Smart Mobility & Accessibility
for Barrier-Free Access

Volunteer Tutorial

ADC v1.5 Tutorial for Non-Wheelchair Users

By

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Introduction

The ADC app collects GPS, path accessibility data through your phone sensors, and allows you to report obstacles. In contrast, the official SmartBFA only allows you to report obstacles.

Data collected through the ADC app helps us recommend routes that are shorter, less bumpy, and generally more suitable for wheelchair users!

Our Data Collection Volunteers (that's you!) are organised and collect data in designated areas. This prevents possible overlaps in data collection :)

GETTING STARTED

Download the ADC application v1.3

- LINK (Android only!)
- iOS users, please contact the SmartBFA team. A download link will be provided directly to your Apple ID.

Enable permissions to “Install the application from an unknown source”.

Enable ALL permissions (e.g., Location, Storage, etc.)

Allow permissions to be accessed ALL THE TIME. The app does not function correctly otherwise.

Turn on Location Services.

Beginning Data Collection Session

1. Click the “**Start**” button.

2. Select the “**GPS**” button. This allows you to collect GPS and obstacle data.

    1. **GPS data** is used to identify narrow pathways; pathways that do not access will be deemed too narrow to pass through, and will not be recommended in route planning.
    - As such, as a non-wheelchair user, **estimate that you are as broad as the breadth of a wheelchair before you enter areas** that may be accessible to non-wheelchair users.
    - If the path seems narrow enough for you to cross, but not wide enough for a wheelchair to pass, **do not use this path,** and seek an alternative route instead.

    2. You may also manually **report obstacles** with photo evidence (covered later in this tutorial)

GETTING STARTED

Heading to Your Designated Area

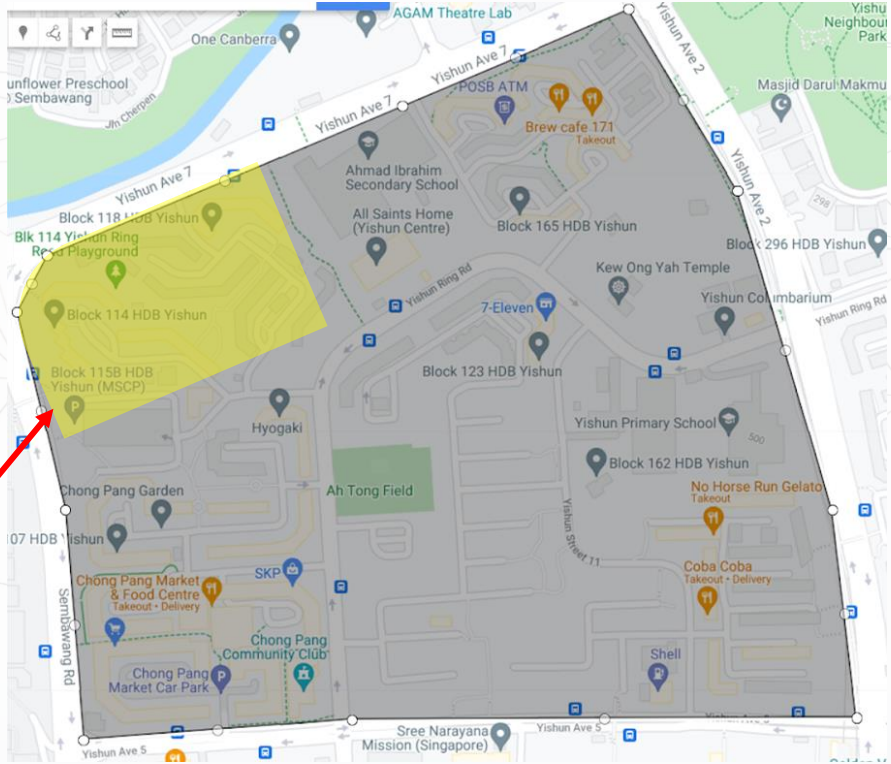
Every volunteer is assigned a designated area for you to cover every week. You are to travel **WITHIN** the demarcated area, as well as **ALONG** the perimeter.

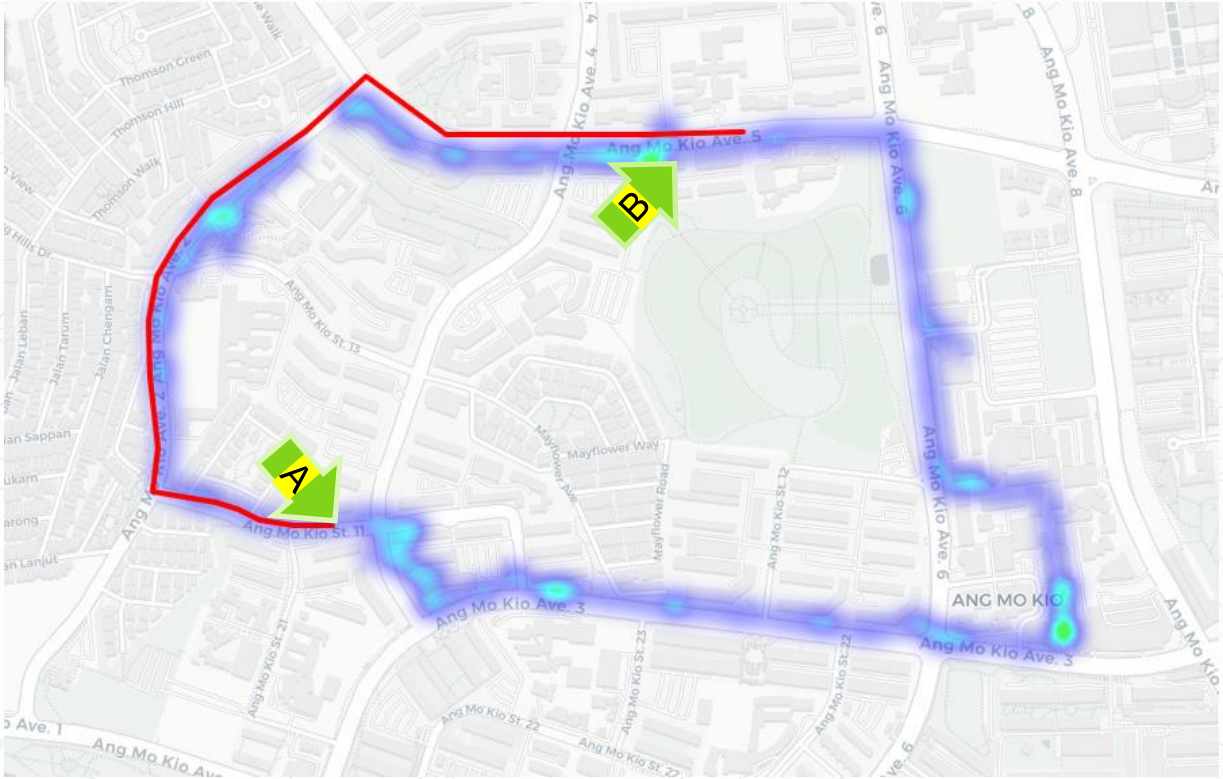
Try to cover as much ground within the designated area as possible within the 1-week period.

You do not need to cover the entire area in the same day/session. You may take a few days/sessions, and cover a specific area of the demarcated area each day.

Try to cover as many accessible paths as possible within the area. Feel free to travel on paths that may not seem immediately intuitive (e.g., cutting through void decks).

Let's imagine that we'll be covering this area today.





Imagine a SmartBFA user trying to get from Point A to B.

NEGATIVE example: Our volunteer only covered the perimeter!

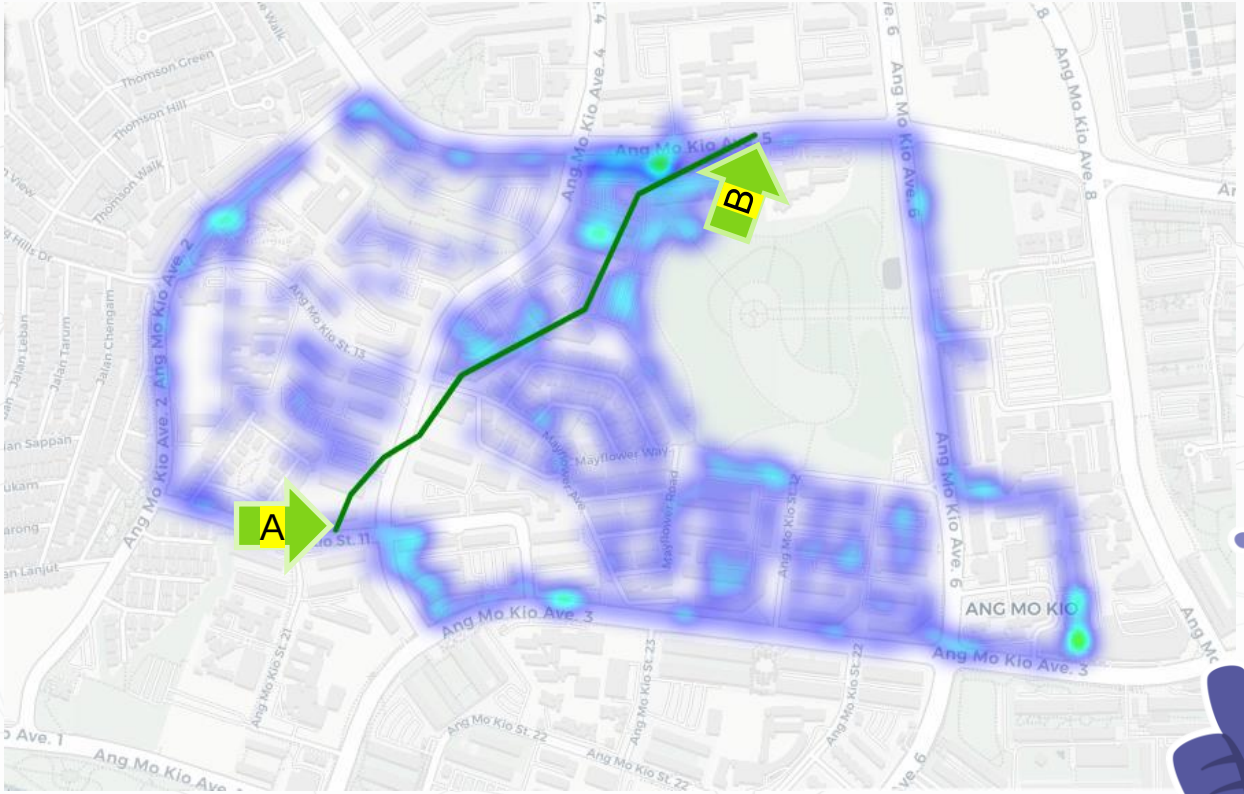
This does not provide us with path accessibility data within the area, meaning we cannot recommend other routes within that area.

Remember, we are trying to collect data **WITHIN** the area, so that we may plot routes **WITHIN** the zone.

WHEELABLE DISTANCE OF RECOMMENDED ROUTE: **1.5KM***

With this data, we can only plot AROUND that perimeter, which may not be the most efficient...

*only an example



POSITIVE example: Our volunteer covered the entire area!

We now have path accessibility data within the zone, allowing us to plot the most **EFFICIENT** route while accounting for accessibility!

WHEELABLE DISTANCE OF RECOMMENDED ROUTE: ***0.9km!**

That's **600m lesser** to wheel!

*only an example

GETTING STARTED

An Example Session

Today, I have roughly an hour for data collection. I'll do this while going for my daily leisurely stroll.

This is what my path (in red) may look like in this hour.

Note:
- I'm travelling both **along** the perimeter of the zone and **within** the zone; through HDB blocks, internal pathways, on sidewalks beside smaller roads within the area, etc.

- Our data validation processes will use path accessibility/obstacle data within the area to chart out suitable paths. Therefore, the more paths/area you cover within the zone, the better!

Collecting accurate GPS data

GPS data is the main type of data collected by non wheelchair users.

GPS data helps SmartBFA recommend shortcuts through usually inaccessible areas, such as void decks, smaller paths, through alleyways, etc. These pathways don't usually show up on Google Maps.

As a non-wheelchair user, your GPS data should aim to imitate that of a wheelchair user.

When entering alleyways, here are a few things to consider:

- Is the path broad enough to accommodate a wheelchair?
- Is the path too steep / too suddenly inclined?

GETTING STARTED

Reporting obstacles

- When you come across a potential obstacle on your journey, be sure to **report it** on the ADC app.

1) On the homescreen, click the “**Report Obstacle” button** in the centre.

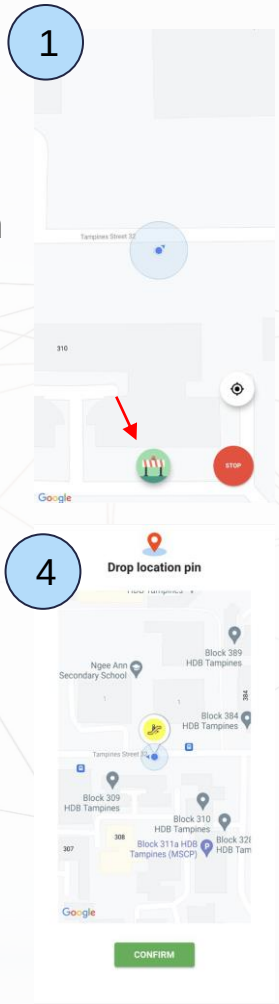
2) **State what type of obstacle** it is.

3) **Add further details** where possible.

4) **Drop location pin.** Be accurate!

5) **Take a photo** for us to validate!

6) **Submit**!



COMPLETING THE SESSION

Uploading your session

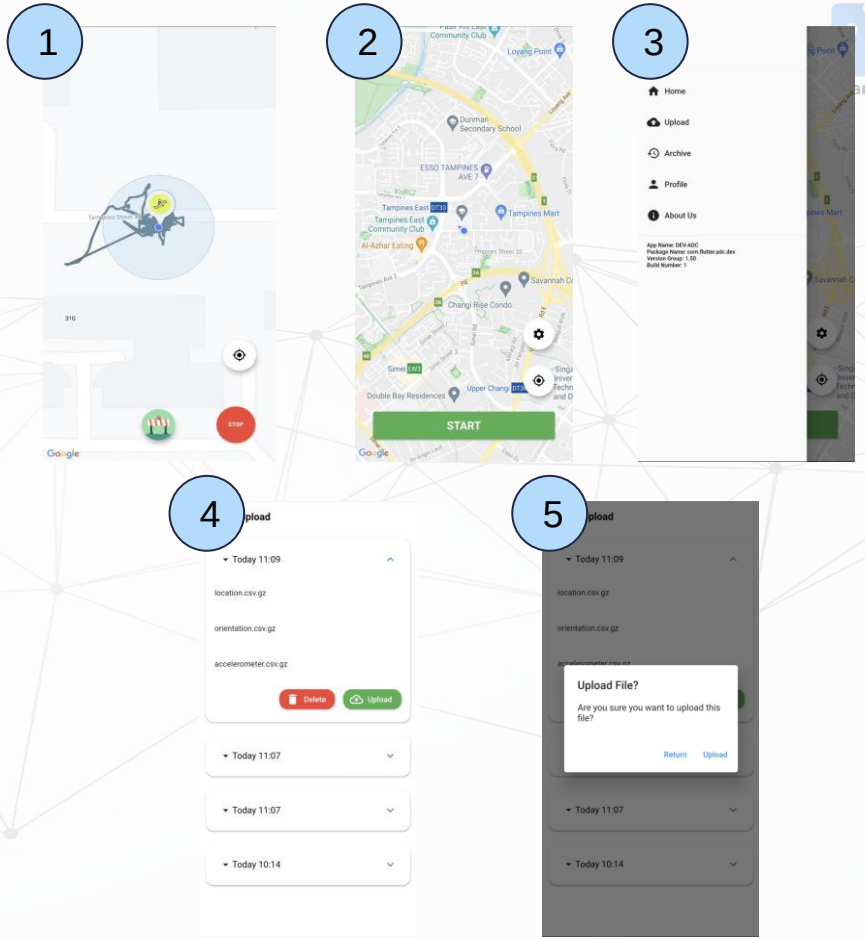
1) Click the “**Stop**” button, confirm your action.

2) Click the hamburger menu on the top left of the screen, click the “Upload” button.

3) Look for your latest datafile. The date and time should match the date, and time you began your session.

4) Connect to WiFi if data usage is important to you; then click “**Upload**”. This uploads your data file to our cloud for further validation.

5) You have submitted your data file! To find this data file again, you may click on the hamburger menu, then select “Archive”.



With that, you're done for the session!

- Repeat the process for different sections of the designated area
- Update the SmartBFA Team when you are collecting data (so that we can keep our records update)
- Feel free to approach the SmartBFA Team if you have any questions along the way!

FAQ

Q. *Do I still report an obstacle if there is a solution right beside it (e.g., a flight of stairs beside a gentle ramp)?*

- In this case, there would be no real need to report that obstacle. If you do report, you can add a description/annotation that says there is a ramp next to it.

Q. *Does it matter if my walking pace is uneven, like moderate, slow, fast, stop for 5-10 min, moderate, etc.?*

- Nope, all good. Just be yourself! :)

Q. *Is it okay to cover the same route more than once — but I'll try not to repeat raising the same obstacles?*

- Yes, that is preferred! The more times the route is covered, the better!

Q. Can this app collect data from altitudes (i.e., floors) other than ground floor/level 1?

- Yes, but this feature is presently **only available for Android.**

Q. Can I collect data when I'm driving or in a public transport?

- No. The non-pedestrian data affects the accuracy of our backend data ☹

Thank you!

Any queries, feedback, or suggestions?
Share them with our SmartBFA Team!

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