User Documentation

Onward

Group 4

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Onward is an advanced traffic monitoring application that allows users to view future traffic conditions to properly plan future trips and to address traffic concerns in areas of interest.

System Requirements

To use this program, we recommend that you use a desktop, laptop or mobile device with any of the following:
The current version of Microsoft Edge or Internet Explorer 10 or 11 (Windows).
The current and previous version of Chrome or Firefox (Windows, macOS, or Linux).
The current and previous version of Safari (macOS or iOS).

Landing Page

To begin using Onward, go to the browser of choice and enter the following url address http://www.onwardtraffic.com/ and you will be greeted with the following Landing Page.
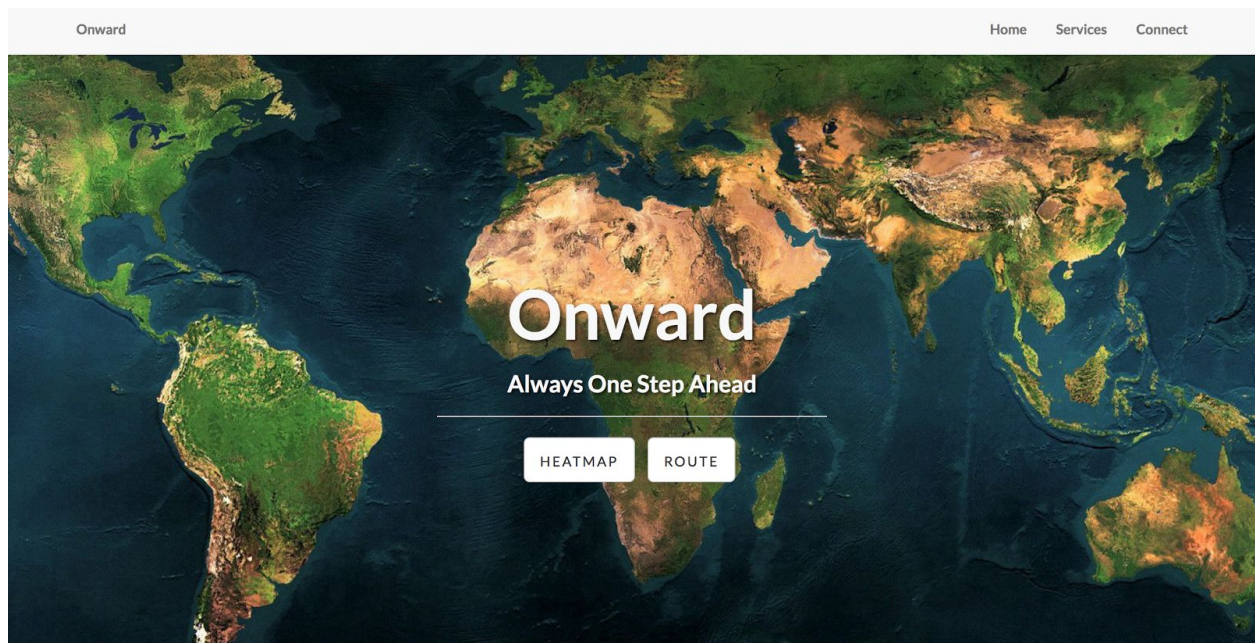

Figure 1: Landing Page (1)

Here you can view the options to navigate to the features Heat Map or Route. Currently, the functional features are Heat Map and Route and you will be directed to the respective web pages for those features if you click their respective buttons. If you would like to view

information about the features you can scroll down on the same landing page to see a brief description of each feature, as seen in Figure 2.
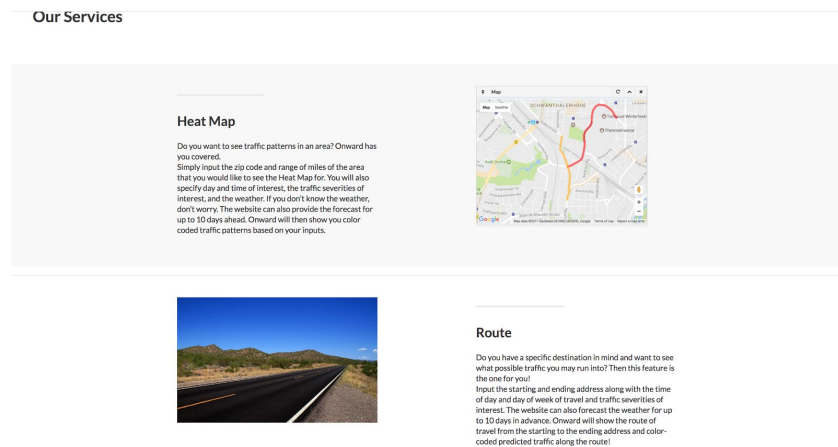

Figure 2: Landing Page (2)

Heat Map Feature

Choosing the "Heat Map" feature from the landing page will direct you to the following web page.
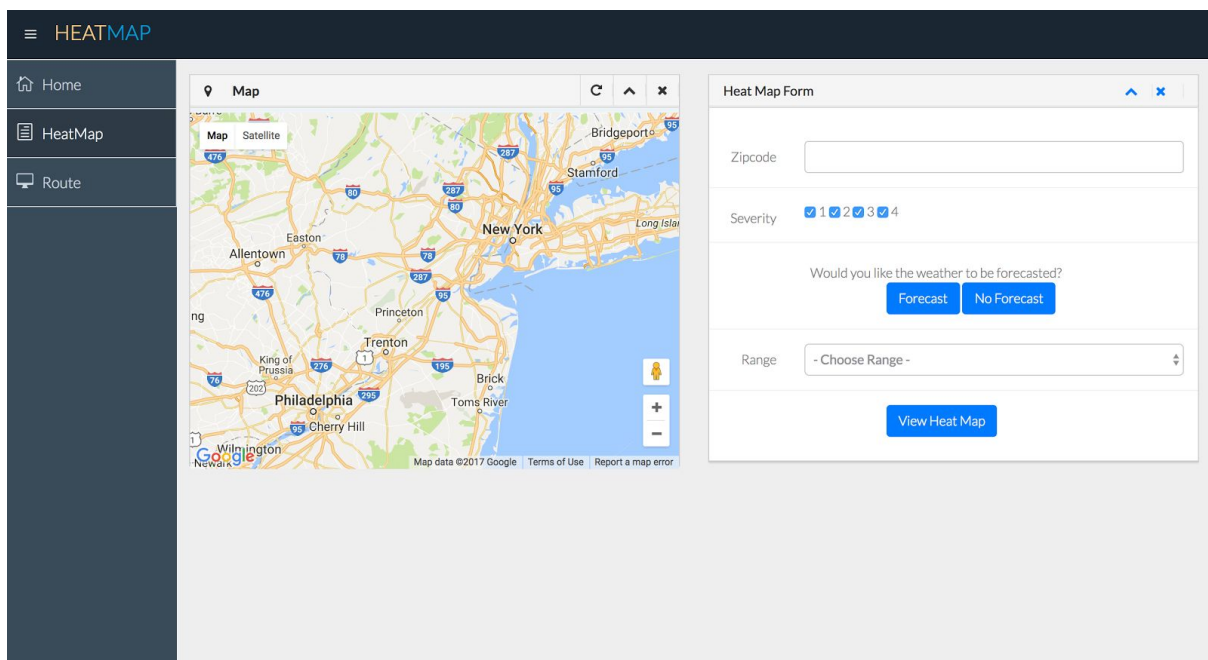

Figure 3: Heat Map

This web page shows an interactive map and an input form. The Heat Map feature will show you the traffic for a specific area, based on a Zip Code and a range of miles for a time of day for a day of the week or date based on a weather condition, as traffic depends on these parameters. The user will select "Forecast" or "No Forecast" to choose whether they want to use forecasted weather or weather conditions that they are specifically interested in.

Figure 4: Heat Map - No Forecast

If you wish to use weather conditions of your own interest, click the "No Forecast" button and fill the form shown above.

- Enter a 5 digit valid zip code in the "Zip Code" field.
- Choose what "severities" of traffic you want to view on the map via a checkbox input. A "1" is low impact traffic (color: green), a "2" is minor impact traffic (color: yellow), "3" is moderate impact traffic (color: orange) , and "4" is serious impact traffic (color: red). You may input any combination of severities and those respective severities will be shown on the map indicated by the colors stated.
- Next Select the "Time of Day" from the "Choose Time" dropdown that will provide the options of 12:00 AM to 11:00 PM. Choosing a time will tell Onward to show traffic that will likely occur at that time for the Day that you will choose.
- Next Select "Day of Week" from the "Choose Day of Week" drop down to choose either "Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday" or "Sunday". This will be the day of the week Onward will display the traffic condition for.
- Select "Weather" from the drop down "Choose Weather" that has the options "Any Weather", "Clear", "Snow", "Cloudy", "Rain", and "Fog". The last 5 options are general weather conditions the you may choose from to see how that weather condition may

affect traffic conditions in the area of interest, and the option "Any Weather" will show the traffic conditions independent of weather condition.

● Next Select a "Range" from the "Choose Range" drop down. This will be how many miles from the center of the zip code that you have chosen that you wish for Onward to report traffic information for. The options are "5" , "10", "15", "20" miles.

● Click "View Heat Map". Onward will now use your inputs to show you traffic information on the map based on these specific inputs. Zoom out to see more of the map.

Example:

Figure 5: Heat Map No Forecast Example

If you are interested in a specific day that is in the next 10 days, Onward provides you the option to use forecasted weather provided by "The Weather Company" so you do not need to choose a weather condition. To exercise this option, click the "Forecast" button.

Figure 6: Heat Map - Forecast

- Enter a 5 digit valid zip code in the "Zip Code" field.
- Choose what "severities" of traffic you want to view on the map via a checkbox input. A "1" is low impact traffic (color: green), a "2" is minor impact traffic (color: yellow), "3" is moderate impact traffic (color: orange) , and "4" is serious impact traffic (color: red). You may input any combination of severities and those respective severities will be shown on the map indicated by the colors stated.
- Next Select the "Time of Day" from the "Choose Time" dropdown that will provide the options of 12:00 AM to 11:00 PM. Choosing a time will tell Onward to show traffic that will likely occur at that time for the Day that you will choose.
- Next Select "Date" from the "Date" drop down. You will be able to choose a date that is within the next 10 days from the current date. Onward will then use this date to get weather from The Weather Channel and use this date for day of the week.
- Next Select a "Range" from the "Choose Range" drop down. This will be how many miles from the center of the zip code that you have chosen that you wish for Onward to report traffic information for. The options are "5" , "10", "15, "20" miles.
- Click "View Heat Map". Onward will now use your inputs to show you traffic information on the map based on these specific inputs, as well as inform you the weather for the time and day. Zoom out to see more of the map.

Example:

Figure 7: Heat Map With Forecast Example

Route Feature

Choosing the "Route" feature from the landing page will direct you to the following web page.

Figure 8: Route

This web page shows an interactive map and an input form. The Route feature will show you the traffic for a route for which you will specify "Starting Address" and "Ending Address" for a time of day for a day of the week or date based on a weather condition, as traffic depends on these parameters. The user will select "Forecast" or "No Forecast" to choose whether they want to use forecasted weather or weather conditions that they are specifically interested in.
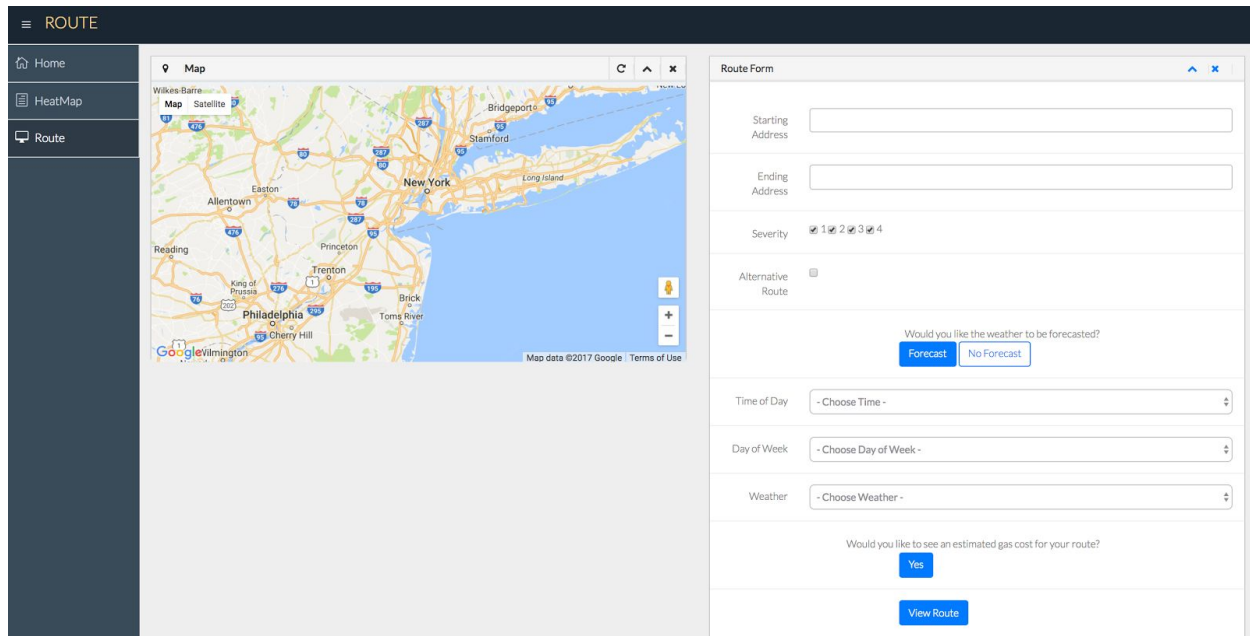
Figure 9: Route - No Forecast

If you wish to use weather conditions of your own interest, click the "No Forecast" button.

- Enter a valid starting address in the "Starting Address" field.
- Enter a valid ending address in the "Ending Address" field.
- Choose what "severities" of traffic you want to view on the map via a checkbox input. A "1" is low impact traffic (color: green), a "2" is minor impact traffic (color: yellow), "3" is moderate impact traffic (color: orange) , and "4" is serious impact traffic (color: red). You may input any combination of severities and those respective severities will be shown on the map indicated by the colors stated.
- Next Select the "Time of Day" from the "Choose Time" dropdown that will provide the options of 12:00 AM to 11:00 PM. Choosing a time will tell Onward to show traffic that will likely occur at that time for the Day that you will choose.
- Next Select "Day of Week" from the "Choose Day of Week" drop down to choose either "Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday" or "Sunday". This will be the day of the week Onward will display the traffic condition for.
- Select "Weather" from the drop down "Choose Weather" that has the options "Any Weather", "Clear", "Snow", "Cloudy", "Rain", and "Fog". The last 5 options are general weather conditions the you may choose from to see how that weather condition may affect traffic conditions in the area of interest, and the option "Any Weather" will show the traffic conditions independent of weather condition.
- Click "View Route". Onward will now use your inputs to show you traffic information on the map based on these inputs. Zoom out to see more of the map.

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Example:

Figure 10: Route No Forecast Example

If you are interested in a specific day that is in the next 10 days, Onward provides you the option to use forecasted weather provided by The Weather Company so you do not need to choose a weather condition. To exercise this option, click the "Forecast" button.

Figure 11: Route With Forecast

- Enter a valid starting address in the "Starting Address" field.
- Enter a valid ending address in the "Ending Address" field.
- Choose what "severities" of traffic you want to view on the map via a checkbox input. A "1" is low impact traffic (color: green), a "2" is minor impact traffic (color: yellow), "3" is moderate impact traffic (color: orange) , and "4" is serious impact traffic (color: red). You may input any combination of severities and those respective severities will be shown on the map indicated by the colors stated.
- Next Select the "Time of Day" from the "Choose Time" dropdown that will provide the options of 12:00 AM to 11:00 PM. Choosing a time will tell Onward to show traffic that will likely occur at that time for the Day that you will choose.
- Next Select "Date" from the "Date" drop down. You will be able to choose a date that is within the next 10 days from the current date. Onward will then use this date to get weather from The Weather Channel and use this date for day of the week.
- Click "View Route". Onward will now use your inputs to show you traffic information on the map based on these inputs as well as inform you the weather for the time and day. Zoom out to see more of the map.

Example:

Figure 12: Route With Forecast Example

Alternative Route

There is an option also to select the "Alternative Route" checkbox. If this checkbox is checked off before clicking "View Route" then the user can view 2 routes between their starting and end ending address and have the ability to switch which route they view traffic on.

Example:

Figure 13: Route and Alternative Route Example

Figure 14:Clicking Alternative Route Example

You may click the "Primary" and"Alternate" button to switch between viewing traffic on the Primary or Alternate route.

Cost of Gas

You also have the option to view the cost of gas along their route(s). They simply click "Yes" to the question asking "Would you like to see an estimated gas cost for your route?".

Figure 15: Form For Gas Cost

You will be prompted to enter your Combined MPG using a slider and the Vehicle Fuel Type using the drop down where you can select "Regular", "Midgrade". "Premium", or "Diesel". We will use this information along with the current price of gas as well as the details of your route to calculate the cost of your trip along route(s). If you are unaware of your vehicle fuel details, we provide a Fuel Economy widget that helps you know the MPG and Fuel Type.
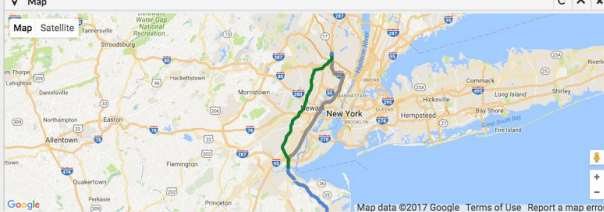
Figure 16: Fuel Economy Widget

Figure 17: Cost of Gas Printed

We print the cost of gas of your route or routes, based on if you chose "Alternate Route", below the map.
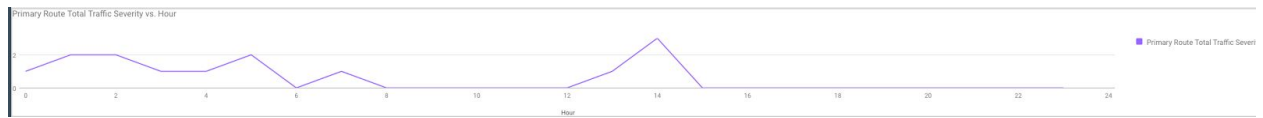
Graphs

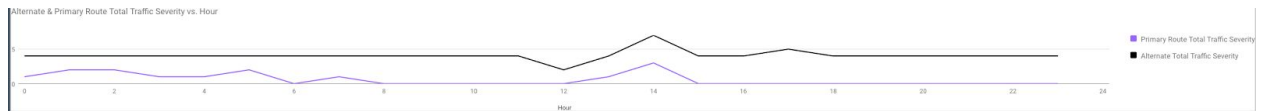**Figure 18: Graph with One Route**

Figure 19: Graph with Alternate Route

If you scroll down on the Route page, you can view graphs regarding the traffic information. What this graph shows is the 24 hours along the x axis and an aggregate of the severities along a route on the y axis (if we have a severity 4 road segment and a severity 2 road segment along a route then a 6 is on the y axis). We show it to compare a primary and alternate route, but a graph can also be shown for just one route when alternate route option is not chosen, such as in Figure 18.

Contact Us

If you have any questions, concerns, or feedback please contact any members of the Onward Team. We would love to hear from you.

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