



## Nearby Explorer for iOS User's Guide



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### Introduction

When sighted people use a global positioning system (GPS), their main interests are getting guidance and/or guidance to a destination. Blind users appreciate these features as well, but they generally desire more orientation queues than are available on commercial GPS apps. Nearby Explorer is a GPS app designed to provide these queues along with normal routing and directions. When combined with an accessible interface and customizable, current information about streets and places, the app provides a meaningful picture of the vicinity and its characteristics.

Nearby Explorer works by:

1. displaying a screen containing several geography-related categories, letting you turn on the ones of interest (announced as you move). You can lock the screen and continue receiving feedback or examine the values on the screen.
2. letting you orient the phone in various positions to get more targeted information about:
  - places,
  - direction and streets, and
  - the closest place.
3. providing descriptive details such as:
  - intersection configurations as you approach,
  - transit stop direction of travel, next time, and head sign details for transit systems in several metro areas,
  - distance and direction to places, and
  - adjustable scope for prominence and proximity for place announcements.

### Features

The information Nearby Explorer provides helps you stay oriented. It shows surrounding and approaching streets, businesses, institutions, and public facilities, and offers continually updating distance and directional information to the nearest or selected location. You control the amount and detail.

It provides a sense of the surrounding streets and their relationship to your current position.

It lets you monitor or aid a driver with navigational information.

It lets you virtually explore the map.

### About This Manual

This documentation was complete and accurate at the time of its writing. When there are updates or corrections, you may find the latest version of the manual at <http://tech.aph.org/ne>. You may also find this address useful in the event you wish to read the manual with your desktop computer. The manual is also available as a download in the following formats:

## [PDF](#)

There is also an email list dedicated to the use of this app. This is the place to make suggestions, provide tips, and ask questions. To subscribe to the list, send a blank email to [ne-subscribe@tech.aph.org](mailto:ne-subscribe@tech.aph.org). Adventurous users may wish to test upcoming features. To get more information, join the beta list by sending a blank email to [neios-beta-subscribe@tech.aph.org](mailto:neios-beta-subscribe@tech.aph.org).

For the purposes of this documentation, wherever possible, APH assumes your basic knowledge of Voiceover (VO) and does not, with rare exception, convey information in VO terminology. For example, a VO user, must know that you double tap an option to turn it on. For basics on VoiceOver, see <https://www.apple.com/accessibility/ios/voiceover/>

## Limitations

To better understand the benefits and limitations of Nearby Explorer, it is useful to obtain a basic understanding of how the technology works.

There are several components in play. Two of the most important are GPS and maps.

## GPS

The mobile device (phone or tablet) uses a GPS receiver to read signals sent from an array of satellites designed for this purpose. The receiver uses these signals to pinpoint a position on earth and assign lateral and longitudinal coordinates to that position. In general, a good consumer-grade receiver can render accuracy to within a few yards of a person's actual position under optimal conditions. More realistically, you can expect to achieve accuracy good enough to determine on which side of the street you are traveling.

Some of the conditions that adversely affect accuracy with reading satellite signals include the following:

- Low cloud cover
- Unusual atmospheric conditions, such as solar flares or magnetic storms
- Large buildings or physical landmarks that prevent a clear view of the sky
- Inside buildings or underground where there is no clear view of the sky

For location and maps within a building, Nearby Explorer uses beacon based technology and indoor maps to provide similar information. Unfortunately, each building must be configured to take advantage of these features.

## Maps

The latitude and longitude coordinates do not mean much to most users, so they must be combined with maps that contain more familiar landmarks such as streets and places. Nearby Explorer comes equipped with maps that cover the United States and Canada.



**Figure 1.** Screenshot of a street map

There are several factors about the map data that are useful to understand to make the most effective use of the software.

- All the map data resides on your device, so it is not necessary to have a Wi-Fi or cell-data connection to use the software. If you do have a network connection, Nearby Explorer uses the connection to request information about places in combination with the Google Places™ business listings service. This information tends to be much more dynamic than that of the maps on the device. Plus, you can label places as well as benefit from others' labels.
- There are instances when the map data may be inaccurate. Because there are millions of points of interest and other locations in the data, it is possible that errors can be introduced during the collection process.
- Points of interest are indicated as the physical address of the street and not at the front door of the establishment.
- Street addresses are approximate. They are calculated using a relative distance from the beginning to the end of the block. You may notice, therefore, that an address can be consistently off by a house number or two. This is normal and cannot be corrected. While the address given as the house number may not always be exact, it does stay constant. Accordingly, once Nearby Explorer reports an address at a certain point in the block, it consistently reports that same address at that same point.
- The onboard map data does not provide addresses to places. Addresses for places are approximated, just like the street numbers.
- Changing conditions are not reflected in the maps. It is not unusual to receive information for restaurants that no longer exist and to not receive information for new establishments. The maps reflect the conditions at the time of the data collection. These conditions are eventually corrected, as the maps are updated periodically. Other conditions may be more immediate. Road construction, traffic, and weather all represent conditions that cannot be reflected in the data nor detected by the satellite signal.
- Places and Favorites do not account for altitude as part of their location.

You must pay attention to your environment. The data given from Nearby Explorer are suggestions, not absolute facts. The present conditions and immediate environment must always take precedence over the app's suggestions.

GPS is no substitute for navigation skills. Consult an orientation and mobility professional and see <http://www.land-navigation.com/> for basic navigation skills.

## Requirements

Nearby Explorer requires the following:

1. iPhone, iPad, or iPod running iOS 9.0 or later
2. GPS receiver either on the device or via Bluetooth. (All iPhones contain a GPS receiver.)
3. At least 4.2 GB of free space on which to store downloaded maps

When the GPS chip is in use, such as when using Nearby Explorer, battery consumption is significantly increased. It is usually necessary to plug in the device if using it on a long trip where the GPS is in use for more than several hours at a time.

To reduce the GPS power consumption, press Nearby Explorer's Pause button. This turns off tracking. Press the Resume button to resume using GPS. Using an external GPS receiver can both improve accuracy and reduce battery consumption.

If you do not move for 15 minutes, Nearby Explorer pauses use of GPS automatically. To resume, press the Resume button or unlock the device and activate Nearby Explorer if necessary.

## Installation

When you start Nearby Explorer for the first time, it displays licensing information that should be read carefully. If you understand and agree with the terms, select the OK button to continue.

If the app detects it has no map data, Nearby Explorer asks you if you want to download the maps. Though you may use WiFi or cellular data to download the maps, using WiFi only is recommended, since the maps are very large.

You may use the app while the maps are downloaded, but only limited functionality is available until the download is completed. Do not pause the GPS during the map download process. Pausing the GPS puts the app into a state that makes it difficult to allocate enough time to efficiently download the maps.

## Start the App

When you start the app, Nearby Explorer displays the Home Tab and waits for positioning information from the GPS receiver.

The Home Tab contains a toolbar at the top with buttons for Pause, Compass, Geobeam, Radius and Level adjustments, and a control to hide some of the items and a toolbar at the bottom containing buttons for Streets, Search, Favorites, and Transit. Below the bottom toolbar is a collection of four tabs for Home, Map, Settings, and Help. The Home Tab shows the most used controls. Between the two toolbars, the screen shows a list of information about your current or virtual position. You use the list in one of two ways:

1. Examine the values interactively.
2. Switch on ones you wish to hear automatically as they change, then lock the screen.

You may also adjust specific behavior for each list item by activating its Context menu.

The items you turn on depend on how you wish to use the program.

While walking in an unfamiliar area, it may be useful to turn on the street address, street name, and possibly the nearest POI and its distance. However, if you are riding in a car it may be too much to have street numbers and distances to POIs announced.

You may want information that changes very infrequently to be checked. For example, City, County, and State, are items that change so infrequently that you may wish to have them selected at all times. If you use the Map Tab for virtual exploration, keeping these options enabled can provide useful information about distant places without bothering you for local use.

It is important to keep "chatter" to a minimum. Since most of the information from the Nearby screen is time and distance sensitive, it is not useful to have too many announcements, especially in a moving vehicle. By the time you hear a description 100 yards past the actual location, that announcement is usually no longer relevant. The trick is to balance the amount of details with your need and situation.

In addition to the list items, the top toolbar provides buttons to pause the GPS for virtual navigation, Radius buttons to increase or decrease the distance for reporting points of interest, and a Level button that lets you select the floor for indoor venues.

## Shake to Repeat

In addition to announcing all the on items as you move and they change, Nearby Explorer can repeat important turned on options, on demand. To repeat the information contained in important items that are turned on, shake the phone. The Shake to Repeat procedure works even if the phone is in sleep mode.

**Note:** You must enable this feature in the Settings tab for it to work.

## Position the Phone

In addition to using the phone as a passive reception device for location information, you may actively seek details on demand by using the position of the phone to point to objects in the environment. See the sections on Compass and Geobeam for details. Active positioning is a powerful feature but can be confusing when the phone starts vibrating or speaking when you do not expect it. To turn off the Compass or Geobeam, select the Compass or Geobeam Buttons in the toolbar at the top of the Home Tab.

## Nearby Screen Options

- Country
- State
- County
- City
- [Neighborhood](#)
- Zip Code
- [Heading](#)
- [Street Number](#)
- [Street Name](#)
- [Approaching](#)
- [Guidance](#)
- [Nearby](#)
- [Nearby Position](#)
- [Watch](#)
- Speed
- Altitude
- Accuracy
- Vertical Accuracy

### Context Menu Options

In addition to turning on the items to monitor, you may use the Context menu. The menu provides additional options for the selected item. Details are explained in the section for each option.

To activate the Context menu with VoiceOver running, swipe down and select the Show menu option or double tap and hold.

## Hide

One of the context menu options is Hide. You may hide any of the items on the home screen. To restore options you hid, press the Show All button on the top toolbar.

## Neighborhood

The Neighborhood option shows the current neighborhood (or settlement) when available. When using the onboard maps in the United States, this field is always blank. However, it is sometimes populated when using a different address provider, or when in using the onboard maps in Canada.

## Heading

When the Heading item on the Nearby screen is on, Nearby Explorer announces your direction of travel and continually updates it as you move. This heading is derived by comparing the location of the last GPS reading with the position of the current reading. This means that in order to get a heading, you must be moving.

Nearby Explorer uses the heading to determine which streets you are approaching as you move. When you stop moving, the heading becomes invalid, and Nearby Explorer's Heading value goes blank.

## Compass

In addition to obtaining heading information from the GPS, you may use the compass to provide the direction you are facing. You activate the compass by positioning the phone. Before you use it, ensure the Compass Button is turned on.

To use the compass, hold the device vertically and point the camera in the desired direction (as if you were taking a picture in portrait orientation). Nearby Explorer responds with a vibration and announcement of the direction.

In addition to the direction, the compass announces a list of streets that intersect a line in the direction you point the device. As you point the device in another direction, the compass silences, the phone vibrates, and the compass announces the new information about direction and streets.

To use the compass with a refreshable braille display, move the VoiceOver cursor to the Heading Option. Nearby Explorer updates it as you rotate the phone to obtain your direction.

When using the compass in a supported indoor venue, instead of announcing streets in the direction you point, Nearby Explorer announces the rooms and other indoor points of interest.

To stop using the compass, move the device so it is no longer oriented vertically. Nearby Explorer responds with another confirmation tone and resumes obtaining the heading information from the GPS.

**Note:** All other functions of Nearby Explorer remain active, even when you start another program. If you do not want the position of the phone to provide Compass feedback, turn off the Compass feature by selecting the Compass off button on the toolbar at the top of the screen.

## Street Number

The Street Number option on the Nearby screen provides the closest house number of the current position. As you move, the number changes to reflect the new, closest address.

Nearby Explorer calculates street addresses by dividing a block into equal segments and assigning a number to each segment. There are cases where this approach can report a number that is one or two houses away from the actual address. Take the example of a large business that occupies an entire block. While its published address might be 900 Main Street, as you travel down the block, Nearby Explorer reports 900, 902, 904, and so on, to the end of the block and the official last number.

## Choose Address Provider

Sometimes, you can get more precise street numbers by using an alternate provider. Nearby Explorer offers the following providers:

- on-board maps
- Apple
- Google

The accuracy of each provider may depend on your area. One way to test the accuracy is to see if the app gives you an accurate address for your house or business.

To change providers, activate the Context menu, then select Address Provider.

## Street Name

The Street Name option displays the street on which the user is currently traveling. If this item is selected, the name of the street is announced when you turn onto another street or when you enter a cross street.

When approaching a cross street, depending on the accuracy of the GPS signal, Nearby Explorer announces the name of the cross street as you enter the street. Inaccurate signals may make it announce the cross street either before or after you enter or leave the street crossing.

To constantly update your street address while walking, turn on both the Street Number and Street Name items. As you walk, Nearby Explorer announces the street address but not the street name (because the street name is not changing). With both options selected, when you approach and pass a cross street, the app announces the name of the street and the closest house number on that street. Often, Nearby Explorer announces an address from each side of the cross street as you pass it. The first is the closest house number on the side of the street on which you are traveling. As you cross, the app announces the second number, which is the closest house number on the far side of the street.

As you turn onto another street, Nearby Explorer announces the name of that street as soon as it recognizes the new coordinates. This usually occurs within a few seconds of the turn.

The street number and name announcements are two of the best ways to obtain the most detailed information about your location. When combined with a Nearby Places address, which is also approximated, you can easily determine on which side of the street you are traveling and on which side the desired destination is located.

**Note:** Poor GPS reception can result in misinformation, such as addresses located on the wrong side of the street. If this happens,

avoid setting any Favorites until you obtain a better signal.

### **Enable Alternate Street Names**

Streets often have multiple names. Enabling this option lets Nearby Explorer announce the alternate name, along with the common name.

### **Parking Lots and Other "Off-Road" Locations**

If you are not near a street, Nearby Explorer appends a distance and direction to the nearest address. For example, if you turn south into a parking lot at 100 Main Street and move away from the street, the program adds a message, such as "30 yards north" to the street name announcement. In this way, as you move south away from Main Street, the program announces the address as "Main Street 30 yards north." This additional information about the distance and direction is useful to determine the route back to the road network in a park, parking lot, or other open area.

Occasionally, even though you are on a street, the program may announce the street name as if you were away from the street. This usually occurs as the result of a poor satellite signal and ordinarily corrects itself unless atmospheric conditions are extremely poor.

If you do not want to know how far away from the street you are, open the Street Name item's Context menu and select Disable off Road Indication.

### **How Addresses and Highways Work**

In many US cities, the city is divided into quadrants with a street separating the north quadrant from the south and a street separating the east quadrant from the west. Any street that is west of the east/west line often contains "W" in the name to indicate that it is west of the dividing line between east and west. Similarly, streets east of the east/west line often contain "E" in the name. The addresses begin at the east/west line and increase as they move away from it in either direction. Thus, if the east/west dividing line is Main Street, and Maple Street intersects Main, the addresses west of Main would start with 100 and increase as you move west. 400 W. Maple Street is west of 300 W. Maple Street. Similarly, the addresses east of Main increase as you move east, so 200 E. Maple Street is east of 100 E. Maple Street.

Often a block starts with an address such as 100 or 200 and increases to 99 before the next block begins, so addresses on a typical block range from numbers such as 100 to 199 or 200 to 299. Of course, if a street is particularly long, the street numbers might be a range of five digit numbers such as 26800 to 26899.

Even-numbered addresses are on one side of the street, and odd numbers are on the other side. Usually, 200 is straight across the street from 201. In many cities, the even-numbered addresses fall on the south and west sides of a street, and the odd-numbered addresses fall on the north and east sides. If this pattern does not match your area, there is usually a similar one on which you can rely.

Interstates and highways indicate their prevailing direction by their route number. All the even-numbered interstates and highways generally travel from east to west, and odd-numbered interstates and highways go from north to south.

Even numbered interstates (east/west) are numbered smallest to largest, starting in the south and increasing to 100 as you move north. For example, Interstate 10 is the southernmost interstate. It runs from Jacksonville to Los Angeles. I-20 is north of I-10 and runs from Kent, Texas to Florence, South Carolina.

Odd numbered interstates (north/south) are numbered lowest to highest starting from the west coast and increasing as you move east. I-5 is on the west coast, and I-95 is on the east coast.

When a city has an interstate that routes traffic circuitously around the heart of the city, the interstate is given a three-digit number in the 200, 400, or 600 range. It derives its number from the interstate that it branches from. In Dallas, for example, the LBJ Freeway is numbered I-635 because it loops around Dallas branching from I-35.

Interstates are marked with mile markers, one every mile. Mile markers on an interstate begin at the border of each new state. They start with zero at the southern border and increase as you move north for odd numbered or north/south interstates. They start with zero at the western border of the state increasing as you move east for the even numbered or east/west routes.

If an interstate does not start at the state's border, the mile markers begin numbering at the start of the interstate.

The exits on an interstate are indicated by the mile marker. Exit 5 is always located between mile marker 5 and 6. If there are two or more exits within a mile, their designation includes both the mile marker and a suffix letter. If there were three exits at marker 5, they would be labeled 5A, 5B, and 5C.

When you see exits in the map data, they are treated like streets, but the street name is the exit number. Therefore, it is not uncommon to have streets entering and exiting the interstate with names such as 8 or 8A.

Interstates are named with "I-" followed by the interstate number. I-40 E refers to the eastbound lanes of Interstate 40.

US highways are labeled with the prefix "US-" followed by the route number. US-67 refers to US Highway, Route 67.

State highways are named with the state abbreviation followed by the highway number as in IN-62 for Indiana Highway 62.

County roads are labeled with "County Road" or some abbreviation such as "CR" followed by the number of the road as in CR 1429.

## **Approaching**

The Approaching option on the Nearby screen lets Nearby Explorer describe upcoming intersections as you approach.

The app describes the next intersection as soon as you pass the current one.

If the cross street only intersects on one side, Nearby Explorer announces either "Left Side" or "Right Side" after the name and before the distance.

If the street is a cross street, Nearby Explorer says the street name and "ahead."

## **Distance Updates**

In addition to announcing the side of the street, Nearby Explorer also estimates and provides the distance to that intersection. As you approach the street, the distance is updated to reflect your changing position.

## **Guidance**

The Guidance item on the Home Tab displays the next maneuver to take (in the directions) when you set a place as a destination. For example, it might say, "In 30 yards, turn left on Main Street."

For complete information on Destinations and routing, see Routing.

## **Nearby**

The Nearby item on the Home Tab indicates the closest POI to your current location. If you turn on the Nearby Position item, the app also announces the distance and direction to that POI and continually updates the information as you approach and then leave that location. These POIs include Nearby Places, Favorites, and Transit Stops in supported cities. If you are indoors at a supported venue, they also include room names and other features inside the building.

By default, Nearby Explorer shows the closest place and updates the distance and direction as you move. To show more or less places, use the Context menu and pick "Maximum Places Per Location" to set the number of places to report, from one to eight.

If you live in a city with a public transit feed that is supported by Nearby Explorer, one kind of Place the app reports is Transit Stop information. The report includes the time, direction, and route name of the next bus or train. These live transit reports are active only when moving less than 10 miles per hour.

To control which type of information Nearby Explorer reports, activate the Context menu for the Nearby item on the main screen. The Context menu includes three items: Nearby Places, Transit Stop Information, and Favorites. You may enable or disable any or all of these options.

## **Point to Nearby Places With Geobeam**

Since Nearby Explorer knows both your current location and the location of places around you, it is possible to use the phone's compass and accelerometer to point at places and receive feedback about them. The feedback consists of a vibration, a tone, and an announcement with the name and distance of the place. Focusing your VO cursor on the Nearby item also interactively shows the distance and name on a connected refreshable braille display.

The vibration, in particular, makes pinpointing places both intuitive and easy. Think of this feedback as a beam (Geobeam) emitting from the end of the device, which you can use to point directly to places around you. As long as you maintain the direction, the vibration continues. You can use this vibration to help guide you to the point where the place is marked.

## **CAUTION:**

There may be obstructions between you and the place to which you point. Nearby Explorer cannot know about certain environmental barriers that may exist between you and the point. You must use traditional mobility techniques to ensure the path is safe or to follow a safe path to the place.

In addition to the vibration, the tone conveys information about the distance between the object to which you point and your location.



The higher the pitch, the closer you are to that point. The speech also announces the distance, but the tone can be used to quickly get an idea about which objects are closest as you scan the environment.

Before using Geobeam, ensure the Geobeam Button is turned on. When on, Nearby Explorer uses your phone's position and orientation to activate features. There are two ways to position your device to use Geobeam. For both positions, the "business end" is considered the top edge closest to where your ear would be while on a phone call.

To engage Geobeam in the first position, put the phone down on a table with the screen up. In field use, you will not have a table, but this is a convenient way to learn about the positioning.

Now, slowly spin it so the end points in different directions. When the end by the ear piece points to the closest place to you, Nearby Explorer beeps, vibrates, and announces the distance and name of the place.

If you spin the phone completely around in a circle and get no feedback, it means there is no place within the radius in use. Increase the radius by tapping the Increase Radius button or use a Watch or Destination.

If you have a destination or a Watch set, use the device in this position to find the destination or Watch point. When the end points to that place, Nearby Explorer responds.

The second position is the normal Geobeam operating orientation. To put the phone into this position, start with it in the first position on the table with the screen facing up, then gradually lift the right edge up until the screen faces left. The left edge of the phone rests on the table, in landscape orientation, and the face of the screen is perpendicular to the table surface.

As you move your phone into this position, Nearby Explorer makes a confirmation sound to notify you about the new operating characteristics. When you move it back out of Geobeam position, Nearby Explorer makes another sound to confirm. Try gradually lifting and lowering the right side to help gauge the triggering angles. This angle also applies to the other axis as you can confirm by lifting the pointer end from the table's surface.

When the phone is in Geobeam position, rotate the end so it points in different directions. This may be tricky to do without touching the screen, so you may wish to lock the screen while using Geobeam.

When the end of the device points to a place while in the Geobeam position, Nearby Explorer beeps, vibrates, and announces the name of the Place and its distance.

When using Geobeam, be sure to take notice of these characteristics:

- The Radius Setting dramatically effects the results you get.
- Geobeam points can appear to move slightly. This movement is caused by inaccurate satellite reception. You can still use them to get close to your target location.
- Geobeam is more accurate the further away you are from the point. When you get close to the point, you must contend with other impediments, such as the location being marked in an odd place (like in the street) or poor satellite reception. Places can actually appear to move.

If you don't want Nearby Explorer to provide feedback when you position the phone, turn Geobeam off with the Geobeam button on the toolbar.

If you don't want Geobeam and Compass mode to work while the screen is locked or the app is in the background, you can disable this in the Settings tab.

If you leave Geobeam on all the time, you must be conscious of your phone's position whenever the app is running. Some things to remember are as follows:

- To carry in a pocket without triggering Geobeam, put it in upside down.
- To use in a vehicle without triggering Geobeam, place it face down on the console.

## Nearby Position

By default, for the Nearby Position, Nearby Explorer reports the direction to the nearest place as a position on a clock face, but you can change this behavior to receive direction as a compass direction. To do that, use the Context menu, and select the Disable Report as Clock Face option.

If you do not have a network connection, Nearby Explorer uses the POIs in its database to identify nearby places. If you have a data connection, the app uses the Foursquare® service or Google Places™ business listings instead. These services can provide POIs in interesting and useful ways.

Google Places provides as many as 20 place results for each search request. Therefore, it can provide different, more general, or more meaningful results by changing the radius of the search. Google Places allows a radius of up to approximately 30 miles. Foursquare shows 50 place results at a time.

By default, Nearby Explorer uses a radius of 500 yards to help identify the nearest place. This radius usually provides adequate information about almost any small business, government facility, or other place in relative proximity. If you are located where there are few businesses or institutions, or if you reduce the radius too much, you may get no results.

There are a few ways to adjust the radius. The easiest way is to use the Radius buttons on the toolbar.

You may also select the Set Radius option from the Context menu of the Nearby Position item. Nearby Explorer responds with a menu from which you may select the desired radius.

If you are traveling in a vehicle, you should not use a small radius, especially in a densely populated area. As you travel, increase the radius based on the environment and your personal preferences.

## Watch

The Watch function is used to monitor a particular point of interest. It is most effective as a reference and orientation tool. When you monitor a POI, Nearby Explorer always displays the distance and direction to the Watch point from your current position.

To set a place as a Watch, follow these steps:

1. Select a search result or a Favorite and open its Context menu.
2. Select Set as Watch.

Alternatively, select Set Location as Watch from any Context menu on the main screen.

If you have the Watch item turned on, the app monitors and announces the distance and direction to the place you are watching.

By default, Nearby Explorer reports the direction to the Watch point as a position on a clock face, but you can change this behavior to receive this as a compass direction. To do that, use the Context menu, and select the Disable Report as Clock Face option.

If you set the Watch point, the compass in your device can also be used to point to it. As you point at the watched position with your screen facing skyward, Nearby Explorer announces the name and distance and vibrates to let you know where that position is located. For example, you could set the location of your car in a large parking lot as a Watch point and be able to locate it later.

## Accuracy

The Accuracy setting provides a number to be considered as a range for horizontal positioning. For instance, if the app shows "5 yards" the program is fairly confident that it knows your position within 5 yards. The smaller the number, the more accurate you should consider Nearby Explorer's information.

## Vertical Accuracy

Vertical Accuracy is an indication of the reliability of the Altitude report.

## Favorites

In addition to the places in the on board maps and online place services, you can mark your own places. In Nearby Explorer, these are called Favorites.

Nearby Explorer treats favorites like Nearby Places. As you approach a Favorite, the app announces its name and location. If you do not want notifications about proximity to favorites, use the Disable Favorites button in the Nearby context menu. Similarly, if favorites are all you want to be notified about, use the Enable Favorites button and the Disable Nearby and Disable Transit buttons in the Nearby context menu.

You may also use Geobeam to point at favorites.

You use Favorites to mark an existing place more suitable to your needs or to mark a place that does not exist in the map data. You can also save existing places as Favorites for easier access. Marking the exact location of a barn or shed in a field is another good way to employ favorites.

To create a favorite, physically or virtually move to the place you want to mark, then select Save Location as Favorite from any Context menu on the main screen or from the Add Favorite button on the Favorites screen.

The app responds by displaying a dialog box where you may type a new name or press the OK button to accept the automatically generated name. The automatically generated name consists of the nearest address.

It is useful to give favorite places meaningful names that more precisely describe the marked position. When marking the door to a

restaurant, for example, use exact wording to distinguish that Favorite from the more general POI in the maps. "Side Door to Wendy's" distinguishes the entrance from the map data's more general "Wendy's" moniker.

To display a list of your Favorites, press the Favorites button at the bottom of the screen.

The Favorites list organizes your Favorites by their distance from your current position, so the closest places are listed first.

Each item in the list shows the name of the Favorite, its distance and direction from your current position, and its address. You may also search for favorites.

### **Rename Favorite**

To rename a Favorite, follow these steps:

1. Select one of the favorites in the list.
2. Select Rename from the Context menu that appears. The app displays a dialog box with the current name.
3. Edit the current name or type a new one.
4. Press the Save button.

### **Delete Favorite**

To delete a Favorite, follow these steps:

1. Select the favorite to delete.
2. Select Delete from the Context menu.

### **Share Favorites**

You may share your favorites with other Nearby Explorer users. Once you share a favorite, that place shows up as a nearby place or as a place in search results.

To share your favorites with other Nearby Explorer users, follow these steps:

1. Select the favorite to share
2. Pick Share on Google Places from the menu.
3. Pick a category to use that best describes the favorite.

### **Unshare Favorites**

To remove a place from Google Places, follow these steps:

1. Select the favorite.
2. Pick Delete from Google Places from the menu.

### **Change Address**

To change the address of a favorite, select Change Address from the menu.

### **Other Actions**

To update the location of a favorite, move to the new position, select the appropriate favorite item, then select Move to Here from the context menu.

If the favorite publishes a web site or a phone number, you may go to the web site of the favorite or call it by picking the appropriate option from the menu.

### **Contacts**

To use one of your contacts, select the Contacts button at the bottom of the Favorites screen. Nearby Explorer responds with a list of contacts and the associated addresses. The context menu for each contact offers choices for turn-by-turn guidance, listing directions, saving to favorites, setting as the Watch, or virtually moving to the address of the contact.

### **Transit**

Nearby Explorer uses transit feeds to provide information about public transit.

To use the Transit feature in a supported metropolitan area, press the Transit button at the bottom of the screen.

If you haven't used the Transit feature in the current city, Nearby Explorer downloads the transit map for that area.

Nearby Explorer automatically updates transit feeds when possible. You may still use expired feeds, but be aware they may no longer be accurate.

Nearby Explorer's Transit Stop screen displays a list of nearby stops, with the closest stop listed first.

To see more nearby stops, press the More Stops button at the bottom of the screen.

Each list item on the Stops screen contains the following information:

- Street corner or address where the stop is located
- Direction the vehicle travels from that stop
- Distance and direction to the stop from your current position
- Time of the next vehicle serving that stop

To see a list of all the routes that service a particular stop, select one of the stops.

The Route screen includes buttons for the previous and next day in addition to a list of routes. Each item in the list includes the following:

- Time of the next vehicle passing through the stop.
- Short name or number of the route.
- Name of the route.

To see a schedule of all times for the current stop on a route, select the route of interest. Nearby Explorer responds with a schedule screen that shows all the times for the day.

To follow the vehicle's route, select the time of interest. Nearby Explorer responds with the All Stops screen, which shows every stop on the route along with the time the stop is reached.

To identify buses/trains at other stops, press Back to get to the Nearby Stops screen and select another stop.

## Multiple Transit Systems

If there are multiple transit systems in your area, Nearby Explorer shows an Alternate Transit System button at the bottom of the Transit view. Press this button to rotate through the available transit systems.

## Updating Transit Schedules

Nearby Explorer uses an automated system to keep its transit information up-to-date. If an update is available, Nearby Explorer downloads the schedule the next time you start Nearby Explorer. If you do not want to automatically update transit feeds, see the Transit Feed Manager in Settings.

If your local area does not support the General Transit Feed Specification (GTFS), see the [GTFS Static Overview page](#) and consider asking your transit agency to make a GTFS feed publically available to developers.

## Supported Transit Areas

- Alameda County, CA (AC Transit)
- Albany, NY (CDTA)
- Albuquerque, NM
- Ann Arbor, MI
- Atlanta, GA
- Austin, TX
- Bakersfield, CA
- Baltimore, MD
- Beaumont, CA
- Birmingham, AL
- Boston, MA
- Brevard County, FL (SCAT)
- Buffalo, NY
- Charlotte, NC (CATS)
- Chicago, IL
- Cincinnati, OH

- Cleveland, OH
- Colorado Springs, CO
- Columbus, OH
- Connecticut (Connecticut Transit - Hartford, Meriden, New Britain, New Haven, Shore Line East, Stamford, Waterbury)
- Corpus Christi, TX
- Dallas, TX
- Delaware (DART)
- Denver, CO
- Des Moines, IA (DART)
- Detroit, MI
- Duluth, MN (DTA)
- Durham, NC (GoDurham)
- Eastern Sierra, CA
- Eugene, OR
- Everett, WA (Everett Transit)
- Fairfax, VA (Fairfax Connector)
- Fort Lauderdale, FL
- Fort Worth, TX
- Grand Rapids, MI (The Rapid)
- Greensboro, NC (PART)
- Halifax, NS
- Hamilton, ON (HSR)
- Hampton, VA (HRT)
- Houston, TX
- Indianapolis, IN
- Jacksonville, FL
- Kansas City, MO
- Kingston, ON (Kingston Transit)
- Lansing, MI (CATA)
- Las Vegas, NV
- Lexington, KY
- Los Angeles, CA
- Louisville, KY
- Madison, WI
- Miami, FL
- Milwaukee, WI
- Minneapolis, MN
- Montreal, QC
- Nanaimo, BC (BC Transit - RDN Transit System)
- Nashville, TN (MTA)
- New Jersey (NJ Transit Bus, NJ Transit Rail)
- New York, NY (Manhattan MTA, Brooklyn MTA)
- Oklahoma City, OK
- Olympia, WA (Intercity Transit)
- Orange County, CA
- Orlando, FL
- Ottawa, ON
- Philadelphia, PA
- Phoenix, AZ
- Pierce County, WA (Pierce Transit)
- Pittsburgh, PA (Port Authority)
- Portland, OR
- Providence, RI (RIPTA)
- Raleigh, NC (GoRaleigh)
- Riverside, CA (RTA)
- Sacramento, CA
- Salem, OR
- Salt Lake City, UT (UTA)
- San Antonio, TX
- San Diego, CA
- San Francisco, CA (BART)
- San Francisco, CA (SFMTA)
- San Jose, CA
- Santa Rosa, CA (CityBus)
- Seattle, WA (King County Metro)
- Seattle, WA (Sound Transit)
- St. Louis, MO

- Toronto, ON (TTC)
- Tucson, AZ (SunTran)
- Vancouver, BC
- Volusia County, FL (Votran)
- Washington, D.C.

## Search

Nearby Explorer assists you with finding businesses, institutions, addresses, and places that relate to a specific topic.

Once you find a place of business, you can do one of several things, depending upon the information available for that location. These things include receiving directions or guidance, adding it to your Favorites, or traveling to it virtually on the map.

There is a Search Provider button at the bottom of the screen that lets you select among Google Places, Foursquare, and on-board maps. The Search screen always inherits the provider and radius settings from the Home screen.

Nearby Explorer can search within approximately a 30-mile radius of your actual or virtual position. To initiate a search with another location than your own, first search for a city and state, and then search for the place of interest.

To open the Search screen, press the Search button. Nearby Explorer responds with a screen that lets you type a term and shows a list of nearby places.

To search for places in another city or state, you must switch to that city first. To do this, follow these steps:

1. Activate the Edit Box.
2. Type the city or county name or the first few letters of the name, followed by a comma, then the two letter state or province abbreviation.
3. Press the Search button at the bottom right of the keyboard.

Nearby Explorer responds by displaying a list of matching cities and the county in which that city is located. Each item in the list also indicates that city's distance and direction from your current location. Choose the city of interest.

The app responds with a menu containing Search From Here and Virtual Go To.

To move the virtual position to that city and close the Search screen, choose Virtual Go To.

To display search results from that city, choose Search From Here.

The types of items that appear in the Search screen list depend on your network connection, the search radius setting, your location, or any terms you have typed. These POIs are arranged so the closest one appears at the top of the list. Each list item shows the name of the place, its category, and its distance and direction from your current or virtual position.

To show places related to a term you type, follow these steps:

1. Activate the Edit Box.
2. Type a word or key word that is in the name of the desired place or that relates to the place.
3. Press the Search button at the bottom right of the keyboard.

Nearby Explorer automatically increases the search radius to approximately 30 miles when you provide a specific term to find. You may change the radius to narrow the distance to search. Nearby Explorer discards any changes to the radius or search provider when you close the Search view.

You may search for addresses in any location by entering the street number as the first portion of the search term. For example, 1839 Frankfort Ave, Louisville shows APH from wherever you search.

When you select one of the search results, Nearby Explorer displays a menu of actions from which to choose. The menu includes the following:

- Save to Favorites
- Turn-by-turn Guidance
- List Directions
- Set as Watch
- Virtual Go To
- View on Foursquare (if using Foursquare as a search provider.)
- Call (if there is a phone number)
- Visit Web Site (if there is a web site)

## Streets

To show the Streets screen, press the Streets button at the bottom of the screen.

The Streets screen shows all the intersections on the current street, and a Virtual Go To button.

Each intersection in the list shows the name of the intersecting street, the distance and direction to that intersection, and in which direction the street runs.

If you were on Maple Street between 1st and 2nd Streets and opened the Streets view, you might see a list like the following:

- 1st Street 100 yards north heading east
- 2nd Street 50 yards north heading east and west
- 3rd Street 20 yards south heading east and west
- 4th Street 70 yards south heading east and west

Nearby Explorer highlights the closest intersection to your current location. When you open this view, the cursor will be on the 2nd Street or 3rd Street item depending on which is closest.

To turn onto one of the streets listed, select the street. Nearby Explorer displays a new list with all the intersections on the new street. Of course, one of those intersections is the street you were on when you Selected it, so the list might look like the following:

- Ash 3 miles west heading north and south
- Cherry 2 miles west heading north and south
- Dogwood 1 mile west heading north and south
- Elm .5 miles west heading north
- Lilac .1 miles west heading south
- Maple heading north and south
- Peach 200 yards east heading south

Since the intersection of 2nd and Maple is closest, Nearby Explorer highlights the street "Maple" in the list.

To move to an intersection, press the Virtual Go To button to return to the Nearby screen with your location set to the selected intersection. Use the Back button to return to the Nearby screen without choosing an intersection.

## Guidance and Directions

While Nearby Explorer excels at providing the details about the places around, it also gives guidance and directions.

To set a place as a Destination and receive turn-by-turn guidance, follow these steps:

1. Activate the Search or Favorites button at the bottom of the Nearby Explorer Home Tab. You may also pick Recent Destinations from the Context menu for the Guidance option.  
The app displays a list of Places.
2. Activate the item of interest.  
The app shows a menu of actions for favorites and searches. For recent destinations, it sets the destination immediately.
3. Select Turn-by-turn Guidance

When you set a destination for turn-by-turn guidance, Nearby Explorer announces the route type (pedestrian or vehicle), and tries to determine the side of the street on which the destination lies. If the app is reasonably sure it can determine the side of the street, it also lets you know that.

Each time you set a destination, Nearby Explorer adds it to the list of recent destinations. The program remembers the last 20 places to which you requested guidance, so if you need to use one of those destinations again, it is easy to access.

When using the guidance function, keep in mind that streets are marked at their center line. Therefore, when Nearby Explorer says, "Turn left on Maple in 40 yards," you need to take into consideration the width of the street.

## Route Settings

Route settings customize the kinds of routes and directions Nearby Explorer generates. To change how it calculates the route, select Route Settings from the Settings menu or from the Guidance Context menu if a route is active.

The route settings include route optimizations for pedestrian VS vehicle, fastest time, shortest distance, or least turns (main roads) and switches to let you include or exclude highways, unpaved roads, toll roads, and ferries in the route calculations.

## List Directions Option

To receive a list of directions, select a search result or favorite. From the next menu, choose List Directions. Nearby Explorer displays a list of directions. At the top of the list, Nearby Explorer shows the distance and time to the destination. Each item in the list shows the direction and distance to the next maneuver in the route.

## Turn-By-Turn Guidance Option

For real-time turn-by-turn guidance while you travel to the place, choose Turn-by-turn Guidance from the menu. The app responds by adding the first step of the directions in the Guidance field of the Home Tab. It also updates the Guidance field, so the next maneuver is announced as you move. The information in the Guidance field always contains the current distance and direction to the next maneuver.

## Change to or From Pedestrian Mode

To switch to or from Pedestrian mode while using the Guidance feature, follow these steps:

1. Activate the Context menu on the Guidance option.
2. Select Route Settings from the Context menu.
3. Turn on or off the Pedestrian Mode setting.

If there are other route settings to change, adjust them here as well. Nearby Explorer automatically recalculates the route based on the new settings.

Once you start moving faster than 10 miles per hour, Nearby Explorer automatically switches to driving mode for route settings.

## Directions During Guidance

To display a list of remaining directions to the destination while using the Turn-by-turn Guidance feature, follow these steps:

1. Activate the Context menu on the Guidance option.
2. Choose List Directions from the menu.

## Point to Destination

When you set a destination, Nearby Explorer lets you point to it to get audio and haptic feedback about that point. Hold the phone with the screen face up and use the end to point. When you point at the destination, Nearby Explorer vibrates and announces the name and distance to the point. If you allowed Nearby Explorer to use Geobeam and Compass when the app is in the background, you may use this feature even when the screen is locked.

## Explore the Map

While Nearby Explorer keeps track of your location as you move, it can also provide information about other places while you remain stationary or move about virtually.

The program provides several methods for map exploration, such as using the Virtual Go To option from the result of the Streets, Search, or Favorites views.

You can also use the touch screen of your device to explore the map. To learn more about map exploration using a touch screen, see [Map View](#).

To *virtually* shift to another city or state, see [Search](#).

## Virtual Navigation

Nearby Explorer lets you navigate virtually. Select Enable Virtual Navigation from any Context menu on the Home Tab. Nearby Explorer shows buttons to move in any cardinal direction. Each button click moves 20 yards. Hold the button for faster moves.

In addition to moving virtually, you may use Geobeam and Compass to explore the vicinity of your virtual location by positioning the device as described for each of these modes.

## Follow Roads

Navigation mode moves in the exact direction you request by default. However, this can be a problem if you wish to follow a road that does not run exactly north/south or east/west. The Follow Roads switch on the Navigation screen makes Nearby Explorer follow the road instead of moving in the precise direction you indicate. This usually works well, but it can sometimes cause Nearby Explorer to



assume the incorrect street when navigating through an intersection. Moving in a different direction often helps you get back on the correct street in this situation.

## Virtual Navigation Tips

When using virtual navigation, it may be necessary to adjust the announcement settings to obtain better feedback about your position as you virtually move. Turning on the Street Number option can be a good orientation aid for small moves. Setting the Watch to your original position can help maintain orientation as you move away from your origin.

## Virtual Navigation Indoors

When virtually navigating to a venue that supports indoor maps, Nearby Explorer works just like it does outdoors, except you have the additional option of selecting the level of the building.

Level numbers begin with 0 on the ground floor and -1 as the first floor below that. 1 is the first floor above the ground floor. Selecting "None" from the Level picker indicates you wish to explore outdoors.

## Use Map View to Move

In addition to the direction buttons on the Home Tab, you can scroll the map in the Map Tab to increase distance and direction possibilities.

## Exit Virtual Navigation

To exit Navigation mode, press Resume on the toolbar or disable Virtual Navigation from any Context menu.

## Indoors

Nearby Explorer provides indoor orientation in supported venues. When you move into a venue with support for beacons and maps, the app indicates the indoor status by announcing the level number of the building in which you are traveling and announces the name and position (if desired) of the nearest point of interest on that level. It also makes the Level button active, so you may virtually investigate other floors in the building.

## Indoor Maps

When using indoor locations, the app switches the Search Provider to OpenStreetMap. OpenStreetMap is the supported indoor point of interest provider.

In order to use indoor maps, you must download the one for the state in which you reside by selecting it from the OpenStreetMap button in the Settings tab.

Initially, only Kentucky, Indiana, Ohio, and Pennsylvania are included, but more states and countries are coming soon as infrastructure enhancements continue.

## Compass Indoors

The compass function shows points of interest in the direction you point the phone when indoors.

## Geobeam Indoors

Geobeam restricts points of interest, favorites, and search results to the floor on which you are located. Point the end of the phone to determine building features and their distance.

To virtually move to other floors, use the Level button in the Home screen or in the Search page. Note that the app must be paused for the Level button to be available when in the Home screen.

## Search Indoors

When you use the Search function, Nearby Explorer shows results from the current level of the building. The Level button at the top lets you select other levels to search or lets you select "None" for an outdoor search.

## Search Outdoors while Inside

To show search results, favorites, and points of interest from outside the building, select the Level button and choose "None."

## Map View

Along with the Home screen, where you fine tune what the app says as you move, Nearby Explorer offers a view of the map.

The Map view shows an interactive, accessible map of your current or virtual position.

To use the map, select the Map tab at the bottom of the screen. Nearby Explorer fills the screen with the standard Apple Map view with integration into Nearby Explorer's interface.

## Using the Map

Use your finger to touch or slide on any part of the screen to receive feedback about that part of the map.

North is at the top of the screen, south is at the bottom, and east and west are right and left, respectively.

As you touch the screen, VoiceOver gives feedback in the form of tones and verbal announcements. When you touch a street and pause there on the map with VoiceOver Hints enabled, you begin getting beeping feedback as you slide your finger to follow that street. Whether or not you enable VoiceOver Hints, pausing while touching a street makes VoiceOver begin beeping at different tones. This lets you know when you drift away from the street, and it provides verbal announcements as you approach intersections while you slide.

In addition to street name and direction information, VoiceOver announces POIs. The amount of detail depends on how closely the map is zoomed.

If the map does not cover enough space, or you want to move the center of the map, use the scroll and zoom features to adjust the view.

## Scroll the Map

To scroll the map, use the technique where you double tap then hold and slide. The usual three-finger scrolling technique required when you are running VoiceOver does not work.

When you scroll, Nearby Explorer virtually moves to the point at the center of the map and applies the announcements you set in the Home screen. It also pauses the GPS, so to resume tracking your position, activate the Resume button at the top of the Home screen when you finish using the map or other tools where you virtually explore.

The amount you scroll depends on how far you drag your finger and the zoom level.

## Zoom

To zoom, use the Rotor to get to the Zoom control, then flick up or down. Zoom is not in the default Rotor configuration, so you must add it in the Settings / General / Accessibility / VoiceOver / Rotor setting. You only need to add it once.

Once you add Zoom, you may flick up and down to change the amount of information to show on the map. VoiceOver responds with each adjustment by announcing the number of roads visible in the new view. The closer you zoom, the more information about roads and POIs you get. As you broaden the view, you see only more prominent roads and POIs.

## Points of Interest Rotor Control

When focused on the Map view, VoiceOver adds Points of Interest to the choices available in the Rotor. To see all the POIs, select Points of Interest in the Rotor, then flick through the names of each of them that appear in the view.

## Geobeam and Compass From Map View

You may use Geobeam and Compass to examine the surrounding virtual area, just as if you were there. These tools can help orient you to unfamiliar places before you travel to them.

## Tips and Tricks With Map View

The Map View can be an instructive and effective tool for virtual navigation. Judiciously setting options in the Home Tab can make the experience more understandable.

Using the Watch is one of the most effective ways to help maintain orientation, especially when scrolling by large distances. Set the Watch to your house or some familiar landmark to help with your perspective as you move. This way, if you scroll into areas where there are no places on the map, the Watch provides feedback about the distance from your origin.

As with any form of virtual navigation, it may be useful to increase the radius for Nearby Places, so you get feedback even from

several miles away.

Turn on Nearby Position to add additional information about your virtual position and its relative position from places near you.

## Home Screen

To return to the Home screen, select it from the bottom left of the screen. You may wish to make adjustments in what gets announced as you scroll through the map. If so, change the settings, then return to the Map tab.

If you scrolled the map, Nearby Explorer pauses the GPS reception. To return to a live GPS position, activate the Resume button at the top of the screen.

## Settings

The Settings tab shows options that let you change how Nearby Explorer behaves.

### Report Distances in Metric Units: Off

When you turn on this setting, Nearby Explorer uses metric measurements for distance reports. When the setting is off, it uses imperial units of measurement.

### Report Distances in Feet Instead of Yards: Off

If using imperial measurement units, Nearby Explorer can express distances in feet rather than yards. Turn this setting on to receive distance announcements in feet.

This option is not available if the Report Distances in Metric Units setting is on.

### Shake to Repeat: Off

When this option is on, you may shake your device to repeat the last information spoken in the Home screen. The information given is not just repeated, but is updated and made accurate as of the time of the shake. You may also shake the device to hear the progress of a map download.

Shake to Repeat works even if the screen is locked or the app is in the background.

### Set Watch to Turn-By-Turn Destination: Off

When this option is on and a destination is chosen, the Watch is automatically set to the destination.

### Allow Geobeam and Compass When App Is in the Background: On

Normally, Geobeam and Compass work any time Nearby Explorer is running. If you want them to work only while Nearby Explorer is in the foreground, turn off this option.

### Adjust Speech

To change the voice, pitch, speech and volume of the speech Nearby Explorer uses, select Adjust Speech from the Settings tab. The Adjust Speech screen shows sliders to adjust any of the speech parameters and a button to return the speech to the default settings. There is also a button to test the speech selections. Select the Back button when complete.

### Choose Address Provider

Normally, Nearby Explorer uses on-board maps to provide addresses. You may select among Apple, Google, OpenStreetMap, or on-board maps to provide this information.

### Choose Search Provider

Normally, Nearby Explorer uses Google Places to provide results for searches and Nearby Places. Use this button to select among Google Places, Foursquare, OpenStreetMap, or on-board maps.

## Route Settings

When using Guidance or listing directions, the route settings let you customize the way Nearby Explorer delivers instructions.

### Pedestrian Mode: On

Normally, Nearby Explorer assumes you are walking and provides instructions optimized for walking. These instructions keep you off highways but let you, for instance, walk the wrong way on a one-way street.

When Pedestrian mode is on, the route generation process uses the shortest route without highways, and does not consider street direction.

If you are in a vehicle traveling more than 10 miles per hour, Nearby Explorer switches to driving mode and recalculates the route based on the other settings available in driving mode as described next.

### **Route Optimization**

The Route Optimization settings button opens a dialog that lets you control things like shortest distance, fastest, and simplest route.

#### **Use Highways: On**

When using Driving mode, Nearby Explorer uses highways by default; however, you may instruct it not to use them by turning off this button.

#### **Use Unpaved Roads: On**

If you wish to use only paved roads, turn this button off.

#### **Use Toll roads: On**

If you wish to avoid tolls, turn off this button.

#### **Use Ferries: On**

To avoid using ferries, turn off this button.

### **Alternate Street Names**

When the Alternate Street Names option is enabled, Nearby Explorer provides additional names to which the street may be referred.

### **Number Steps in Directions List**

When Nearby Explorer shows a list of directions, you can prepend a number to each item in the list by turning on this switch.

### **Transit Feed Manager**

The Transit Feed Manager button lets you manage how Nearby Explorer works with transit feeds. When you activate the button, Nearby Explorer shows a screen with all the feeds you have downloaded. It lets you delete feeds, update feeds, or turn off automatic updates.

To delete a feed, highlight the feed of interest, and select Delete from the menu. You may delete all the feeds with the Delete All button.

By default, Nearby Explorer automatically updates all feeds you have downloaded when you start the app. While updates to feeds usually occur around once a quarter, you may wish to turn off this feature if you are concerned about unexpected data usage.

### **Change Onboard Map Region**

Nearby Explorer provides onboard maps for the United States and Canada. You may use this option to select between the following onboard maps:

- Canada
- United States
- United States and Canada

Using just the map for a single country can substantially cut down on required storage space.

### **OpenStreetMap Manager**

As Nearby Explorer adds support for OpenStreetMap, this option lets you select the areas to download. Area expansion is still in progress. Currently, only the U.S. states IN, KY, OH, and PA are included.

OpenStreetMap continuously changes, so when you download a state, you took a snapshot of the map on the day you downloaded it. To download a fresh copy, unselect, then re-select the state of interest.

The indoor maps may change frequently. APH recompiles a fresh map daily, so you may stay updated as often as desired.

## About

The About button shows the version number and copyright information.

## Other Information

### Announcements During a Phone Call

If you make or receive a phone call while Nearby Explorer is working, the program mutes the announcements until the phone call is complete.

### Other Audio

Nearby Explorer plays "nicely" with other audio playback, so you may listen to audio content or watch a movie while Nearby Explorer makes its announcements.

## Resources

- [Accessible Media Demonstration](#)
- [AppleVis Podcast Featuring Rob Meredith](#)
- [Main Menu](#)

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A link to the APH Privacy Policy is available at [www.aph.org/about/privacy.html](http://www.aph.org/about/privacy.html). Be advised that Nearby Explorer app uses Google Maps API. To learn more, go to the [Google Privacy Policy](#) webpage.

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## Indoor Mapping Overview

The American Printing House for the Blind has been working to add indoor features to Nearby Explorer™. The approach relies on three main components: indoor data at OpenStreetMap® (OSM), Bluetooth® location beacons, and the Nearby Explorer™ app itself.

Nearby Explorer™ for iOS

### Beacons

During testing and development, we have been using Estimote™ Long Range Location Beacons. Once physically installed in the building, the device's UUID/major/minor data is established and the beacon is mapped into OSM using the `indoor:mark=beacon` tag. This process takes about 15 minutes per beacon (5 minutes each to set and record the beacon's data, physically place it, and map it into OSM). In current testing, beacon settings are turned up (Advertising Interval 120 ms, Transmit Power 0 dBm).

### OpenStreetMap

The building's indoor data is entered into OpenStreetMap, which enables an open process for multiple organizations and users to enter publicly-accessible information about building interiors. Currently, especially in the United States, this data must usually be mapped from scratch. Indoor data consists of ordinary OSM nodes, ways, and relations tagged with the Simple Indoor Tagging scheme. Increasingly the browser-based iD editor at the OpenStreetMap.org homepage has added support for indoor data, but there is a dedicated indoor editor, iD-indoor, and viewer, OpenLevelUp.net, which are more useful. Since it's difficult to overlay building blueprints over the map, mapping is largely a process of estimating the location of indoor features by physically examining the space and comparing it to satellite imagery on OSM and blueprints when available. Some buildings that are currently mapped this way include APH, Crescent Hill Public Library, and Louisville's LouieLab civic innovation hub and CNET Smart Apartment.

Nearby Explorer picks up OSM nodes as points of interest, so nodes (especially doors) need descriptive `name=*` tags (such as "East Conference Room Door", "South Entrance", or "Rear Elevator Door"). Here follow some examples of tagged indoor features:

### Building

Simple Indoor Tagging recommends that the `building:max_levels=*` and `building:min_levels=*` be used when adding indoor data. This should be added to existing buildings.

- `building=yes`
- `building:levels=4`
- `building:max_level=3`
- `building:min_level=-1`

### Room

Rooms have the `indoor=room` and `level=*` tags, among others.

- `indoor=room`
- `level=0`
- `name=Men's Restroom`
- `toilets=yes`

### Stairways

Stairways connect multiple levels, so their `level=*` tag shows the range of levels they connect. This is an enclosed stairwell.

- `indoor=room`
- `level=-1-1`
- `name=West Stairwell 2`
- `stairs=yes`

### Elevators

This is another feature that spans multiple levels.

- highway=elevator
- indoor=elevator
- level=-1-0
- name=Central Elevator 3

## Doors

The door=\* tag can describe hinged or sliding doors, or can use door=no to indicate an open doorway. In general, doors should have unique and usefully descriptive names, but open doorways that connect nondescript corridors don't need a generic name=\* tag, which can confuse users. The entrance=\* and ref=\* tags may also be appropriate. Stairwell doors repeated on multiple levels should have the repeat\_on=\* tag. After placing a door node, drag it onto the room outline to connect them.

- door=hinged
- level=0
- name=Front Stairwell Door
- repeat\_on=1;2

## Beacon

Our current practice is to assign a unique UUID per each building or area. It's easiest to set the UUID of a beacon and record their data into a spreadsheet, physically place the beacons in the building, then map each beacon's location into OSM. Beacons are currently only used for location.

- beacon:major=36357
- beacon:minor=17273
- beacon:type=bluetooth
- beacon:uuid=B9407F30-F5F8-466E-AFF9-25556B57FE6D
- indoormark=beacon
- level=0
- name=Beacon at entrance to the Product Display Room

## Files

aph-logo-small.png	17 KB	11/21/2016	LBlakey
maps.jpg	161 KB	11/21/2016	LBlakey
ne_logo_160x160_32_top_margin.png	36.8 KB	11/21/2016	LBlakey