

Wayfinding Application Reference Document

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Prepared for Johns Hopkins University

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JHU Wayfinding Application – Functionality Synopsis

Web Browser: The JHU Wayfinding Application will work in any major browser on a desktop/laptop/mobile browser but will only show the user's location in an Apple device's location relative to the campus map.

Android: In the native Indoors Application that is downloaded from Esri onto Android devices, the user will have all the functionality of the app, including the “blue dot” self-locating feature, which allows the user to see their location on the campus map. The native voice assist on Android devices (TalkBack) works for all aspects of the native application.

For users who prefer the web browser version of the application on their Android mobile/tablet devices, the “blue dot” self-locating feature will not work due to a limitation of the software used to create it. The native voice assist on Android devices (TalkBack) works for all aspects of the web browser application.

Apple iOS: In the native Indoors Application that is downloaded from Esri onto iOS devices, the user will have all the app's functionality, including the “blue dot” self-locating feature, which allows the user to see their location on the campus map. The native voice assist on iOS devices (VoiceOver) works for all aspects of the native application, with one small exception. When the user wants to enable the app's voice feature for directions, the user will have to turn off VoiceOver by touching the very upper right corner of the screen. VoiceOver can be turned back on with this same gesture. If left on, the VoiceOver and app will both read the directions simultaneously.

For users who prefer the web browser version of the application on their iOS mobile/tablet devices, the “blue dot” self-locating feature will work on various browsers, including Chrome, Safari, and Firefox. The native voice assist on iOS devices (VoiceOver) works for all aspects of the web browser application.

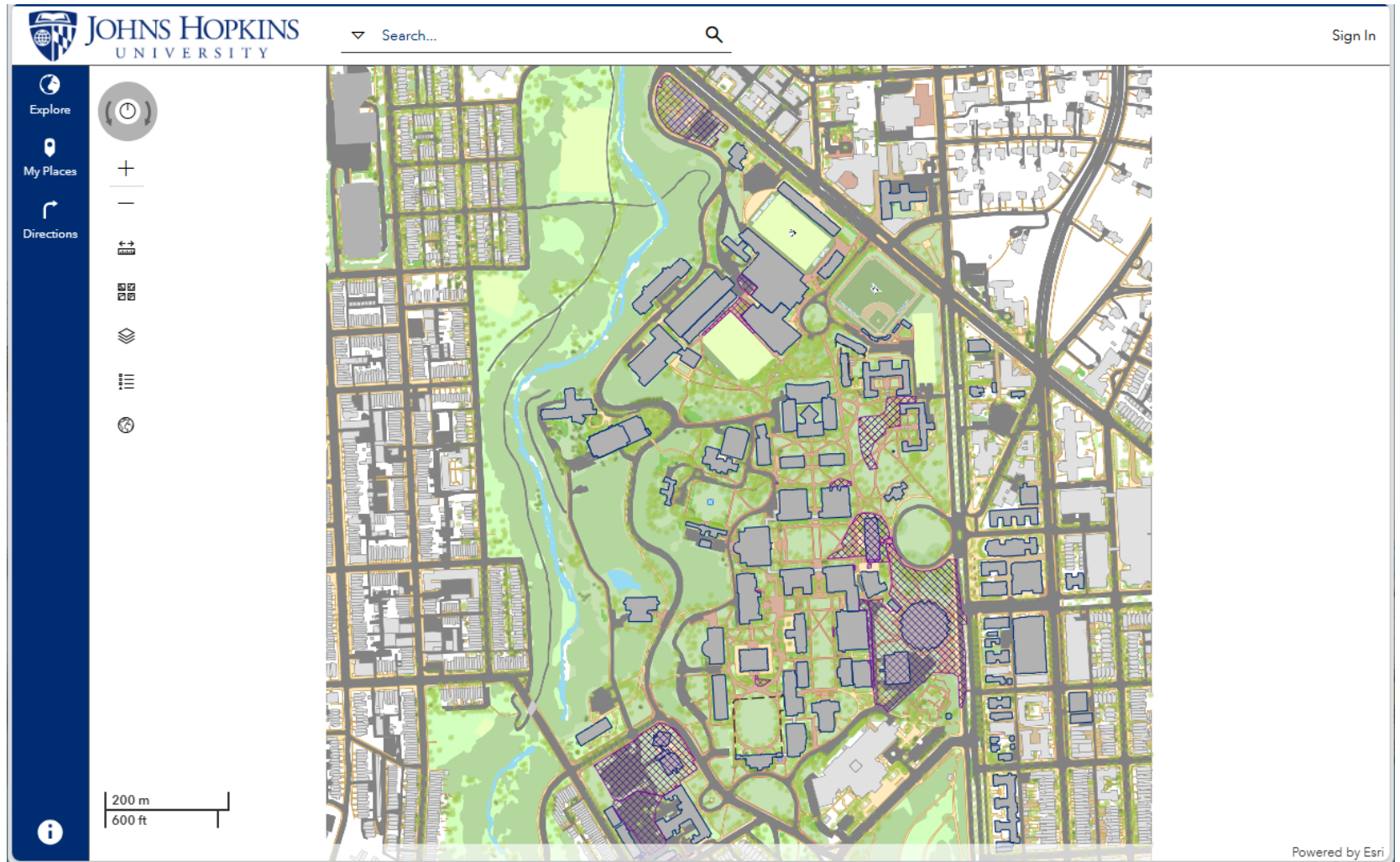
Introduction

This document is composed of three sections: Wayfinder reference document (p.4), using VoiceOver on an iOS device (p.39), and using TalkBack on an Android device (p.43).

JHU Homewood Campus Wayfinder

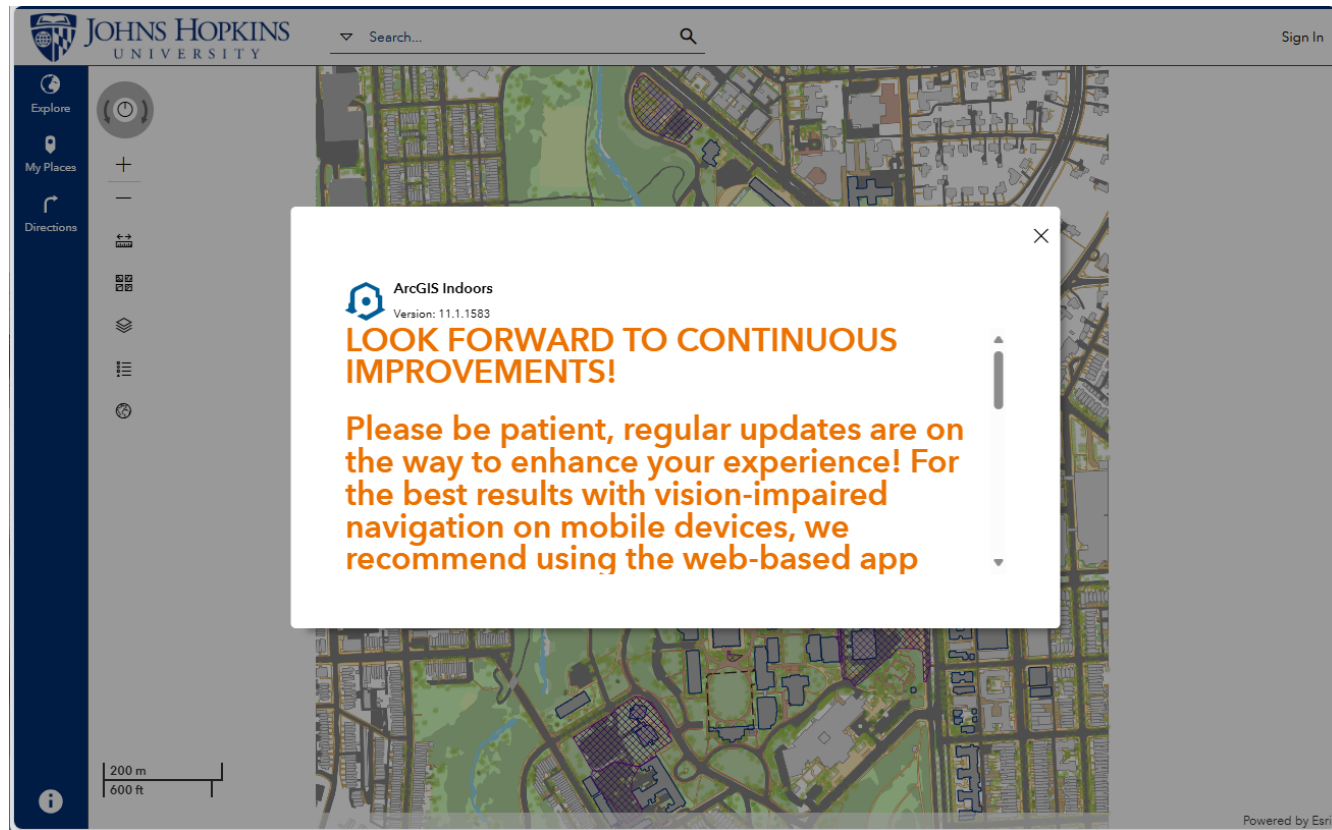
JHU Homewood Campus and Mobile Mapping Applications Using ArcGIS Indoors Software

JHU Homewood Campus Wayfinder



JHU Homewood Campus Wayfinder and Mobile Applications

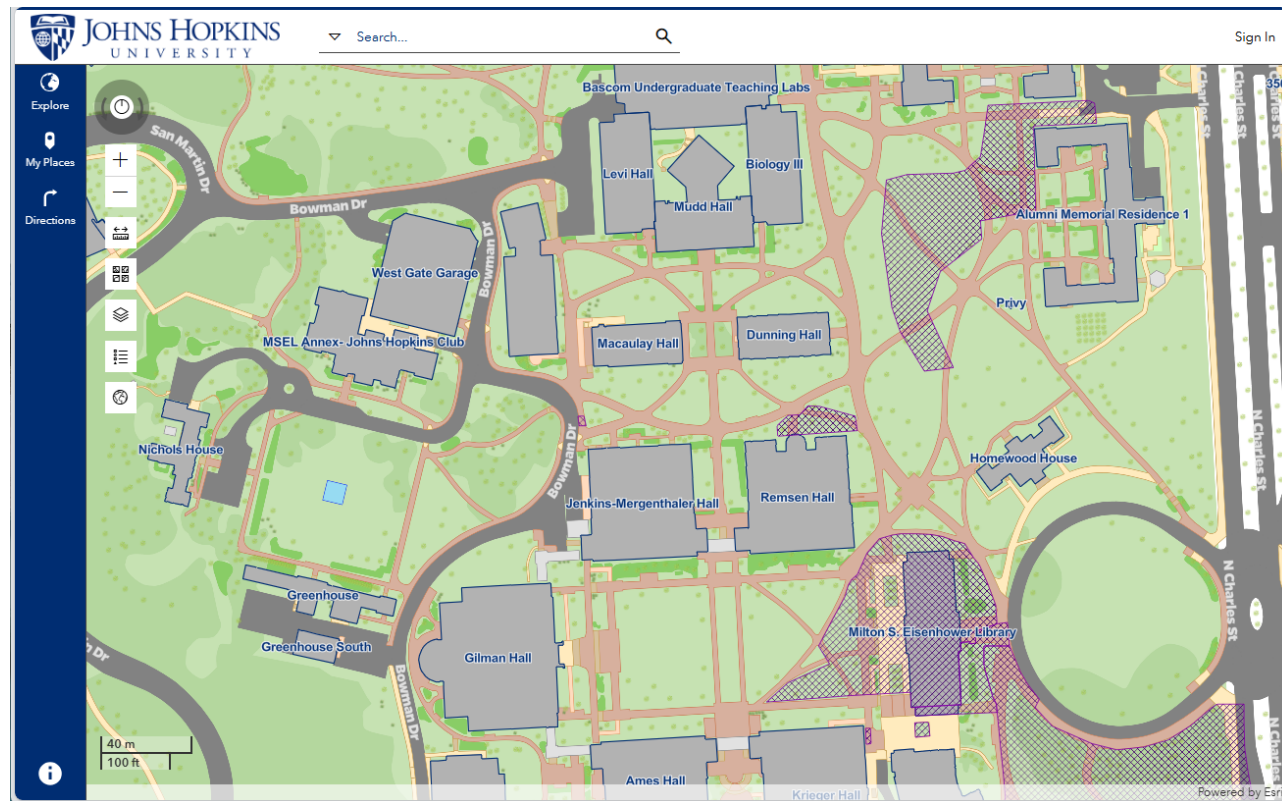
- We are working diligently to make the App user friendly for all.
- Many updates are planned and will be rolling out regularly!



JHU Homewood Campus Wayfinder and Mobile Applications

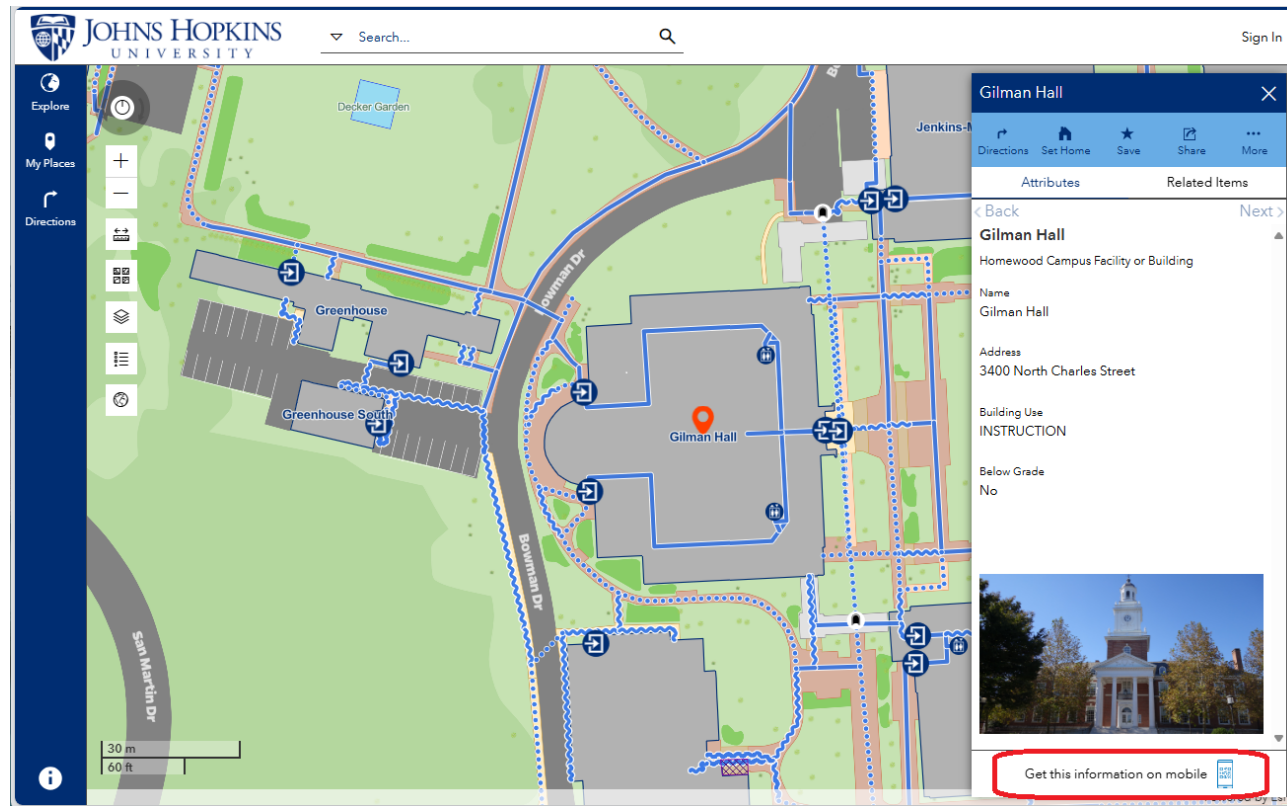
Access the Application

<https://map.jhu.edu/homewood>



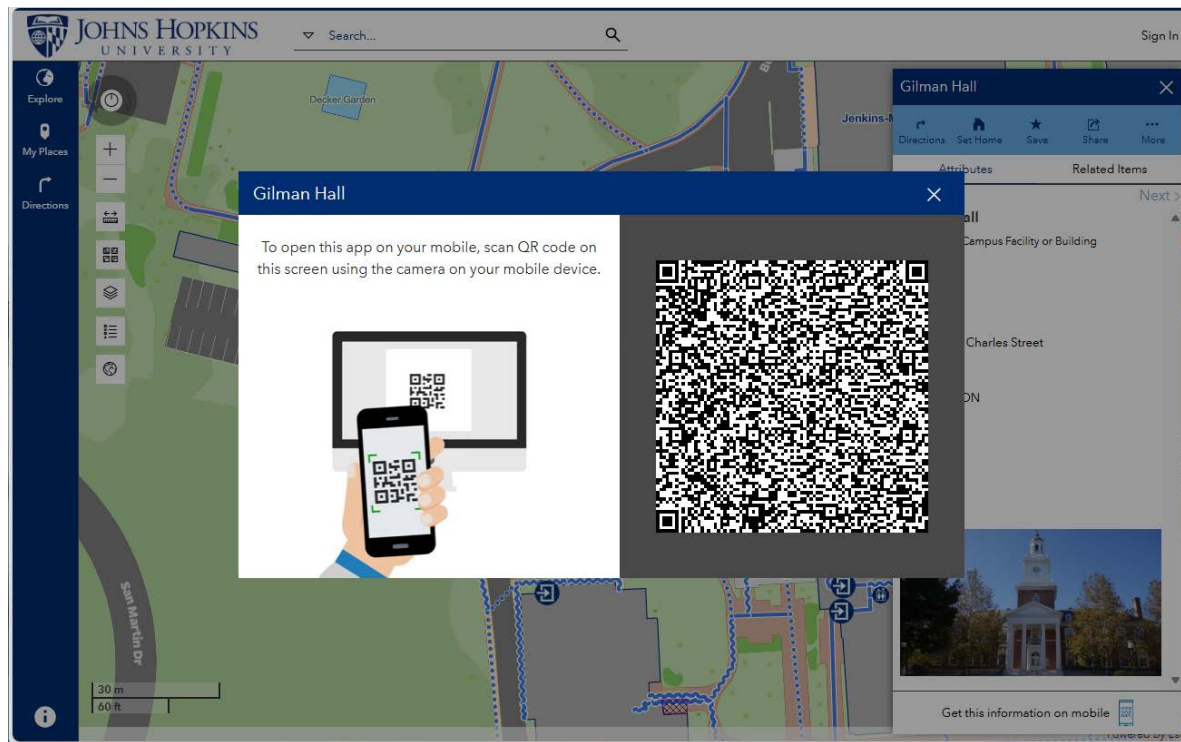
JHU Homewood Campus Web and Mobile Wayfinder Applications

- Alternatively, from inside the Web version, click on a building inside the map and select “Get the information on mobile” in the lower right corner and use the QR code to access via mobile phone



Accessing JHU Homewood Campus Mobile Wayfinder App

- If the QR Code does not take you directly to the Wayfinder you may need to download the **ArcGIS Indoors (Classic) app** from your mobile App Store and type in the url (<https://map.jhu.edu/portal>), then download "Homewood Campus Mobile Map"



Accessing JHU Homewood Campus Mobile Wayfinder App

- Once you download the app from your app store, you will be prompted to specify the URL or scan the QR Code
- <https://map.jhu.edu/portal>



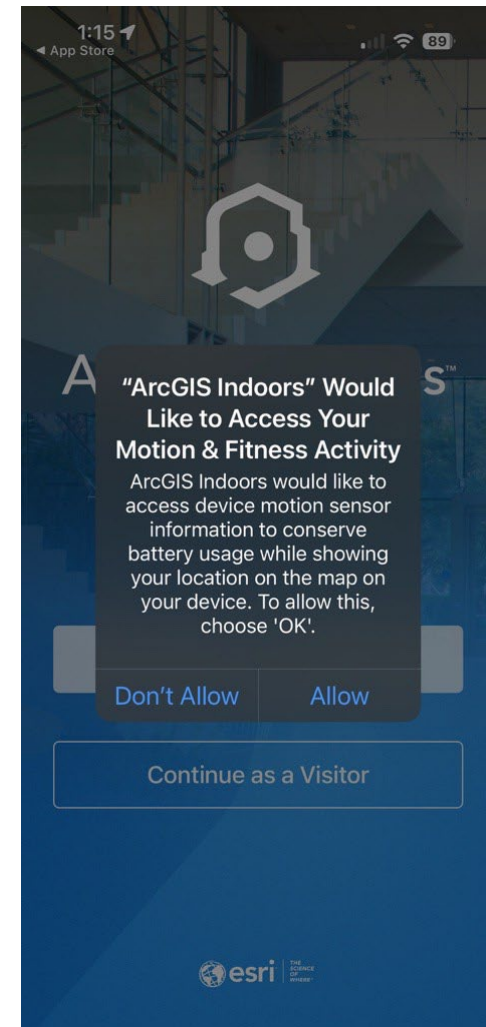
Accessing JHU Homewood Campus Mobile Wayfinder App

- You will be prompted to sign in
- Select the "Continue as Visitor" option



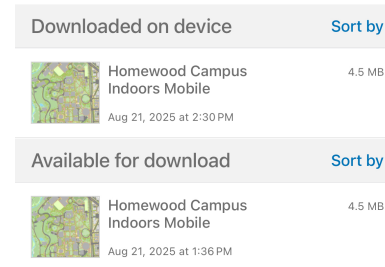
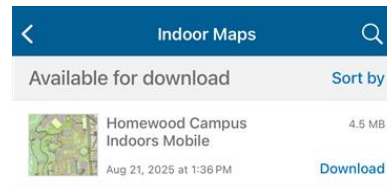
Accessing JHU Homewood Campus Mobile Wayfinder App

- You will need to accept any disclaimers and location permissions while using the application
- There may differences in the application between an Android and iPhone user
- Screenshots in this document reflect an iOS device
- Icons may appear slightly different between devices

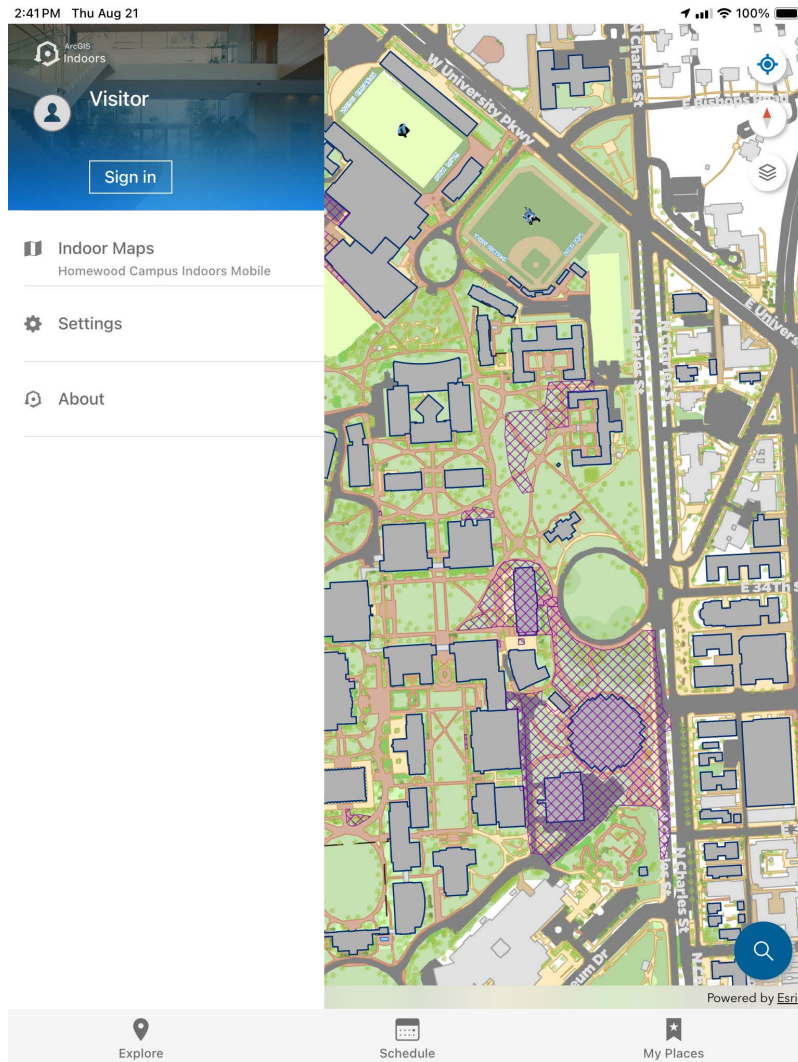


JHU Homewood Campus Mobile Wayfinder App

- Download the "Homewood Campus Indoors Mobile" Map
- **Note** that "...Indoors" is in reference to the software package used for navigating the JHU Homewood Campus
- Once downloaded, click on the map to open it

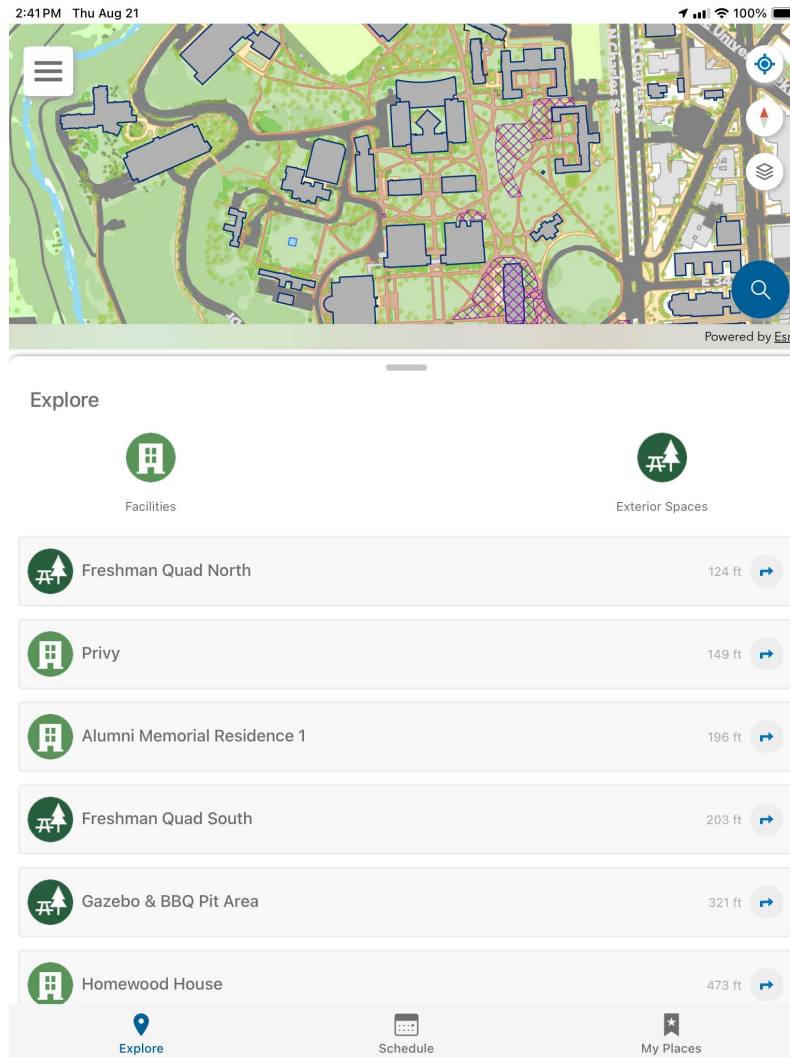


JHU Homewood Campus Mobile Wayfinder App



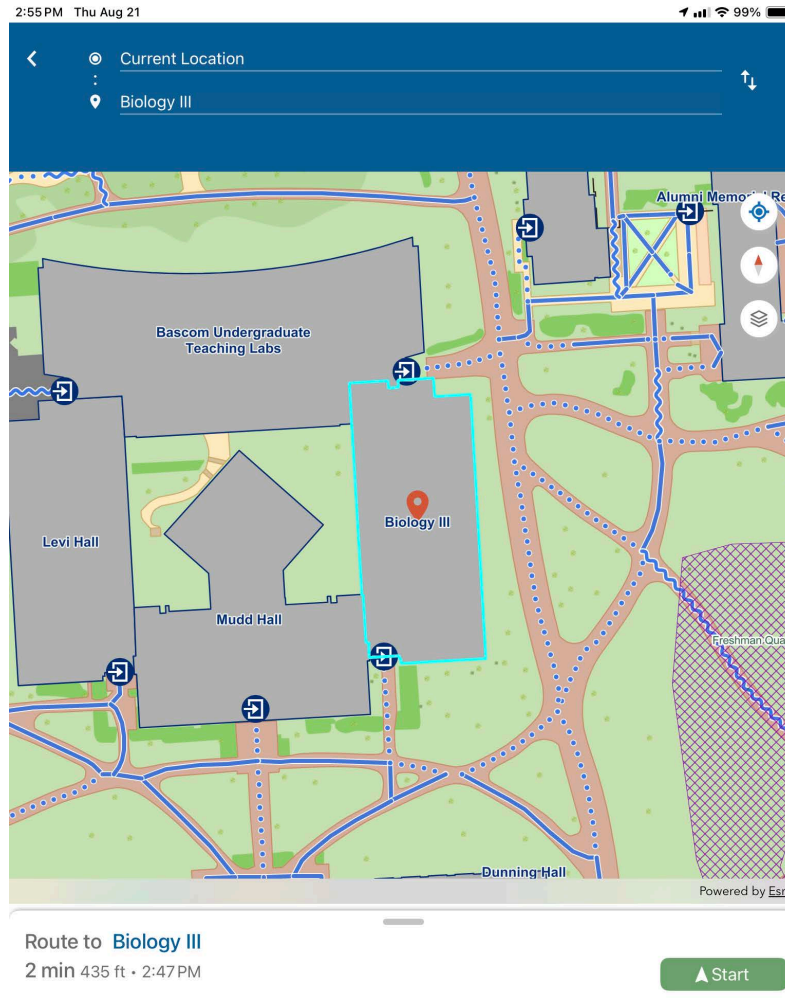
- Navigating in the Mobile App is accessible from several options similar to the Web
- Mobile App Key Functions:
 - Search
 - My Places
 - Explore

JHU Homewood Campus Mobile Wayfinder App



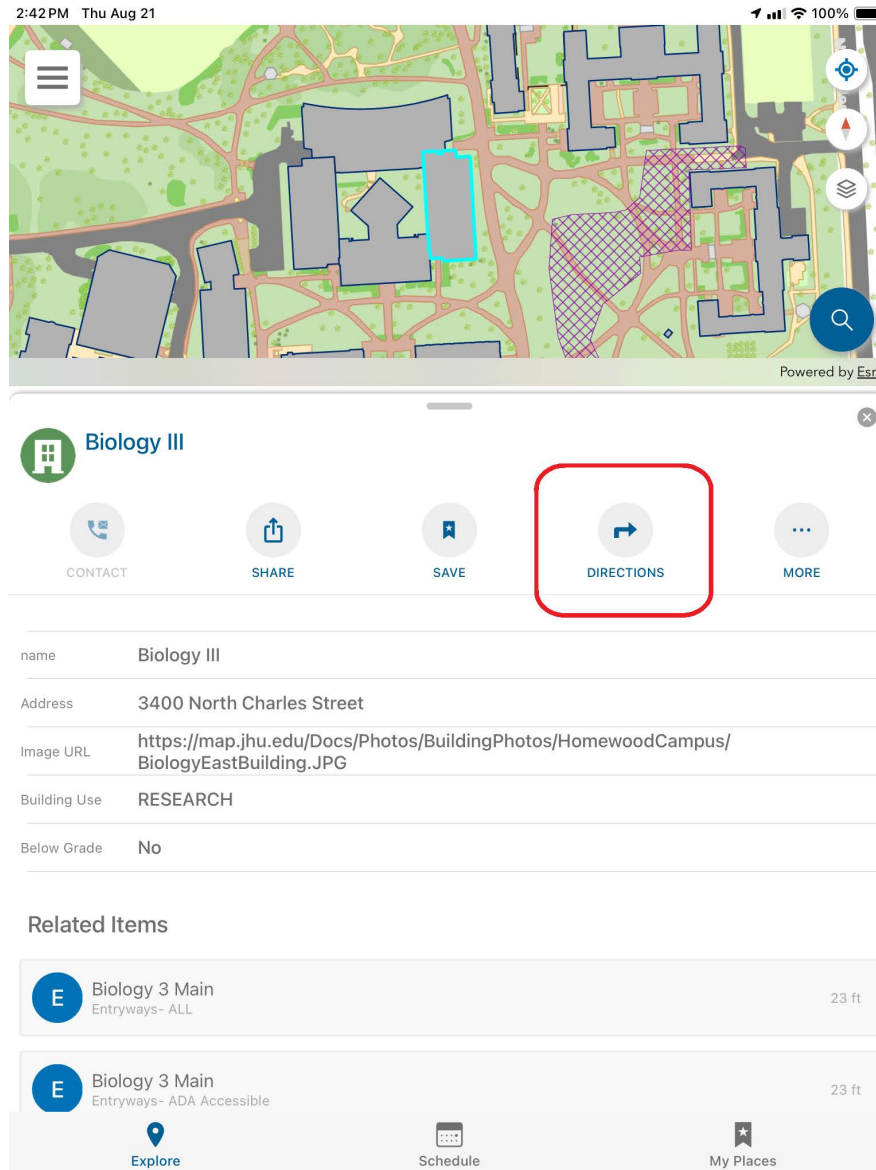
- Explore will allow you to choose from a list of facilities and exterior spaces by name

JHU Homewood Campus Mobile Wayfinder App



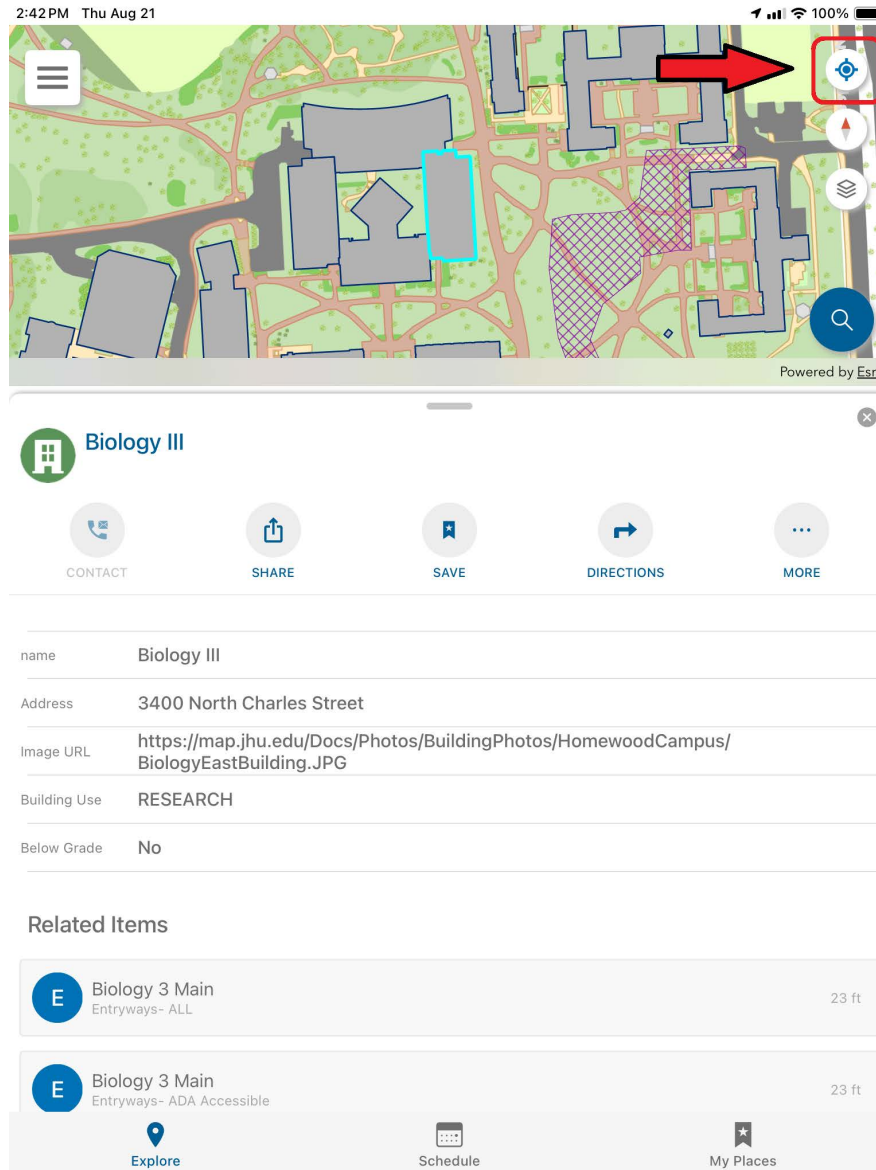
- Once a location is selected from "Explore," "My Places," or "Search," the option to get directions will become available

JHU Homewood Campus Mobile Wayfinder App



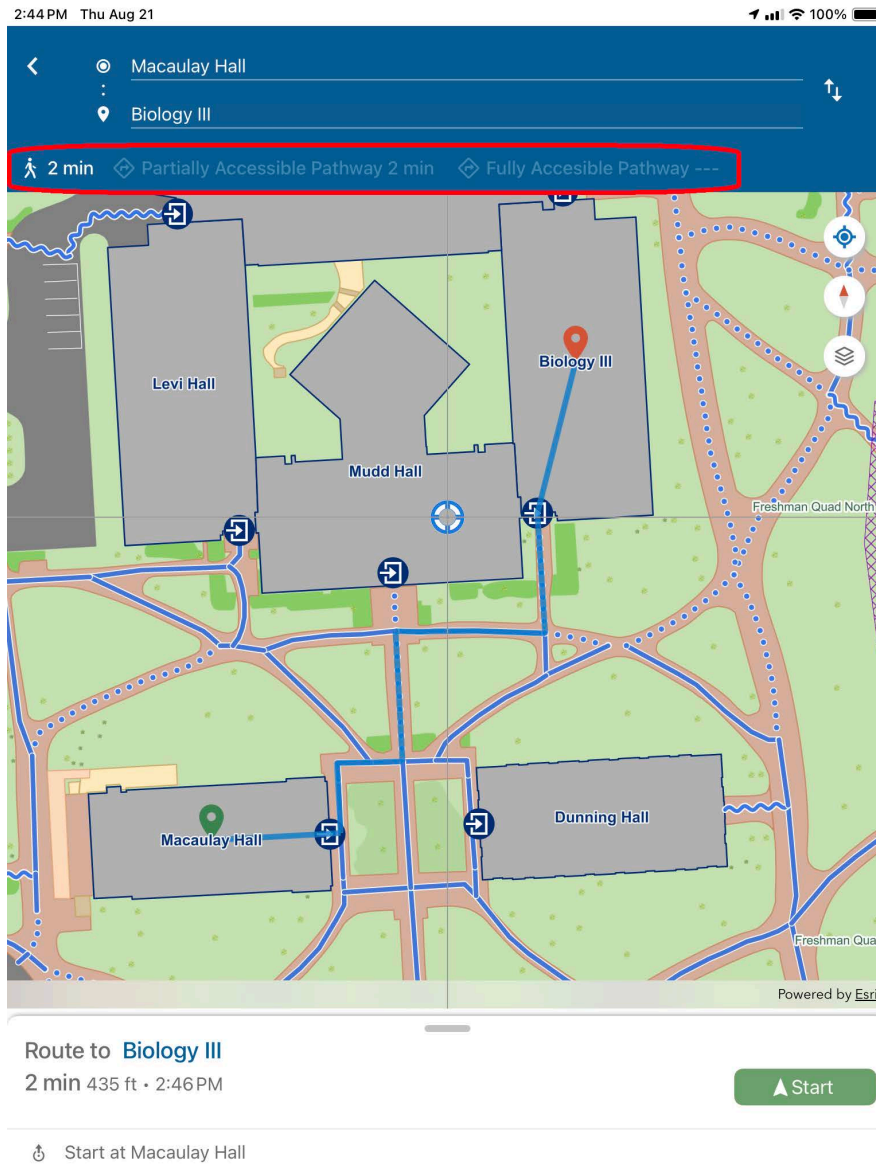
- Selecting "Directions" after selecting the "Explore" option will also open the option to navigate from a starting and end location

JHU Homewood Campus Mobile Wayfinder App



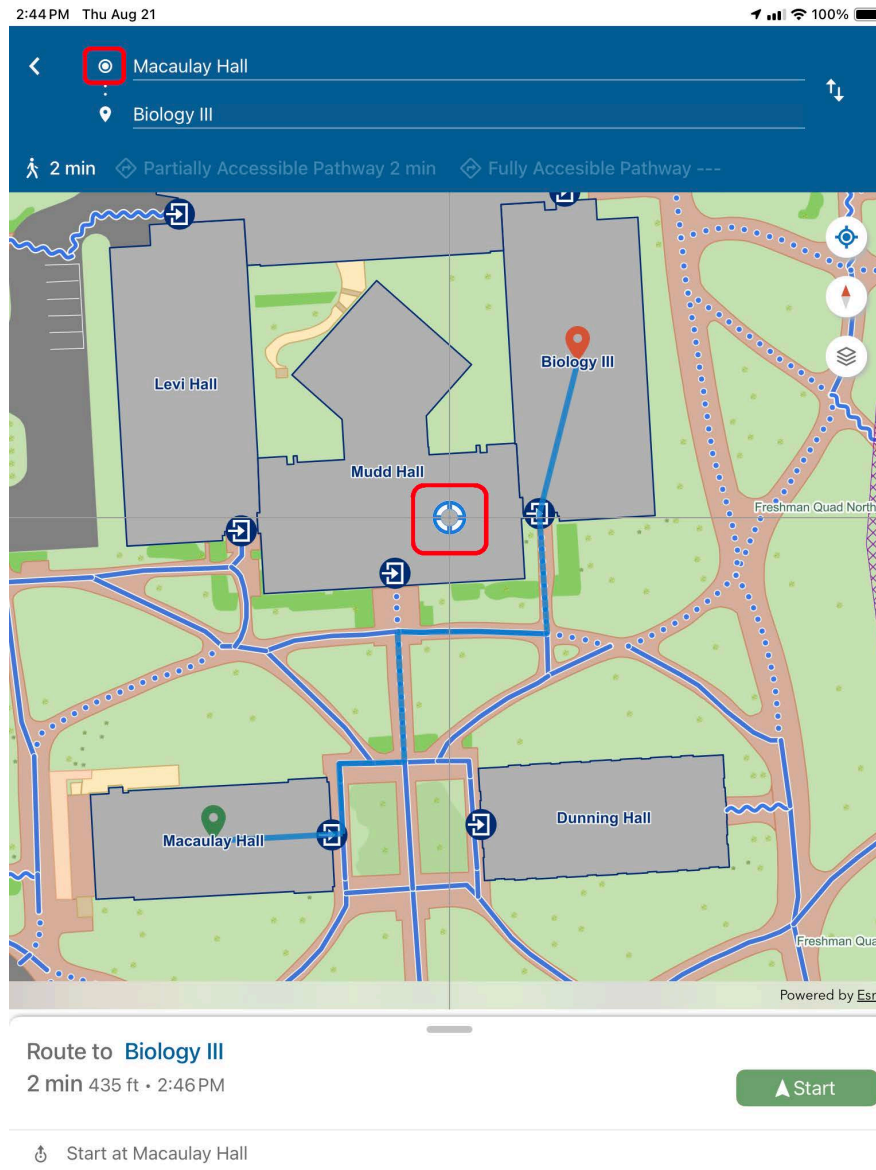
- If the ability to navigate from the application is enabled on your mobile device, the "Locate Me" button should be visible

JHU Homewood Campus Mobile Wayfinder App



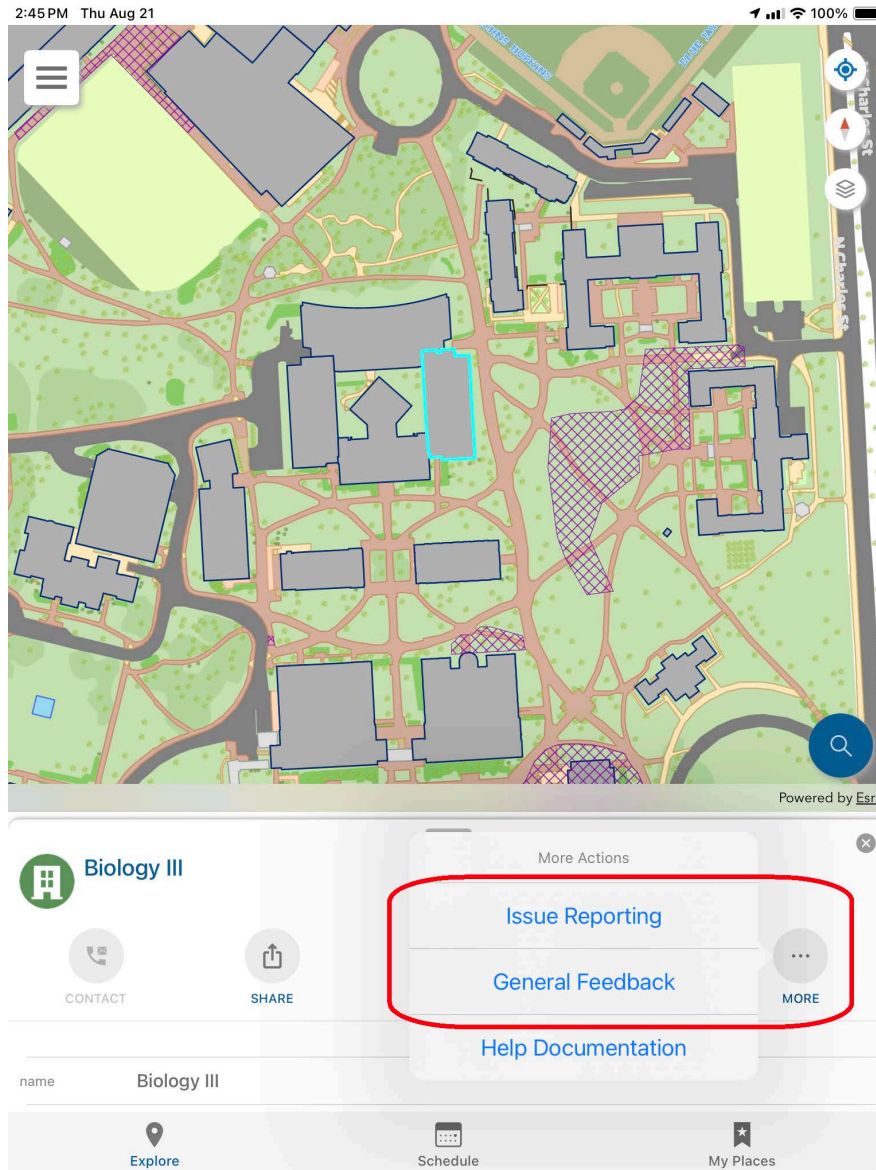
- Modalities (Walking, Partially Accessible Pathways or Fully Accessible Pathways) can be selected as highlighted
- If a modality is not available for the route, dashes will be shown instead of travel time next to the modality name

JHU Homewood Campus Mobile Wayfinder App



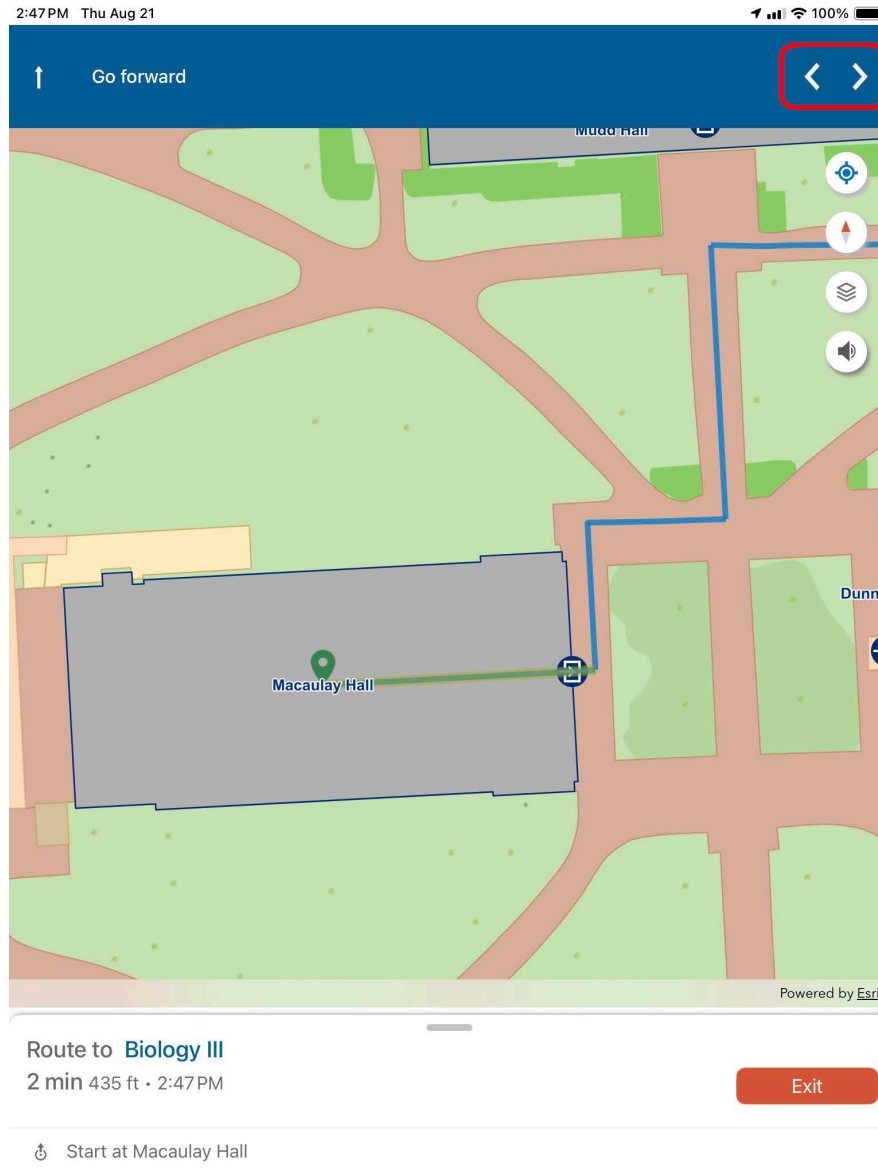
- Once directions are requested, navigation can be refined using the scope
- To access the scope, click the icon to the left of the origin
- The scope will appear in the middle of the screen
- Slide the map to position the scope over locations such as doors, or elevators, and tap the scope to place it

JHU Homewood Campus Mobile Wayfinder App



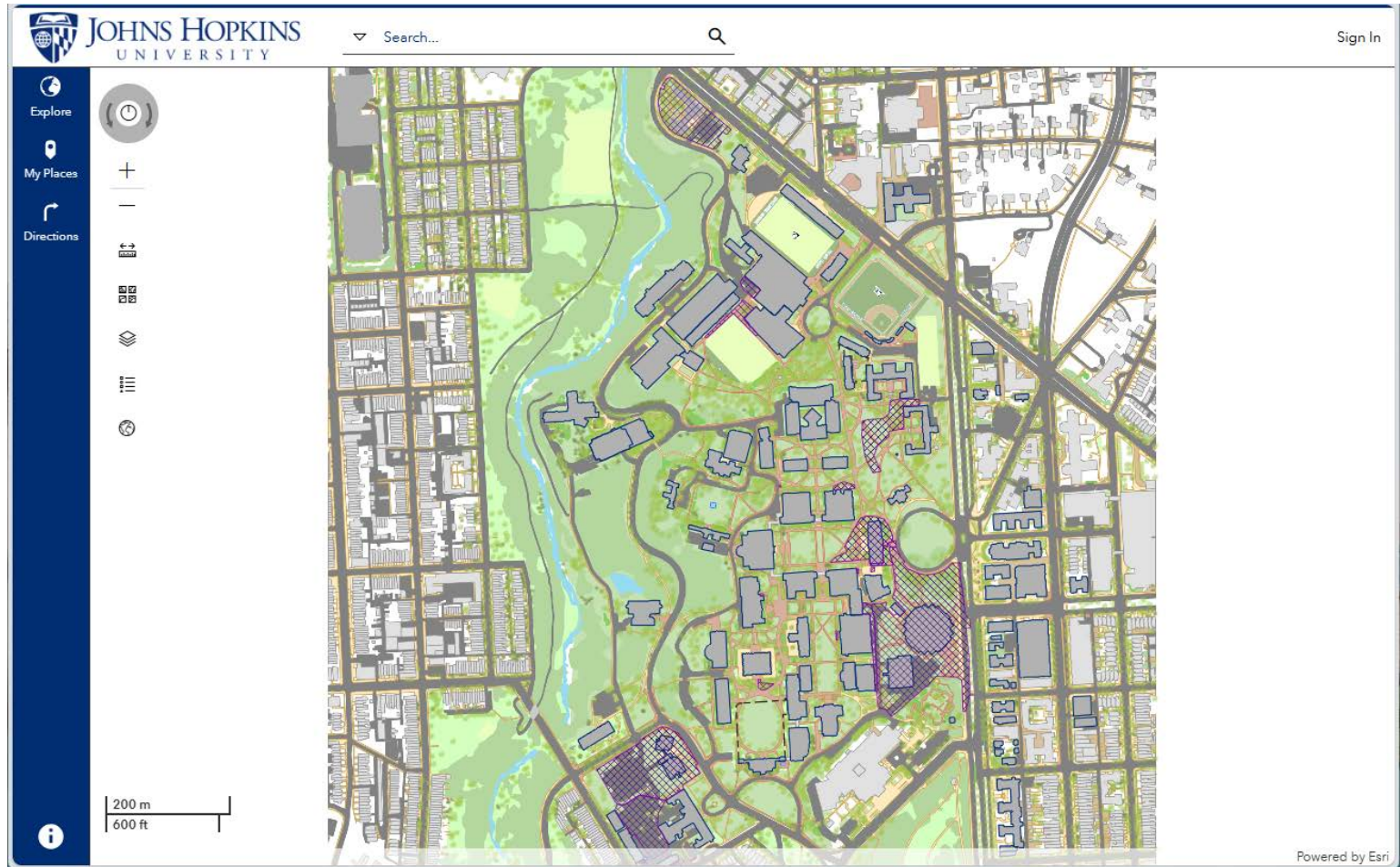
- Selecting "More" opens options for a "Feedback" survey and "Reporting" survey for reporting issues such as hazards in paths or difficulties with the applications

JHU Homewood Campus Mobile Wayfinder App



- Currently, the app requires you to manually navigate through the provided directions
- The route will highlight your current section of the route, however, you must hit the forward arrow to progress
- This is slated to update automatically in future versions!

JHU Homewood Campus Wayfinder Application



JHU Homewood Campus Wayfinder Application

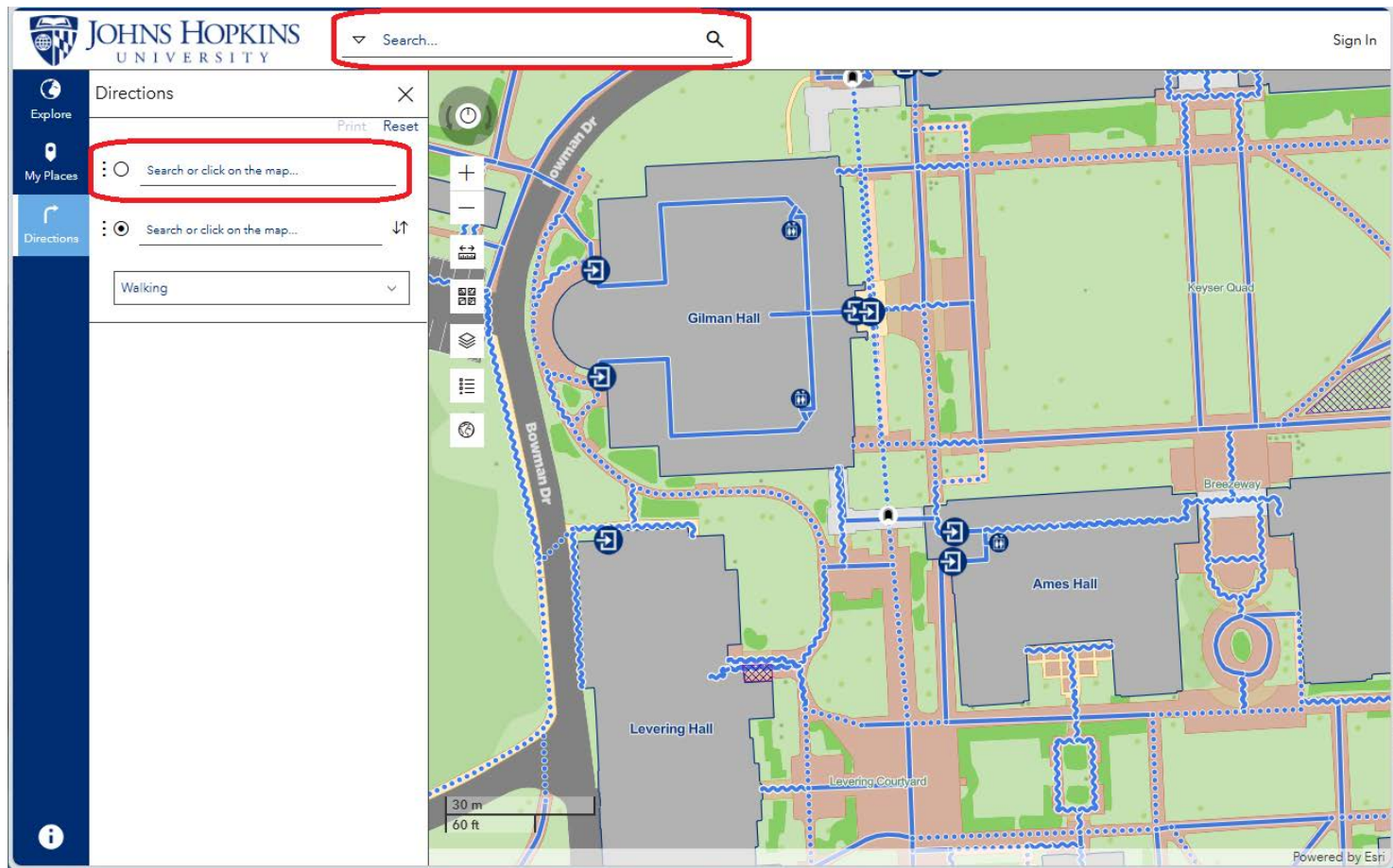
■ Map Functions from the Web Application



- Rotate Map
- Zoom In/ out
- Measure
- Basemap
- Map Layers
- Legend
- Campus View

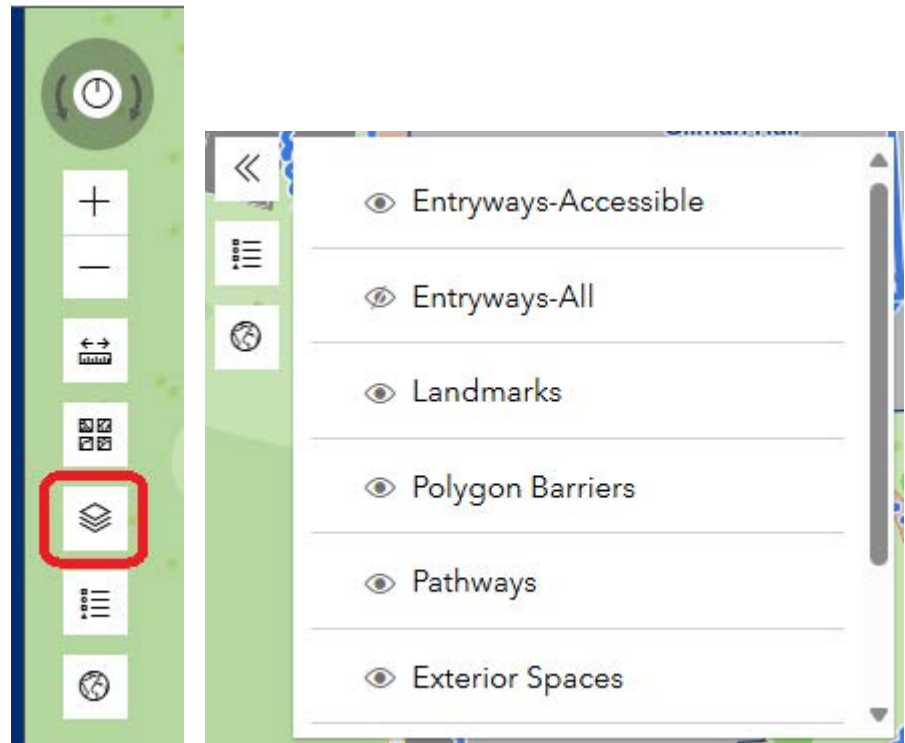
JHU Homewood Campus Wayfinder Application

- Key Search Functions from the Web Viewer



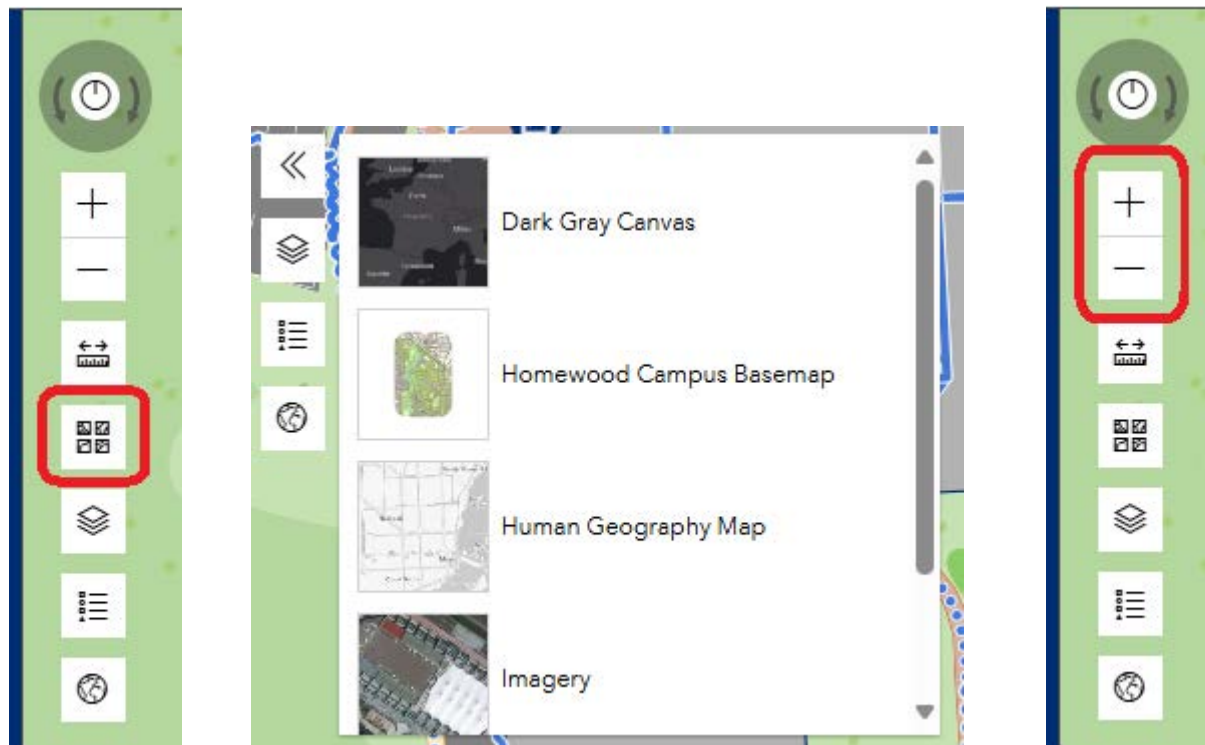
JHU Homewood Campus Wayfinder Application

- Map Layers
 - Toggle Layers On/Off using the Eye icon



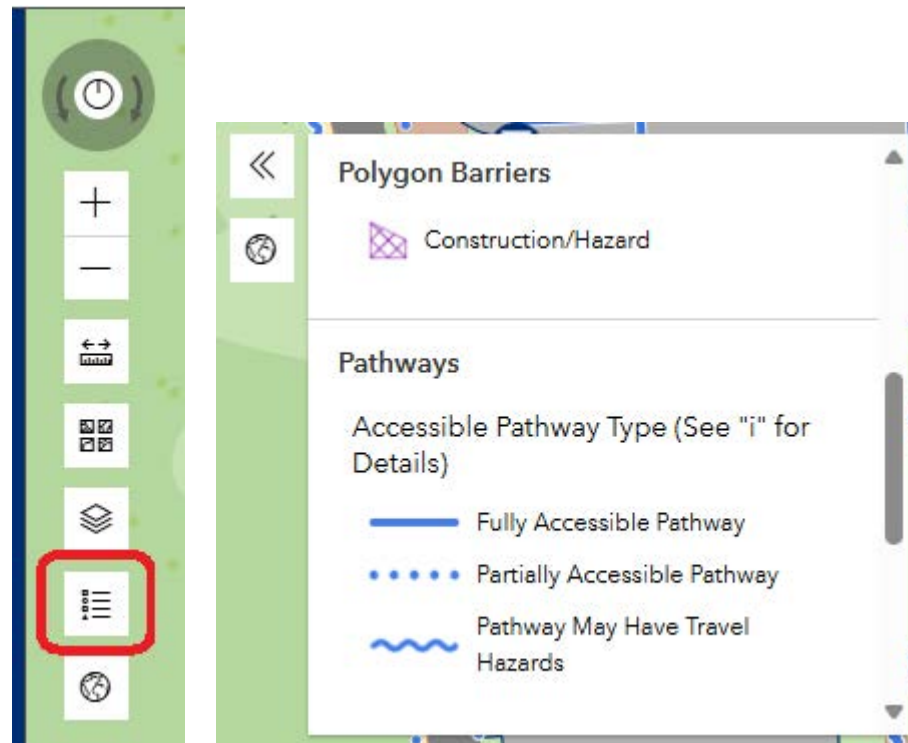
JHU Homewood Campus and Mobile Wayfinder

- Change Basemap and Zoom In/Out



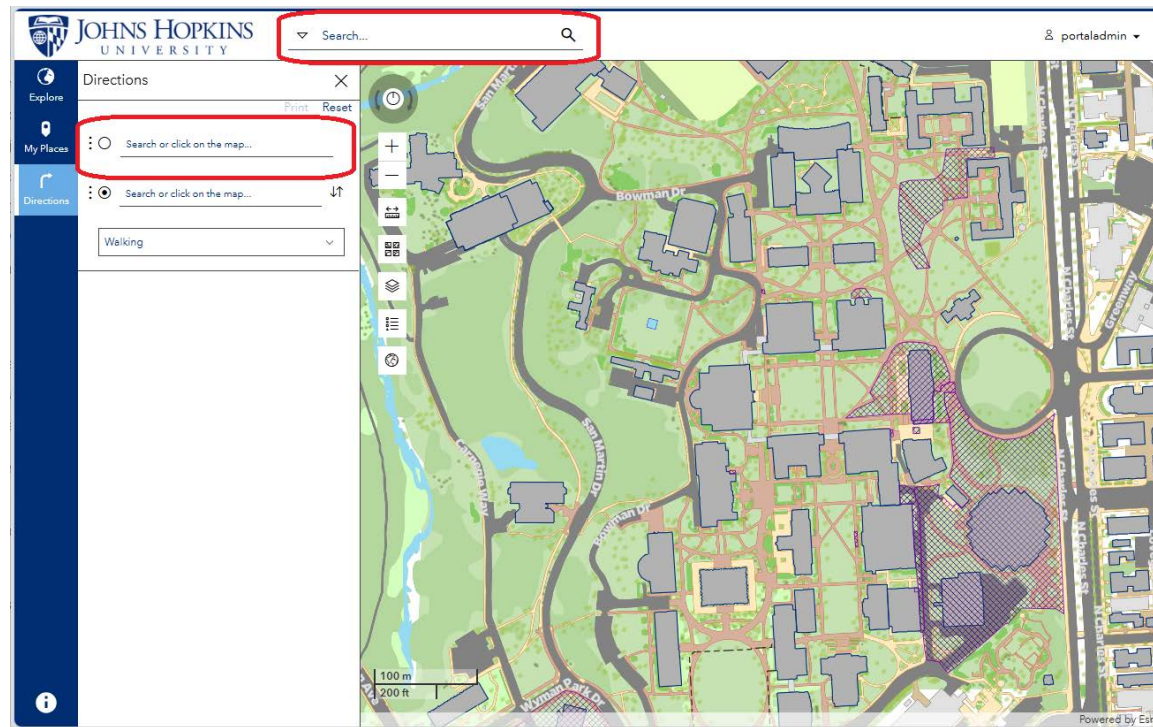
JHU Homewood Campus Wayfinder Application

■ Legend



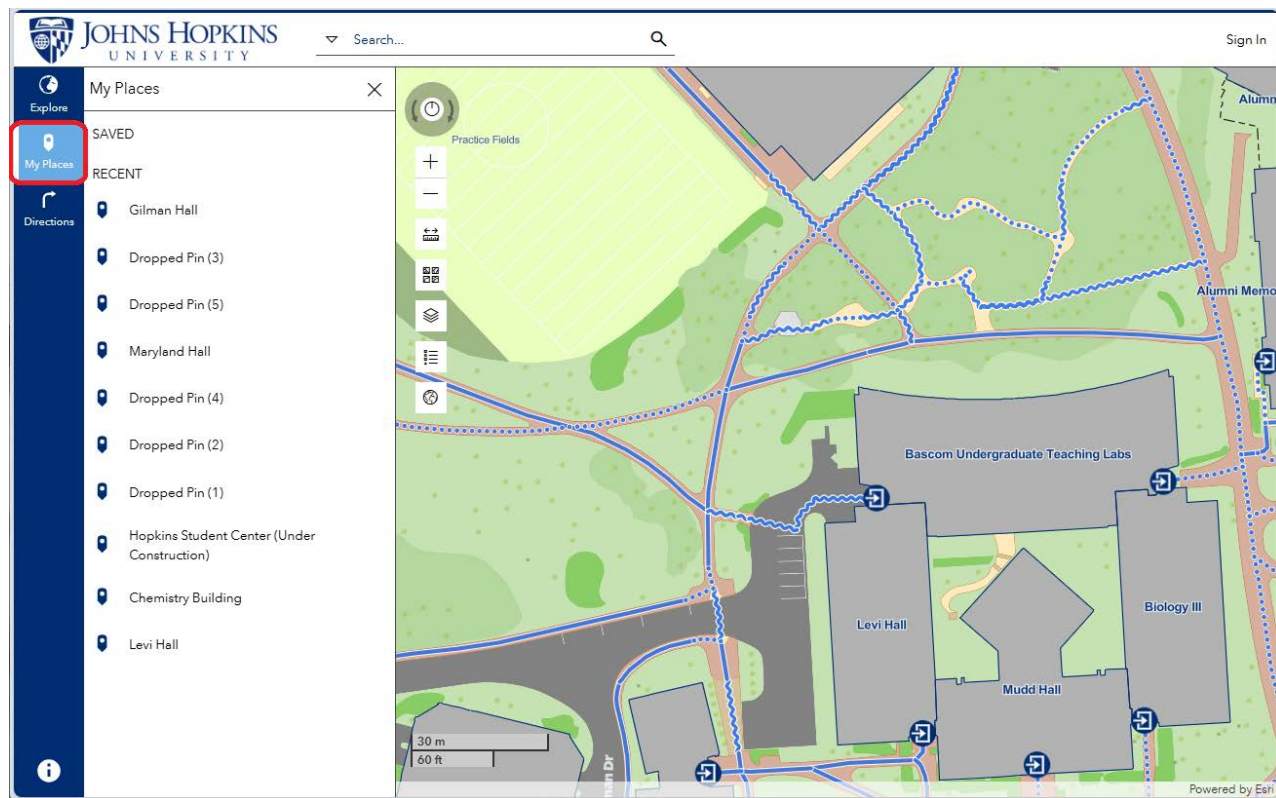
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- Options for Searching
 - Search by typing in the name of the facility (building name) or known campus location



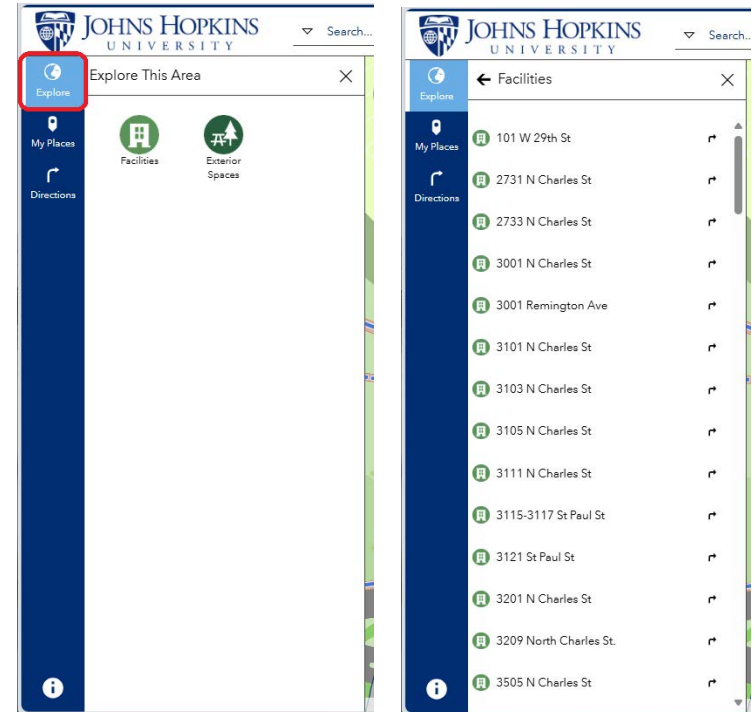
JHU Homewood Campus Web Wayfinder

- Options for Searching
 - “My Places” stores recent searches, or saved destinations



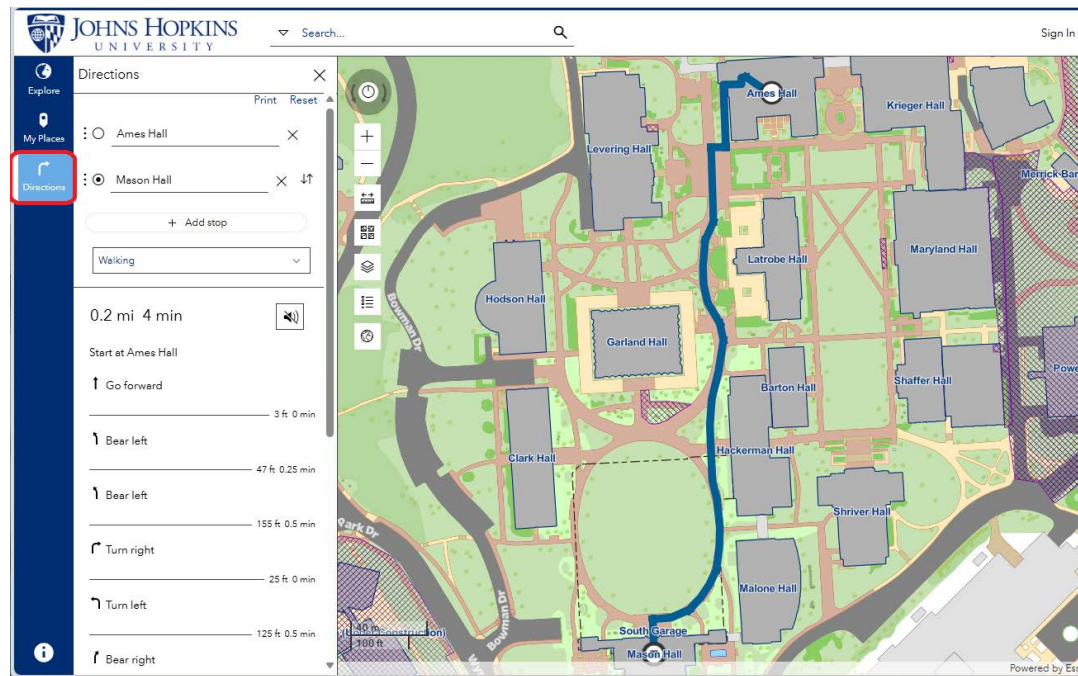
JHU Homewood Campus Wayfinder Application

- Options for Searching
 - Toggle “Explore” and “Facilities” for a list of routable facilities (buildings)
 - Toggle “Explore” and “Exterior Spaces” for a list of routable exterior spaces (quads and patios)

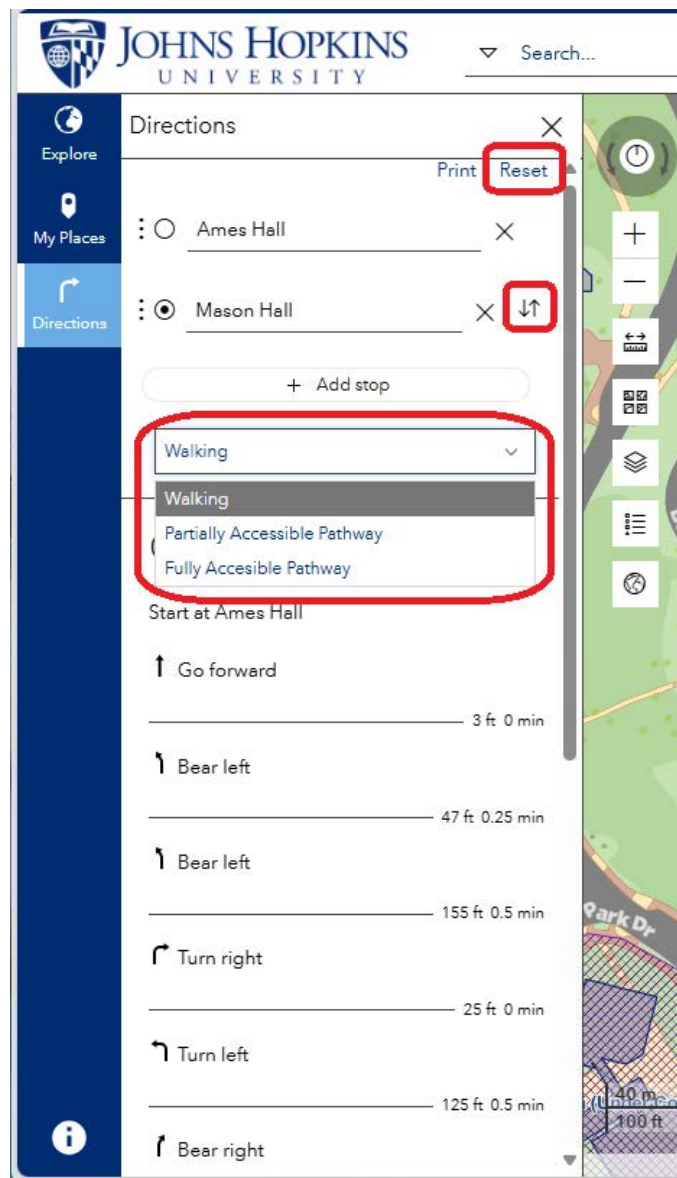


JHU Homewood Campus Wayfinder Application

- Selecting “Directions” allows you to type in locations for navigation (i.e., to and from)
 - A list of suggestions will be generated as the user starts typing



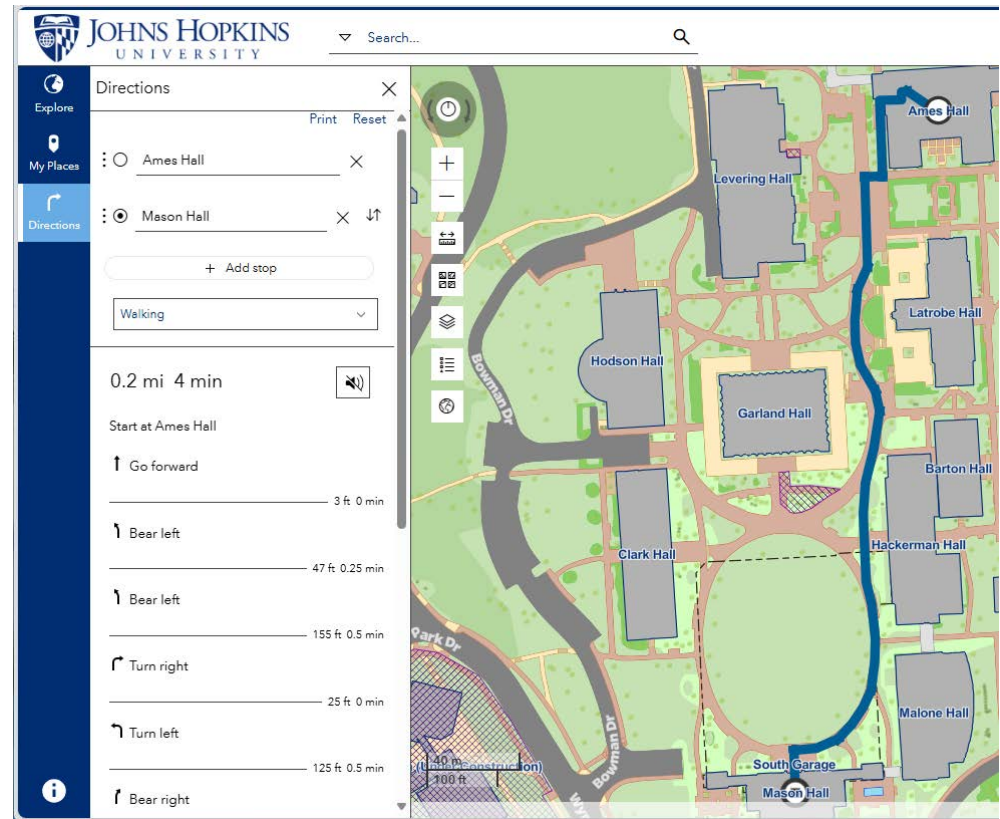
JHU Homewood Campus Wayfinder Application



- “Reset” will allow you to update if wish to change anything you type or select
- The ↕ allows you to reverse the directions
- Toggle the modality dropdown to choose a preferred pathtype: walking, fully accessible, or partially accessible

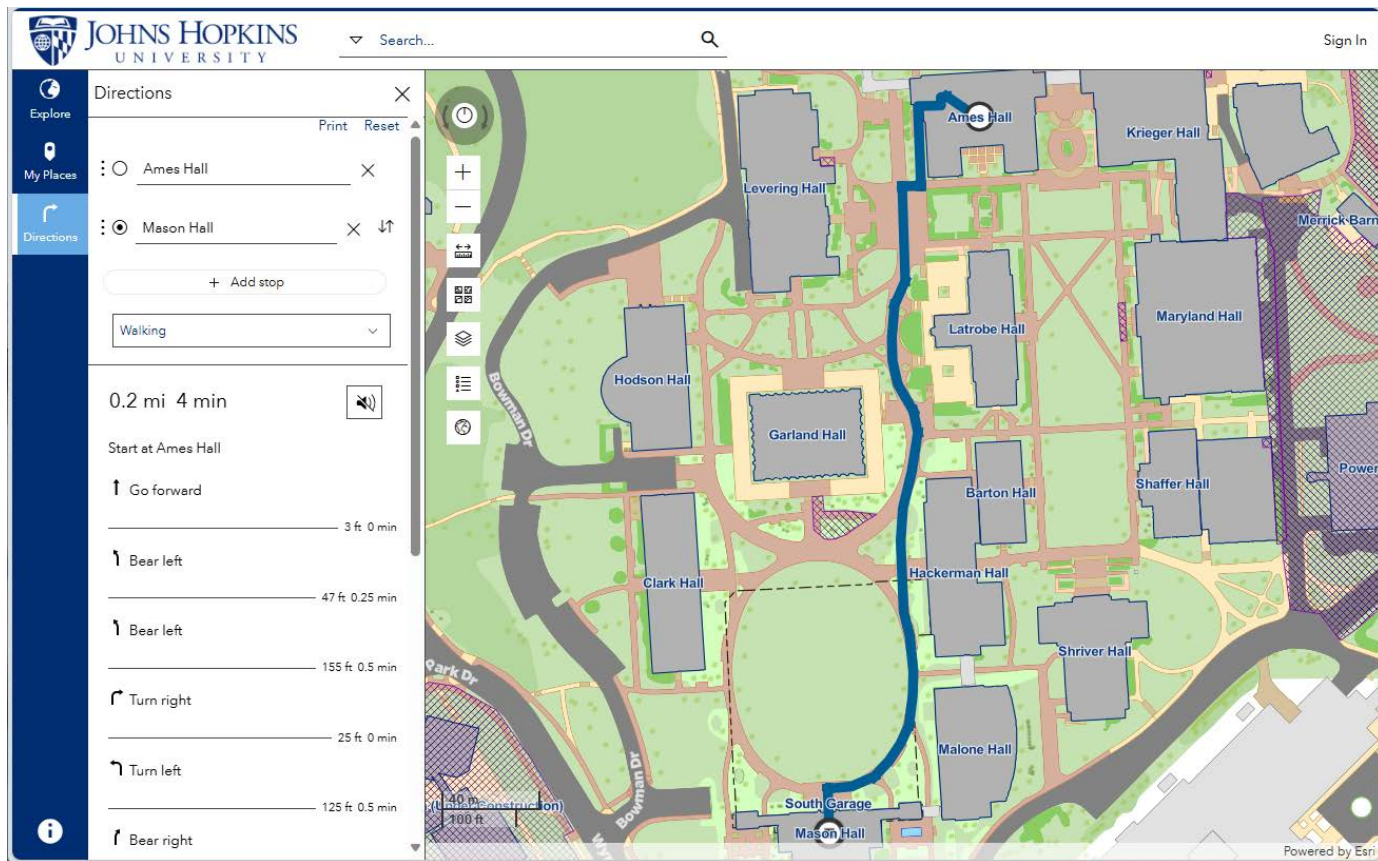
JHU Homewood Campus Wayfinder Application

- Navigating (cont.)
 - Estimated travel time and the path directions should appear beneath selections



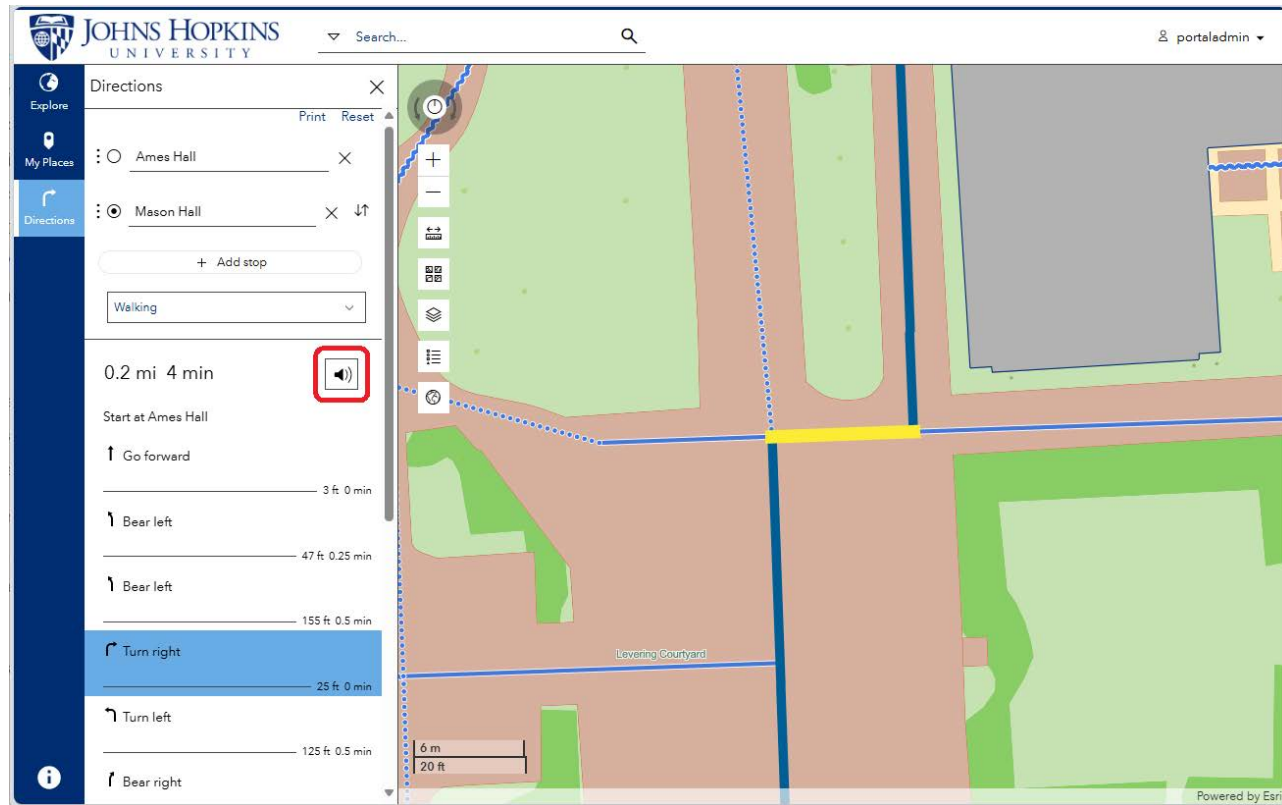
JHU Homewood Campus Wayfinder Application

- Navigating (cont.)
 - A blue route will appear on the map



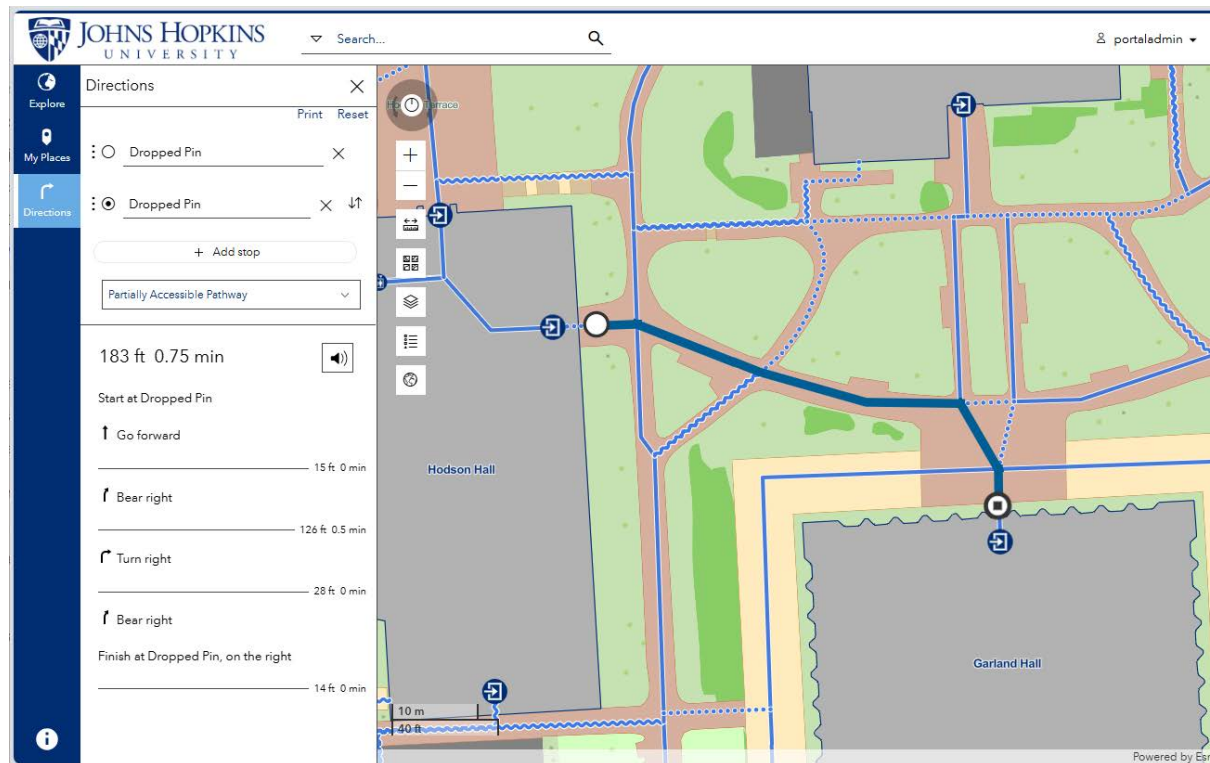
JHU Homewood Campus Wayfinder Application

- Navigating (cont.)
 - Toggle the Audio button for spoken directions
 - As you progress the path, the route will highlight in yellow



JHU Homewood Campus Wayfinder Application

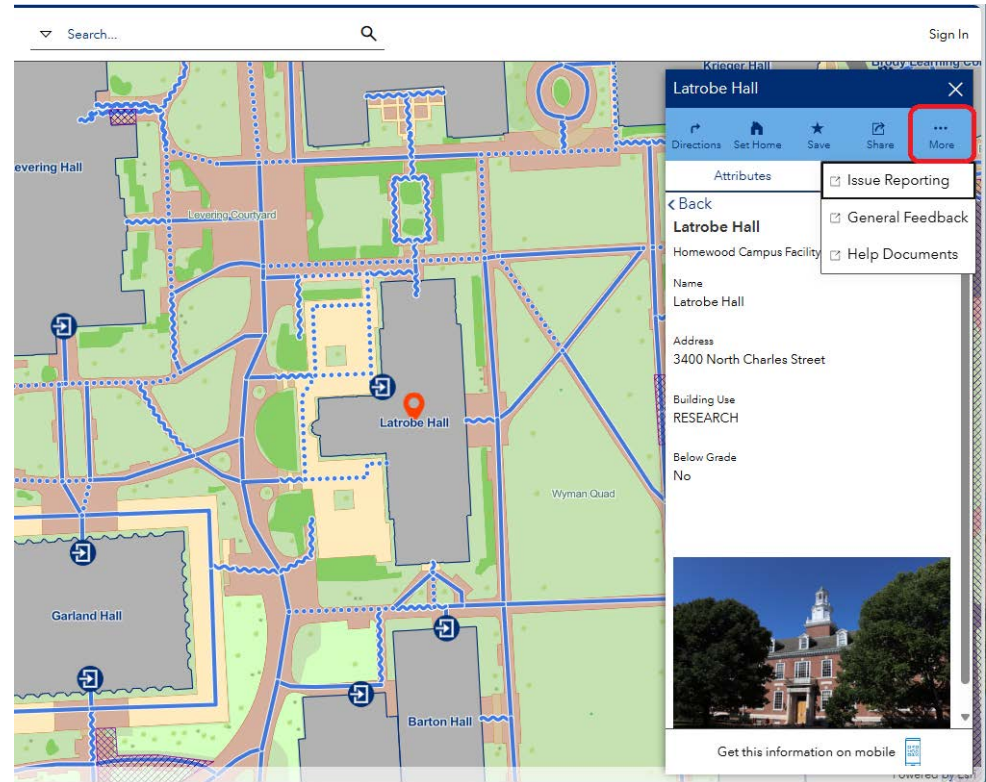
- Navigating (cont.)
 - Optionally, drop a pin within the map where an entrance and pathway are present
 - Drop a second pin, or select a second entrance, to create a route to and from
 - Blue entrances indicate fully accessible doors



JHU Homewood Campus Wayfinder Application

■ Report Issues

- When locations are selected, choose the “More” option from the menu that appears in the upper right corner
- This opens options for a survey for reporting issues such as hazards or problems with routes, a survey for general feedback, and a link to help documents



Tips/Notes:



- Using the drop pin vs. searching by building name seems to generate better routing
- Routes to buildings with multiple entrances may prefer certain entrances over others
 - To route to a specific entrance, drop the destination pin at the entrance
- Differences between Android and iPhone users will be noticeable
- Updates will be rolling out regularly, so check back for new enhancements to functionality!

Using VoiceOver on an iOS Device

VoiceOver is a speech synthesizer for iOS platforms such as iPhones and iPads. It is the recommended solution for the JHU Wayfinding Web App. Even though it is built into iOS, it is turned off by default.

Important: VoiceOver changes the gestures you use to control your iPhone. When VoiceOver is on, you must use VoiceOver gestures to operate your iPhone (instructions below).

Turning VoiceOver On or Off

To turn VoiceOver on or off, do any of the following:

- Using Siri: Say something like: “Turn on VoiceOver” or “Turn off VoiceOver.”
- Go to Settings > Accessibility > VoiceOver, then turn VoiceOver on or off.
- Use Control Center if you’ve added VoiceOver there.
- Use the Accessibility Shortcut if you’ve set it up to turn on VoiceOver.

VoiceOver Basics

With VoiceOver—a gesture-based screen reader—you can use your iPhone even if you can’t see the screen. VoiceOver gives audible descriptions of what’s on your screen—for example, hear the battery level, who’s calling, or what item your finger is on. You can also customize the VoiceOver speaking voice to suit your needs.

When you touch the screen or drag your finger over it, VoiceOver speaks the name of the item your finger is on, including icons and text. Use VoiceOver gestures to interact with an item, such as a button or link, or to navigate to another item.

When you go to a new screen, VoiceOver plays a sound, then selects and speaks the name of the first item on the screen (typically in the top-left corner). VoiceOver also tells you when the screen changes to landscape or portrait orientation, when it becomes dimmed or locked, and what’s active on the Lock Screen when you wake your iPhone.

Use VoiceOver gestures on iPhone

When VoiceOver is on, standard touchscreen gestures have different effects, and additional gestures let you move around the screen and control individual items. VoiceOver gestures include two-, three-, and four-finger taps and swipes.

You can use different techniques to perform VoiceOver gestures. For example, you can perform a two-finger tap using two fingers on one hand, one finger on each hand, or your thumbs. Instead of selecting an item and double-tapping, you can use a split-tap gesture—touch and hold an item with one finger, then tap the screen with another finger.

Explore and speak items on the screen

To explore the screen, drag your finger over it. VoiceOver speaks the name of each item you touch. You can also use VoiceOver gestures to explore the screen in order, from top to bottom and left to right.

Action	Gesture
Select and speak an item	Tap or touch the item
Select the next item	Swipe right
Select the previous item	Swipe left
Move into a group of items	Two-finger swipe right
Move out of a group of items	Two-finger swipe left
Select the first item on the screen	Four-finger tap near the top of the screen
Select the last item on the screen	Four-finger tap near the bottom of the screen
Speak the entire screen from the top	Two-finger swipe up
Speak the entire screen from the selected item	Two-finger swipe down
Pause or continue speaking	Two-finger tap
Speak additional information, such as the position within a list or whether text is selected	Three-finger tap

Scroll up, down, left, and right

Use VoiceOver gestures to move to another page.

Action	Gesture
Scroll up one page	Three-finger swipe down
Scroll down one page	Three-finger swipe up
Scroll left one page	Three-finger swipe right
Scroll right one page	Three-finger swipe left

Take action on an item

Use VoiceOver gestures to perform actions on an item.

Action	Gesture
Select an item	Tap
Activate the selected item	Double tap
Double-tap the selected item	Triple tap
Drag a slider	Tap the slider to select it, then swipe up or down with one finger; or double-tap and hold the slider until you hear three rising tones, then drag the slider
Start or stop the current action (for example, play or pause music or a video, take a photo in Camera, start or stop a recording, start or stop the stopwatch)	Two-finger double tap
Dismiss an alert or return to the previous screen	Two-finger scrub (move two fingers back and forth three times quickly, making a “z”)
Edit an item’s label to make it easier to find	Two-finger double tap and hold

Use gestures to control VoiceOver

Use these gestures to control VoiceOver.

Action	Gesture
Mute or unmute VoiceOver	Three-finger double tap. If both VoiceOver and Zoom are turned on, use the three-finger triple-tap gesture.
Turn the screen curtain on or off (When the screen curtain is on, the screen contents are active even though the display is black and appears to be turned off.)	Three-finger triple tap. If both VoiceOver and Zoom are turned on, use the three-finger quadruple-tap gesture.
Use a standard gesture	Double-tap and hold your finger on the screen until you hear three rising tones, then make the gesture. When you lift your finger, VoiceOver gestures resume. For example, to drag a volume slider with your finger instead of swiping up and down, select the slider, double-tap and hold, wait for the three tones, then slide left or right.

Action	Gesture
Open the Item Chooser	<p>Two-finger triple tap.</p> <p>To move quickly through the list of items, type a name in the search field, swipe right or left to move through the list alphabetically, or tap the table index to the right of the list and swipe up or down. You can also use handwriting to select an item by writing its name. If you use Braille Screen Input to type braille directly on the screen, when you're not entering text, you can type to search for an item.</p> <p>To dismiss the Item Chooser without making a selection, do a two-finger scrub (move two fingers back and forth three times quickly, making a "z").</p>
Open the VoiceOver quick settings	Two-finger quadruple tap.
Start or stop Live Recognition	Four-finger triple tap.

Using TalkBack on an Android Device

TalkBack is an accessibility feature that helps people who are blind or have low vision to interact with their Android devices using touch and spoken feedback.

When TalkBack is on, items on the screen are outlined with a focus box, and the device gives audio cues about what is on the screen. Instead of typical touch interactions, you can navigate the device through TalkBack gestures.

Tip: To turn on TalkBack, options vary based on the device manufacturer, Android version, and TalkBack version. The information below applies to most devices, but you might experience some differences.

Note: These instructions are for Android 9.1 or newer. For older versions, refer to the Android Accessibility Help at <https://support.google.com/accessibility/android/answer/6283677?hl=en&sjid=9366741926246955112-NA>

Turning TalkBack On

Option 1: Use Google Assistant

1. If you have set up Google Assistant, say “Hey Google.”
2. Say “Turn on TalkBack” or “Turn off TalkBack.”

Option 2: Use device settings

1. On your device, open Settings .
2. Tap Accessibility and then TalkBack.
3. Select Use TalkBack.
4. After you turn on TalkBack, control your device with TalkBack gestures.

Option 3: Use accessibility shortcuts

1. With the accessibility shortcut turned on, you can use it to turn TalkBack on or off with an on-screen button or physical keys.
2. On your device, open Settings .
3. Tap Accessibility and then TalkBack and then TalkBack shortcut.
4. Turn on TalkBack shortcut.
5. To set up shortcut preference for your device model, follow the on-screen instructions. You can also learn more ways to configure the accessibility shortcut.

Turning TalkBack Off

Option 1: Turn off TalkBack with Google Assistant

1. Say "Hey Google, turn off TalkBack."
2. Listen for confirmation that TalkBack is turned off.

Option 2: Turn off TalkBack with shortcuts

Important: The Talkback shortcut setup varies depending on the device manufacturer, Android version, and TalkBack version. Try the following options to turn off TalkBack:

1. Press and hold both volume keys for a few seconds. Listen for confirmation that TalkBack is turned off.
2. If you have any other shortcut button Accessibility or a floating button displayed on the screen, set the focus on that item by touching it with one finger, then double-tap to turn off TalkBack.
3. If these options don't work, try one of the other options below.

Option 3: Turn off TalkBack in Settings

Step 1: Unlock your device

1. If your lock screen doesn't show, press the Power button.
2. If the lock screen still doesn't show, turn on the screen display with TalkBack gestures:
3. With one finger: Swipe up and then right (or swipe down and then right) to open the TalkBack menu.
4. In the TalkBack menu: Tap Show screen once to focus it and then double-tap to select it.
5. From the lock screen, bring up the password screen, swipe up with 2 fingers from the bottom.
6. On the password screen, use your PIN or pattern to unlock the phone:
7. To Unlock with your PIN: With one finger, tap on each number of your PIN and then tap OK or the enter button.
8. To Unlock with your Pattern: With one finger, tap on each dot of your pattern one after another continuously.
9. Once the phone is unlocked, try to turn off TalkBack using shortcuts, press volume up and down keys together for a few seconds, or ask the Google Assistant to turn off TalkBack. If these shortcuts don't work, proceed to Step 2.

Step 2: Open your device Settings

There are two ways to open your device settings with TalkBack.

Use the navigation bar

1. To open the notifications bar, from the top of the screen, swipe down with 2 fingers.
2. To expand the notifications bar, swipe down with 2 fingers again.
3. To focus the bar, tap Settings .
4. Double-tap to select it.

Use the app drawer

1. To open the app drawer, use one of these options, depending on your device manufacturer:
 - a. With two fingers, swipe up from the bottom of the screen. This option works on devices that use vertical scrolling for the app drawer.
 - b. With two fingers, swipe left or right. This option works on devices that use horizontal scrolling for the app drawer.
2. With 2 fingers, scroll to find Settings .
3. To focus the app drawer, tap Settings .
4. Double-tap to select it.

Step 3: Turn off TalkBack in Settings

1. Open Accessibility screen,
 - a. To find Accessibility, scroll with 2 fingers.
 - b. Tap Accessibility once with one finger to focus it, then double-tap to select it.
2. Open TalkBack screen
 - a. To find Talkback, scroll with 2 fingers
 - b. Tap Talkback once with one finger to focus it, then double-tap to select it
3. Tap Use TalkBack switch with one finger to focus it, then double-tap to select it
4. Tap Stop in the confirmation to focus it and then double-tap to select it

TalkBack Gestures

Navigate the Screen

Action	One-finger gesture	Multi-finger gesture
Move to the next item on the screen	Right	Not applicable
Move to the previous item on the screen	Left	Not applicable
Explore by touch: Speaks the item below your finger	Drag a finger on the screen	Not applicable

Action	One-finger gesture	Multi-finger gesture
Select an item	Tap	Not applicable
Move to the next reading control	Up then down	3-finger swipe down
Move to the previous reading control	Down then up	3-finger swipe up
Change the value for an item selected in reading control	Up or down	Not applicable
Jump to the next item <ul style="list-style-type: none"> Follows reading controls setting 	Down	Not applicable
Jump to the previous item <ul style="list-style-type: none"> Follows reading controls setting 	Up	Not applicable
Read from next	Not applicable	2-finger triple tap
Activate screen search	Left then down	Not applicable
Magnification settings	Triple-tap	Not applicable

Scroll the Screen

Action	Gesture	Multi-finger gesture
Scroll up or down	2-finger swipe up or down	Not available
Scroll left or right	2-finger swipe left or right	Not available

Take Action on a Focused Item

Action	Gesture
Activate	Double-tap
Long press the focused item	Double-tap and hold
Move up the slider <ul style="list-style-type: none"> Like volume 	Up, or right, then left
Move down the slider <ul style="list-style-type: none"> Like volume 	Down, or left

Android System Gestures

Action	Gesture	Multi-finger gesture
Home	Up then left	When Gesture navigation is on, 2-finger swipe up from the bottom
Back	Down then left	When Gesture navigation is on, 2-finger swipe from the left or right edge of screen

Action	Gesture	Multi-finger gesture
Recents (app switcher)	Left then up	When Gesture navigation is on, 2-finger swipe up from the bottom and hold
Show notifications	Right then down <ul style="list-style-type: none"> Or, from the top of the screen, 2-finger swipe down. 	2-finger swipe down from the top
Show quick settings	While a notification is open, 2-finger swipe down	Not applicable
Dismiss notifications	Down then left	2-finger swipe up from the bottom
Open the app section	In the Home screen, 2-finger swipe up	Not applicable

Control TalkBack

Action	Gesture	Multi-finger gesture
Pause or resume speech	Not applicable	2-finger tap
Start or stop media	Not applicable	2-finger double tap
Answer or hang up a call	Not applicable	2-finger double tap
TalkBack menu	Down then right	3-finger tap
Practice gestures	Not applicable	4-finger tap
TalkBack help	Not applicable	4-finger double tap
Show or hide the Accessibility menu, if you've turned it on	When Gesture navigation is on, 2-finger swipe up from the bottom	When Gesture navigation is on, 3-finger swipe up from bottom

Action	Gesture	Multi-finger gesture
Pass-through <ul style="list-style-type: none"> When you use the pass-through gesture, the system interprets the next gesture like TalkBack is off. For example, if you single-finger swipe from the top of the screen, you get the notification shade. 	Not applicable	4-finger double tap and hold
Copy text in focused item	Not applicable	3-finger double tap

TalkBack Basics

Navigate with TalkBack turned on

- To select an item, set the focus on that item by touching it with one finger and then double-tap with one finger to activate that item. You can also move the focus by swiping to the right to focus on the next item.
- To scroll up or down on the screen, place two fingers on the screen and drag up or down.
- When "System navigation" is set to "Gesture navigation," for gestures like home, back, or recent apps, use two fingers instead of one. Learn more about TalkBack gestures.
- Tip: By default, TalkBack speaks password characters to you. To make sure that your phone doesn't speak characters in secure fields.

Navigate your device with TalkBack

When you turn on TalkBack on your device, you can touch or swipe your screen to explore.

Explore by touch

Slowly drag one finger around the screen. As you drag your finger, TalkBack announces icons, buttons, and other items. After a pause, TalkBack might suggest actions for you, like how to activate or view the content. When you find an item you want, double-tap anywhere on the screen to select it.

Explore by swiping

To explore your screen one item at a time, swipe up or down with one finger. When you focus on an item, TalkBack reads that item aloud and might suggest actions for you.

Choose reading controls

You can change your single-finger up and down controls or choose your default reading control.

1. On your Android device, cycle through options for reading controls.
 - a. On devices with multi-finger gestures (updated R and up): Three-finger swipe right or left. Or, in one motion, swipe up then down or down then up.
 - b. On devices without multi-finger gestures (not-updated R or lower): In one motion, swipe up then down or down then up.
2. After you hear the reading control that you want, single-finger swipe up or down to move TalkBack's focus.
 - a. The granularity you select changes how TalkBack reads. For example, TalkBack can navigate by words, lines, or characters.
 - b. To move between the chosen navigation, single-finger up or down.

After you choose a reading control:

- To move forward: Swipe down.
- To move back: Swipe up.
 - a. For example, three-finger swipe until you hear words, then one-finger swipe up or down to hear the previous or next word.

Tip: You can customize TalkBack reading controls to add additional or remove default options. For example, you can add the option to navigate by landmark or hide the screen.