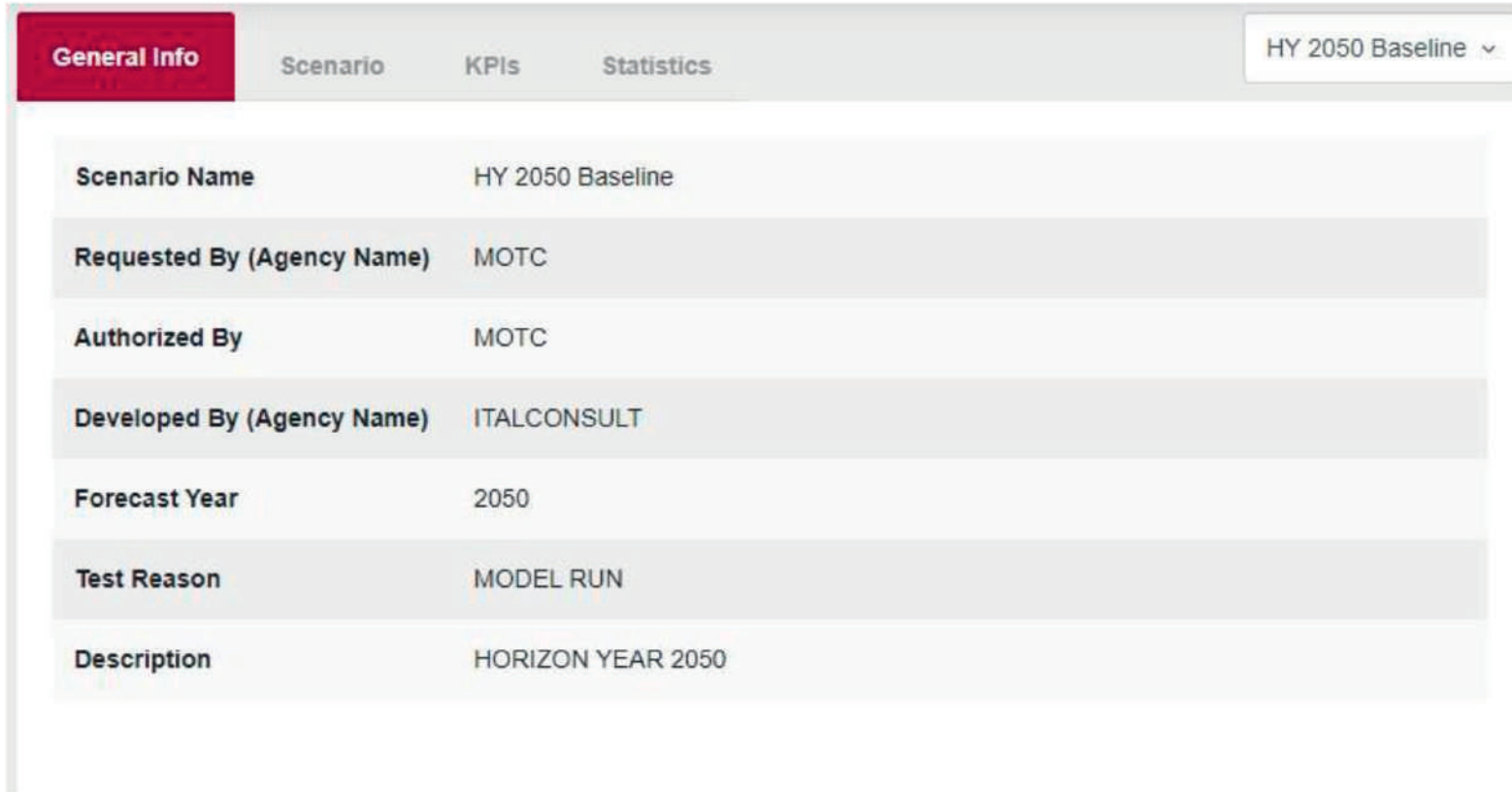
The screenshot displays the 'GIS Visualization' interface. On the left, a 'General Info' pane shows details for the 'BY 2018' scenario. A dropdown menu is open, showing a list of scenarios: 'BY 2018' (selected), 'HY 2025 Baseline', 'HY 2030 Baseline', 'HY 2035 Baseline', and 'HY 2050 Baseline'. A red arrow points to the dropdown menu.

Scenario Name	BY 2018
Requested By (Agency Name)	MOTC
Authorized By	MOTC
Developed By (Agency Name)	ITALCONSULT
Forecast Year	2018
Test Reason	MODEL RUN
Description	BASE YEAR 2018

The right side of the interface shows a satellite map of Doha, Qatar, with various navigation and tool icons. A scale bar indicates 1 km, and the map is powered by Esri.

## 5.2. General Information

Upon selecting the scenario year, the selected scenario information will be displayed in the General Info section as shown below:

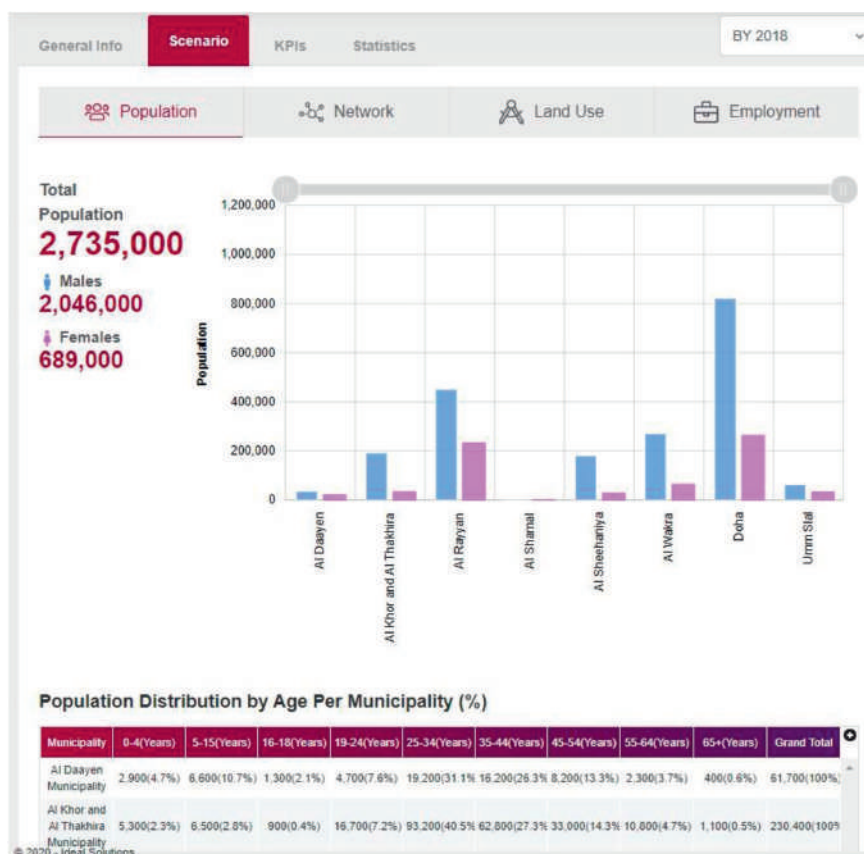


General Info	Scenario	KPIs	Statistics
Scenario Name	HY 2050 Baseline		
Requested By (Agency Name)	MOTC		
Authorized By	MOTC		
Developed By (Agency Name)	ITALCONSULT		
Forecast Year	2050		
Test Reason	MODEL RUN		
Description	HORIZON YEAR 2050		

### 5.3. Scenario – Population Dashboard

Upon selecting the scenario year, the Population tab located within the Scenario section can be selected to display the following details as shown below:

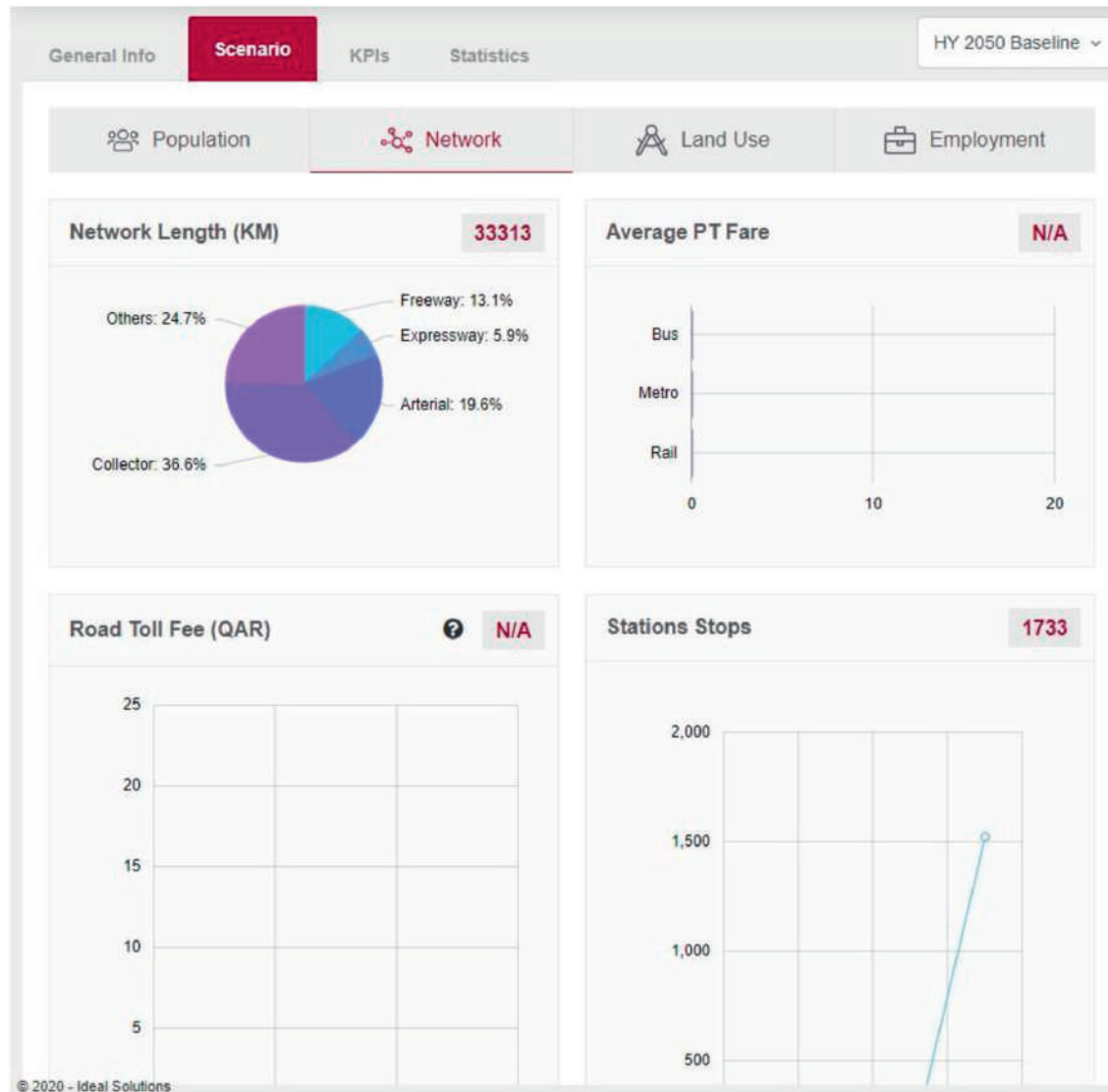
- 1- Total Population
- 2- Total Male/Female Population
- 3- Male/Female Population Per Municipality
- 4- Population Distribution by Age Per Municipality



## 5.4. Scenario – Network Dashboard

Upon selecting the scenario year, the Network tab located within the Scenario section can be selected to display the following details as shown below:

- 1- Network Length (KM)
- 2- Average PT Fare
- 3- Road Toll Fee (QAR)
- 4- Stations Stops
- 5- Bus Priority Lanes Length (KM)
- 6- Dedicated Freight Route (KM)
- 7- PR Facilities Locations (NOS)
- 8- Shared Cycle Path (KM)
- 9- Bike Racks
- 10- Shared Cycle Lanes Length (KM)
- 11- Route Length (KM)
- 12- Service Frequency (Minutes)
- 13- Occupancy
- 14- Average Fuel Rate (QAR/Liter)



## 5.5. Scenario – Land Use Dashboard

Upon selecting the scenario year, the Land Use tab located within the Scenario section can be selected to display the following details as shown below:

- Plots Area by Land Use Per Municipality (SQKM)

General Info **Scenario** KPIs Statistics BY 2018

Population Network **Land Use** Employment

### Plots Area by Land Use Per Municipality (SQKM)

Landuse	Doha	Al_Rayyan	Al_Wakra	Umm_Sal	Al_Daayen	Al_Khor	Al_Sharnal	Al_Sheehaniya	Total
Single-Family Residential	26,700(21.9%)	49,100(40.3%)	11,300(9.3%)	9,300(7.6%)	10,700(8.8%)	7,600(6.2%)	3,700(3%)	3,300(2.7%)	121,700(100%)
Multi-Family Residential	8,100(52.9%)	3,400(22.2%)	2,200(14.4%)	0,100(0.7%)	0,100(0.7%)	1,200(7.8%)	-(0%)	0,200(1.3%)	15,300(100%)
Retail or Commercial	2,900(40.8%)	2,300(32.4%)	0,400(5.6%)	0,100(1.4%)	0,600(8.5%)	0,600(8.5%)	0,100(1.4%)	0,100(1.4%)	7,100(100%)
Services or Offices	0,800(57.1%)	0,500(35.7%)	-(0%)	-(0%)	-(0%)	-(0%)	-(0%)	0,100(7.1%)	1,400(100%)
Wholesale	0,050(50%)	0,050(50%)	-(0%)	-(0%)	-(0%)	-(0%)	-(0%)	-(0%)	0,100(100%)
Low Impact Industry	3,100(66%)	0,900(19.1%)	0,200(4.3%)	-(0%)	-(0%)	0,200(4.3%)	-(0%)	0,300(6.4%)	4,700(100%)
Medium-Impact Industry	0,800(66.7%)	0,400(33.3%)	-(0%)	-(0%)	-(0%)	-(0%)	-(0%)	-(0%)	1,200(100%)
Heavy Impact Industry	1,800(5.9%)	3,400(12.5%)	8,700(32.1%)	1,100(4.1%)	-(0%)	-(0%)	-(0%)	12,300(45.4%)	27,100(100%)
Logistics-Distribution-Warehousing	7,300(49%)	3,600(24.2%)	3,200(21.5%)	-(0%)	0,400(2.7%)	0,400(2.7%)	-(0%)	-(0%)	14,900(100%)
Educational	9,100(38.1%)	12,100(50.6%)	0,600(2.5%)	0,500(2.1%)	0,600(2.5%)	0,500(2.1%)	0,100(0.4%)	0,400(1.7%)	23,900(100%)
Health	1,400(45.2%)	0,800(25.8%)	0,300(9.7%)	-(0%)	-(0%)	0,300(9.7%)	-(0%)	0,200(6.5%)	3,100(100%)
Governmental	10,700(28.8%)	11,500(30.9%)	2,200(5.9%)	0,400(1.1%)	0,400(1.1%)	1,600(4.3%)	0,300(0.8%)	10,100(27.2%)	37,200(100%)
Cultural	1,700(77.3%)	-(0%)	0,200(9.1%)	-(0%)	0,300(13.6%)	-(0%)	-(0%)	-(0%)	2,200(100%)
Religious	1,100(16.9%)	3,100(47.7%)	0,500(7.7%)	0,300(4.6%)	0,300(4.6%)	0,500(7.7%)	0,200(3.1%)	0,500(7.7%)	6,500(100%)
Open Space & Recreation (Indoor-outdoor)	3,200(47.8%)	1,700(25.4%)	1,100(16.4%)	-(0%)	0,200(3%)	0,400(6%)	-(0%)	0,100(1.5%)	6,700(100%)
Sports	1,200(2.3%)	7,900(14.8%)	1,700(3.2%)	0,100(0.2%)	4,300(8.1%)	2,500(4.7%)	0,100(0.2%)	35,500(66.6%)	53,300(100%)

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## 5.6. Scenario – Employment Dashboard

Upon selecting the scenario year, the Employment tab located within the Scenario section can be selected to display the following details as shown below:

- Number of Jobs Per Municipality

The screenshot shows a web interface with a top navigation bar containing 'General Info', 'Scenario' (selected), 'KPIs', and 'Statistics'. A dropdown menu on the right shows 'BY 2018'. Below the navigation is a secondary menu with 'Population', 'Network', 'Land Use', and 'Employment' (selected). The main content area is titled 'Number of Jobs' and contains a table with the following data:

Municipality	Number_of_Jobs
Doha Municipality	1,057,600(51.2%)
Al Rayyan Municipality	400,100(19.4%)
Al Wakra Municipality	302,600(14.6%)
Umm Stal Municipality	33,900(1.6%)
Al Khor and Al Thakhira Municipality	132,100(6.4%)
Al Shamal Municipality	23,800(1.1%)
Al Daayen Municipality	77,200(3.7%)
Al Sheehaniya Municipality	38,800(1.9%)
<b>Total</b>	<b>2,066,200(100%)</b>

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## 5.7. KPIs

A Key Performance Indicator (or KPI for short) is a type of performance measurement which is used to evaluate the success of an initiative in achieving the target objective.

Each KPI within the QTMV consists of 3 different value which are:

- AM: Morning
- MD: Mid-Day
- PM: Evening

### 5.7.1. KPIs List

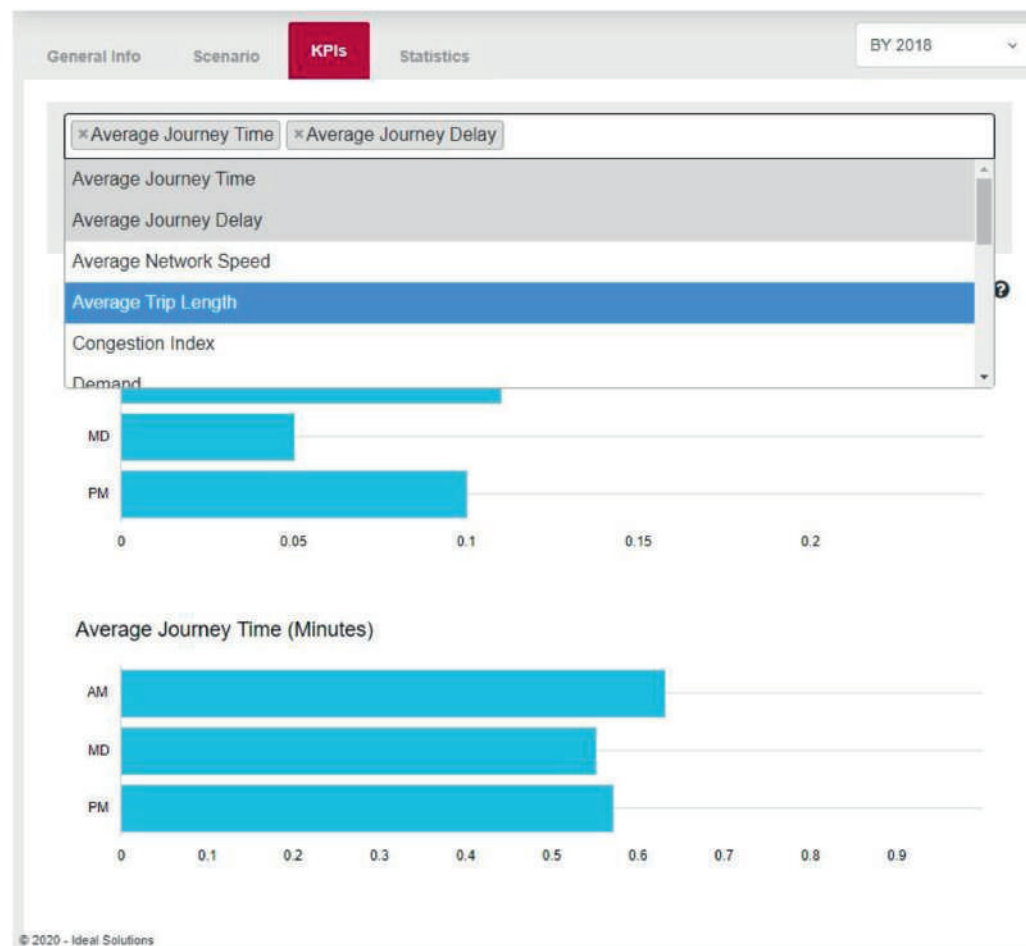
There are 16 KPIs which can be visualized within the QTMV which are:

- 1- Average Journey Time
- 2- Average Journey Delay
- 3- Average Network Speed
- 4- Average Trip Length
- 5- Congestion Index
- 6- Demand
- 7- Fuel Consumption
- 8- Greenhouse Gas Emission
- 9- Journey Time
- 10- Mode Share
- 11- Network Delay
- 12- Person Hours Travelled
- 13- Persons KM Travelled
- 14- Travel Distance
- 15- Travel Time Index
- 16- Vehicle Trip

### 5.7.2. KPIs Selection

The KPIs section can be selected after selecting the scenario year.

And once inside the KPIs section, the user will be able to select the KPIs from a dropdown list individually and will be able to visualize them immediately upon selection as shown below:

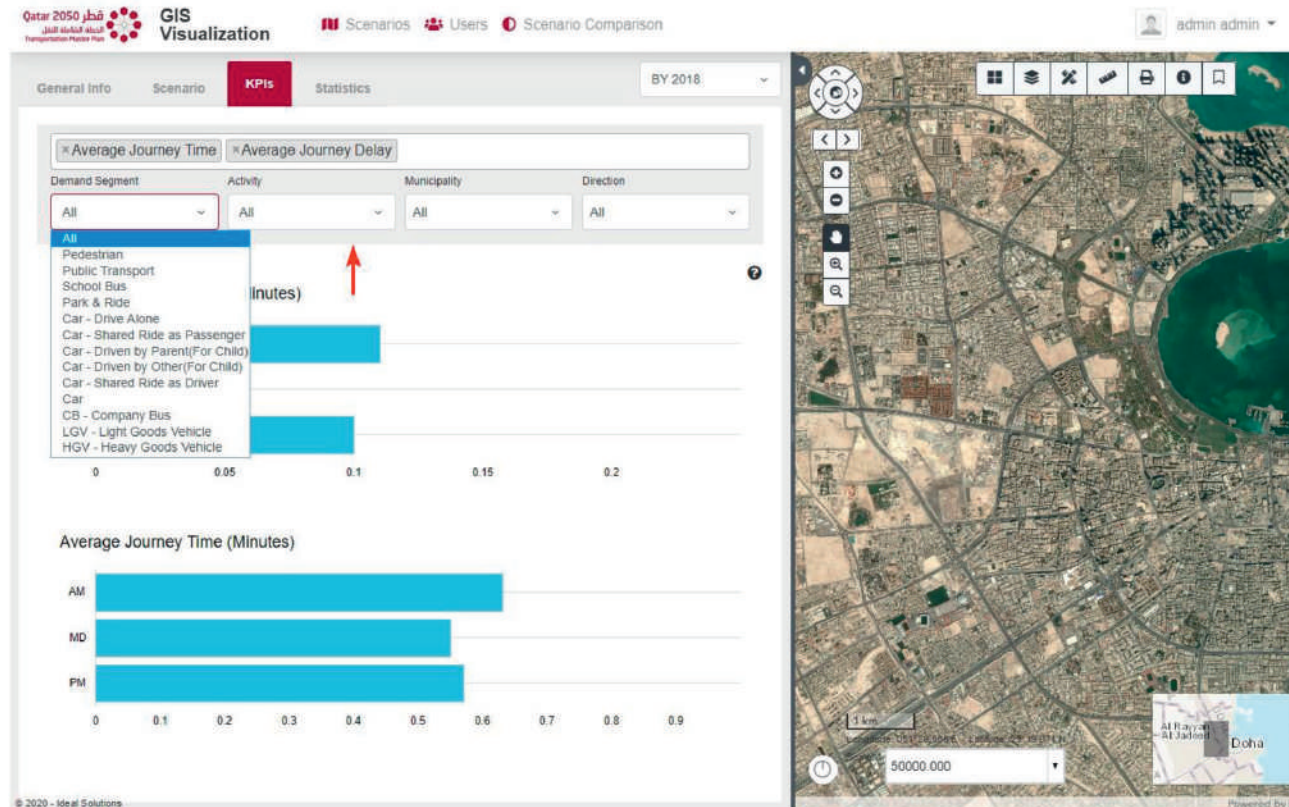


SECTION 5  
Data Visualization View (Left Side Pane)

5.7.3. KPIs Filtering

The user can apply one or more filters at once which will take effect immediately on the selected KPIs and any KPI which is selected after applying the filter. The user can filter the data as per the following:

- 1- Demand Segment
- 2- Activity
- 3- Municipality
- 4- Direction





## SECTION - 06

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### MAP VIEW (RIGHT SIDE PANE)

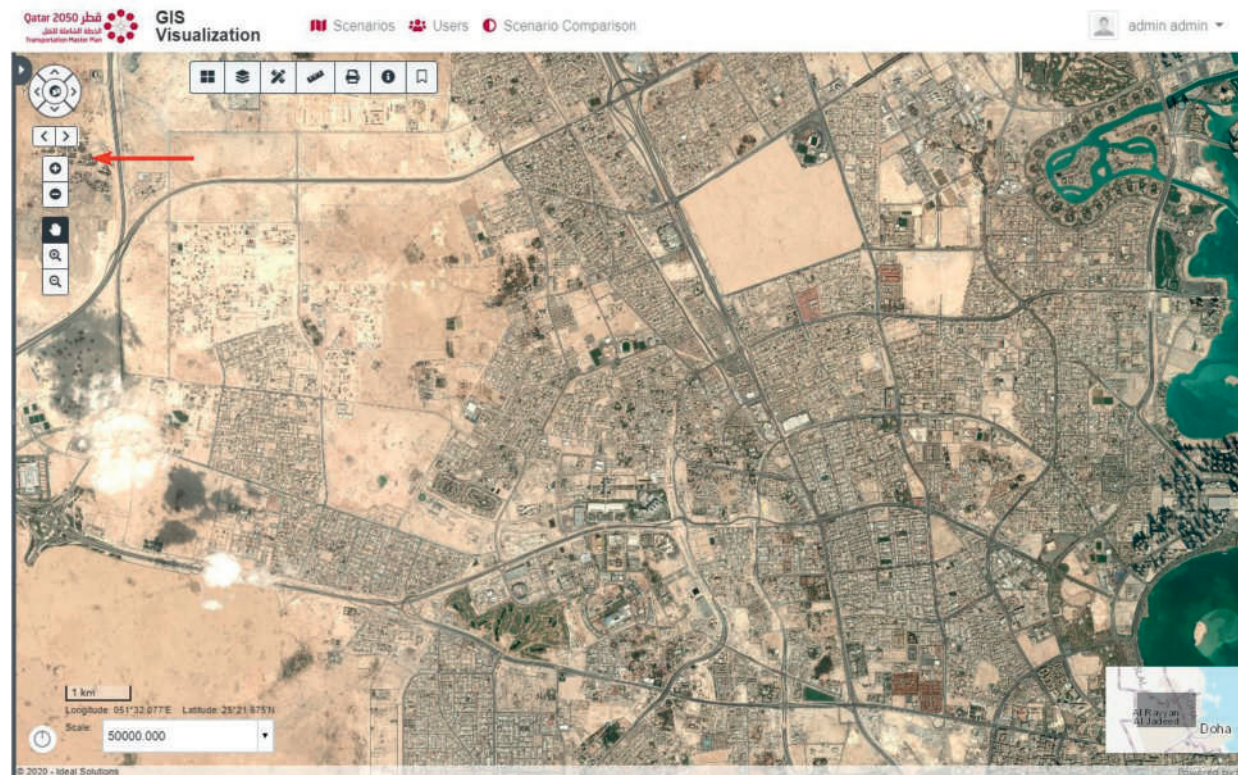




## 6. Map View (Right Side Pane)

### 6.1. Map Navigation Tools

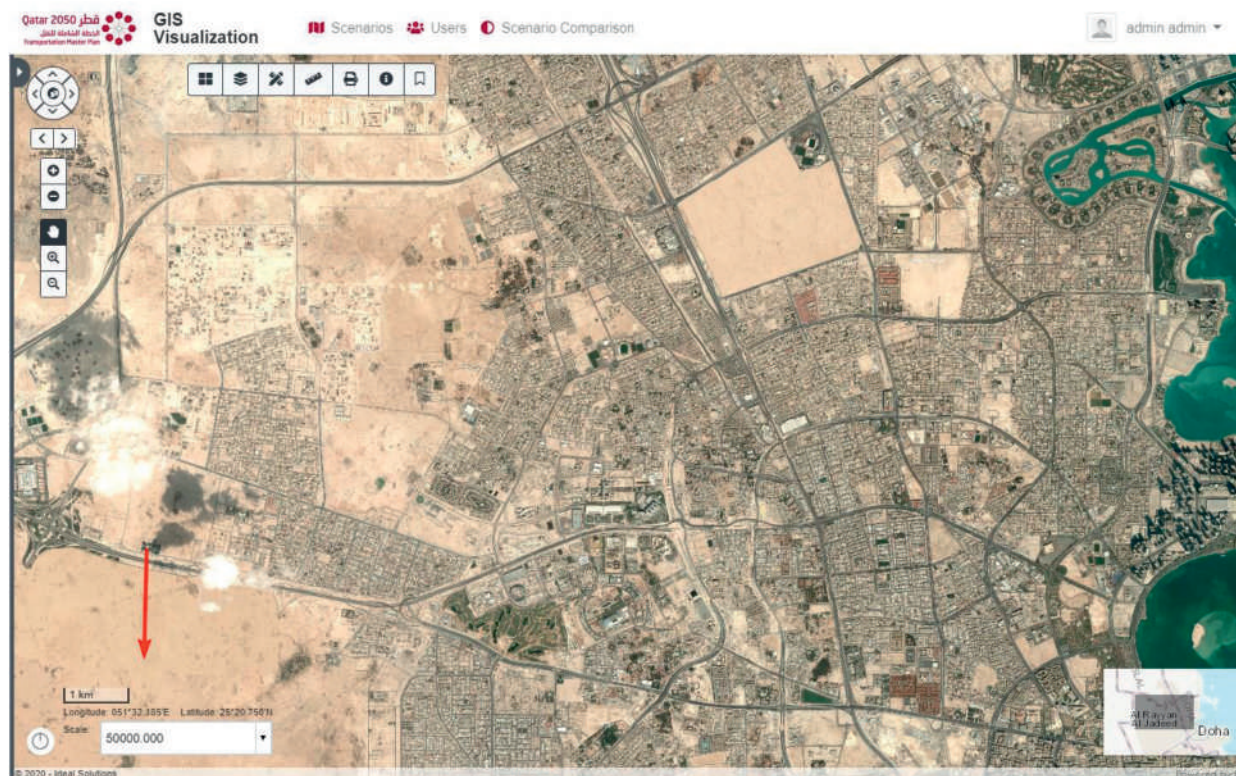
The map navigation tools are visible on the top left corner of the map. The purpose of these tool is to navigate the map to zoom in, zoom out, pan, zoom to previous extent, zoom to next extent, zoom to full extent, pan right, pan left, etc. It should be noted that Mouse scrolling is also enabled for zoom in (scroll up) and zoom out (scroll down).



## 6.2. Map Scale and Coordinates Information Widget

The map scale and coordinates information widget are visible on the bottom left corner of the map and consist of the following tools:

- 1- **Map Scale:** Used to determine the current map scale which can be modified by entering a desired value or by selecting one of the pre-defined scales from the dropdown list.
- 2- **Compass:** Indicates where north is in relation to the current view rotation. The user can adjust the view rotation by holding right click on the map and moving and clicking the Compass widget rotates the view to face north (heading = 0).
- 3- **Coordinates Information:** Displays the current mouse position (Longitude and Latitude).

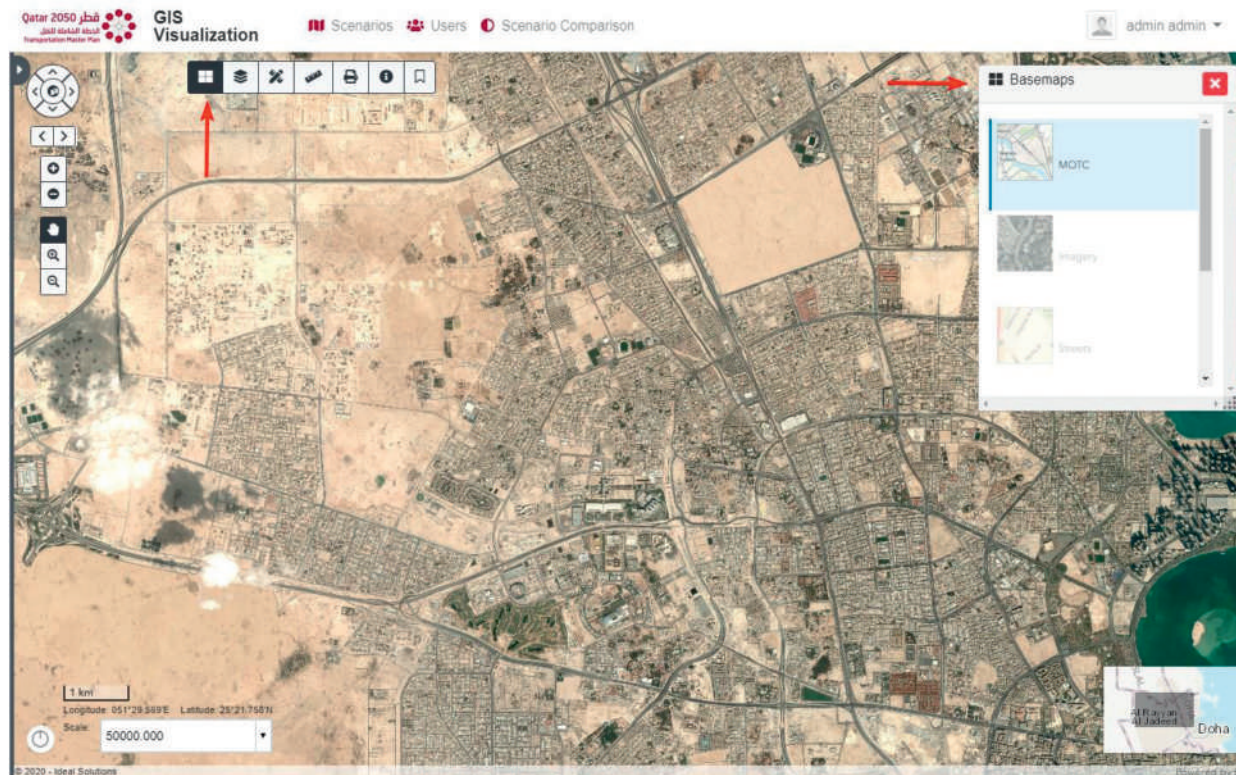




### 6.3. Base maps Widget

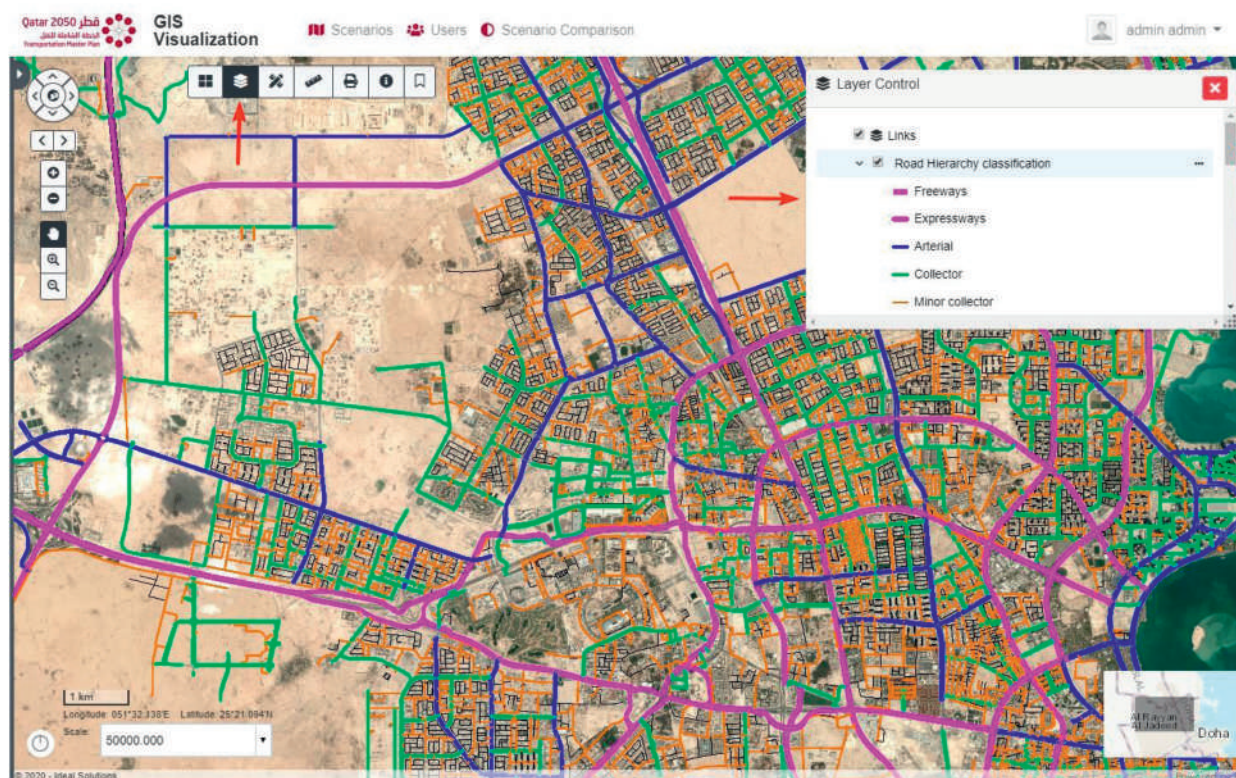
The base maps widget can be accessed from the top map toolbar as shown below. It displays a collection images representing base maps from a user-defined set of map or image services. When a new base map is selected from the widget, the map's base map layers are removed and replaced with the base map layers of the associated base map selected from the widget.

All base maps added to the widget need to have the same spatial reference.



## 6.4. Layer Control Widget

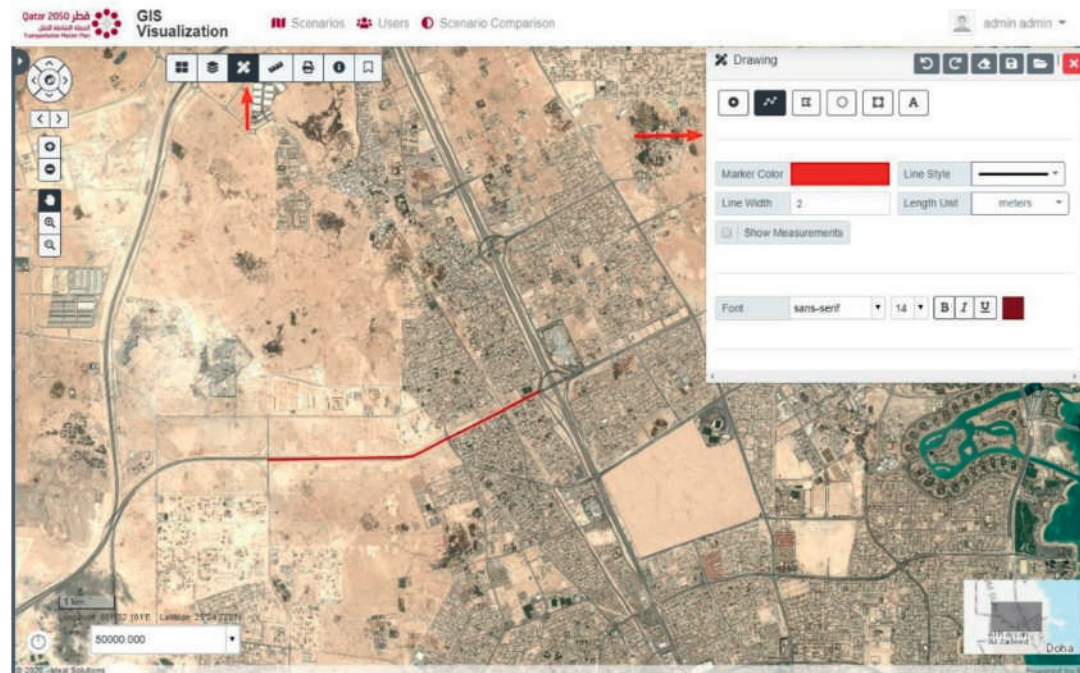
The layer control widget can be accessed from the top map toolbar as shown below. It provides a way to display all the layers from the consumed web map service including its layer classifications and symbols. The user can simply switch on/off the layer visibility by checking/unchecking the checkbox located next to the layer's name.



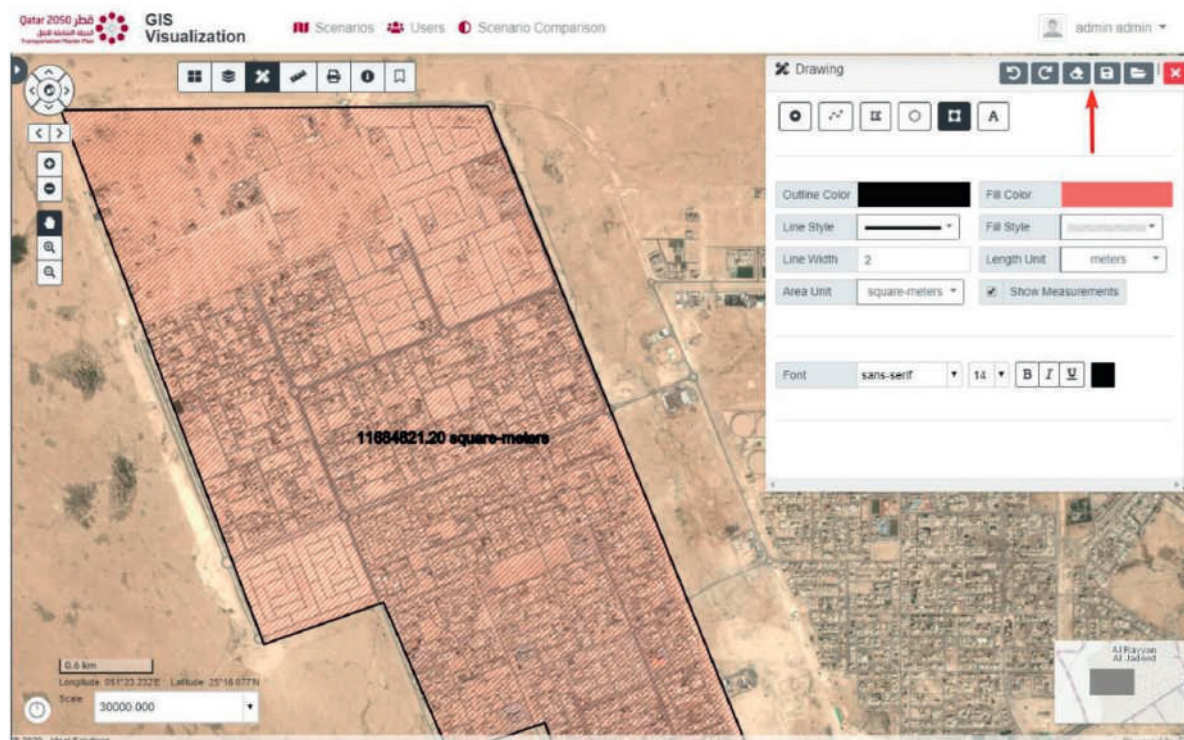
## 6.5. Drawing Widget

The drawing widget can be accessed from the top map toolbar as shown below. It provides a simple way for drawing and updating different graphics and shapes on the map such as points, polylines, polygons, circles, rectangles and text graphics.

Each shape has its own configurable parameters and settings such as color, style, width, measurement unit and measurement font style. The user can display the measurement on applicable shapes by checking the "Show Measurement" checkbox.



The drawing widget also provides the capability to undo, redo, clear, export and import graphics respectively through the icons displayed at the title bar of the widget shown below:

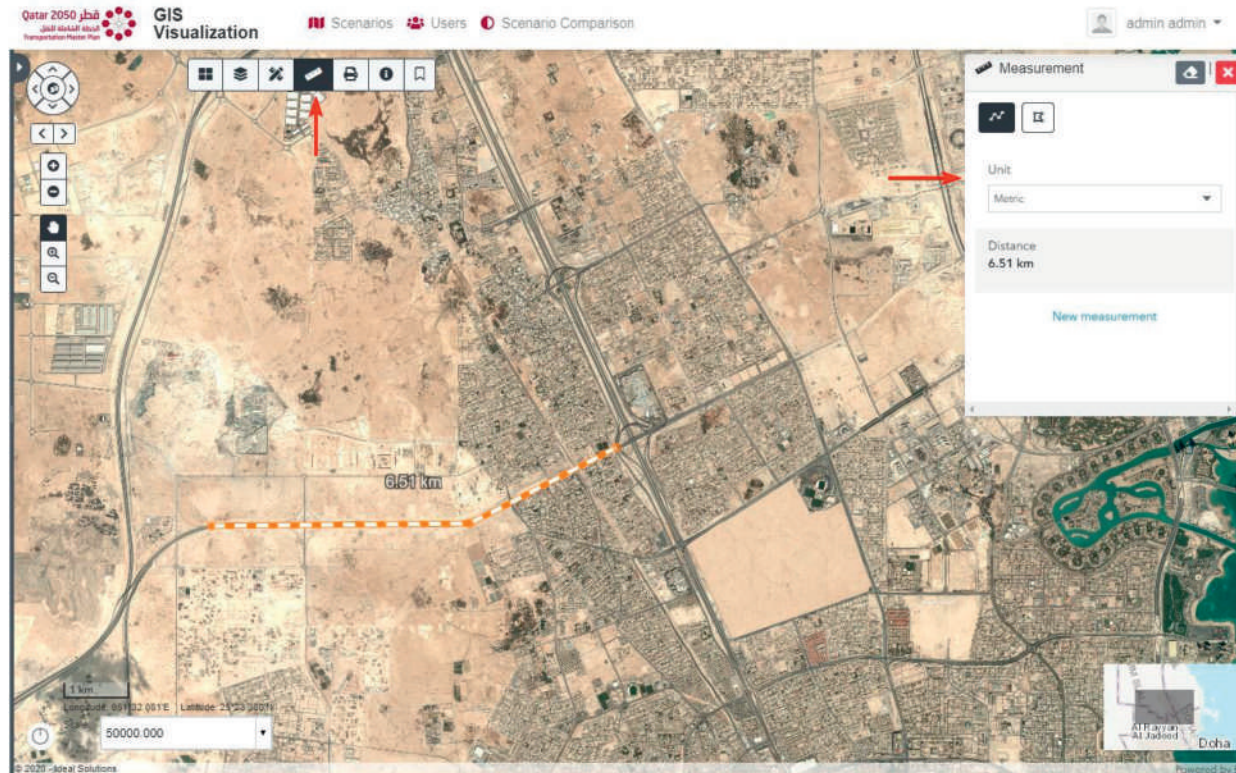


## 6.6. Measurement Widget

The measurement widget can be accessed from the top map toolbar as shown below.

The distance measurement widget calculates and displays the distance between two or more points on the map using the selected unit of measurement.

The area measurement widget calculates and displays the area and perimeter of a polygon on the map the selected unit of measurement.



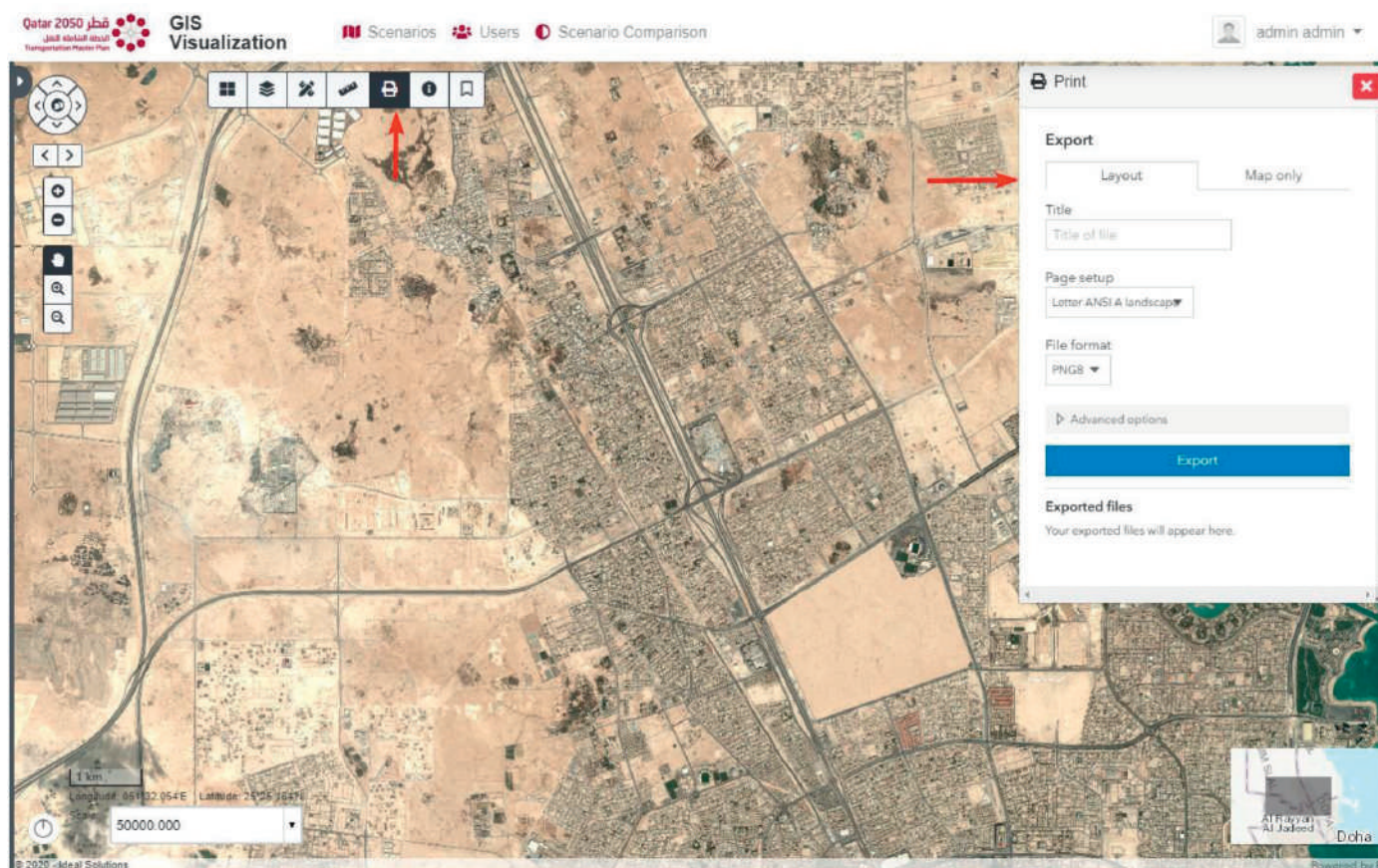
## 6.7. Print Widget

The print widget can be accessed from the top map toolbar as shown below.

The print widget utilizes printing service to allow the map to be printed. It takes advantage of server-side, high-quality, full cartographic print functionality using the ExportWebMap service of ArcGIS.

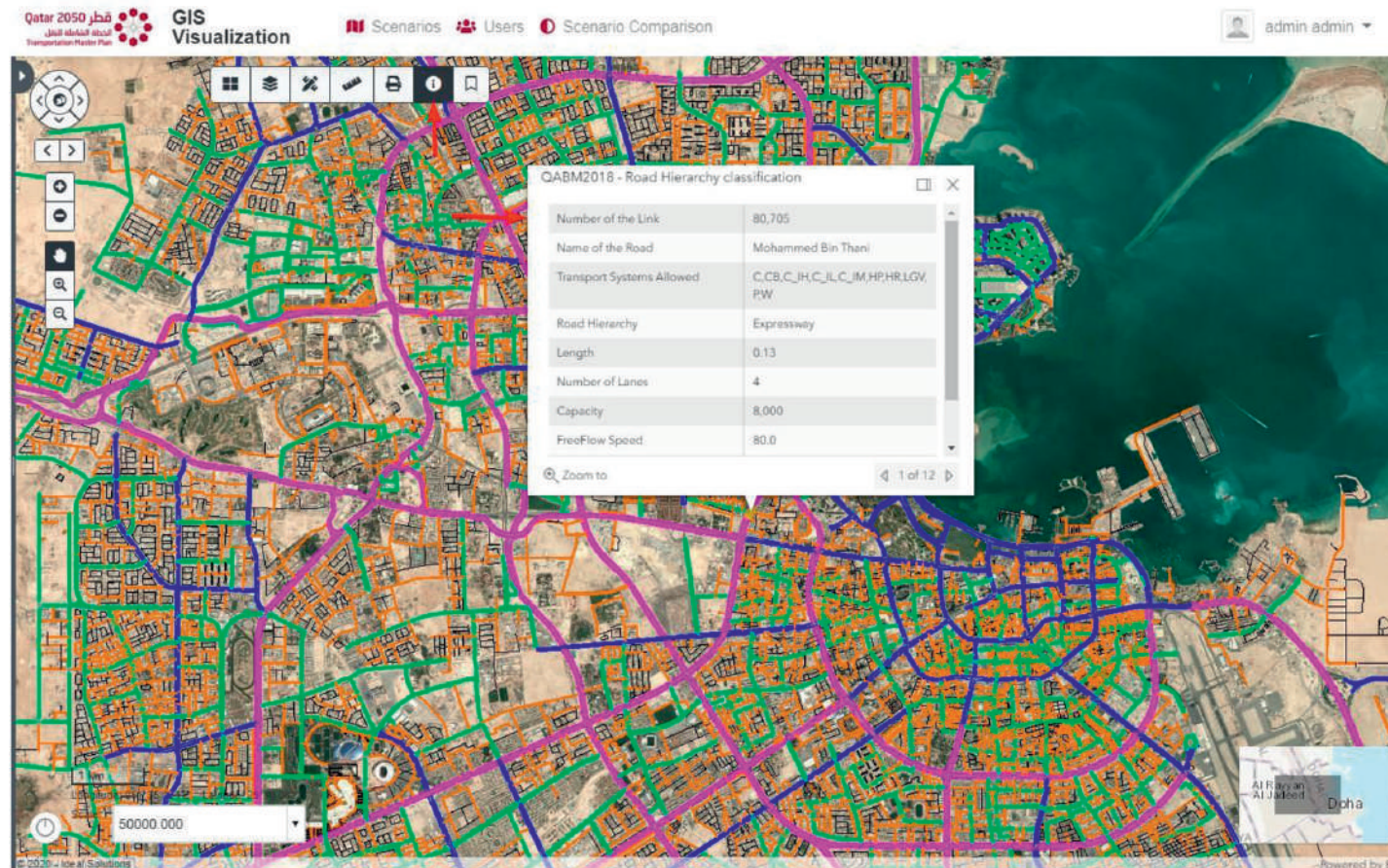
The print widget allows the user to either print the map only or print the map within a layout which includes the title, map scale, print date, displayed layers and legend.

To print the current map view, the user just needs to enter the file title and click Export button within the print widget. The exported files will appear at the bottom of the widget once the server processing is finished.

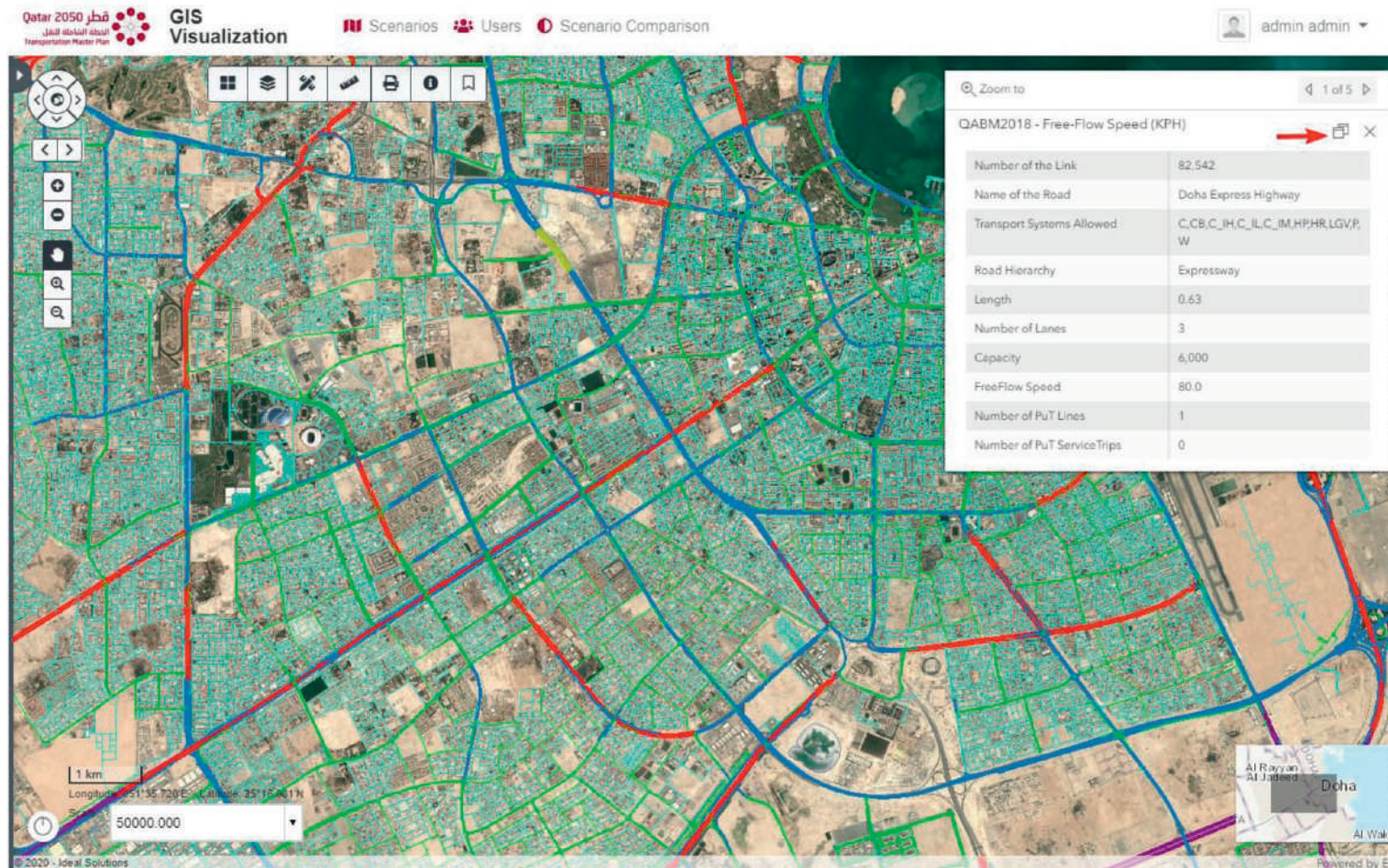


## 6.8. Popup Info Tool

The popup info tool can be enabled from the top map toolbar and is used to show detailed information of any feature clicked on the map as shown below:

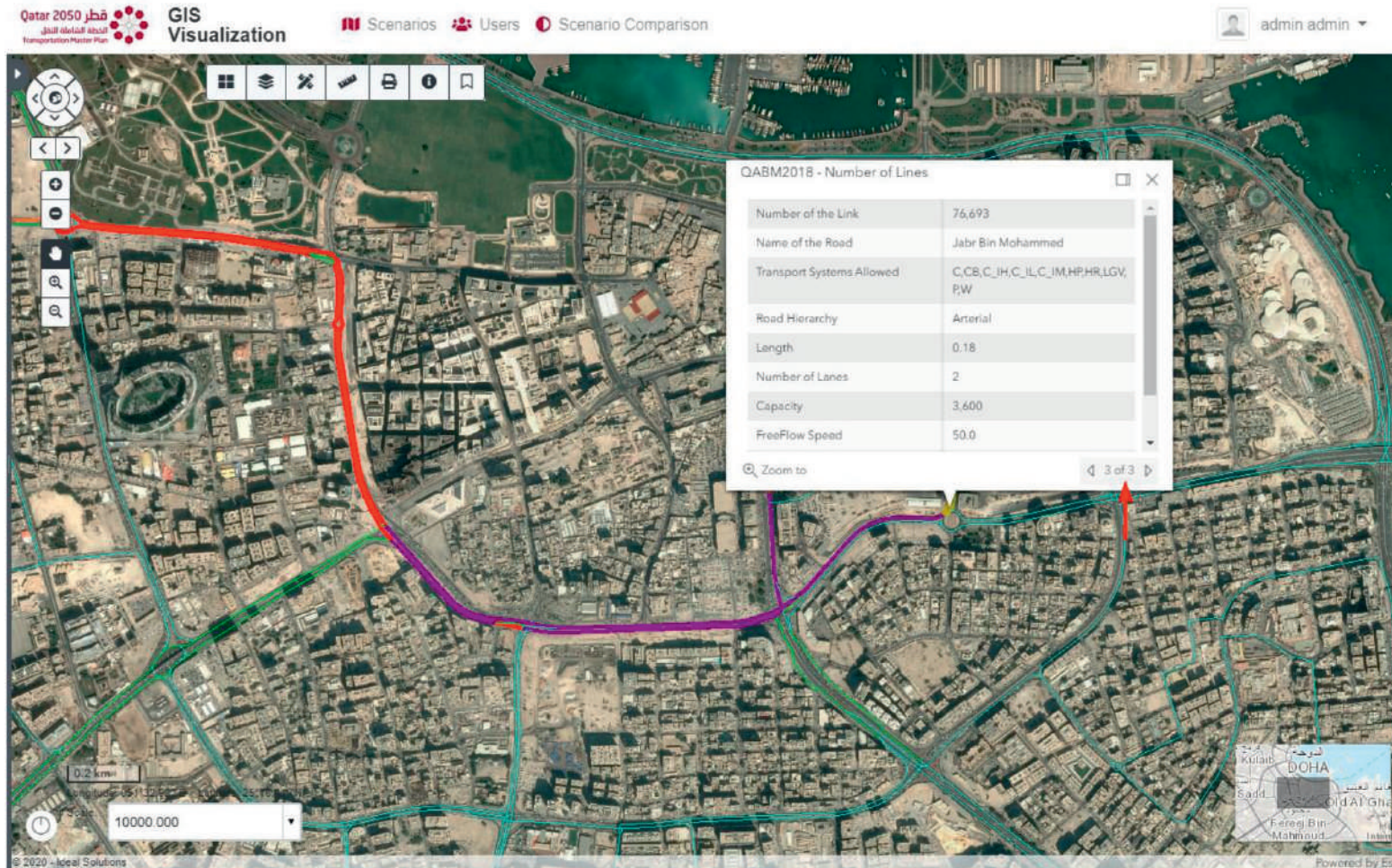


The user can dock the popup to the top right corner of the view by clicking on the icon shown below:



If a group of close or intersected features are clicked, the user can access the clicked features information by navigating through the popup pagination. This allows the user to scroll through various selected features using either arrows as shown below:





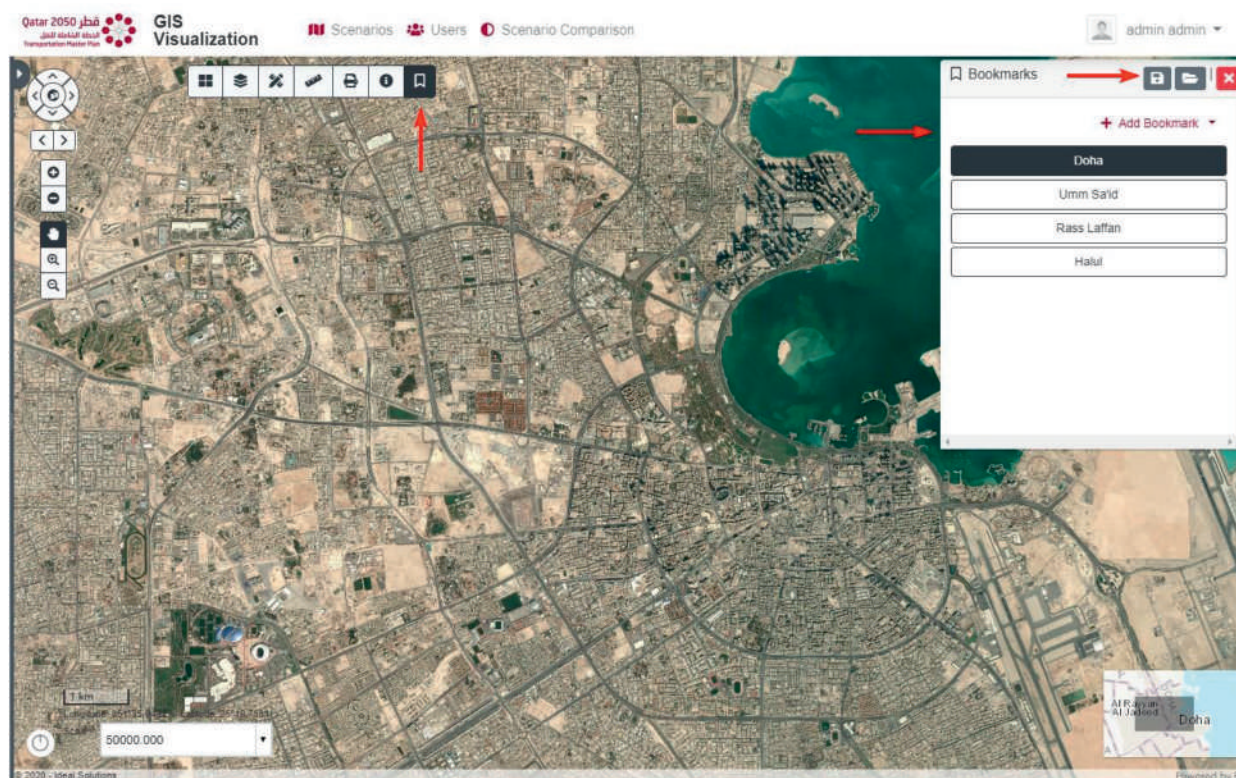
To deactivate the popup info tool, the user needs to click on the same icon on the top map toolbar once again.

## 6.9. Bookmarks Widget

The bookmarks widget can be accessed from the top map toolbar and is used to record the current map extent to enable user to zoom to this saved extent quickly whenever required.

The user can create any number of custom bookmarks by clicking on the Add Bookmark button, choosing the bookmark title and clicking save. The custom user bookmarks are only visible to the user who created them.

It is also possible to export and import custom bookmarks by clicking on the icons located in the widget title bar as shown below:



## 6.10. Custom Popup Templates

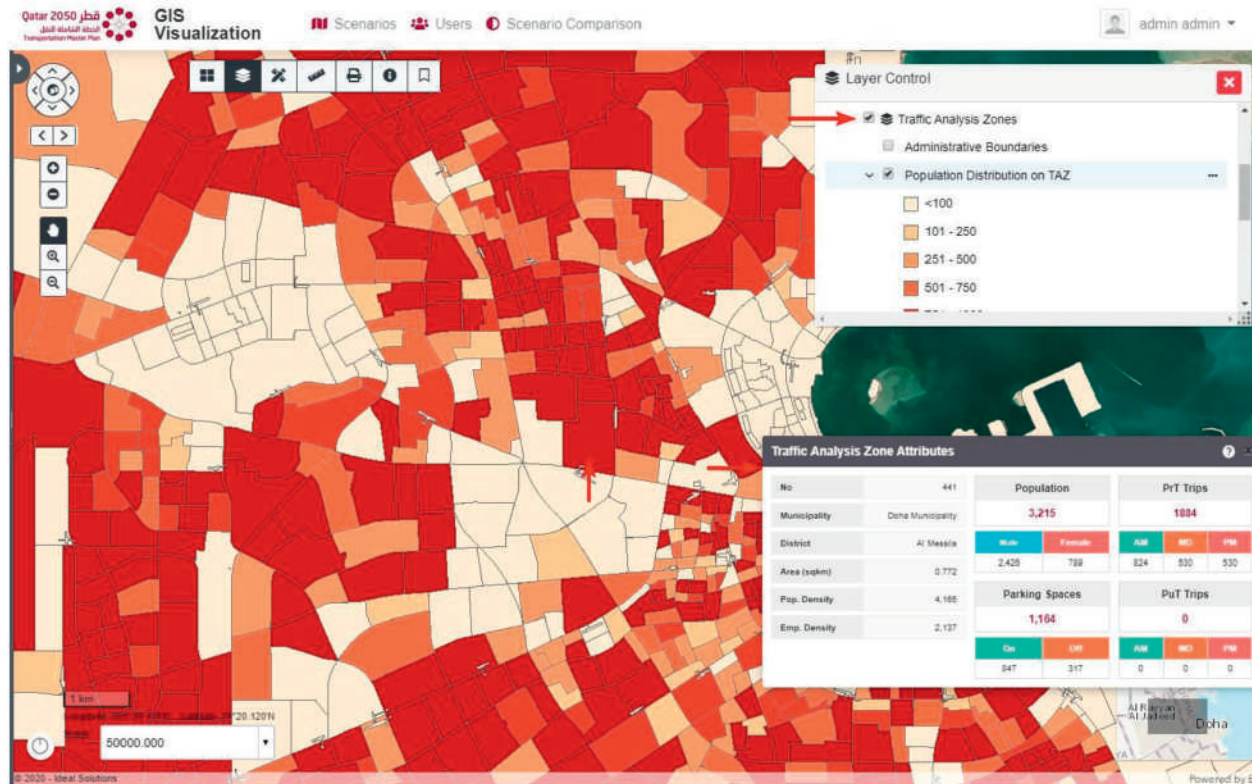
Custom popup templates were designed and created for specific layers and can be displayed without activating any tool by simply clicking on any feature shown on the map from the following layers and their sublayers:

### 1- Links Layers

The screenshot displays a GIS application interface. The main map shows a network of roads color-coded by hierarchy: Freeways (purple), Expressways (pink), Arterial (blue), Collector (green), and Minor collector (orange). A 'Layer Control' panel on the right lists these categories. A 'Link Attributes' popup is open for a selected road link, showing the following data:

No.	77059	Name	Al Rayyan Al Jadeed
Hierarchy	Expressway	Tsys Set	C.C.E.C._M.C._I.L.C._M.M.P.
Length	1.34 km	Mode	AM MD PM
Number of Lanes	2	Cars Veh/h	1,243 774 1,243
Free Flow Speed	80 km/h	Put Per/h	45 20 45
Average Speed	66 km/h	LGV Veh/h	82 91 82
Capacity	4,000 veh/h	HGV Veh/h	39 39 39

## 2- Traffic Analysis Zone Layers







## SECTION - 07

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SCENARIO COMPARISON PAGE







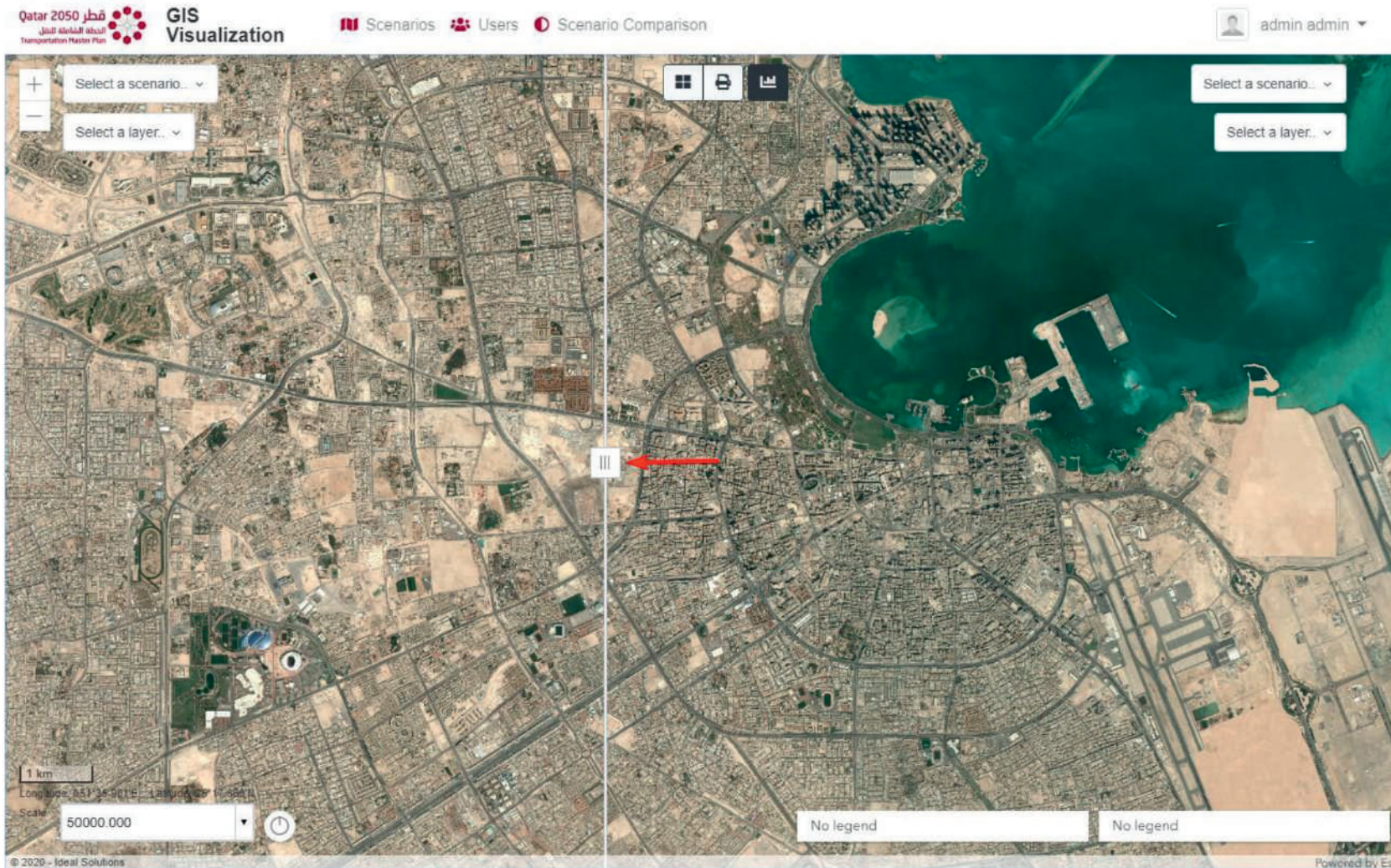
## 7. Scenario Comparison Page

The Scenario Comparison provides the capability to compare between two different scenarios on top of GIS maps and contains the following widgets and tools:

- 1- Swipe Widget
- 2- Popup Info Tool
- 3- Base maps Widget
- 4- Legends Widget
- 5- Print Widget
- 6- Map Scale and Coordinates Information Widget

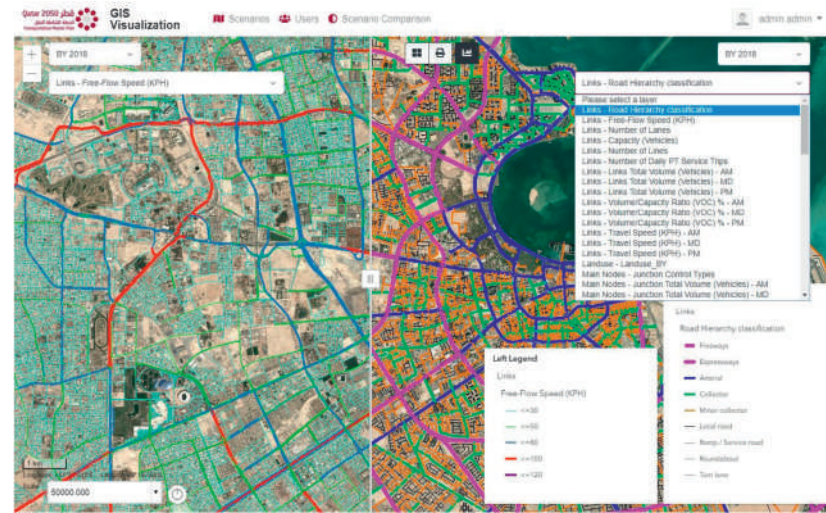
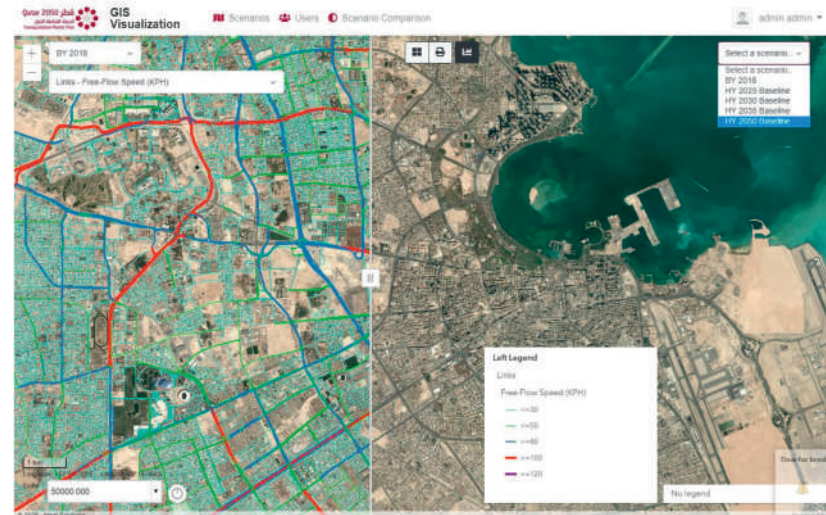
### 7.1. Swipe Widget

The Swipe widget provides a tool to show a portion of a layer or layers on top of a map. Layers can be swiped horizontally to easily compare two layers using the divider shown in the middle of the map as shown below:



SECTION 7  
Scenario Comparison Page

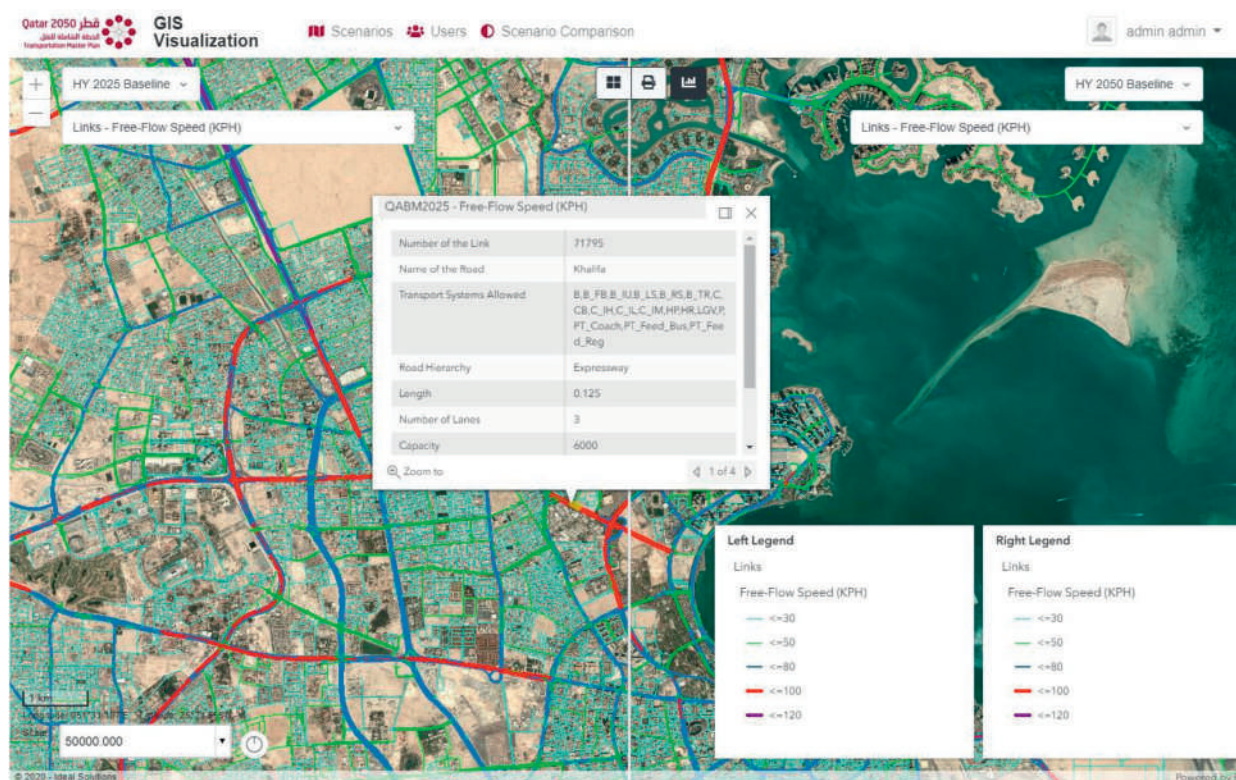
To get started, the user needs to select the scenario year and layer on each side of the map as shown below:



## 7.2. Popup Info Tool

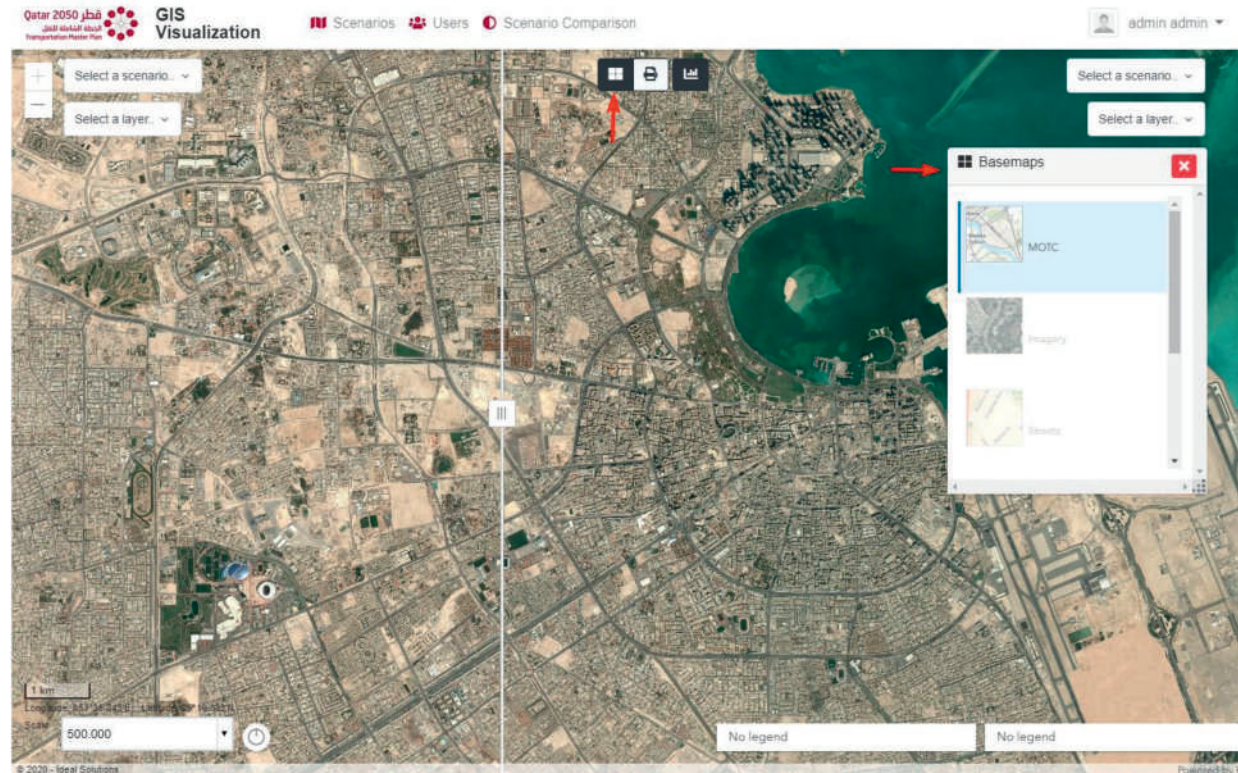
The popup info tool is the same one described in the previous section. The only difference here is that the tool is enabled all the time in the Scenario Comparison page. (please refer to the previous Popup Info Tool section in the Table of Contents for more details).

And depending on whether the user clicks on a feature located on the left or right side of the map, the displayed popup will display the feature details as per the selected scenario year and layer on that side.



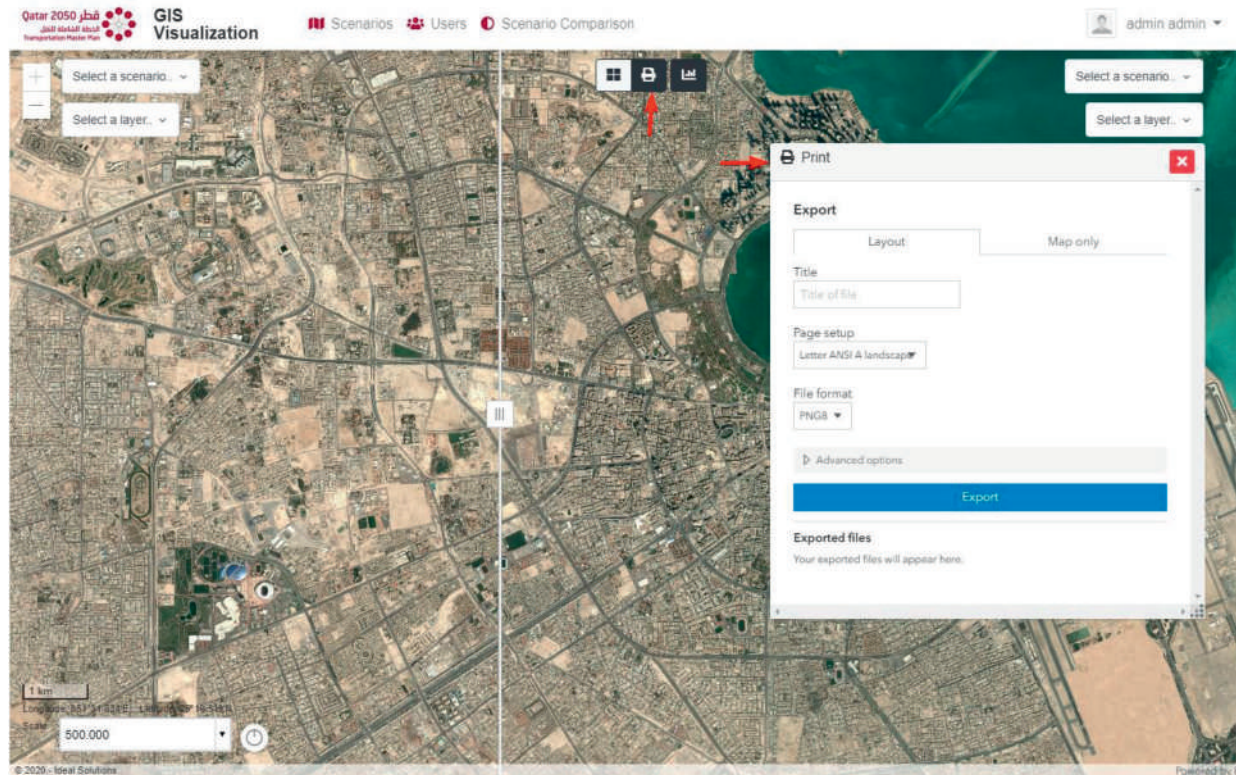
### 7.3. Base maps Widget

The base maps widget is the same as the one described in the Scenario Main page and can be accessed from the top map toolbar as shown below.



## 7.4. Print Widget

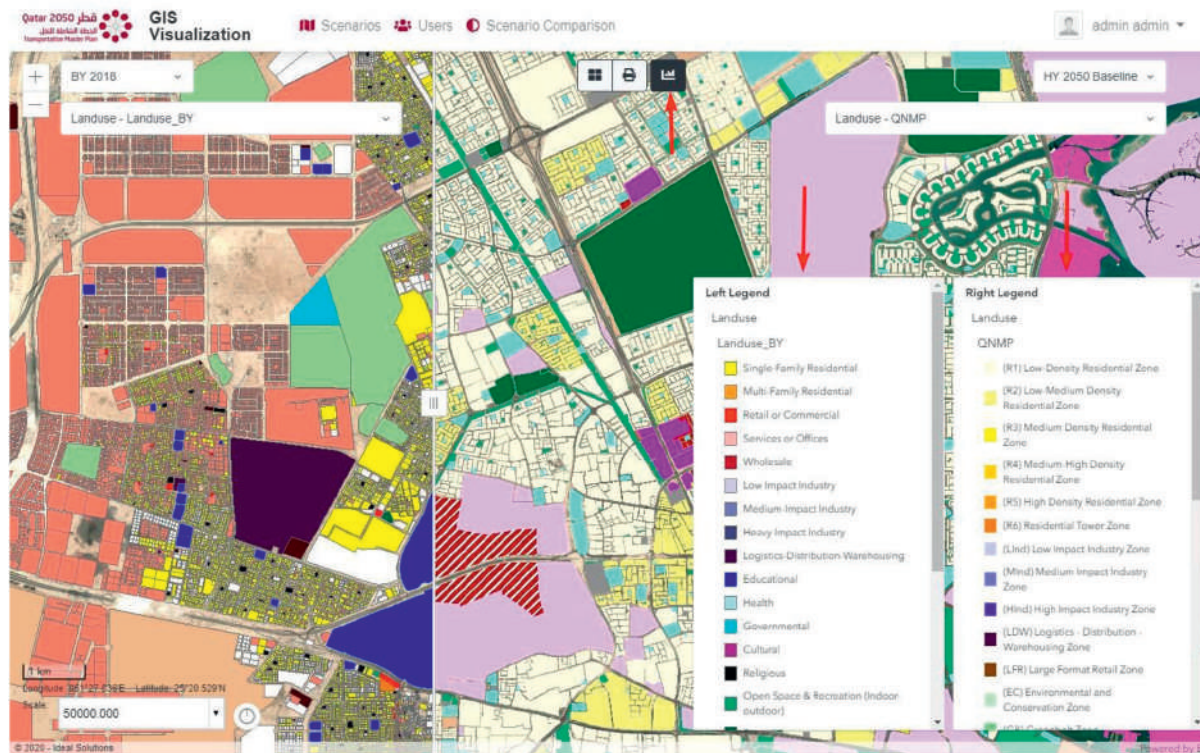
The print widget is the same as the one described in the Scenario Main page and can be accessed from the top map toolbar as shown below: (please refer to the previous Print Widget section in the Table of Contents for more details).



## 7.5. Legends Widget

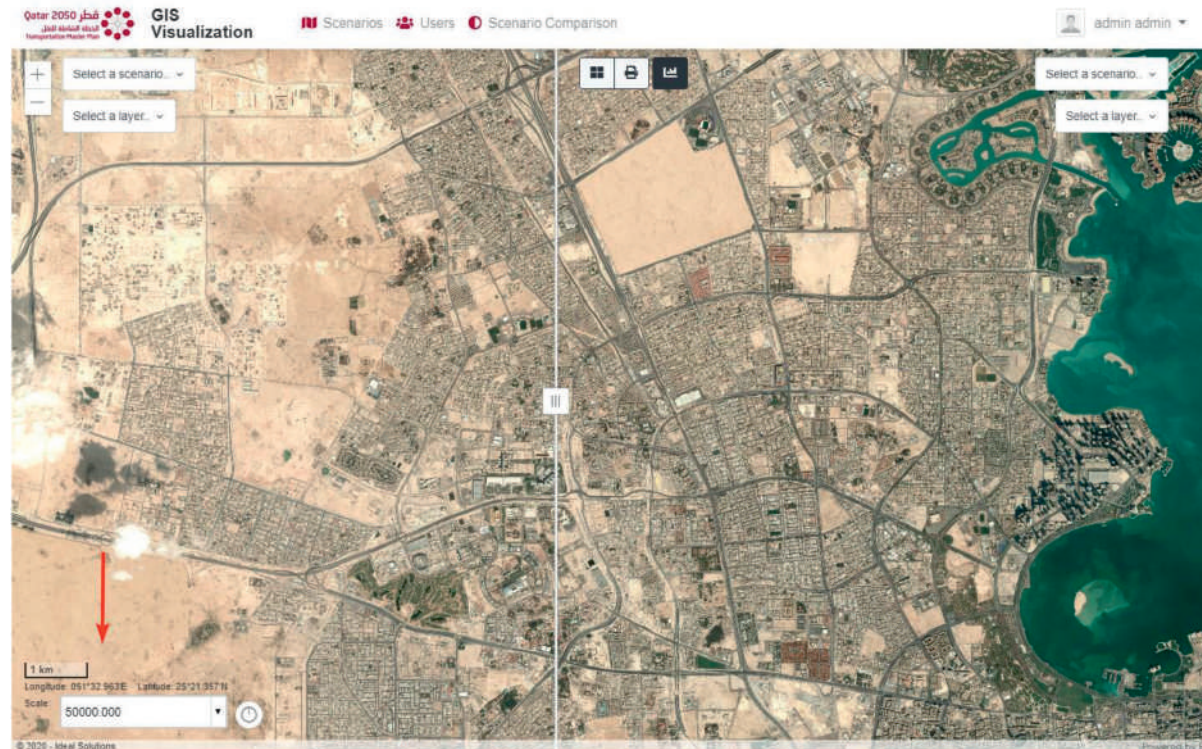
The legend widget displays labels and symbols for layers in a map. The legend will only display layers that are visible on the map.

The legend widget is activated by default and can be deactivated or activated by clicking on the last icon on the top map toolbar as shown below:



## 7.6. Map Scale and Coordinates Information Widget

The map scale and coordinates information widget is the same as the one described in the Scenario Main page and is shown in the bottom left corner of the map as shown below.









## SECTION - 08

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### USERS MANAGEMENT PAGE



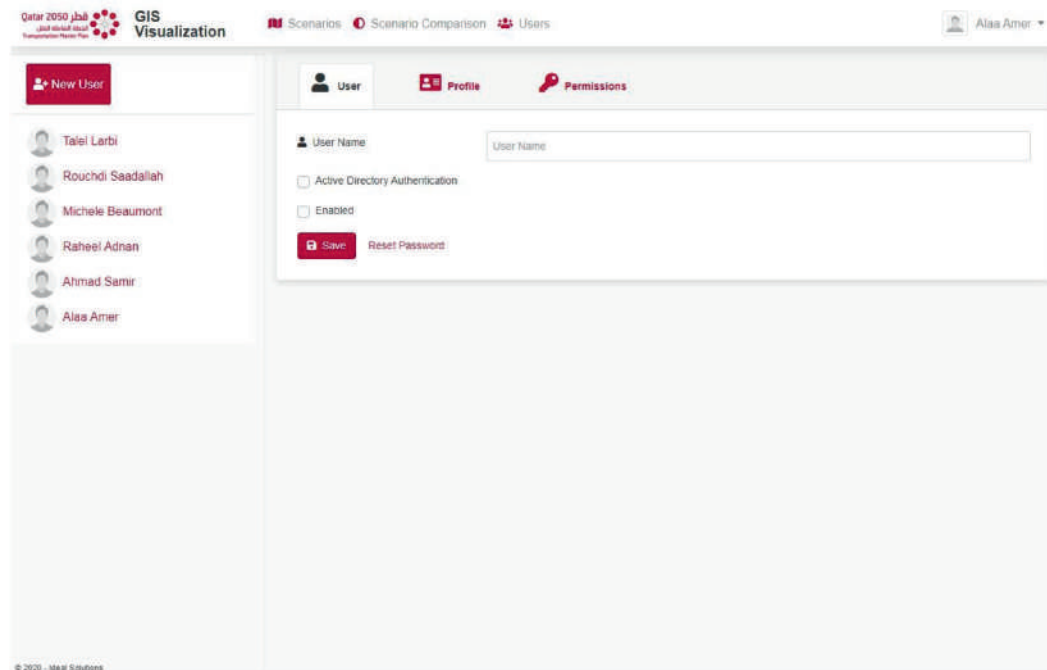


## 8. Users Management Page

The user management module allows the system administrator to view and control system access for all users.

The system administrator can perform the following operations:

- 1- Display list of users (as shown below)
- 2- Register new users
- 3- Manage users' profiles
- 4- Manage user permissions



## 8.1. New User Registration

The system administrator can register a new user by clicking on the New User button, filling the details shown below and clicking the Save button.

If a user was configured to use Active Directory Authentication, then that user will have to use his domain username and password to access the system.

The screenshot shows a web application interface for user management. A 'New User' modal form is open, displaying the following fields and options:

- Prefix:** Text input field.
- Name:** Two text input fields for 'First Name' and 'Last Name'.
- User Name:** Text input field.
- Password:** Text input field.
- Organization:** Text input field for 'Organization Name'.
- Job Title:** Text input field.
- Email:** Text input field.
- Phone Number:** Text input field.
- Active Directory Authentication:** A checkbox option.

At the bottom of the modal, there are 'Close' and 'Save' buttons. Red arrows in the image point to the 'New User' button in the background, the 'Password' field, and the 'Save' button.

## 8.2. User Profile Management

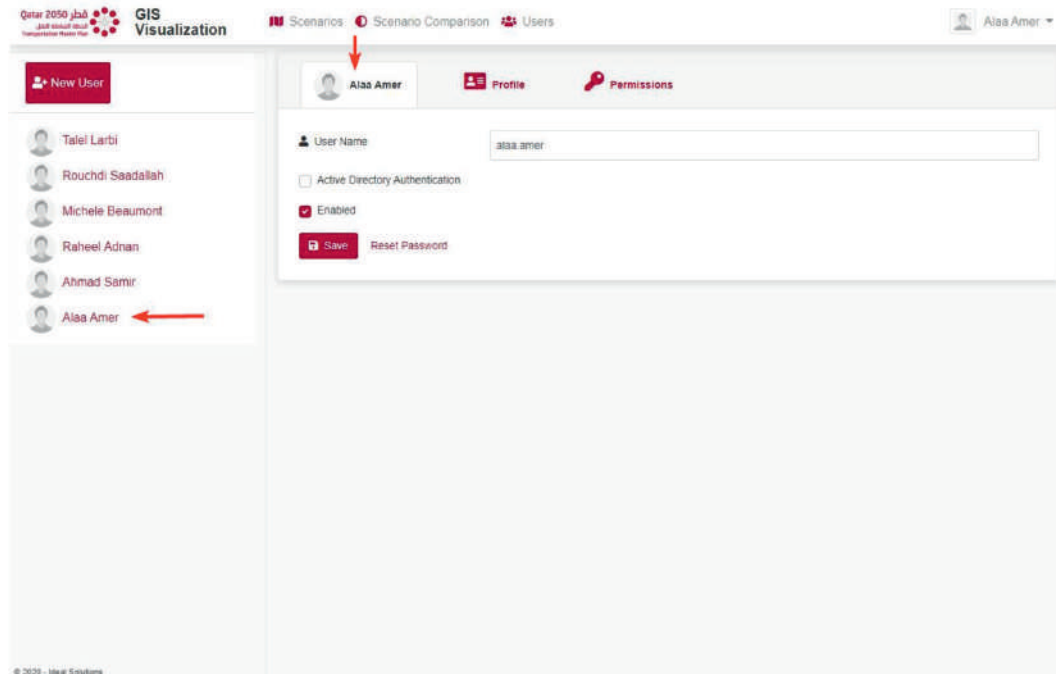
The system administrator can manage a specific user details and profile by clicking on that user's name from the list shown on the left side.

Once a user is selected, the system administrator can view and modify the following details:

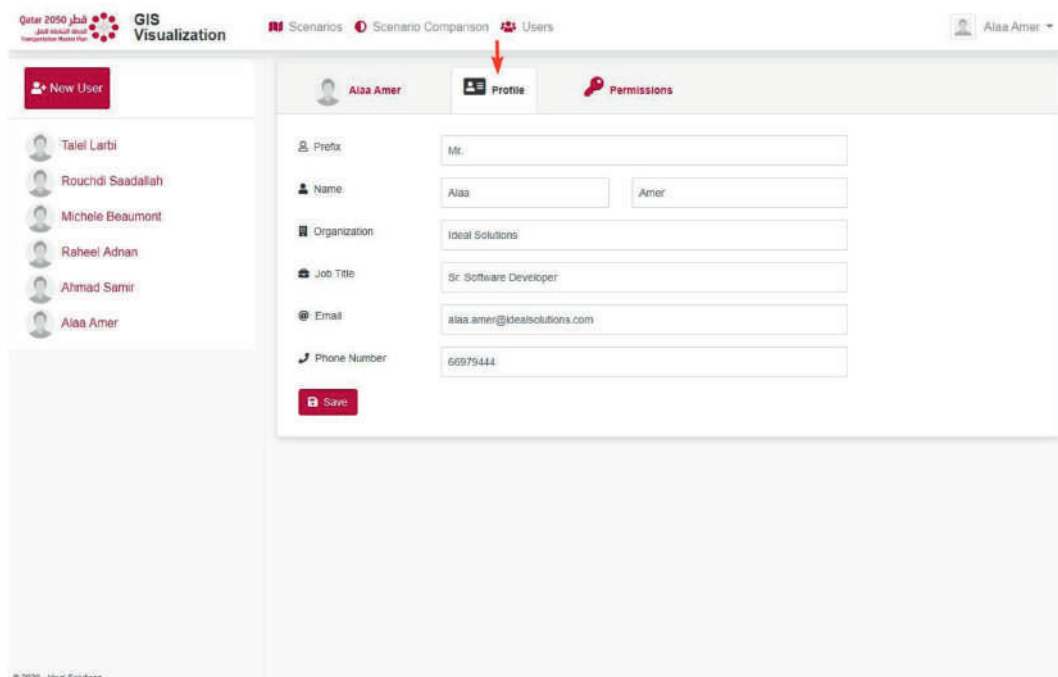
- 1- **User Name:** used for login and authentication for standard and Active Directory Authentication.
- 2- **Active Directory Authentication:** used to enable/disable Active Directory Authentication for that user.
- 3- **Enabled:** used to enable/disable system access for the selected user.

Any adjustments will only take effect once the Save button is clicked.

Additionally, the system administrator can reset the user password to the default password by clicking on the Reset Password button. (This option is only valid for Non-Active Directory Users).



To edit the user profile, click on the Profile tab as shown below:



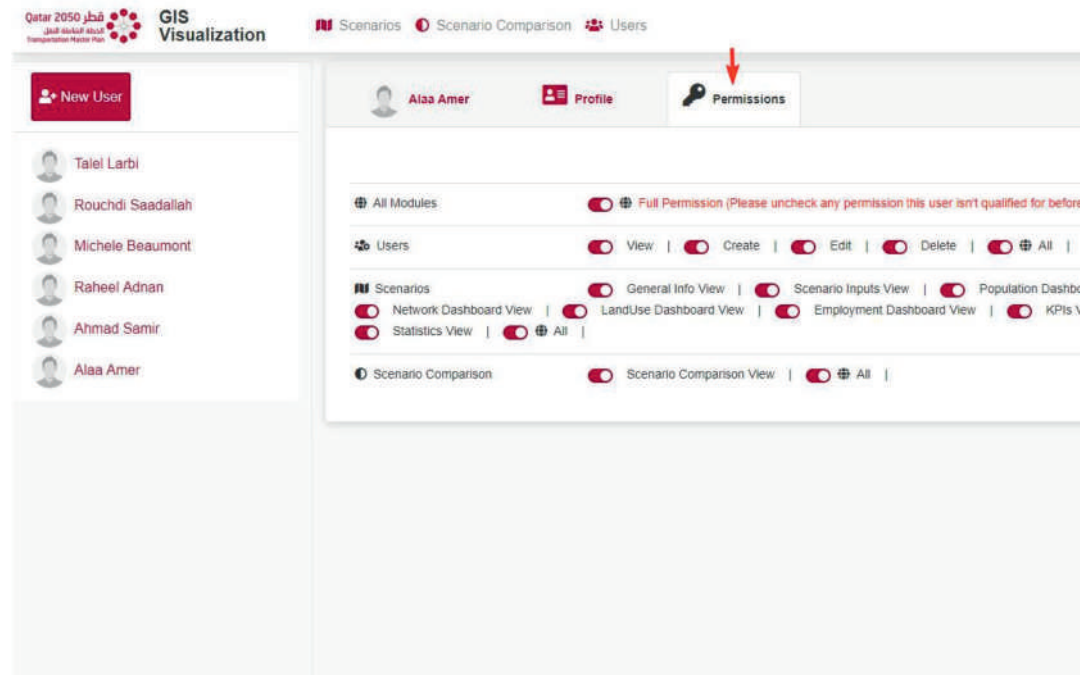
It is very important that the user Email is accurate to allow him/her to receive One Time Password (OTP) tokens and to receive Emails to reset password if forgotten.

Any changes to the user details above will only take effect when the Save button is clicked.



### 8.3. User Access Permissions Management

The system administrator can view and control the user permission by clicking on the Permission tab as shown below:



Any changes to the user permissions above will only take effect when the Save button is clicked.







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