

Introduction	3
Requirements	3
Comparisons	4
Accuracy.	4
Additional features	4
Design and legibility.	4
Summary	4
Recommendation	5
Sources	5

Apple Maps vs. Google Maps

This document provides you a comparison between the two major map applications, Apple Maps and Google Maps, when you use them for navigation purposes. Even if your decision was already made when you chose the phone that is in your hands right now, let us try to gather and compare additional information

1. Introduction

Since the summer vacations' period has just begun, let's try to find which companion is the best for planning your trip, and then for following the chosen route.

When Apple launched its Maps application, in September 2012, Google Maps already existed for seven years. Whatever the reason, the absolute need of filling the gap, that of meeting the keynote announcement's deadline or just a surge of pride, it is evident that Apple underestimated the amount of work and technical issues to be solved the release of such an application would require; hence the letter of apology Tim Cook was forced to release [1].

Today, five years after this erratic start, most of the initial issues have been fixed; some recent reviews even rated Cupertino firm's application as first considering the number of people using the application.

Here are some important considerations:

- The quality of the GPS reception is a determining factor in the behavior of the application. However, this report does not take this factor into account, simply because it is external to the application; we may have very different results depending on the phone model in use or simply on the network and satellite's coverage conditions.
- The data that is used for designing the map and computing the directions is also an external factor, and the application cannot be incriminated if TomTom—one of the main data providers for both application—lacks of accuracy. Anyway, several years after the launch of these maps' applications, the data that is used for both applications is generally very reliable.

2. Requirements

The following requirements will be successively evaluated:

- The accuracy of the proposed route and the application's capability to anticipate the traffic conditions.
- The additional features that will make your life easier while traveling and for instance, finding a gas station or a rest service area with a bathroom.
- The application's ease of use: in other terms, how fast and easy it is to plan the trip and then to enter the destination into the application. It is never easy to read a map on a smartphone's screen; then the integration of these applications in car systems is crucial: the behavior of Apple CarPlay (integrating Apple Maps) and Android Auto (for Google Maps) must facilitate the navigation and provide a real advantage compared to the application running on the phone.
- The design and most particularly the map's legibility: the map does not have to look like a hand-drawn map produced by a national geographic institute—particularly because one of the main features of such an application is to provide the directions—but for example, the

toponyms bordering the route need to be clearly identified, as an indication of the remaining time to reach the destination.

3. Comparisons

1. **Accuracy.** Both application are very similar in their capability to sort roads by distance or driving time, and in the capability to provide alternatives to the first displayed route. Google Maps offered more traffic detail, such as distinguishing between accidents and road maintenance, and displayed more alternate routes [2].
2. **Additional features.** Apple Maps is updating its map more frequently than Google:

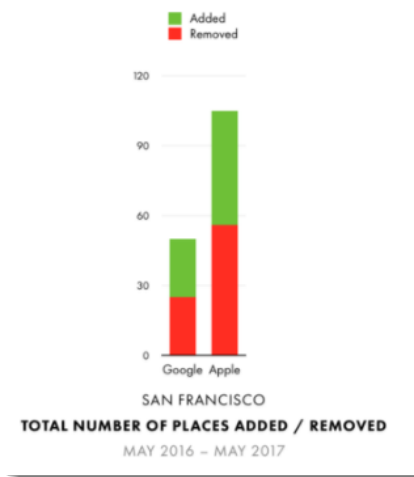


Figure 1. Apple Maps vs. Google Maps: Number of places added / removed [3]

Therefore, the display of nearby businesses is more reliable with Apple Maps. In addition, Apple Maps does a better job of displaying which business is closest [2].

3. **Ease of use.** Google Maps is the only application allowing the creation of a route integrating multiple stops. About the comparison between Apple CarPlay and Android Auto, there was no winner at that time [4].
4. **Design and legibility.** Apple Maps offers a cleaner interface, and more friendly buttons. By offering color-coded roads to indicate traffic conditions, Google Maps offers more real-time data when driving [5].

4. Summary

This section summarizes the comparisons based on our four requirements:

1. Google Maps is more accurate, particularly when the traffic conditions are taken into account.
2. Apple Maps is better at providing nearby businesses' information, which is very important during the trip.
3. Google Maps allows the definition of a route integrating multiple stops. The same job would require much more configuration with Apple Maps.
4. Apple Maps' "absolute" design is better while Google Maps' "navigation-oriented" design is better.

Finally, and as shown in the table below, Google Maps won three duels out of four:

Table 1. Testing results

App	Apple	Google Maps
Requirement		
Accuracy		✓
Additional features	✓	
Ease of use		✓
Design and legibility		✓

5. Recommendation

Whatever the requirement, both applications obtain very close results. As can be seen in Table 1, Google Maps is the best choice for navigation with more powerful traffic-oriented features.

6. Sources

7. iPhoneHacks. *Apple CEO Tim Cook Apologizes For iOS 6 Maps in Open Letter*, September 28, 2012, <http://www.iphonhacks.com/2012/09/apple-ceo-tim-cook-apologizes-for-ios-6-maps-in-open-letter.html>, Accessed July 12, 2017.
8. Colby, Clifford, *Apple Maps vs. Google Maps*, October 20, 2015, <http://download.cnet.com/blog/download-blog/apple-maps-vs-google-maps/>, Accessed July 12, 2017.
9. O'Beirne, Justin, *Cartography in the age of autonomous vehicles*, 2017, <https://www.justinobeirne.com/autonomous-vehicle-cartography>, Accessed July 12, 2017.
10. Goodwin, Anduan, *Android Auto vs. Apple CarPlay: Google and Apple battle for dashboard dominance*, June 16, 2015, <https://www.cnet.com/roadshow/news/android-auto-vs-apple-carplay-head-to-head/>, Accessed July 12, 2017.
11. Casey, Henri T., *iOS 10 Maps vs. Google Maps: Which Guides The Best?*, July 28, 2016, <https://www.tomsguide.com/us/apple-maps-google-maps-faceoff.review-3808.html>, Accessed July 12, 2017.