Maps Distance Matrix API

Calculate travel distance and time

The Google Distance Matrix API is a service provided to calculate travel distance and time for a matrix of origins and destinations. The distance information returned is based on the recommended route between start and end points, as calculated by the Google Maps Directions API, and consists of rows containing duration and distance values for each pair.

**Duration**
Determine how long a trip will likely take at a particular time and day of the week, taking into account both current and predicted future traffic conditions.

**Predictive Travel Time**
Estimate travel time between origins and destinations based on historical and current time of day and day of week data, for any trip now or in the future.

**Distance**
Calculate distance between multiple points based on real roads, rather than straight lines from point A and B.

**Rerouting With Traffic**
Take traffic volume and congestion into account and flow into account to determine the optimal route.

**Travel Modes**
Accurately compute travel distance and time between a number of points based on your preferred travel mode: Driving / Walking / Bicycling / Transit.

**Transit Methods**
Travel via private and public transit methods:
- Bus
- Subway
- Train
- Tram
- Rail

**KEY FEATURES**
- **Store Locators**
  - Users can sort store results according to their preferences and make better decisions about which store to visit.
- **Rideshare/Taxi Applications**
  - Users can see the actual current drive times, provided by the Distance Matrix API, of each driver to their location, regardless of straight-line distance.
- **Logistics Companies**
  - Logistics companies optimize deliveries by getting travel times between locations and feeding these into a custom optimization model, e.g. Google's open source OR-Tools system.

**CUSTOMERS WHO USE DISTANCE MATRIX API**
Want to find out more?
Our Customer Success team will work with you to determine how the solution will work best for your organization. For more information about this offering, or to learn more about how customizing Google Maps can impact your business, please contact us at:

- **North and South America**
maps-success-americas@google.com
- **Europe, Middle East and Africa**
maps-success-emea@google.com
- **Asia Pacific**
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**WHO BENEFITS FROM THE DISTANCE MATRIX API?**
- **Be more efficient**
  - Plan and optimize your routes more effectively by knowing predictive travel time data and current data, fuel consumption, distance and more.
- **Leverage real-time traffic updates**
  - Find the best route based on current traffic and reroute if necessary.
- **Effectively track, coordinate and optimize utilization of assets**
  - Effectively track, coordinate and optimize utilization of assets by finding the fastest routes with traffic updates, then making more deliveries in the same amount of time and reducing transportation costs.
- **Improve customer service**
  - Give customers accurate arrival time predictions based on a blend of historical and live data.

**BENEFITS**
- **Store owners, rideshare/app analytics, and logistics companies are common applications that benefit from using the Distance Matrix service.** In those use cases, users determine their relative distance from a store, taxi, or delivery location.
- **Store locators**
  - Users can visit store results according to their preferences and make better decisions about which store to visit.
- **Rideshare/Taxi Applications**
  - Users can see the actual current drive times, provided by the Distance Matrix API, of each driver to their location, regardless of straight-line distance.
- **Logistics Companies**
  - Logistics companies optimize deliveries by getting travel times between locations and feeding these into a custom optimization model e.g. Google's open source OR-Tools system.

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**WHEN TO USE?**
- Market-based travel time and distance data
- Compare distances and travel times between multiple locations
- Predictive travel time data to optimize delivery routes
- Calculate travel time and distance between two points
- Design delivery routes that consider different travel times and distances
- Calculate travel times and distances based on different modes of transportation
- Use real-time traffic data to optimize delivery routes
- Calculate travel time and distance between multiple locations
- Calculate travel time and distance between a number of locations
- Use real-time traffic data and current data, fuel consumption, distance and more