



Nearby Explorer (Full) and Nearby Explorer Online for Android User Guide



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Location and Navigation

Survival and success depend on good orientation skills. This is an especially challenging fact for people who are blind, because they must use only auditory and tactile queues to determine their position in relation to other objects or places.

For thousands of years, people used landmarks and line-of-sight to return home after a long day on the hunt, but these techniques became less effective the further they traveled. Eventually, explorers discovered consistent heavenly bodies that could aid with orientation. For example, early sailors kept a constellation to the left side of the ship to help with navigation. They could use this technique to reliably travel hundreds of miles.

Within the last few centuries, specialized instruments have been developed to aid in positional calculations. Lewis and Clark used such tools to map the Louisiana Purchase. Nevertheless, it took several hours and an intimate knowledge of the instruments and techniques to take a measurement. Then, when the trip was complete, others calculated the measurements to determine the actual position of each measurement.

With the introduction of the Global Positioning System (GPS) in the last few decades, the power to quickly and accurately determine your place on earth (with no training) is available to anyone. When combined with an accessible interface, and customizable and current information about points of interest (POIs), the tools provide a compelling picture of the vicinity and its characteristics.

The tools provided by Nearby Explorer (Nearby) make independent travel for blind pedestrians and passengers efficient, informative, and fun. Knowledge of your surroundings empowers you to explore, discover, and enjoy your own neighborhood and beyond with poise and confidence.

Features

The information that Nearby Explorer provides helps the blind traveler 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.

Nearby provides a sense of the surrounding streets and their relationship to the user's current position. Additionally, it enables the blind passenger in a vehicle to aid the driver with directions and suggestions.

This [video overview](#) demonstrates some of the features available on Nearby Explorer. These features are also listed below:

1. Increases awareness of precise position. Nearby announces the street and address of the current position of the user and gives

continual updates with movement. For even finer detail, latitude and longitude announcements pinpoint positions to within a few yards.

Note: The announcing feature is optional for all items.

2. Increases the sense of distance. It updates distances to selected locations as the user advances toward or away from the location.
3. Improves spatial awareness. It anticipates and announces the distance and direction of upcoming streets.
4. Improves knowledge of surroundings. It displays the distance, direction, name, and address of the nearest location either in the built-in maps or in points of interest (POIs) the user sets.
5. Increases flexibility. It shows surrounding streets when the user orients the phone vertically into Compass Mode. It announces the direction and all the street names for one half mile.
6. Improves orientation to surrounding businesses. It lets the user get haptic and verbal feedback about the name of and the distance to objects to which he points.
7. Guides the user to a selected destination, even while walking.
8. Displays directions to a selected destination.
9. Searches for and immediately displays places, streets, and addresses.
10. Explores the map in different selections (i.e., by intersections, all streets, or all streets from 1 or 10 miles away).
11. Displays heading and speed.
12. Surveys a selected place, and provides the distance and direction.
13. Accepts direct input of a latitude and longitude point, names the point, and saves it for later use in activities such as geocaching.
14. Intelligently announces latitude and longitude of the current position.

About This Manual

This manual describes two versions of the Nearby Explorer app: Online and Full. The full version includes NAVTEQ® maps for the United States and Canada. The online version does not include NAVTEQ maps and relies on a network connection for use outdoors. Where differences in functionality occur, the documentation indicates this with (full version). 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. Many knowledgeable users and developers are on the list, and it is a great place to make suggestions, provide tips, and ask questions. To subscribe to the list, send a blank email message to 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 ne-beta-subscribe@tech.aph.org.

Limitations

While it is tempting to assume that location based software, such as Nearby Explorer, solves all the navigation and orientation barriers faced by blind travelers, there are a number of conditions that must be considered. To better appreciate these benefits and limitations, 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 global positioning system (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 (most of the time) 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

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



Figure 1. Street map in Nearby Explorer

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. 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 will consistently report that same address at that same point.
- The compressed 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 Nearby's suggestions.

There is a TV commercial where the driver of an automobile crashes into a wall after his GPS says, "Turn right" only after a pause to

be followed by "in one hundred yards." While the commercial may seem comical, paying attention to your environment is a serious matter.

Requirements

Nearby Explorer requires the following:

1. A device running Android 4.1 or later
2. A device with a GPS chip or the ability to connect to an external GPS receiver
3. At least 4 GB of free space on the device's memory or external SD card for map storage (full version)

A Note About Device Navigation

The steps in this manual refer to devices by which you navigate through lists and options using arrow keys. If your device does not have arrow keys, use the normal procedures for touching appropriate list items or scrolling through the list.

Nearby Explorer Online requires a device running Android 4.1 or later and a device with a GPS chip and the ability to connect to a cellular network.

Nearby Explorer requires the GPS chip to be turned on. Turn the GPS chip off only if you never or rarely use any GPS services. When not in use, its power consumption is minimal.

To turn the chip on or off, follow these steps, which will vary from device to device, or by Android version:

1. Press Home to go to the Android Home screen.
2. Choose Settings.
3. Choose Location.
4. Select the High Accuracy setting.

When the GPS chip is in use, such as when using Nearby Explorer, battery consumption is significantly increased. It is necessary, in fact, 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.

It is recommended that you purchase a charger adapter that plugs into the auxiliary (aux) power in an automobile. These chargers have a slot to plug in the USB host end of the charging cable. If aux power is not available and you use the GPS for more than 6 hours, you may use an aux charger that contains its own batteries.

To pause the GPS power consumption, press Back until Nearby Explorer closes, or select Pause to shut down the GPS chip.

External GPS Receivers

Using an external GPS receiver can improve accuracy and reduce battery consumption. The disadvantage, of course, is having to keep up with, carry, and charge another device.

To use an external GPS receiver on Android devices, you must "trick" Android into using something other than the device's internal receiver. This is accomplished with the use of a program to read a receiver and put its values in a mock location for the operating system.

There are three steps to set up the use of an external receiver:

1. Go to Settings / Applications / Development and check Allow Mock Locations.
2. Turn on Bluetooth and pair with the GPS receiver.
3. Go to Settings / Wireless and Networks / Bluetooth and check the Bluetooth checkbox to turn on the Bluetooth radio.

If you use Android 4.0 or later, the steps to use an external GPS receiver are slightly different:

1. Go to Settings and scroll down to the System category.
2. Turn on Developer Options and select OK.
3. Select Allow Mock Locations.

Figure 2. Developer Options menu in Nearby Explorer

Once Bluetooth is on, pair the receiver to your device as follows:

1. Turn on the Bluetooth receiver.
2. Go to Settings / Wireless and Networks / Bluetooth / Bluetooth Settings and select Scan for Devices.
3. Use the arrows to find the name of the Bluetooth receiver.
4. Press Select to pair with the receiver. The Bluetooth Manager asks you to type a pairing code. Usually, this code is 0000 or 1234 for GPS receivers, but check your receiver's documentation for confirmation.
5. Type the pairing code and press Enter.

Once you complete this initial setup, use an app to read the GPS receiver and put its location readings in the Mock Locations area. Go to the Google Play™ store and search for External GPS Provider. One such app that works great for this purpose is called Bluetooth GPS.

Setting up the app for use with your receiver depends on the app you use. In Bluetooth GPS, specify the receiver you wish to use from the option on the main screen. You will only need to do this procedure once, unless you choose to switch to another receiver at a later time. Also, be sure to tell your provider to use the Fused Provider, as this is what Nearby Explorer is expecting. The Fused Provider setting in Blue GPS is available in Settings.

Once setup is completed, to start using the GPS receiver (1) turn on the receiver and (2) start Bluetooth GPS or other Bluetooth GPS provider software and select the option to connect to the receiver.

Installation

If you are using the Braille Plus 18, Nearby Explorer is already installed. Most other users will install Nearby Explorer from the Google Play™ store.

If you do not install Nearby Explorer from the Google Play™ store, you will need to allow Non-Market Applications to be installed. To do this, follow these steps:

1. Go to Settings/Applications and check the box that says Allow Non-Market Applications.
2. Copy the APK file to the phone. A good alternative is to email the file to the device.
3. Select the APK file. If it is attached to an email, you may select it there. If you copy it to the device, you will probably also need to install a file manager program to find and select the file. Search the Google Play™ store for File Manager to find some good options.

First Time Use

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 full version of the app detects it has no map data, Nearby checks to ensure there is a Wi-Fi connection and downloads the maps.

If your phone contains more than one Secure Digital (SD) card, Nearby Explorer displays a dialog asking you to choose the SD card on which to install the maps.

You may use the app while maps download, but only limited functionality is available until the download is completed.

Starting

When you start the application, Nearby Explorer displays the Nearby screen and waits for positioning information from the GPS. If this is the first time the GPS chip in your device is used since the last reset, it may take several minutes to acquire a valid signal. The process to obtain a signal is called a "fix" as in fixing your position. The initial fix time is aided by using cell network information to obtain a general location. While the network method to fix your position is fast, it is not as accurate as the fix obtained from satellites.

If your device does not obtain a satellite fix, there are some alternatives you may employ to improve the chances of acquiring a good signal.

- Ensure the GPS chip is turned on.
- Move to a position outside the building where there is a clear view of the sky.
- Hold the device away from your body or other possible signal obstructions.

Once the GPS receiver obtains a fix, subsequent starts occur much more quickly.

The Nearby screen provides information about your current position. You use it in one of two ways:

1. Use the arrow keys to move up and down the Settings list and note the value of each item in the list. Nearby Explorer keeps the list updated with real-time positioning information. It reads the GPS receiver location information every second and updates the Nearby screen whenever that information changes.
2. Check the appropriate item. Once it is checked, Nearby Explorer articulates that item whenever the information changes as you move. Once an item is checked, you can put the device in sleep mode or start another app and Nearby will continue to notify you with updates about your changing position. If you are using a phone with a touch screen, this is the normal operating procedure. In this way, you may put the phone in a pocket or purse and continue to get updates.

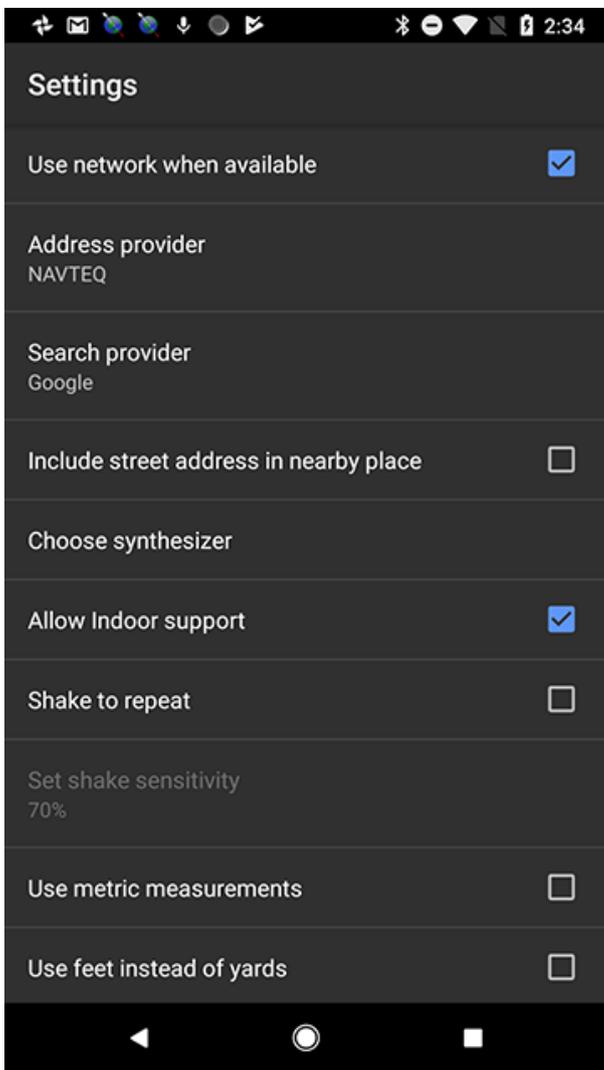


Figure 3. The Settings menu in Nearby Explorer

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

Nearby Explorer remembers the checked items, so when you close and then open the app again, your previously selected items are still checked.

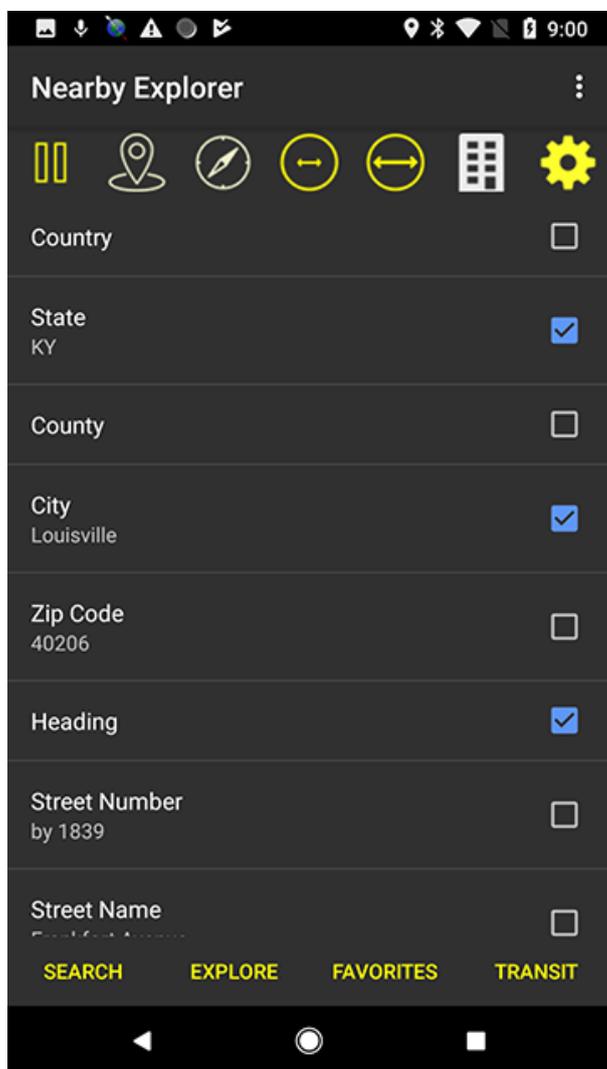


Figure 4. Nearby Explorer app menu

While walking in an unfamiliar area, it is useful to check the street address, street name, and possibly the nearest point of interest (POI) and the distance to the nearest POI. However, if you are riding in a car, it may be too much to have street numbers announced, and it is almost certainly too much to have distances to POIs announced.

You will likely want information that changes very infrequently to be checked. For example, City, County, State, and Provider are items that change so infrequently that you may wish to have them selected at all times.

It is important to keep "chatter" to a minimum. Since most of the information from the Nearby screen is time sensitive, it is not useful to have too much verbal communication. By the time you hear it, it would no longer be relevant.

To stop using Nearby Explorer, select Back to exit the program.

Nearby Screen Options

- Country
- State
- County
- City
- Zip Code
- [Heading](#)
- [Street Number](#)
- [Street Name](#)
- [Approaching](#) (streets)
- [Guidance](#)
- [Nearby](#) (Point of Interest or POI)
- [Nearby Position](#)
- [Watch](#) (distance and direction to a watch point)
- Speed

- [Latitude](#)
- [Longitude](#)
- Altitude
- [Accuracy](#)
- [Show/Hide Items](#)

In addition to checking the items to monitor by pressing Select, you may hold Select to show a menu of options related to the Nearby screen. These options allow you to bookmark positions, start guidance, and perform other actions on the current position. Each option is explained in relative sections below.

You may also select the list item, Show/Hide, to customize what appears on the main screen.

As the program starts, Nearby attempts to obtain good satellite reception to accurately fix your position. During the recovery process, the text to speech (TTS) may sound like your position is changing. This is especially apparent if you have the Heading, Street Address, and Street Name boxes selected. As the fix becomes more accurate, Nearby announces the changing addresses. This process usually takes only a moment or two. If the process is bothersome, use Up Arrow or Down Arrow to silence the speech until the position stabilizes.

The following sections explain the options on the Nearby screen. Some options, such as State or City, are self-explanatory and are not covered with a separate section.

Heading

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

The Heading tells you the direction in which you are moving. Nearby Explorer uses that information to determine which streets you are approaching. When you stop moving, the heading becomes blank.

Compass

In addition to obtaining heading information from the GPS, it is possible to use the compass to announce the direction you are facing (full version only.)

To use the compass to obtain a direction, hold the device vertically and point the camera in the desired direction, as if you were using the device to take a picture. Nearby Explorer responds by giving a confirmation tone and announcing the direction as obtained from the device's compass.

In addition to the direction, the compass announces a list of streets that intersect a line (representing the street on which you are traveling) in the direction you point the device. To enable this feature, check the Street checkbox on the Nearby screen.

As you point the device in another direction, the compass speech function silences, vibrates, and then announces the new information about direction and streets.

To stop using the compass for heading information, move the device so it is no longer oriented vertically. Nearby responds with another confirmation tone and proceeds to obtain the heading information from the GPS.

Note: All other functions of Nearby Explorer remain active, even when you start another program.

To enable or disable the compass, use the Compass button on the toolbar.

The compass can be effected by magnets or large metal objects. When the compass data becomes invalid, Nearby Explorer responds with "Shake" to indicate that it may be necessary to shake the device to reset the compass. Normally, moving away from metal objects is enough to reset the compass. When it resets, Nearby announces, "Compass OK" or "Compass Fair."

Heading Display Options

There are three ways to express the heading or the direction you face: cardinal, clock face, and degrees.

To select the display option for headings, press and hold the Heading option on the Nearby screen, then select Display Options from the context menu that appears.

Cardinal

The cardinal heading is expressed as one of the following eight possibilities:

- North
- North East
- East
- South East
- South
- South West
- West
- North West

Clock Face

If you select Clock Face as the display preference, Nearby Explorer still announces the cardinal position, but it adds the clock face value to the direction as well.

Directly north is 12:00; directly south is 6:00, and so on.

Degrees

Selecting Degrees as the display option adds the exact degree to the cardinal announcement.

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 normally 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 walk down the block, Nearby Explorer gladly reports 900, 902, 904, all the way to the end of block and the official last number.

Nearby Explorer offers two alternative methods of obtaining a street address that can be more reliable than the estimation method it normally employs. These selection alternatives are Google and OpenStreetMap (OSM). To use the Google alternative, you need a network connection. To use one of the alternative methods, select Address Provider on the Settings screen, then choose either Google or OSM. To return to using onboard addresses, select NAVTEQ as the address provider.

Choose Address Provider

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

- NAVTEQ onboard maps (full version)
- Google
- OpenStreetMap
- OpenStreetMap (Onboard)

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. The OpenStreetMap (Onboard) option requires that you download the map for your region.

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 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, check both the Street Number and Street Name boxes. As you walk, Nearby announces the street address but not the street name (because the street name is not changing). With both boxes checked, 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 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, and keep in mind the inaccuracies.

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 "29 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 29 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 from 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 really are, you may turn this off by holding the Street option on the Nearby screen and unselecting the Off-Road option on the context menu that appears.

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 most cases, 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.

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 New Orleans 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.

Normally, you would expect that the street address of a location on an interstate would be the mile marker number. Nearby Explorer currently contains a bug that returns a street number for interstates that are close to the street numbers of nearby streets.

Approaching

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

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

If the street is a cross street, Nearby says the street name and "ahead." If Nearby recognizes the street as only to the right or left, it adds "right side" or "left side" to the announcement of the street name.

Distance Updates

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

If you do not want to hear the progressive, distance updates, follow these steps:

1. Highlight the Approaching option in the Nearby screen.
2. Press and hold the item until the menu appears.
3. Unselect the Continuous Distance Update item.

Guidance

The Guidance setting displays the next maneuver to take (in the directions) when you set a place as a destination in the full version. As an example, it might say, "In 30 yards north, turn left on Main Street."

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

1. Open the Search or Favorites option in the program menu, or press and hold the Guidance option on the main screen and select Recent from the context menu. The app displays a list of Places.
2. Select the POI.
3. Press Select. Nearby shows a menu of actions for favorites and searches. For recent destinations, Nearby sets the destination immediately.
4. Select Turn-By-Turn Guidance
When you set a destination, Nearby Explorer announces the route type (pedestrian or vehicle), and the distance and time it will take to arrive at the destination. Note that a quirk in Talkback, the Android screen reader, can cut off this announcement if you have your text-to-speech engine set to the same engine that Talkback uses. To avoid cutting off the speech, use different TTS engines for Nearby Explorer and Talkback. To change Nearby Explorer's TTS engine, go to Menu / Settings / Choose Synthesizer.

Each time you set a destination, Nearby Explorer adds it to its list of recent destinations. The program remembers the last 20 places to which you requested guidance. When you add the 21st item, the oldest destination gets bumped off the list.

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 30 yards," you will need to take into consideration the width of the street.

Guidance and Directions

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

When you acquire a list of Favorites or search results, you may obtain directions to that location or receive guidance as you travel there. These directions and guidance are optimized for either pedestrian or vehicle travel. To select pedestrian directions, select Pedestrian from the Route Settings menu.

Route Settings

Route settings customize the kinds of routes and directions Nearby Explorer creates. To change how Nearby calculates the route, select Route Settings from the Settings menu.

The route settings include route optimizations for fastest time, shortest distance, or least turns (main roads) and check boxes to let you specify if you want to use highways, unpaved roads, toll roads, and ferries in the route calculations.

Directions Option

To receive a list of directions, tap the POI. From the menu that appears, choose List Directions. Nearby Explorer displays a list of directions. Each step provides the direction and distance to the next procedure in the route.

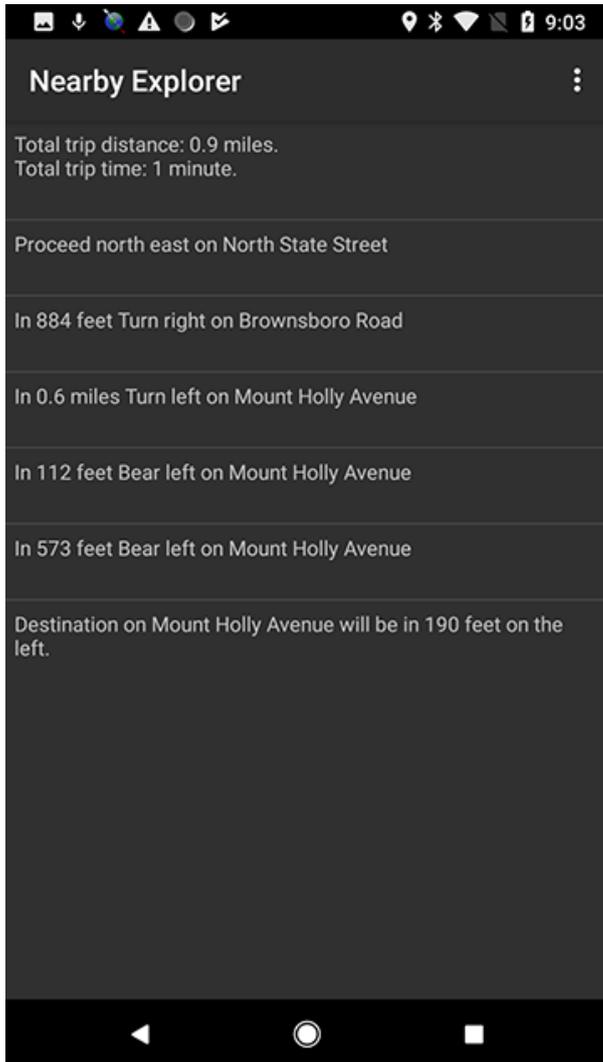


Figure 5. List of directions to a POI

Guidance Option

For guidance while you travel to the POI, choose Turn-By-Turn Guidance from the menu. The app responds by adding the first step of the directions in the Nearby screen's Guidance field. 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. Long press the Guidance item on the main screen.
2. Select Route Settings from the context menu.
3. Check or uncheck 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.

Directions During Guidance

To display a list of remaining directions to the destination while using the Guidance feature, long press the Guidance item and

choose List Directions.

If you set a Destination to a location that is not on the road network, Nearby Explorer guides you to the nearest address in the network. From that point on, Nearby will only provide a distance and direction to the POI. However, since there are no roads, and paths are not included, it can only give you a "crow's flight" estimate of the POI's location in space. In other words, if you set a Destination for the middle of a large field or parking lot, Guidance can only direct you to the nearest street address. From then on, Nearby provides only the distance and direction to help pinpoint the location.

Nearby (POIs) and Nearby Position

The Nearby Places item on the Nearby screen indicates the closest POI to your current location. If you check the Nearby Position checkbox, 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 do not have a network connection, Nearby Explorer uses the POIs in the NAVTEQ maps (full version) or OpenStreetMap to identify nearby places. If you have a data connection, the app uses 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. By default, Nearby Explorer shows the single nearest place and updates the distance and direction to it as you move. To show more or less places around your current location, 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 for which Nearby Explorer supports a public transit feed, one of the kinds of places 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, long press the Nearby item on the main screen. At the top of the context menu, there are three items: Show Nearby Places, Show Transit Stop Information, and Show Favorites. You may select any or all of these options.

Point to Nearby Places With Geobeam



Figure 6. How geobeam works

Since your device knows both your current location and the location of POIs around you, it is possible to use the device's compass to point at features in the environment and receive feedback about that feature. The feedback is received as a vibration (haptic feedback), a sound (tone), and an announcement (speech) with the name and distance of the POI. The vibration, in particular, makes pinpointing places both intuitive and easy. Think of this feedback as a beam (we call it geobeam) emitting from the end of the device which you can use to point directly to features in the environment. As long as you maintain the direction, the vibration continues. You can use this vibration to guide you to the point.

Caution: There may be obstructions between you and the POI. 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 point.

The tone also conveys information about the distance of the object to which you point. The higher the pitch, the closer you are to that point. Note that 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. Note, too, that the tone is important for those devices, like the Nexus 7 tablet, that do not have a haptic feedback feature.

There are two ways to position your device to use geobeam. For both positions, the pointer end of the device is considered to be the top edge of the device when used in a typical portrait orientation.

The first position is the normal geobeam operating position. It is achieved by holding the device as though you were shaking hands with someone. In this position, the pointer end should be pointing directly away from you and the screen should be facing to the left.

As you move your device into this position, Nearby Explorer makes a sound indicating that Geobeam is active. When you move it out of geobeam position, Nearby makes another sound to indicate this as well.

Point the end of the device in different directions while maintaining its orientation. When the end of the device points to a POI, Nearby makes a sound, vibrates, and announces the name of the place and its distance.

To engage geobeam in the second position, hold the device out in front of you, (as though you were handing it to someone), pointing the business end in the direction of the POI. The screen should be facing skyward.

In the second position, Nearby lets you know about the closest POI when you point to it. If you have a destination or a watch set, use the device in this position to find the destination or watch point.

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

- You can decrease or expand the distance range by adjusting the search radius for Nearby Places.
- 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.

To turn geobeam off, use its control on the toolbar. Doing so lets you position the phone without getting feedback about nearby places.

If geobeam does not behave as you expect, you may select the Use Old Style Orientation Sensor option in the Settings dialog to help fine tune the behavior.

Nearby Places Addresses

In addition to the name of the item or location, Nearby Explorer can provide the address of the nearest place. The address is a useful tool in determining information, such as which side of the street a place is located or if that a place resides on a different street than the one on which you are located. On the other hand, it also adds lots of "chattering," especially when traveling by vehicle. Nearby Explorer tries to minimize the chatter by providing the address in a shorthand form. If the place is on the same street on which you are traveling, the app announces only the number on that street. If the place resides on another street, Nearby Explorer announces only that street name.

To set whether or not to announce the address along with the name of the place, follow these steps:

1. Press Menu to open the Nearby Explorer menu.
2. Select Settings.
3. To hear the address, select the option Include Street Address in Nearby Place. To not hear the address, make sure this is unselected.

A Note About Addresses

Remember that the addresses to places are approximate. You cannot count on the reported address to be exact. The onboard NAVTEQ maps do not contain the actual address. You may try changing the address provider to Google or OpenStreetMap (OSM) to see if those report more accurately in your area. Go to Settings / Address Provider and select Google or OSM.

Adjust Nearest Place Behavior

Normally, Nearby Explorer reports the direction to the nearest place as a compass direction, but you may change this behavior to receive direction as a position on a clock face. To do that, long press Nearby Position and select the Report as Clock Face option.

If you do not have a network connection, Nearby Explorer uses the points of interest in its database to identify nearby places. If you have a data connection, it uses the Google Places™ business listings service instead. This service can provide POIs in interesting and useful ways.

The Google Places™ business listings service provides as many as 20 place results for each search request. Therefore, it can provide different, more general, or more meaningful results by increasing the radius of the search. Google Places™ business listings service allows a radius of up to approximately 30 miles.

By default, Nearby Explorer uses a radius of 175 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, the number of results can be reduced to none. In this case, Nearby Explorer temporarily increases the radius until something shows up.

To change the radius that Nearby Explorer uses to identify the nearest place or search result, follow these steps:

There are a few ways to adjust the radius. Perhaps the easiest is to put the device into geobeam position. When you do, Nearby Explorer shows a dialog with two buttons—Increase Radius toward the top of the screen, and Decrease Radius near the bottom. Tap the button that represents how you wish to change the radius.

If you have a device with a keyboard, you may use the following technique to change the radius:

1. Highlight the Nearby Position item on the Nearby screen.
2. To decrease the radius, press Left Arrow.
3. To increase the radius, press Right Arrow.
4. To select the smallest radius, press Alt + Left Arrow.
5. To select the largest radius, press Alt + Right Arrow.

If you use a device with no arrow keys, long press the Nearby Position item and select Set Radius from the context menu. Nearby Explorer responds with a menu from which you may select the desired radius.

In addition to using the Nearby Position item with the left and right arrows, or using the context menu, you can use the Search command from the program's menu. When you receive the list of search results, you can use Right Arrow and Left Arrow to increase and decrease the search radius; you may use the buttons on the toolbar, either "Increase Radius" or "Decrease Radius;" or you may choose Radius from the Search menu to select the radius from a menu.

Each time you change the radius, Nearby Explorer announces the new radius and queries for a new set of results from Google Places™ business listings. If the results of the new search are different from those of the previous one, and you have the Nearby Places item checked, the app announces the new location that it considers closest based on your new radius. In addition, if you have the Nearby Position item selected, the app announces the distance and direction to that location.

If you are traveling in a vehicle, it makes little sense to use a small radius, especially in a tightly 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.
2. Press Select to open the menu of options for that POI.
3. Select Set as Watch.

If you have the Watch box checked on the Nearby screen, the app monitors and announces the distance and direction to the place you are watching.

If you set a Watch position, the compass in your device can also be used to point to the Watch point. As you point at the watched position with your screen facing skyward, your device vibrates to let you know where that position is located in real time. 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 without difficulty. If you clear the Watch point, by default your device vibrates when pointed at the next closest POI delineated in the Nearby Place item on the main screen. To turn off these vibration signals, clear the checkbox on the Watch item.

About Distance and Direction

If Nearby Explorer detects that the direction you are heading coincides with the direction to a Nearby Place, it tries to simplify the directions by using "ahead" or "behind" instead of a compass direction. For example, if you were traveling north along Main Street and there was a library 100 yards north, Nearby might say, "Library branch 100 yards ahead" instead of "Library branch 100 yards north."

Latitude and Longitude

The Latitude and Longitude items in the Nearby screen show the current values of these positions.

Latitudes and longitudes are lines drawn on a map to precisely pinpoint any location on earth. Together, these values are commonly called a lat/long value or a geocoded position.

You do not need to know about latitudes and longitudes to effectively use the software, but they can be useful in some situations. Once you leave the road network, these values still provide relevant positioning information.

Latitudes are equidistant horizontal lines that circle the earth with the zero parallel at the equator and the 90th parallels at the North and South Poles. Much of the U.S. and Canadian border lies on the 49th parallel north (or 49N latitude line). As you move north or south from the equator, the numbers increase, and the position is expressed in degrees with N or S postfixed to the number that represents the value. Some commonly known latitudes are:

- 49°N US/Canada border
- 30°N US/Mexican border at Arizona and New Mexico
- 24°N Key West, FL
- 25°N Miami, FL
- 29°N Houston, TX
- 32°N Dallas, TX
- 38°N Louisville, KY
- 39°N Denver, CO
- 42°N Boston, MA
- 44°N Bangor, ME
- 45°N Portland, OR

Longitudes are vertical lines expressed in degrees as east or west of the prime meridian, which is located close to London at Greenwich, England. The vertical lines start at the prime meridian with zero and go to 180 on the opposite side of the earth. The lines all converge at the North and South Poles; as the lines get closer to the equator, the farther apart they are. As you move east or west, the numbers increase from the zero prime. Boston's longitude is W 70. Some longitude references use a negative sign (-) rather than a W notation to denote longitudes west of the prime. This software uses the W.

The following is a list of common longitudes in the United States; all are west of the prime meridian.

- W 70° Boston, MA
- W 81° Key West, FL
- W 85° Louisville, KY
- W 96° Wichita, KS
- W 104° Denver, CO
- W 110° Tucson, AZ
- W 118° Los Angeles, CA
- W 122° San Francisco, CA

While latitudes and longitudes are expressed as degrees, they are more precisely denoted with minutes and seconds as well. This notation method is called Degree-Minute-Second (DMS).

There are a number of ways to represent latitudes and longitudes. The combination method this software uses expresses degrees and minutes separated by a colon, followed with a period and a fraction of a minute with three digit precision. This amount of precision works out so that each change in the fractional part equates to a few yards.

If the Latitude or Longitude item is checked in the Nearby screen, the app minimizes the amount of speech by announcing only the parts of the number that change. For instance, if you were at longitude W 85:42.815 and you moved a little farther west into W 85:42.816, Nearby announces only "W 816." The W lets you know the number is a longitude, and the "816" lets you know the finer detail. As you continue to travel west, the longitude cycles through to 999 and then to goes to W 85:43.000. When that change occurs, Nearby announces the whole number.

Use Latitude and Longitude announcements in places away from the road network where you may want finer detail than street addresses or when you want to pinpoint locations in open spaces.

To enter a location by its latitude and longitude, follow these steps:

1. From the Nearby screen, select Favorites from the main menu.
2. In the Favorites screen open the menu again and select Create Favorite from Latitude / Longitude.
3. Type a name for the new POI.
4. Navigate to the Latitude and Longitude field and type the latitude and longitude in the area provided. Nearby recognizes lat/long values in either combination* or decimal** format.
5. Press OK.

Format	Example	Explanation
Combination	N38 139.432	Combination format uses a letter to represent the direction. The letter is entered first, followed by the digits.
Decimal	38.139.432	For Decimal format, the latitude must be the first value entered.

Nearby Explorer adds this new POI as a Favorite and returns you to the Favorites screen.

Adjust Precision of Reports

Depending on how you want to use the program, Nearby Explorer offers some flexibility about how it announces lat/long values and how it allows you move around the map using these precision settings.

By default, the program uses three digits of precision after the decimal to announce changes and permit movement on the map. Three decimal places of precision is equal to a few yards movement, depending on exactly how far you are from the equator. To get notifications about finer movement, increase the precision to four digits after the decimal. This degree of precision amounts to just a few inches. Unfortunately, today's satellite receivers are not accurate enough to use that amount of precision. If you set four digits of precision, and you have the Latitude or Longitude items selected, you will likely experience constantly changing numbers and consistent chatter.

To lessen the frequency of notifications, decrease the precision.

To alter the precision of lat/long tools, follow these steps:

1. Highlight either the Latitude or Longitude item on the Nearby screen.
2. Hold Select until the context menu appears.
3. Select Set Speech Precision from the menu.
4. Select the desired precision.

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 (explained shortly) from the result of the Explore, Search, or Favorites tools or using the Latitude and Longitude movement tools provided on the Nearby screen.

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](#).

Explore With Lat/Long Movement

To explore the map using latitude or longitude movements, do the following:

1. Check the appropriate items that you wish announced on the Nearby screen.
2. Highlight either Latitude or Longitude on the Nearby screen.
3. Press Left Arrow to move south on the latitude or west on the longitude.
4. Press Right Arrow to move north on the latitude or east on the longitude.

Note: On a touch screen device you will need to go to Map View mode to navigate.

Virtual Navigation Mode

Using the left and right arrow keys on the Latitude and Longitude items on the main screen is a quick way to make a few movements on the map; but if you want to explore in more depth, use Virtual Navigation Mode. When Virtual Navigation Mode is in use, you may use all four arrow keys or the North, South, East, and West buttons to explore the map. As you move, Nearby Explorer notifies you about any of the items checked on the main screen. To turn on Virtual Navigation Mode, (1) hold Select until the context menu appears and (2) check the Virtual Navigation option.

In Virtual Navigation Mode, the buttons and four arrow keys move as follows:

- North—Up Arrow
- East—Right Arrow
- South—Down Arrow
- West—Left Arrow

By default, each arrow key press or button click moves 20 yards. You may change the movement distance by following these steps:

1. On a touch screen, press the Move More or Move Less buttons.
2. Or, if using a keyboard, press menu.
3. Select Set Movement Distance.
4. Choose the distance you wish to move from the menu and then press Select.

Follow Roads

Virtual 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 (full version) checkbox under the navigation pad 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. Changing the movement distance when near an intersection or specifying a different direction often helps you get back on the correct street in this situation.

If you are using a keyboard with Virtual Navigation Mode, you can change the Follow Roads setting from the Settings screen. Remember that you can press the letter S on your keyboard to quickly access Settings.

To exit Virtual Navigation Mode, turn it off from the context menu for any item, or press Resume on the toolbar.

Accuracy

The Accuracy setting provides a number to be considered as a range. For instance, if the app shows "2 yards" the program is fairly confident that it knows your position within 2 yards. The smaller the number, the more accurate you should consider Nearby Explorer's information.

Show/Hide Items

The Show/Hide Items option on the main screen lets you customize what appears on the screen. All items appear by default, but you may find you rarely ever care about some of them.

To hide items from the main screen, select Show/Hide Items and uncheck any item you wish to omit. Note that if the item is checked on the main screen before you hide it, Nearby Explorer continues to announce status changes to that item, even if it is hidden. Set the status of the announcement by checking or unchecking it on the main screen before you hide that item.

To unhide an item, select Show/Hide Items from the main screen, and check the desired item.

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.

Favorites are treated like Nearby Places. As you approach a Favorite, the app announces its name and location.

Favorites have one distinct advantage over POIs in the map data which is that you can mark a position more precisely than the ones provided in the maps. You may, for example, wish to mark the exact position of the front door to a restaurant or business. Remember, the map data often puts addresses just on either side of the center line of a street.

Another advantage of Favorites is you may denote POIs that may not be of interest to anyone else, such as a mailbox, trashcan, or park bench. Once you pinpoint the POI, save it as a Favorite and you will not miss it again.

Finally, you may publish your Favorites (explained shortly). When you publish a Favorite, other people using Nearby Explorer recognize that Favorite as part of the online map data from the Google Places™ business listings service. Note: A data connection is required to use this feature.

To set your current location as a Favorite, follow these steps:

1. Move to the location you wish to mark. Make sure you do not stop in a street, on a railroad, or in any other area where it is unsafe to mark your position. Instead, as an example, mark the entrance to the railroad track.
2. Check the Accuracy setting to make sure you are getting a good signal. You may even wish to check the latitude and longitude for consistency before you decide to mark the position. Approach the position for several days to ensure the lat/long values are

consistent.

3. Long press any item on the main screen to open Nearby Explorer's Context menu.
4. Select Save Location as Favorite. 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 Menu to open the program menu and select Favorites.

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 the nearest address to the location.

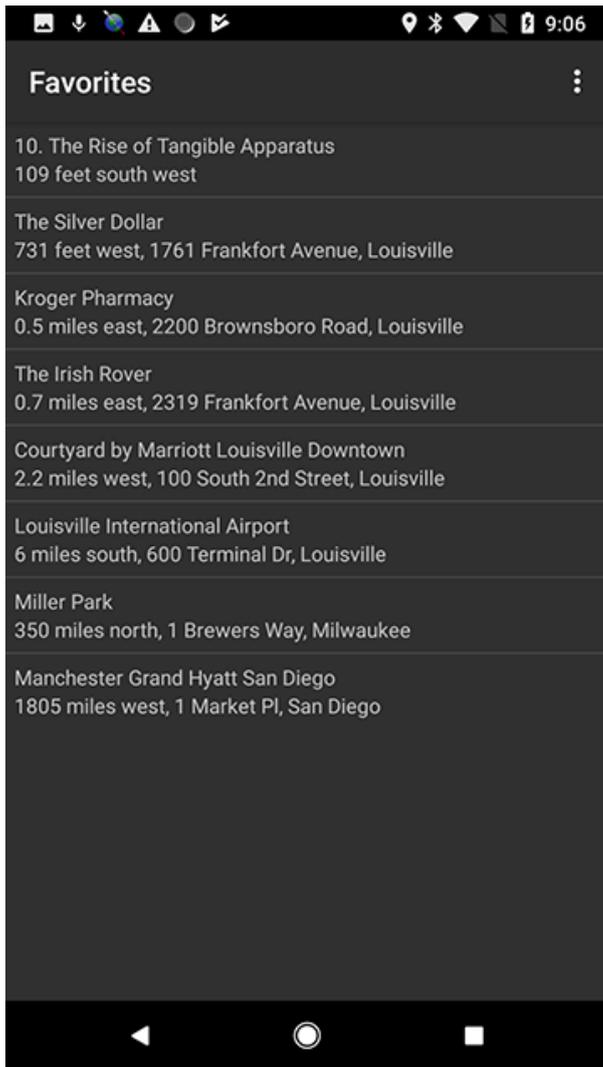


Figure 7. A list of Favorites in Nearby Explorer

To rename a Favorite, follow these steps:

1. Press Menu to open the Nearby Explorer program menu.
2. Select Favorites. Nearby responds by displaying the Favorites list.
3. Tap the favorite you wish to rename to open its context menu.
4. Select Rename from the context menu. Nearby displays a dialog box with the current name.
5. Edit the current name or type a new one.
6. Press the OK button.

To delete a Favorite, follow these steps:

1. Press Menu to open the Nearby Explorer program menu.

2. Select Favorites from the menu.
3. Tap the favorite you wish to delete to open its context menu.
4. Select Delete from the context menu.

Adjust Favorites

To fine tune the placement of a favorite to the current position, follow these steps:

1. Open the Favorites menu.
2. Tap the Favorite of interest. This should be the first one in the list.
3. Select Set to Here from the context menu.

Publish

To share a Favorite, follow these steps:

1. Ensure that you have a network connection.
2. Select Favorites from the Nearby Explorer main menu.
3. Tap the Favorite to share. Make sure you have named the Favorite so it is meaningful to others.
4. Select Publish from the context menu. Nearby Explorer displays a list of categories.
5. Tap the category that most accurately describes the Favorite.

Transit

Nearby Explorer uses transit feeds for several transit systems to provide information about public transit.

To use the Transit feature in a supported metropolitan area, press Transit from the program's menu. If you are in a metropolitan area with more than one transit system, Nearby displays a menu of the systems available.

If you will always use the same transit system, and you do not want to see the menu each time, (1) highlight the one you prefer, (2) press and hold Select, and (3) choose Set as Default from the context menu that appears. To remove the default, choose Clear Default Transit System from the menu on the initial Transit screen.

Once you choose a transit system, Nearby Explorer's Transit Stop screen displays a list of all the transit stops within 350 yards of your current position, with the closest stop listed first.

TransitStops_4.18.png

Figure 8. Transit Stop screen in Nearby Explorer

To broaden the search radius, press Right Arrow, or use the Increase Radius option at the bottom of the list.

Each list item contains the following information:

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

To see a list of all the modes of transport that service a particular stop, select one of the stops. Nearby displays a screen with all the vehicles that service that stop.

The Modes of Transportation are represented by a list of circuits starting with the next circuit. Each line item contains the following information:

- Time the vehicle reaches that stop. For a list of all times, press Select.
- Name of the route
- Name of the vehicle
- Number of the route

TripRoutes_4.18.png

Figure 9. Modes of Transportation screen in Nearby Explorer

To follow a route, select a stop. Nearby responds by showing all the stops on that route.

Schedules

To see a complete schedule for the selected transportation mode, select a stop. Nearby responds with a menu containing Go To and Schedule. Select Schedule from the menu. The app displays a list of all the times the selected bus or train stops at that location, highlighting the next scheduled stop.

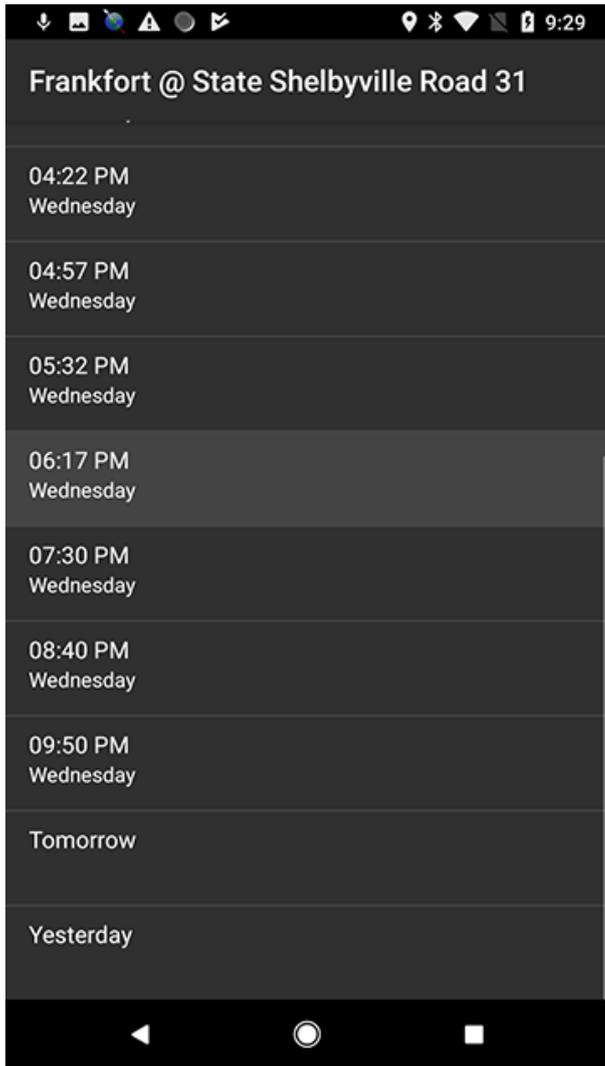


Figure 10. Schedule screen in Nearby Explorer

To move to earlier times, press Up Arrow.

To move to later times, press Down Arrow.

To see a different day, press Right Arrow for the next day or Left Arrow for the previous day or choose the day from one of the buttons at the bottom of the screen.

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

Updating Transit Schedules

Nearby Explorer uses an automated system to keep its transit information up-to-date. If an update is available, Nearby downloads the schedule the next time you select Transit while your device has a network connection.

If your local area does not support Google Transit™ trip planning service, see the [Google Transit™ Page](#) for information about requesting the transit authority in your area to participate.

Supported Transit Areas

St./Dist./Prov.	City/Co.	Transit Line
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AL	Birmingham	
AZ	Phoenix	
AZ	Tucson	SunTran
BC	Nanaimo	BC Transit - RDN Transit System
BC	Vancouver	
CA	Bakersfield	
CA	Beaumont	
CA	Eastern Sierra	
CA	Los Angeles	
CA	Orange County	
CA	Riverside	RTA
CA	Sacramento	
CA	San Diego	
CA	San Francisco	BART
CA	San Francisco	SFMTA
CA	San Jose	
CA	Santa Rosa	CityBus
CO	Colorado Springs	
CO	Denver	
CT	Hartford	Connecticut Transit
CT	Meriden	Connecticut Transit
CT	New Britain	Connecticut Transit
CT	New Haven	Connecticut Transit
CT	Shore Line East	Connecticut Transit
CT	Stamford	Connecticut Transit
CT	Waterbury	Connecticut Transit
DE		DART
DC	Washington	
FL	Brevard County	SCAT
FL	Fort Lauderdale	
FL	Jacksonville	
FL	Miami	
FL	Orlando	
FL	Tallahassee	StarMetro
FL	Tampa	HART
FL	Volusia County	Votran
GA	Atlanta	
IL	Chicago	
IN	Indianapolis	
IA	Des Moines	DART
KY	Lexington	
KY	Louisville	
MD	Baltimore	
MA	Boston	WRTA

MA	Worcester	WRTA
MI	Ann Arbor	
MI	Detroit	
MI	Grand Rapids	The Rapid
MI	Lansing	CATA
MN	Duluth	DTA
MN	Minneapolis	
MO	Kansas City	
MO	St. Louis	
NV	Las Vegas	
NJ		NJ Transit Bus, NJ Transit Rail
NY	Albany	CDTA
NM	Albuquerque	
NM	Buffalo	
NY	New York	Manhattan MTA, Brooklyn MTA
NC	Cary	GoCary
NC	Charlotte	CATS
NC	Durham	GoDurham
NC	Greensboro	PART
NC	Raleigh	GoRaleigh, NCSU Wolfline
NC	Research Triangle	GoTriangle
NS	Halifax	
OH	Cincinnati	
OH	Cleveland	
OH	Columbus	
OH	Lakeshore County	Laketran
OH	Cincinnati	
OK	Oklahoma City	
ON	Hamilton	HSR
ON	Kingston	Kingston Transit
ON	Ottawa	
ON	Toronto	TTC
ON	York, Toronto	York Region Transit
OR	Eugene	
OR	Portland	
OR	Salem	
PA	Philadelphia	
PA	Pittsburgh	Port Authority
QC	Montreal	
RI	Providence	RIPTA
TN	Nashville	MTA
TX	Austin	
TX	Corpus Christi	
TX	Dallas	
TX	Fort Worth	

TX	Houston	
TX	San Antonio	
UT	Salt Lake City	UTA
VA	Fairfax	Fairfax Connector
VA	Hampton	HRT
WA	Everett	Everett Transit
WA	Olympia	Intercity Transit
WA	Pierce County	Pierce Transit
WA	Seattle	King County Metro, Sound Transit
WI	Madison	
WI	Milwaukee	

Search

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

Once you find a 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, traveling to it virtually on the map, or even visiting the business's webpage.

There are Search Provider toolbar buttons at the top of the screen that let you select among Google Places, OpenStreetMap, and onboard NAVTEQ maps (full version). This function provides more timely and accurate information about places than what may be provided with the onboard maps. It also provides search results based on a search radius that behaves in interesting and useful ways. Read more about the way the search radius effects Places in the [Adjust Nearest Place Behavior](#) section of this documentation.

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 search for POIs in another city or state, you must switch to that city first (full version). To do this, follow these steps:

1. Press the Up Arrow until you reach the edit box.
2. Type the city name or the first few letters of the city name, followed by a comma, then the two letter state or province abbreviation.
Press the Down Arrow twice until you find the Search City / State Code button.
3. Press Select.

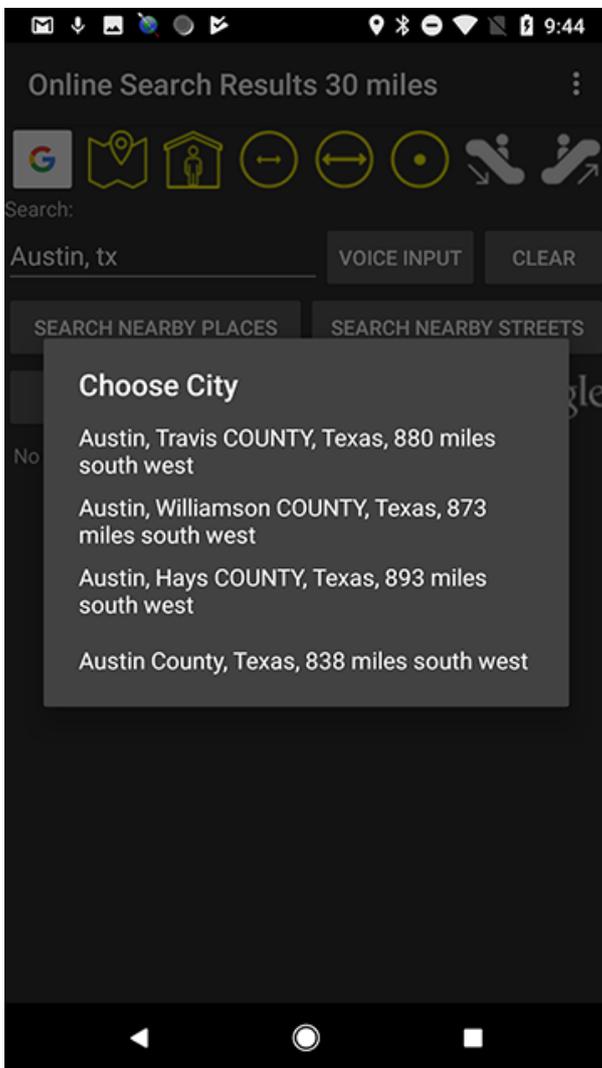


Figure 11. A list of matching cities and counties for Austin, Texas

Nearby 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 and press Select.

The app responds with a City Action menu containing either Go To or Search.

To move the virtual position to that city and return to the Nearby screen, choose Go To.

To display search results from that city, choose Search.

To search the map for other cities, streets, or POIs, choose Search from the Nearby Explorer menu or press the Search selection. Nearby responds by displaying a Search Results activity screen that includes an edit box, three buttons, and a list of POIs around you.

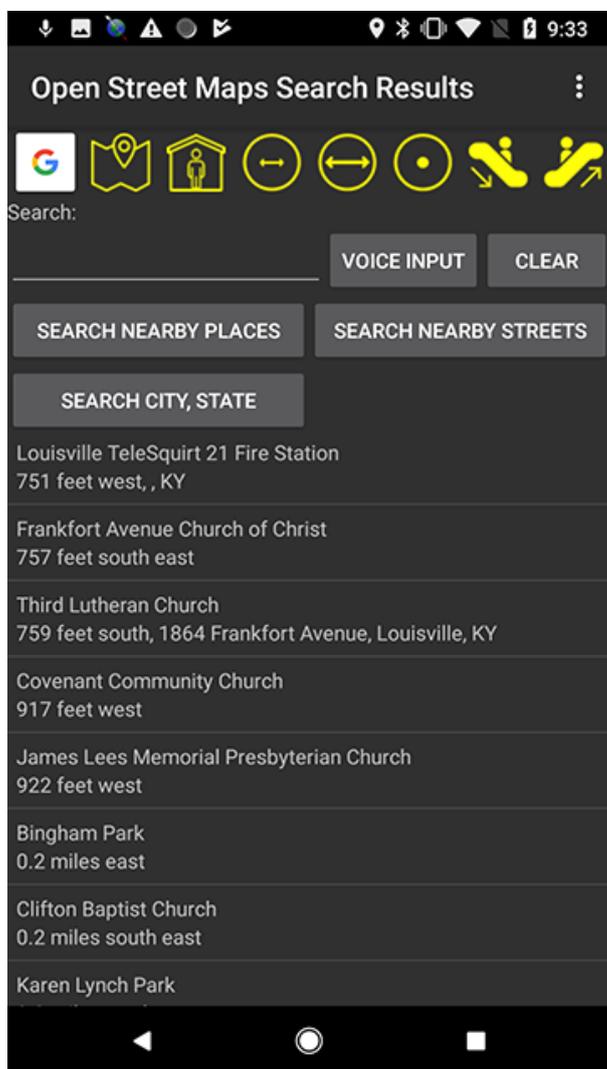


Figure 12. A list of POIs on the Search screen

The types of items that appear in this list depend on your network connection, the search radius setting, your location, any terms you have typed, and any categories you have specified.

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.

If you have a network connection, the list item also includes the POI's address as obtained from Google Places™ business listings.

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

1. Press the Up Arrow until you get to the Search edit box.
2. Type a word that is in the name or address of the desired place.
3. Press the Down Arrow to the Search Nearby Places button.
4. Press Select. Nearby responds by displaying a list that is restricted to items matching the term you typed.

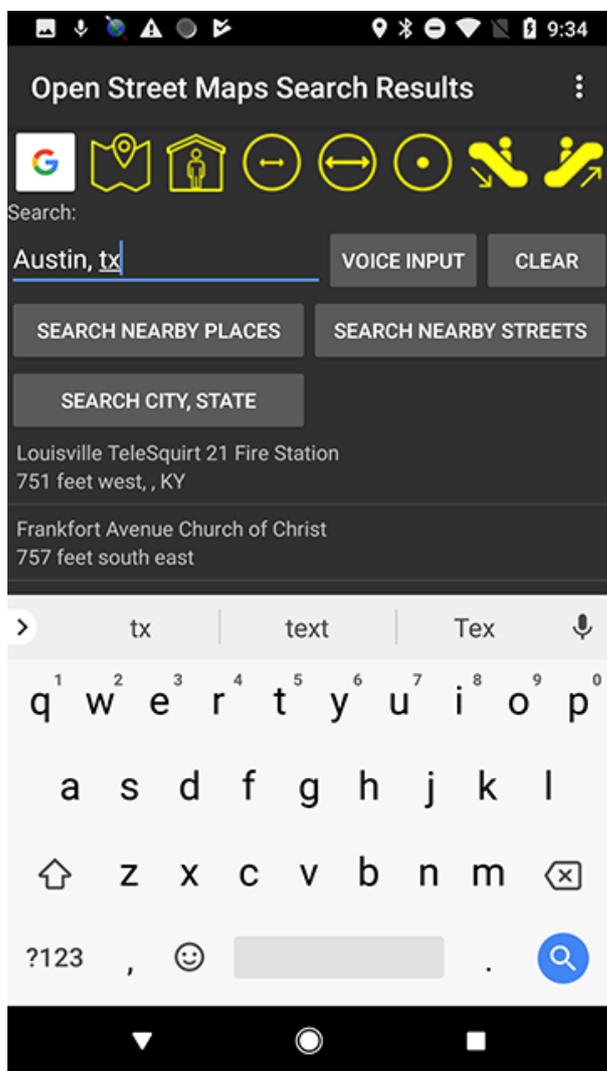


Figure 13. The edit box in the Search menu

Nearby Explorer automatically increases the search radius to approximately 30 miles when you provide a specific term to find.

If you have a network connection, Nearby Explorer provides search results from the Google Places™ business listings service. The search results screen indicates the presence of a network connection by putting "Online" in the search results title. It also puts the default radius for the search in the title. You may increase and decrease the radius in the search results screen by pressing the right or left arrow keys.

Initially, the list shows all POIs in all categories; however, if you do not have a network connection you may restrict the list to more manageable subsets.

To select categories of search results when no network connection is present (full version), follow these steps:

1. From the Search results screen, press Menu.
2. Choose Select Categories from the menu. Nearby displays a list of categories. Each item has a selectable checkbox, and they are all checked by default.
3. To clear all categories, press the Clear All button.
4. Check the categories of interest.
5. Press Back to return to the search results. Nearby displays a new list using the parameters you selected.

When you highlight and select a POI, Nearby Explorer displays a menu of actions from which to choose. The menu includes Save to Favorites, Virtual Go To, List Directions, Turn-By-Turn Guidance, and other possible options depending on the information that is available for that POI.

Geocache

Geocaching is a globally-popular treasure-hunting game. Clues to "caches" come to you in the form of lat/long values provided by a website such as geocaching.com.

The cache is usually a small trinket and a log of the dates when the treasure was found. When you discover the cache, you register

the log and replace the trinket with one of similar or greater value.

To enter a location by its latitude and longitude, follow the steps listed in the [Latitude and Longitude](#) section of this document.

You can use Nearby to provide you with approximate directions to geocaching POIs. However, in most cases, you must set the POI as a Watch point, and then allow the app to display the distance and direction to that POI once you leave the road network.

Explore

Nearby Explorer allows you to explore streets around you either by listing intersections on the current street, or searching for streets in a radial pattern from your current location.

To see the Explore screen, press Menu and choose Explore.

Nearby displays a list of intersections on the current street. It also displays a "Streets" button and a "Go To" button.



Figure 14. The Explore menu in Nearby Explorer

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 Explore view, you might see a list like the following:

1. 1st Street 100 yards north heading east
2. 2nd Street 50 yards north heading east and west
3. 3rd Street 20 yards south heading east and west
4. 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, highlight the street and press Select. Nearby 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 pressed Select, 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 highlights the street "Maple" in the list.

When you get to the desired location, press the Go To button to return to the Nearby screen with your location set to the selected intersection.

The Streets button lets you examine the map by looking at nearby streets without regard for intersections. When you press the Streets button, Nearby shows a list of eight nearby streets, one for each of the following directions:

1. North
2. Northeast
3. East
4. Southeast
5. South
6. Southwest
7. West
8. Northwest

Each list item contains the street name, the distance, and the direction from the current position.

To go to one of the streets in the list, highlight the street name, and then press Select. Nearby responds by shifting to the selected street and making it the current location. The app then places the approximate address in the title of the screen, and populates the list with the eight streets closest to the new location. Nearby also maintains the list item number, so if you are on the third item in the list when you press Select, the new list is displayed with the third item highlighted. It is possible, therefore, to move continuously in an easterly direction by scrolling down to the street east of the current location, then continuing to press Select to consecutively choose the next street heading east.

The default distance for Streets is 1000 yards. If Nearby does not perceive another street in the indicated direction within the allotted distance, it enables you to move in that direction by the indicated distance.

While moving to nearby streets can be useful, making larger movements on the map can be tedious using this method. The "1 Mile" button changes the street list from streets that are near your current position to streets that are 1 mile from the current position. When you press the 1 Mile button, Nearby changes the list of streets to reflect the new distance selection. It also changes the 1 Mile button to a 10 Mile button. Pressing the 10 Mile button changes the street list to streets that are 10 miles away. When using 10 miles, the button changes back to Intersections. Use the 10 Mile button to make large movements; use the Streets or 1 Mile button to make finer moves.

Indoors

Nearby Explorer provides indoor orientation in supported venues. When you move into a venue with configured beacons and maps, the app indicates the indoor status by changing the app's title to "Indoor Explorer" and announcing "Indoor Mode" and 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.

There are two ways to use beacons. This section discusses the mapped method which provides several advantages but is more difficult to install. For a simpler method that can be deployed on an ad hoc basis, see the sections on [Beacon](#) and [Ad Hoc Beacon Manager](#).

Indoor Maps

When using indoor locations, the app switches the Search Provider to OpenStreetMap (OSM). Nearby Explorer automatically downloads the map for the state where you are located when you start the app for the first time.

If you do not want to download OSM data for your state when you start the app, turn off the Allow Indoor Support in the Settings menu.

If you wish to use map data from another state, you must either download the map data manually by selecting the state in the OSM Manager button on the Settings menu or set OSM as the address provider in Settings. If OSM is the address provider, Nearby Explorer automatically downloads the maps as you virtually navigate to other states. To prevent automatic map downloads, turn off the Allow Indoor Mode option in Settings.

OpenStreetMap Manager

The OpenStreetMap Manager lets you select regions to download and lets you determine how often the app should update each region. Find OpenStreetMap Manager in the Settings menu.

When you open the OpenStreetMap Manager, Nearby Explorer shows a list of regions you may select. At the end of the list, Select All, Deselect All, and Options buttons provide additional convenient ways to act on all the regions at once.

In the list, select the regions to download. Use the Options button at the bottom of the screen to set the frequency for updates or other functions for all selected regions. To adjust or uninstall a single region, use the context menu for that region.

In most instances, you won't want to update a region every day. You only do that if you are working in an area that is receiving initial indoor support. Once the support for that venue is complete, you probably want to change the update schedule to something much less frequent.

The options for each region include:

- Install (no updating)
- Uninstall
- Install When Needed
- Update Every Day
- Update Every 15 Days
- Update Every 30 Days
- Update Every 6 Months
- Update Now

Once you make adjustments to the areas to download and how often to update the maps, Nearby Explorer takes action on the selections you made when you exit this screen.

Compass Indoors

When you position the phone for Compass Mode operation, Nearby Explorer announces the direction and points of interest in the direction you point when indoors.

Getting information about all the possibilities in a given direction can provide good overview and orientation clues without having to specifically point at anything.

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 on the main screen or in the Search page. Note that the app must be paused for the Level button to be available when in the main 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 "No Level" 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 "No Level."

Map View

The Map View menu option shows an interactive, touch-responsive accessible map of your current or virtual position. Use it to show a map of your current position or of the area around a search result or Favorite place. The Map View option is only available in the full version.

To use the Map View, first decide if you want a map of your current position or a map of another area. If you want a map of an area other than the current position, use whatever means necessary to get your virtual position where you want it. You can do that by using Navigation Mode, searching, selecting a Favorite, or using the Explore menu option.

When you are ready to show the map, select Map View from the program's main menu.

Using the Map

Use your finger to touch or slide around on any part of the screen to receive feedback about that part of the map. The information you get from touching the map depends on which items you have checked on Nearby Explorer's main screen. So, if you have only City, State, and Street Name checked, you get information about those items only. The types of items you select depend on exactly what you want to do with the map. If you just want to explore, use the normal settings that you use for actual navigation. The Map View provides the same kind of information you would get if you traveled to the part of the map you have touched.

To alter the kinds of things that get announced while in the Map View, press the More Options button and choose Announcement Settings from the resulting menu. Nearby Explorer shows the same list of items to check or uncheck as you see on the main screen. There are two different preference screens—one for views less than five miles and one for views over five miles. (Once the map gets much bigger than that, it is not practical to get information about street names or addresses.)

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

Scroll the Map Into View

To scroll the map, use the normal two-finger scrolling technique required when you are running TalkBack. That is, touch two fingers on the screen then slide them in the desired direction. For example, to move east touch two fingers in the direction you wish to scroll, then slide. If you want to see more of the map east of your current view, touch eastward toward the right side of the screen, then slide left. Similarly, to move north, touch the top of the screen and slide down. When you scroll, Nearby Explorer announces the new point at the center of the screen.

Get More or Less Detail

To show less detail on the map, touch the screen with two fingers, then slowly pinch those two fingers together toward each other. When you release your fingers, Nearby Explorer shows a map with more area, and it announces the new width of the screen. It might say, for instance, "20 miles." This indicates that the distance from the left edge to the right edge of the screen is now set to 20 miles.

To show more detail, place two fingers on the screen, then separate them from each other by sliding them apart. This shows less area on the map.

Follow a Street

To follow a street on the map, pause your finger on the street of interest. Nearby Explorer announces, "Set" and vibrates anytime you touch that street.

Explore the World

Nearby Explorer comes with maps for the United States and Canada. However, you may use the Google Places™ business listings service to get details about any place on earth.

To virtually travel to places outside the U.S. and Canada, make sure your device has a network connection. Then, set the Address Provider to Google.

As long as you have a network connection, you may move to countries outside the United States or Canada in one of two ways— (1) by scrolling the portion of earth you want into view or (2) by using the Country Search dialog, accessible from the More Options button on the Map View screen.

Geobeam From Map View

You may use geobeam to examine the surrounding virtual area, just as if you were there.

Other Information

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

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