

Bing Maps Snap-to-Road API

Looking for a tool that takes the data from your asset's GPS traces and plots the path on a map? When analyzing your fleet's activities, sometimes sifting through the data can be time consuming and not very effective. With the Bing Maps Snap-to-Road API, monitoring your assets activities, including the route and speed, can help your organization better manage resources, which in turn can improve driver safety, performance, and customer satisfaction.

Improved Performance and Customer Satisfaction

Analyzing the activities of your organization's assets, to better understand if there are areas of improvement or additional opportunities is an important part of fleet and logistics management. How can the Bing Maps Snap-to-Road API help? An asset enabled with a GPS device leaves GPS traces, otherwise known as historical bread crumbing, throughout the route. The Bing Maps Snap-to-Road API service takes the list of longitude and latitude points (as shown in

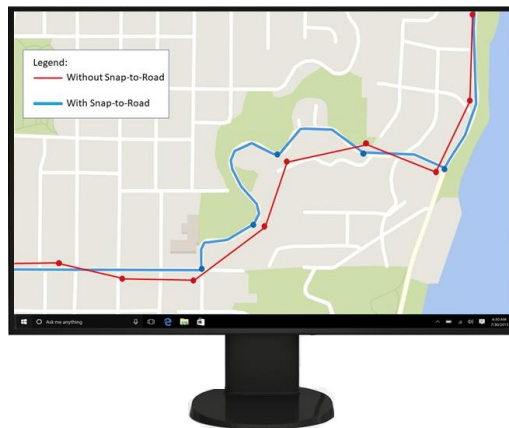


Figure 1

and returns a list of objects containing the longitude, latitude, speed limit, and street names to which forms a route snapped to the most logical roads on the map. Additionally, users can request that the points be interpolated, resulting in a path that smoothly follows the geometry of the road for advanced data visualization. Use the information to understand if the driver is adhering to the posted speed limits, monitor if they go off route, determine how much time the asset has been travelling, look at overlapping routes to optimize deliveries, and more.

Bing Maps Snap-to-Road API:

Improved Performance:

Effectively plan, monitor, and utilize assets with advanced data analytics and enhanced visualization.

Business Opportunities:

- Delivery optimization and increased customer satisfaction
- Maximize opportunities
- Improve safety and operations
- Fleet and asset management

Data Analytics and Visualization

Often times, the GPS traces from a moving asset are not accurate when looking at historical data for each asset's route, as the device can intermittently lose its signal or incorrectly place the GPS points off the road. With the Bing Maps Snap-to-Road API, you can track each asset's route by snapping the points to the nearest roads for display purposes, as well as view the data for each point.

For example, a utility company can use the Bing Maps API to track the route a technician took to a customer's location. In Figure 2, the company has set the device to collect data every two minutes and then passes the GPS points into the Snap-to-Road API, to which they have snapped the interpolated latitude and longitude points to visualize the route line on a map. In this example, they have added the Infobox feature from the Bing Maps Platform to display the data for each point, such as the driver, the truck number, the road, the posted speed limit and the vehicle's speed.

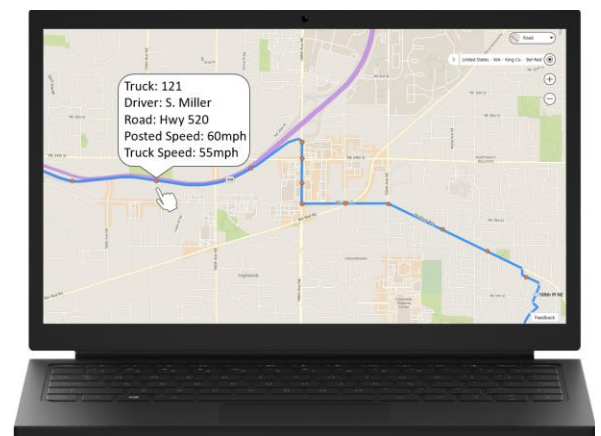


Figure 2

Features and Capabilities

- Takes a list of the latitudes and longitudes collected and returns a list of objects containing latitude and longitude points, street names, vehicle's speed limit and posted speed limit.
- Can request interpolated points, resulting in a path that follows the geometry of the road.
- API inputs:
 - An array of coordinates (as if latitude/longitude from a GPS trace)
 - Interpolate: request to interpolate between the snapped points.
 - Request to return Speed Limit = True/False
- API outputs:
 - An array of latitudes/longitudes of where the point was snapped to
 - Street Name
 - Posted car and truck speed limit
 - Caching -1 hour
- Modes supported: driving and walking
- GET and POST requests are supported
- Up to 100 GPS points specified in a GET URL
- Cross domain POST request with CORs
- The response format is JSON. Support for XML is coming soon.

Get Started

The Snap-to-Road API uses [billable transactions](#). If you have a Bing Maps key, review the Snap-to-Road API [documentation](#) to learn more and start developing your solution. If you don't have a Bing Maps key, create a [Bing Maps account](#) and create a key to authenticate your application. Then follow the [documentation](#) to start developing your solution.

For Licensing questions, contact a [Bing Maps Sales Specialist](#).

Bing Maps Fleet and Logistics API Solutions

From personalized experiences to advanced scenarios in the logistics sector, Bing Maps has you covered. Check out the geospatial API services and solutions for enhanced fleet management, routing, vehicle tracking and more.

Distance Matrix API – Calculate travel times and distance in many-to-many scenarios, with an optional histogram to predict traffic. <https://www.microsoft.com/en-us/maps/distance-matrix>

Isochrone API – Provides time-specific isochrones, given the area that can be reach in the time and space criteria. <https://www.microsoft.com/en-us/maps/isochrone>

Truck Routing API – Determine travel routes that take into consideration a truck or commercial vehicle's attributes. <https://www.microsoft.com/en-us/maps/truck-routing>

Learn More

Explore the following resources to learn more about the Bing Maps Snap-to-Road API:

Snap-To-Road API website & FAQ <https://www.microsoft.com/en-us/maps/snap-to-road>

Documentation <https://aka.ms/SnapToRoadApiDocs>

Bing Maps Dev Center to create account <https://www.bingmapsportal.com/>

Bing Maps Terms of Use <https://www.microsoft.com/en-us/maps/product/terms>

Bing Maps Sales Specialist <mailto:maplic@microsoft.com>

Contact your Microsoft Reseller or visit our website for licensing advice at www.microsoft.com/en-us/maps/licensing