

Footprint Feedback & Pathway Diary Guide

I am trying to...

-  Complete the follow-up survey ▶ Pages 2-3
-  Start the Week Plan Pilot ▶ Page 22
-  Start tracking my footprint ▶ Page 26

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What is Mobile Carbon Footprinting?

MCF is a smartphone app-based system that facilitates tracking daily activities and their carbon footprints. The three main objectives are to help participants:

- ① **Learn about everyday carbon emissions over time**
- ② **Test out what scale of changes to daily activities are needed to meet emissions reduction goals**
- ③ **See how our personal emissions contribute to larger changes in our community groups' footprints**

As we record personalized Pathway Diaries, we can observe:

- the range of everyday activities that figure into carbon footprints,
- how much our carbon footprints change from day to day,
- which activities cause meaningful differences in footprints,
- and what alternative activities could improve our footprints and climate impacts.

The goal of MCF is to make a shared tool for quickly developing carbon literacy.

Once we have a sense of our everyday patterns of emissions, we can experiment with what it might take to improve those footprints to levels that align with emissions reduction targets such as those in the Paris Climate Agreement.

We can also start to identify what other changes will need to take place in our homes, neighborhoods, towns, and energy systems to achieve the scale and timetable of emissions reductions that local, national, and international plans call for.

The 2019-2020 pilot program was organized around groups at MIT, Harvard, and the general public. Participants can compare their student groups and Courses at MIT, and their schools at Harvard, to see if they were increasing or decreasing their groups' carbon footprints.

In the app, these displays of participants' contributions to groups are very basic now, but I hope to make them more useful for future studies.





Completing the 2019-2020 App Pilot: Footprint feedback & follow-up survey

① Look at your Footprint Feedback

Click on any part of the Feedback screens to explore the options for viewing your footprint.

If the time at the top of the screen isn't recent, click on the Refresh button to load the most recent data.



Learn more about these feedback screens and footprint estimates on Pages 3-X of this guide.

Before starting the survey, review your carbon footprint on the Home screen, Footprint screen, and Compare screen. Try out the Week/Year Plan screens to see how each activity affects your footprint.

② Scroll to the Follow-Up Survey Button

After you have reviewed your footprint, scroll to Study Progress at the bottom of the Home Screen and click the Follow-Up button.

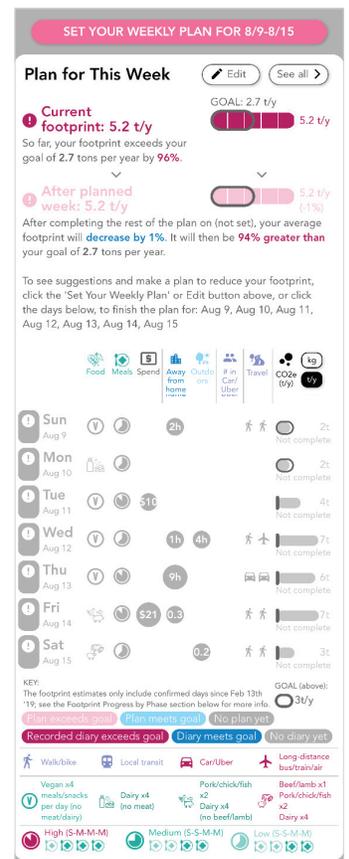


③ Complete the Follow-Up Survey

Fill out the Follow-Up survey, observing the differences in the question prompts (e.g. what activities did you do in March, what activities do you currently do, etc.) for the same set of statements. Press Submit Survey at the end.

④ Continue to the Week Plan & Diary

After submitting the survey, you can continue to the Week Plan pilot (see Page 22).





Introduction to Footprint Feedback

“Footprint feedback” are the charts and other visualizations that show your carbon footprint estimates, based on your Pathway Diaries. See the following pages for descriptions of the concepts that appear in the feedback:

- Footprint Categories** ▶ Page 5
- Goals, Budgets, and Comparisons** ▶ Pages 6-7
- Footprint Units** ▶ Page 8

For the Follow-Up Survey & Interview phase of the pilot, I have included a long list of footprint feedback sections on the Home screen, in addition to the footprint feedback on each of the Pathway, Footprint, Compare, and Plan tabs. These screens have a lot of buttons - try clicking on all of the buttons to see different views of your footprint.

I (Cressica) use my own footprint data to illustrate these feedback tools:



Home Screen

▶ Page 9

- 1) Plan for This Week
- 2) Footprint So Far
- 3) Footprint Progress by Phase
- 4) Footprint Summary
- 5) Compare Changes



Pathway Diary

▶ Page 17

Interactive footprint for diary days



Footprint Tab

▶ Page 18



Compare Tab

▶ Page 20



Plan Tab

▶ Page 22





Introduction to the 5 footprint categories

The MCF system attempts to track changes in carbon footprints over time, using consistent estimation methods from day to day. The objective is not to precisely measure the emissions impacts of any specific action, but rather to provide comparisons among the impacts of everyday actions and routines across time. The footprint estimates might change, as we refine the travel distance and emissions estimation.

Below are brief descriptions of the five categories that make up the total daily footprint. The "factor" in the simplified emissions equations below is the amount of CO₂ equivalent caused per unit of distance, time, food, and dollars spent.

Automatically generated Pathway Diary:

Travel

Emissions = Travel method factor x distance

Travel emissions are estimated from the distance you travel, the type of transport, and the number of people you travel with (if by car/taxi/ride hailing). The embodied emissions of manufacturing vehicles is also distributed across the service life of the vehicle.

Away from Home

Emissions = Building construction + Building activity type factor x time spent

Based on the time you stay in places other than your home, these emissions depend on how much energy each type of building uses to support its activities. A restaurant, for example, has different energy requirements than MIT buildings. The estimate accounts for how many people typically use each type of building.

Home

Emissions = Baseline utility use + (Time at home x active utility use) + home construction

The day-to-day differences in your home energy use are approximated based on how much time you stay at home. Estimates come from averages for your type of home (e.g. a dorm) and/or utility bills (from the Entrance survey). More detailed estimates would require a lot more info about your living space and activities, so the home estimate does not vary much from day to day.

Reported Food/Spending Diary:

Food

Emissions = Food content factor x amount

The food footprint is based on the typical composition of the U.S. diet, which varies depending on the amount of meat and dairy a person consumes. The calculation methods are similar to the carbon footprint described on Shrink That Footprint (<http://shrinkthatfootprint.com/food-carbon-footprint-diet>). Some food consumption serves active travel needs (e.g. walking/biking). These active travel emissions are shown in both the travel and food categories, so that you can compare consistent estimates in each category across days and with other people, but they should not be double-counted in total emissions.

Spending

Emissions = Spending type factor x \$ spent

These emissions, embodied in goods and services, are additional to the Away category (which includes utilities only). These emissions also vary widely among types of products and services. To simplify the spending diary, however, the diary consolidates spending into three types with meaningful differences among their average embodied emissions: online shopping and delivery, in-store purchases, and services.



Footprint Goals, Budgets, and Comparison Groups: How can you tell if a carbon footprint is high or low? (Part 1)

Almost every screen has buttons for switching between groups of participants and benchmarks to which you can compare your footprint.

Goal

Goal = Baseline (Phase 1) average daily footprint reduced by 12% per year

As an initial reference point, MCF automatically sets a goal of improving your footprint by 12% per year to align with the Paris Climate Goals. See Page 11 (Footprint Progress by Phase) for a description of how this goal is set.

Goals are usually shown as gray bars on top of the footprint displayed. The goals apply to both the Total footprint and each of the categories. The daily travel goal does not include long-distance train/bus/air travel. For most people, long-distance travel varies too much to be a useful benchmark for daily emissions.

What does a 12% footprint improvement have to do with the Paris Climate Goal?

Carbon-intensive societies need to reduce fossil fuel emissions, as much and as rapidly as possible. However, MCF starts with a global consensus on the speed and scale of emissions reduction: the Paris Climate Goal of a "2 degrees Celsius limit". MCF translates this goal to a quantified initial target for emissions reduction at the personal footprint level, to demonstrate the scale of necessary emissions reductions.

The Global Carbon Project (globalcarbonproject.org) has calculated that global emissions must decrease by about 10% each year from 2018 until 2030, in order to have a 66% chance of limiting the global average temperature increase to 2 degrees Celsius above preindustrial levels.

This emission reduction target underestimates the necessary reductions at the personal level in the U.S. It does not take into account that most people will not participate, nor does it adjust for the higher emissions of developed countries. The necessary percentage reduction at the global level might range from 5% to 15% or more per year, depending on many factors: delays in the start date of emissions reduction, revisions to the predicted carbon budget, different methods of allocating the budget to high- and low-emitting nations or populations, and other uncertainties such as changes in climate system response and human consumption. To achieve the 1.5-degree Celsius limit that the Paris Climate, the world would need to decrease emissions by 18% or more, year-on-year.

Examples of how the Goal appears in MCF:

Pathway Diary Screen

← Back Mon, Apr 1, 2019 Done

DISPLAY: % vs. goal vs. Paris goal

kg/day tons/year social cost/yr % vs. goal

Reduce your footprint by 4.3 tons/year more to align with the Paris Goals for this day. Your footprint is still 2.5x higher than the 1.5°C Climate Compatible Budget (shown below: 4.7 kg/day or 1.7t/year).

TOTAL	1.7t	2.7t	+60%
TRAVEL			+100%
AWAY			-100%
HOME			+3%
FOOD			+15%
SPEND	0.7t		+193%

Red icon appears when your footprint exceeds your Goal →

Blue checkmark appears when your footprint is better than your Goal →

Goal shown as gray bar

Plan for This Week

Current footprint: 5.2 t/y

So far, your footprint exceeds your goal of 2.7 tons per year by 96%.

GOAL: 2.7 t/y

5.2 t/y

Goal shown as outlined gray bar

Footprint So Far

Goal 0t 0.5t 1t 1.5t 2t 2.5t

Everyone

TRAVEL			+156%
AWAY			-100%
HOME			+14%
FOOD			+19%
SPENDING			-26%

Goal shown as gray line



Footprint Goals, Budgets, and Comparison Groups: How can you tell if a carbon footprint is high or low? (Part 2)

Budget

$$\text{Budget} = (\text{Goal} - \text{Day 1 footprint}) + (\text{Goal} - \text{Day 2 footprint}) + \dots + (\text{Goal} - \text{Day N footprint})$$

In this version of the app, I focus on the Paris Goal as a simplified and consistent benchmark, but I also provide the Budget for reference in many of the charts.

Budgets are a rolling tally of how much your footprint exceeds or is less than your Goal on confirmed days (unconfirmed days are excluded). Each day, your budget increases by your daily Paris Goal quota. If you end a day with a positive budget, you have kept your rolling average footprint below the Paris Goal on the confirmed days so far; if you have a negative budget, you have exceeded the daily Goal over time and will need to further reduce your footprint to make up for the past days.

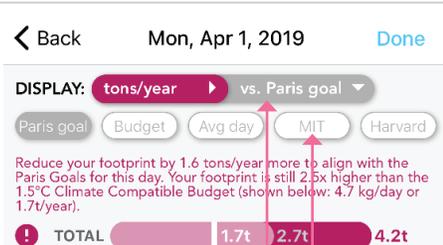
Budgets are usually brown or gray bars, similar to the Goal. Budgets should be expressed in total kilograms or tons of CO₂e. Other units, such as the equivalent tons per year, do not make sense for understanding how much you need to change your footprint to stay within the budget. The app sometimes allows budgets to be displayed in tons per year; in this case, change to Kilograms before interpreting the budget.

Comparison Groups

I find it helpful to compare my footprint with a range of groups, such as other graduate students or people who live nearby me. Each study participant selected one of the three main groups - MIT, Harvard, and the general public - and each participant is now included in that group's footprint. In many of the charts, you can compare your footprint with these groups by using the buttons below.

In some places, more benchmark footprints are included: below, the 1.7t white bar shows the Climate Compatible Budget (CCB), which is an approximate remaining yearly carbon budget for every person from now until 2050. Other places include the global average footprint of 5 tons/year for comparison.

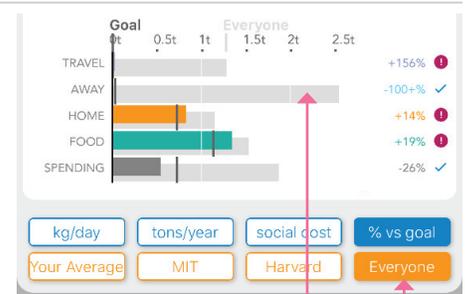
Pathway Diary Screen



Click the gray button to display the comparison data options

Comparison groups will replace the Goal in the overlaid gray bars

Footprint So Far



Comparison groups are shown as background gray bars ('Everyone' shown here)

Click the orange buttons to change the comparison data



Footprint Units:

How does MCF express the size of carbon footprints?

Almost every screen also has buttons for switching between Units - different ways of displaying the carbon footprints.

Tons per year (tons/year, t/y, t)

Tons of Carbon Dioxide Equivalent (tCO₂e) emissions is the standard unit throughout the MCF app. "Tons per year" can be interpreted as the equivalent yearly footprint, if the rest of the year were similar to the recorded diary days. For example, on the left, my "2.7t goal" is based on my footprint for the 10 Phase 1 baseline days, multiplied by 365 days/10 days to get the equivalent total footprint for a full year. The "4.2t" of the red bar is that day's footprint, if the rest of the year were similar to that specific day.

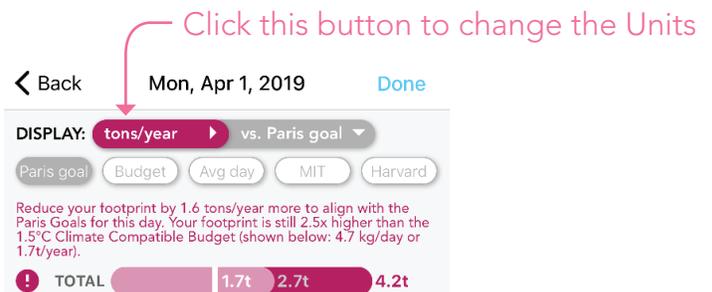
Kilograms CO₂e (kg/day, kg)

Tons CO₂e is often too large a unit for displaying daily or weekly emissions as an understandable number. The kilograms CO₂e units option shows the total estimated emissions for the time span (usually per day or week) in a large enough number to be comprehensible, rather than an equivalent yearly footprint size.

For instance, my goal is 7 kg/day, but this value is easier to understand as an equivalent tons per year of 2.7t/y. It is also easier to compare the 2.7t/y value to other benchmarks, such as the Climate Compatible Budget of 1.7t/y.

Percent vs. goal (% vs. goal, %)

The "% vs. goal" helps to quickly assess how high or low your footprint is, relative to the benchmark of your past footprint.



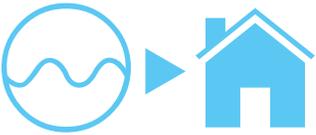
Social Cost of Carbon (SCC, \$)

Social cost of this year of your emissions. This is the cost that we (everyone other than you) will pay in economic, health, and environmental damages, due to the climate impacts of your emissions (between \$40 and \$115 per ton). If you choose to drive the distance of \$1 of gas, that trip will cost at least 50 cents for everyone else due to climate impacts alone - not including air pollution, infrastructure, accidents, and other social costs.

Researchers frequently reassess these costs and the usefulness of the concept itself, so these values might not reflect current research.

Other ways of describing CO₂

The Footprint Summary and Footprint > Year present other perspectives on the size and impact of the yearly footprint, including the amount of ice melted, trees required to absorb your emissions, and cost of offsetting.



Home ► Plan for This Week

Footprint feedback

The Plan for This Week is the first section on the home screen, for direct access to your projected activities for the week and the resulting footprint. To see the Plan, your diary needs to include 7 consecutive confirmed days. If you don't see the Plan, go to the Pathways tab and confirm the consecutive diary days.

See Page 22 for how to set the Week Plan

SET YOUR WEEKLY PLAN FOR 8/9-8/15

Plan for This Week [Edit] [See all >]

Current footprint: 5.2 t/y
So far, your footprint exceeds your goal of 2.7 tons per year by **96%**.

After planned week: 5.2 t/y
After completing the rest of the plan (on not set), your average footprint will **decrease by 1%**. It will then be **94% greater than** your goal of 2.7 tons per year.

To see suggestions and make a plan to reduce your footprint, click the 'Set Your Weekly Plan' or Edit button above, or click the days below, to finish the plan for: Aug 9, Aug 10, Aug 11, Aug 12, Aug 13, Aug 14, Aug 15

Key:
The footprint estimates only include confirmed days since Feb 13th '19; see the Footprint Progress by Phase section below for more info.
Plan exceeds goal | Plan meets goal | No plan yet
Recorded diary exceeds goal | Diary meets goal | No diary yet

Key Legend:
 Walk/bike | Local transit | Car/Uber | Long-distance bus/train/air
 Vegan x4 meals/snacks per day (no meat/dairy) | Dairy x4 (no meat) | Pork/chick/fish x2 Dairy x4 (no beef/lamb) | Beef/lamb x1 Pork/chick/fish x2 Dairy x4
 High (S-M-M-M) | Medium (S-S-M-M) | Low (S-S-M-M)

Footprint overview

The Plan section starts with a summary of your overall footprint as of today, versus your Paris Goal (gray outline). My footprint is red because it far exceeds my goal, but it would be blue if it were within my goal.

The After Planned Week footprint gives an idea of what my footprint will be after the upcoming week. My current Plan will improve my average footprint by 1%, which gets me only slightly closer to my goal. I need to fill out the plan to do better

Display Units

Switch from tons per year to kilograms per day to see the total estimated emissions for each day.

Daily Plan summary

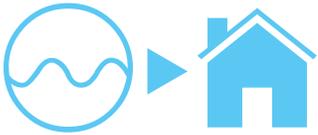
The Plan summarizes the Pathway Diary activities that most contribute to your daily carbon footprint. As you record your actual activities on these days, a new row will appear to compare the Plan vs. Recorded Diary Day.

As you fill in the Week Plan, each day's row will turn blue if its footprint is lower than the Goal, or pink if the footprint exceeds the Goal:

The KEY at the bottom of this section shows what is included in the daily summary. For instance, in my case:

- A Dairy day means I plan 4 meals/snacks that contain dairy (Dairy x4)
- A High food amount day is 3 Medium-size and one Small meal/snack
The Spend \$ adds up all 3 Spending categories from the daily diary
- The Travel summary shows how many trips of each type I will take, e.g. on Wednesday I will take one walk and one long-distance trip.

Before you fill in the Week Plan on the Plan Tab, the MCF system automatically fills in these upcoming days with your most recently confirmed diary week. To see the Plan, your diary needs to include 7 consecutive confirmed days. In my case, the Plan for August 9 to 15 is filled with my schedule from my last consecutive week from earlier in 2020.



Home ► Footprint So Far

Footprint So Far

kg/day | tons/year | social cost | % vs goal

Your Average | MIT | Harvard | Everyone

Average footprint since February 13, 2019
 Your Goal of 2.7 tons CO2e per year is a 12% reduction below your baseline footprint. For more info, scroll to the Footprint Progress by Phase section.

Zoom In | Zoom Out

AVERAGE (CONFIRMED)	5.2t	🚨
AVERAGE (ALL DAYS)	4.0t	🚨
WORST DAY Aug 3 '19	45t	🚨
BEST DAY Jul 18 '20	1.6t	✅
COMPARE: Everyone	12t	🚨

Select month to display in the 'footprint by day' chart below:

2019 | Feb | Mar | **Apr** | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec

2020 | Jan | Mar | Apr | May | Jun | Jul | Aug

Footprint by day for April 2019
 Click on a day below to see the footprint by category

Zoom In | Zoom Out

Day	Footprint	Alert
Mon 1	12t	🚨
Tue 2	2.2t	✅
Wed 3	2.2t	✅
Thu 4	2.2t	✅
Fri 5	2.4t	✅
Sat 6	2.2t	✅
Sun 7	2.2t	✅
Mon 8	2.2t	✅
Tue 9	3.8t	🚨
Wed 10	2.2t	✅
Thu 11	2.0t	✅
Fri 12	2.2t	✅
Sat 13	2.0t	✅
Sun 14	2.2t	✅
Mon 15	2.2t	✅
Tue 16	1.9t	✅
Wed 17	2.0t	✅
Thu 18	2.8t	🚨
Fri 19	2.2t	✅
Sat 20	2.2t	✅
Sun 21	2.0t	✅
Mon 22	2.0t	✅
Tue 23	2.3t	✅
Wed 24	2.3t	🚨
Thu 25	2.0t	✅
Fri 26	2.2t	✅
Sat 27	2.4t	🚨
Sun 28	2.4t	🚨
Mon 29	2.4t	🚨
Tue 30	2.4t	🚨

Selected day: Thursday, April 18, 2019
 Footprint by category vs. Everyone (excluding long-dist. travel)

Zoom In | Zoom Out

Category	Footprint	% vs goal	Alert
TRAVEL	0.0t	0%	🚨
AWAY	0.0t	0%	✅
HOME	0.8t	+14%	🚨
FOOD	1.4t	+19%	🚨
SPENDING	0.5t	-26%	✅

Timeline for confirmed diary day

kg/day | tons/year | social cost | % vs goal

Your Average | MIT | Harvard | Everyone

In the Footprint So Far pane, I attempt to summarize the trends in your daily footprint, by comparing your average footprint, best day, worst day, and other groups' values with a month of your daily footprints. It uses the same scale across all 3 of the charts, for direct comparison:

① The first chart shows the key stats for understanding your overall footprint. My average footprint is 5.2 tons/year for the diary days I have confirmed, but my footprint for all days is 4 tons/year because I did not travel much on many of the unconfirmed days. My worst day contained long-distance travel that resulted in an equivalent footprint of 45 tons per year, if I had traveled that much on every day for a year. In comparison, everyone using MCF together has an average footprint of 12 tons per year.

② Use these buttons to select a month to display on the chart below

Footprint by day for April 2019
 Click on a day below to see the footprint by category

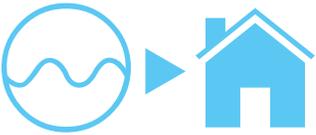
Zoom In | Zoom Out

Day	Footprint	Alert
Mon 1	12t	🚨
Tue 2	2.2t	✅
Wed 3	2.2t	✅
Thu 4	2.2t	✅
Fri 5	2.4t	✅
Sat 6	2.2t	✅
Sun 7	2.2t	✅
Mon 8	2.2t	✅
Tue 9	3.8t	🚨
Wed 10	2.2t	✅
Thu 11	2.0t	✅
Fri 12	2.2t	✅
Sat 13	2.0t	✅
Sun 14	2.2t	✅
Mon 15	2.2t	✅
Tue 16	1.9t	✅
Wed 17	2.0t	✅
Thu 18	2.8t	🚨
Fri 19	2.2t	✅
Sat 20	2.2t	✅
Sun 21	2.0t	✅
Mon 22	2.0t	✅
Tue 23	2.3t	✅
Wed 24	2.3t	🚨
Thu 25	2.0t	✅
Fri 26	2.2t	✅
Sat 27	2.4t	🚨
Sun 28	2.4t	🚨
Mon 29	2.4t	🚨
Tue 30	2.4t	🚨

③ Because my Worst Day has such a high footprint, I need to click the Zoom In button to be able to see the day values in April. I can then see how far each day's footprint is above (red alert icon) or below (blue check) my goal of 2.7 tons per year (gray bar on chart).

④ Click on any day to see the day's breakdown by category in the chart below.

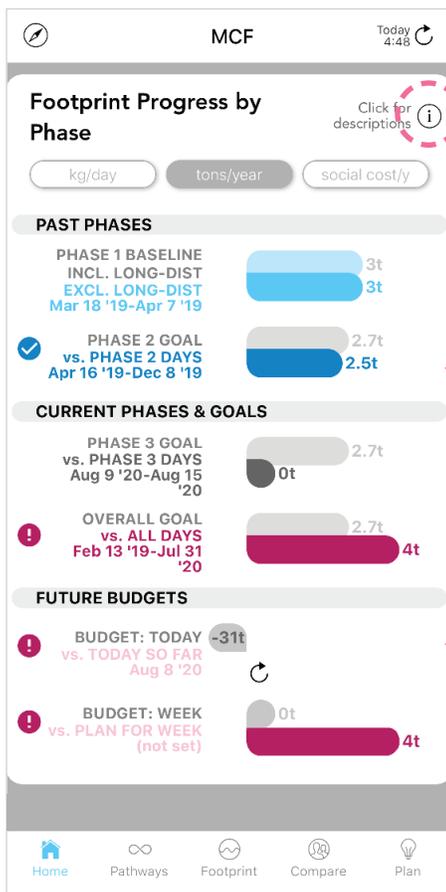
⑤ The chart for the Selected Day is zoomed in by one step, in order to see the differences among footprint categories. I now see that some of the categories exceed the Goal bar and some are below, and I can click on the "% vs. goal" to see by what percentage each category compares with the Goal bar. Click on "Your Average" to change the gray background bars from Everyone's footprint to your average footprint. The Timeline reminds me what I did that day.



Home ► Footprint Progress by Phase

Footprint feedback

This section splits up your footprint by study phase, rather than by calendar day, week, month, or year, as other sections do. The Phase 1 baseline phase is also the basis for your "Paris Goal" that appears throughout the app.



Click here to show more info specific to your footprint per phase.

PHASE 1 BASELINE is my footprint for the original Phase 1 days of the study. The footprint is shown with and without long-distance travel, because the Paris Goal for Phase 2 is based on the footprint that excludes long-distance travel. (Long-distance travel is infrequent and skews the short-term footprint levels. In future versions of MCF, we should have separate daily goals and long-distance goals.)

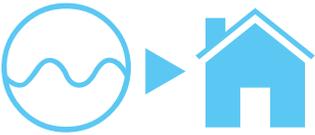
PHASE 2 GOAL is the Phase 1 Baseline reduced by 12% ($3t \times 0.88 = 2.7t$). If you bought more stuff than usual or traveled a lot in Phase 1, then you are in luck - your footprint might have been higher than usual, and therefore your carbon budget and goal for Phase 2 will be higher!

My PHASE 2 DAYS average footprint was lower than my Goal, so I get a blue checkmark. Unfortunately I haven't been able to keep that trend going.

I haven't yet started PHASE 3 (following the Week Plan), but my footprint for all recorded days (both confirmed and unconfirmed) is 4t/y, which is much higher than my Paris Goal.

When I start recording today's diary, the estimated footprint will appear here. To compare the budget to the daily footprint, change the units to kg/day. The budget is difficult to interpret if the units are tons per year.

The average daily budget (zero, because I have overshot my budget already) and footprint for the Week Plan appear here after I fill out the Week Plan. This allows me to compare my previous footprint phases to any improvements I'm trying to make in the Week Plan.



Home ► Footprint Summary (Part 1)

Footprint feedback

The Footprint Summary highlights a series of questions that MCF attempts to explore, by combining pieces of information from, and linking to, the other screens of the app. There are two main sections: ① interpreting your footprint based on personalized benchmarks, and ② comparing your footprint with other participants.

To see the following descriptions in the app, click the Show/Hide Descriptions button next to the section title.



① Interpreting your total footprint

► What is your footprint so far?

The "best" approximation of my yearly footprint, 5.2 tons per year, is based on the average of my confirmed diary days.

Compared with my Phase 1 baseline, I have substantially increased my footprint since April 7, 2019.

That also means my footprint is far above the 12% Paris Goal and the Climate Compatible Budget.

Many of my confirmed days have higher emissions than my typical daily footprint, so my footprint for All Days (4.2t/y) is lower than for confirmed days only. This might not be the case for most participants. My long-distance plan, amounting to 0.1 tons for the rest of the year, is also included in this 4.2t/y footprint. See the Year Plan page for how to set this plan.

Footprint for confirmed days vs. all days

We calculate two footprint estimates:

Confirmed days

The first footprint includes only your 125 confirmed diary days (5.2 tons per year). The confirmed diary footprint is probably lower than your actual footprint, because the confirmed diary is a short time period that does not capture large expenses (e.g. cell service, health insurance) and long-distance trips. These high-emissions events make up a large percentage of most people's footprints. It does not include planned long-distance travel.

All days

The second footprint includes all 390 days for which you collected diary data (4.2 tons per year). This footprint might be higher than your actual footprint, because we use conservative estimates for the unconfirmed diaries, and also because these diaries might capture more long-distance travel.

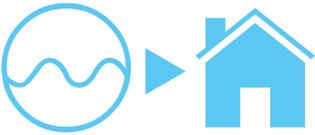
Compare your footprint with these benchmarks:

Goal

Your goal, which is a 12% decrease from your Phase 1 baseline footprint, to align with the Paris Goals of reducing emissions 5%-12% per year and halving emissions by 2030.

Climate Compatible Budget (CCB)

The CCB is an alternative way of looking at the remaining global carbon budget. Instead of reducing emissions from year to year like the above Goal, the CCB spreads the entire remaining budget across every person from now until 2050. The resulting budget is 1.7 tons per person per year, to have a 66% chance of staying below the 1.5°C global heating limit.



Home ► Footprint Summary (Part 2)

Footprint feedback

How has your footprint changed over time?

Confirmed Days | All Days | % Improvement

Confirmed days
Average footprint over time (tons/year):

Goal 2.6t

May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul 31

The chart above shows how your average footprint (confirmed days only) has changed since the beginning of the study. This is a rolling average, so it differs from the average footprint per phase in the Footprint Progress by Phase section. Gray days are your baseline days, before your goal is set. Blue days are lower than your goal (good), and red are higher (bad). This chart does not include your long-distance plan.

What scale of ecological impacts will this footprint cause?

All days

\$329 Social cost of this year of your emissions. This is the cost that other people will pay in economic, health, and environmental damages, due to the climate impacts of your emissions (between \$40 and \$115 per ton).

2757 tons of ice melted, adding 729,590 gallons of water to oceans

193 between 85 and 193 trees needed to absorb your emissions within this year

Which actions have added the most to your footprint?

All days

Confirm more diary days to get more accurate estimates. [See all](#)

Scroll to the right to see descriptions -->

- 0.8 tons/year Long-distance
- 0.4 tons/year Car (private, not Uber/Lyft/taxi)
- 0.3 tons/year Electricity use at home
- 0.3 tons/year Electricity etc. used away from home
- 0.3 tons/year Products purchased at stores (emb

Which actions have saved the most emissions?

- 1 tons/year Avoid
- 0.5 tons/year Avoided meat (compare
- 0.3 tons/year Avoided waste due to composting fr
- 0.2 tons/year Avoided dairy (compared to average diet
- 0.1 tons/year Avoided car use. due to walking/bikina

► How has your footprint changed over time?

Confirmed Days | All Days | % Improvement

All days
Average footprint over time (tons/year):

Goal 2.6t

May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul 31

The chart above shows how your average footprint for all days has changed since the beginning of the study. Gray days are baseline days, before your goal was set. Blue days are lower than your goal (good), and red are higher (bad). This chart does not include your long-distance plan.

Here, I can quickly see that my footprint stayed low until I traveled long-distance in August 2019, and I have only slowly improved since then. I will need to confirm more low-carbon days to better reflect my typical activities in my current average footprint.

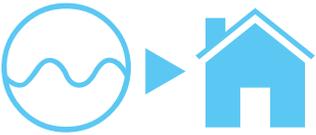
► What scale of ecological impacts will this footprint cause?

These impacts are based on my footprint for all days, 4.1t/y. Even though that footprint is similar to the global average, the 3,000 tons of melted ice (much less planting 200 trees a year) already seems like an extremely large number.

► Which actions have added the most to your footprint?

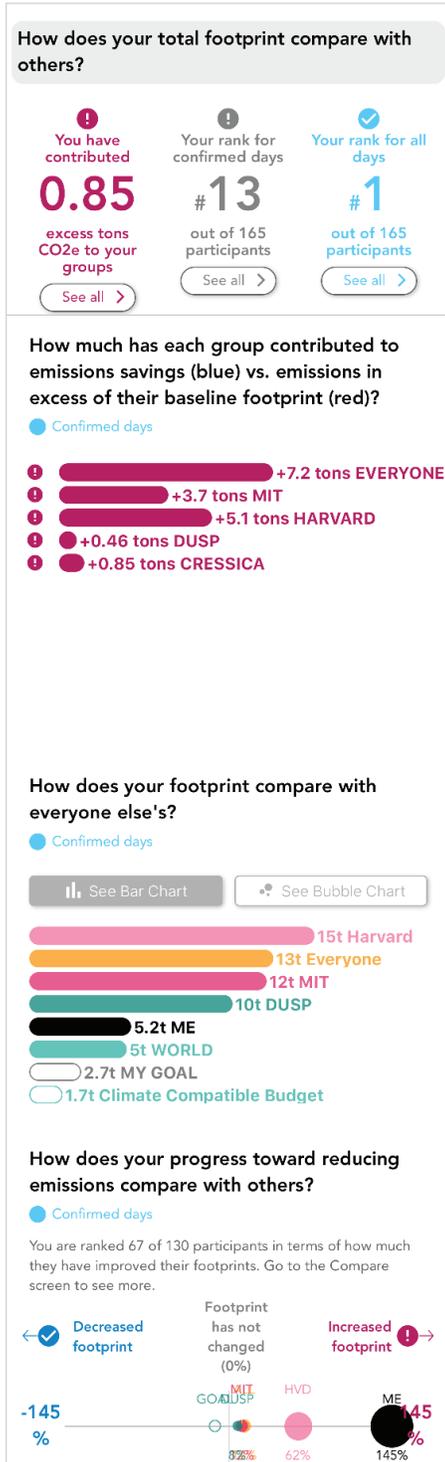
This section highlights the largest components of my footprint, starting with the green bar that is Vegetables/Grains/Etc. I can also see that even though I only made a few long-distance train trips, these are the second most dominant part of my footprint.

My avoided emissions list is also a useful guide for which actions to continue in the future. These include working at home instead of on campus, eating vegan, composting, and biking. If I didn't do these actions as much as possible, my footprint would be over 2 tons - or 40%-50% - higher.



Home ► Footprint Summary (Part 3)

Footprint feedback



② Comparing your carbon footprint with others

These rankings link to the Compare & Contribute screens, where I will be able to see the range of other participants' footprints. Here I can see that my increased footprint, above the original baseline, has resulted in nearly 1 ton (0.85 tons) of excess emissions - just within my 125 confirmed days - and most likely even more excess emission for the entire year.

► How much has each group contributed to emissions savings or excess emissions?

One of the objectives of MCF is to improve group footprints overall, by 'contributing' our emissions savings to each of our groups.

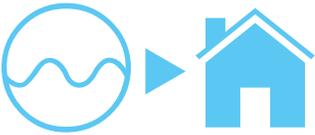
So far, all groups have caused excess emissions above their baselines. Other DUSP participants contributed to both emissions savings and excess emissions - but if my emissions were not part of the DUSP community group, DUSP might have been the only group to achieve emissions savings.

► How does your footprint compare with everyone else's?

The previous 'contributions' section compares increases and decreases of emissions, but this section compares total footprints among groups. My confirmed footprint is half of my peers', even though I failed to keep it below my personalized goal. I can view these as a bar or bubble chart, but the bubble chart is difficult to read.

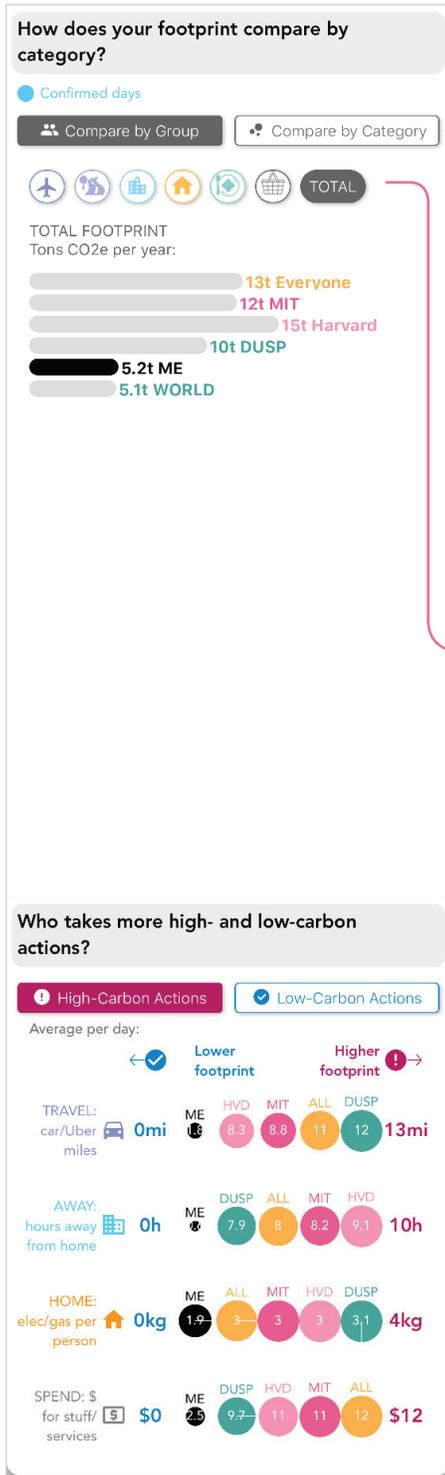
► How does your progress toward reducing emissions compare with others?

Here we return to comparing our improvements (or lack thereof) since the baseline diary phase. The goal for everyone is to improve their footprints by 12%, but I can see on this chart that no group has achieved an improvement, and my footprint has become even worse than all of my groups (MIT, DUSP) and reference groups (Harvard).

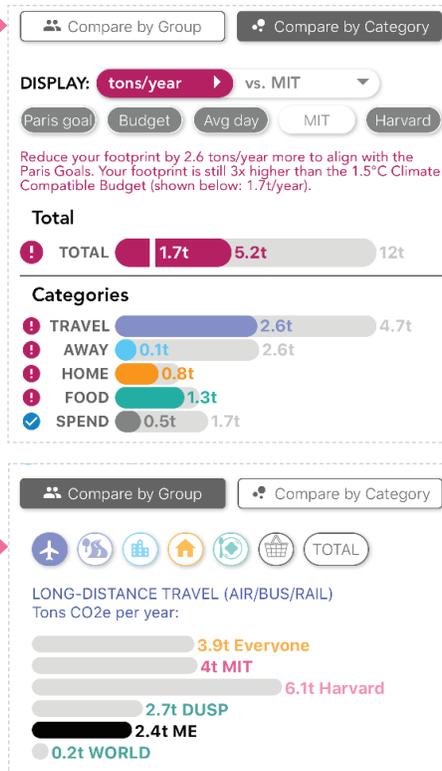


Home ► Footprint Summary (Part 4)

Footprint feedback



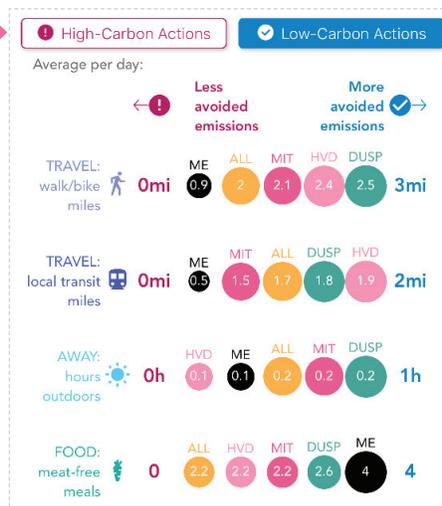
► How does your footprint compare by category?



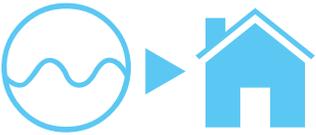
For Compare by Group, you can select each footprint category and see how you rank against the groups in that category. My total footprint is half that of my comparison groups, but my long-distance travel footprint is only slightly less than DUSP's - but half that of Harvard.

For Compare by Category, use the same charts as the daily footprint in the Pathway Diary to compare your total footprint with MIT, Harvard, and benchmark footprints.

► Who takes more high- and low-carbon actions?



Here I can compare the frequency of actions that underlie our footprints. For instance, my car travel is substantially lower than other groups', but I don't go as far by walking/biking either. Also, DUSP consumes much less meat than other groups, and my nearly-vegan food consumption has contributed to DUSP's higher meat-free meal count.

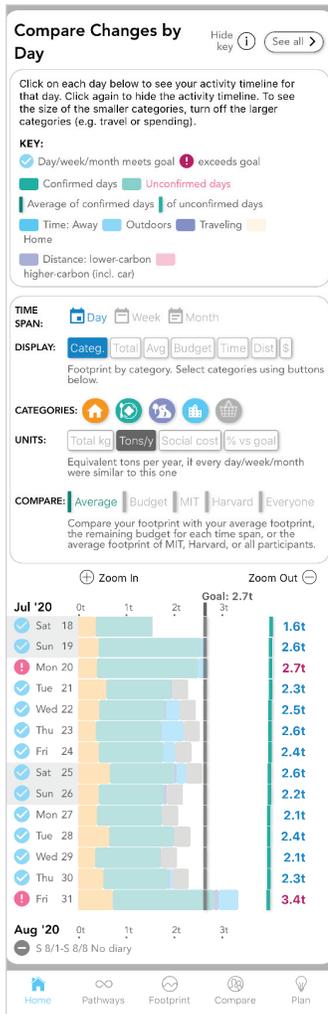


Home ▶ Compare Changes by Day/Week/Month

Footprint feedback

Home ▶ Compare Changes

The Home screen only shows the last 14 rows of the chart - the past 14 days. Click on See All to see all your data.



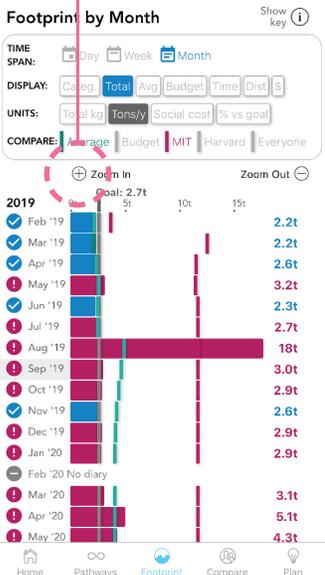
Footprint Tab ▶ DAILY

Here you can see all your recorded diary days, aggregated by day, week or month. Both the carbon footprint and key activities are displayed. Some of the comparison groups might not work (like Harvard - sorry).

Click on each day's bar to see what you did that day (timeline):

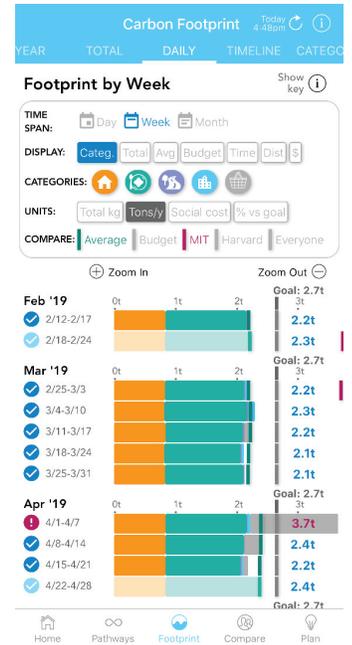
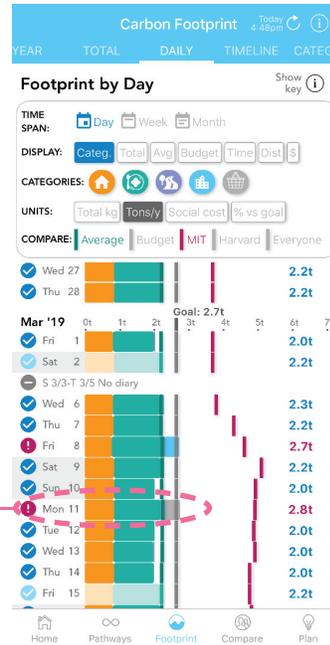


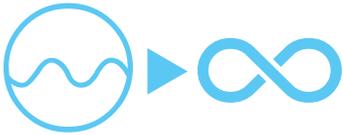
Zoom in and out to better see the differences between category bars



The Compare Changes (Footprint by Day/Week/Month) section consolidates many of the carbon footprint dimensions estimated by MCF.

Use this section and the Footprint ▶ Daily screen to explore variations in your footprint, and see what activities are driving the differences in your carbon footprint over time. By clicking the buttons and the chart bars, you can (fairly) quickly switch between different time spans, categories, and comparisons with other groups.





Pathway Diary Interactive Footprint

Footprint feedback

As you confirm the pathway diary for each day, you will immediately see the effect of each activity on the carbon footprint.

Click the menus for units (red below) and comparison groups (gray below, set to Paris Goals) to understand the size of your footprint relative to your goal and to other participants.

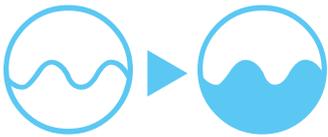
The image displays three sequential screenshots of the mobile carbon footprinting app interface, illustrating how different settings affect the displayed carbon footprint data. Each screenshot is for the date "Mon, Apr 1, 2019".

- Left Screenshot:** The "DISPLAY" menu is set to "tons/year" and "vs. Paris goal". The "Paris goal" is 1.7t, the current footprint is 2.7t, and the difference is 4.2t. The "SPEND" category shows a footprint of 0.7t out of a goal of 2.2t.
- Middle Screenshot:** The "DISPLAY" menu is set to "social cost/y" and "vs. Paris goal". The "Paris goal" is 1.7t, the current footprint is 12t, and the difference is 9.9t. The "SPEND" category shows a footprint of 0.7t out of a goal of 9.9t.
- Right Screenshot:** The "DISPLAY" menu is set to "% vs. goal" and "vs. Paris goal". The "Paris goal" is 1.7t, the current footprint is 2.7t, and the difference is +60%. The "SPEND" category shows a footprint of 0.7t out of a goal of +193%.

Red arrows indicate the changes in the "DISPLAY" menu between the screenshots. A pink arrow points to the "vs. Paris goal" dropdown menu in the rightmost screenshot.

Below the main footprint summary, there are three "SPENDING" and "FOOD" sliders. The "SPENDING" slider shows a value of \$11, and the "FOOD" slider shows a value of \$0. The "FOOD" slider is highlighted in red in the middle screenshot.

At the bottom, there is a "Pathway Diary" section with a "Large Map" icon and a list of activities. The first activity is "Home 0.3mi" with a timestamp of "Mar 30 4:21 PM" and a duration of "49 hr 16 min".



Footprint Tab ► YEAR

The first Footprint screen is based on responses to the Entrance Survey.

The **TOTAL** pane compares your daily diary so far with your footprint for the last year, which is based on your responses in the entrance survey. In my case, last year's footprint is 5.4 tons.



Total footprint by year

Metric Tons CO₂e



\$417 The Social Cost of Carbon (SCC) for your emissions (between \$40 and \$115 per ton)

3499 tons (or cubic meters) of glacier ice will melt due to your yearly emissions

245 between 108 and 245 trees needed to absorb this amount of CO₂ this year

\$59 the cost of purchasing offsets for this year of emissions

The **COMPARE** pane shows your footprint across the 5 main categories. Change the units to see different ways of describing the size of the footprint. Scroll down to see your footprint categories compared with MIT and Harvard participants.



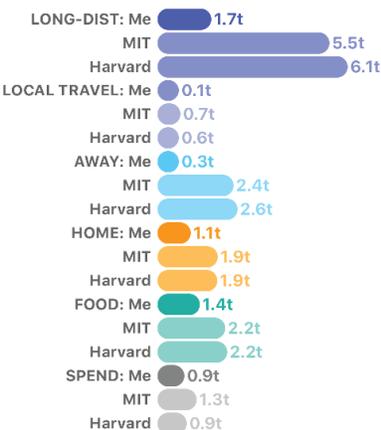
Past Year: Categories & Comparison

Categories

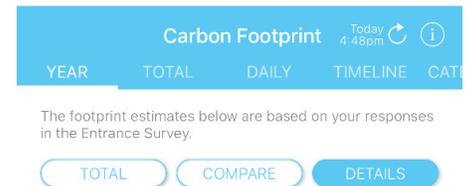


Comparison (based on entrance survey)

GHG by category (in units of carbon dioxide equivalent), including long-distance travel by air/train/bus (LONG) versus local travel (LOCAL), energy used during time away from home (AWAY) and at home (HOME), and embodied emissions in food & spending



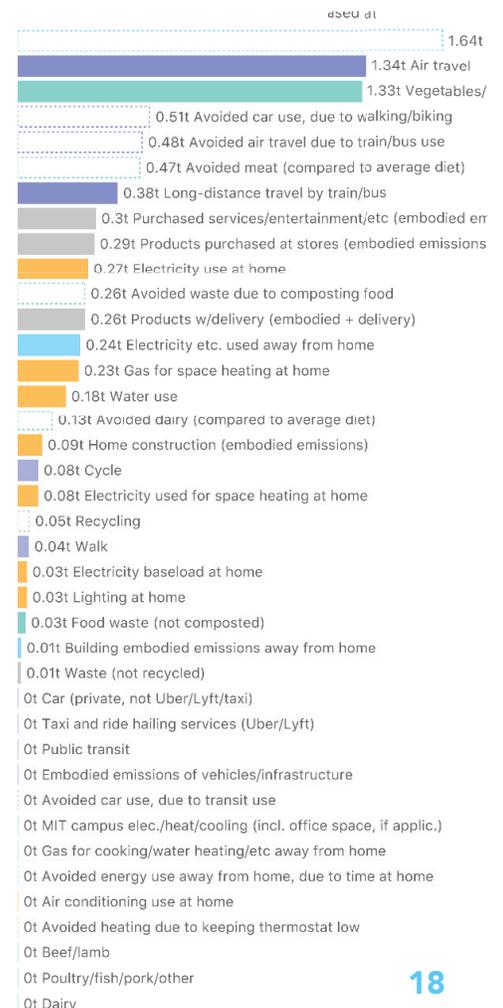
The **DETAILS** pane shows all of the categories that MCF estimates. It also shows how much you have avoided due to lower-carbon activities.

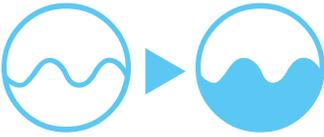


Emissions Caused and Avoided

Avoided emissions are emissions you would have caused if you had chosen a different activity or travel method. For example, you avoid emissions when you walk/bike instead of taking a car.

The footprint does not capture some categories, such as data usage/digital media consumption.





Footprint Tab

The Footprint tab contains a number of views into your footprint estimates.

► TOTAL

This screen shows your cumulative footprint for the diary days you have confirmed so far, across all tracked categories. Compare the footprint categories with the Avoided Emissions categories. Try changing the units.

► DAILY

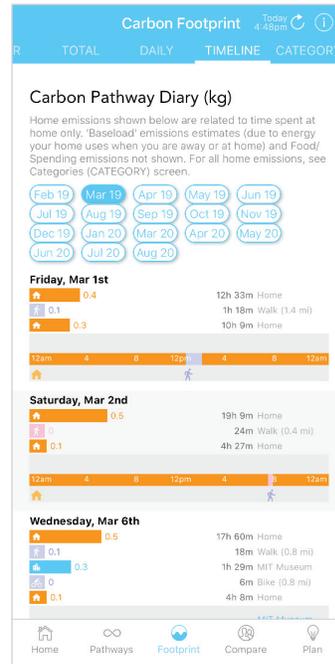
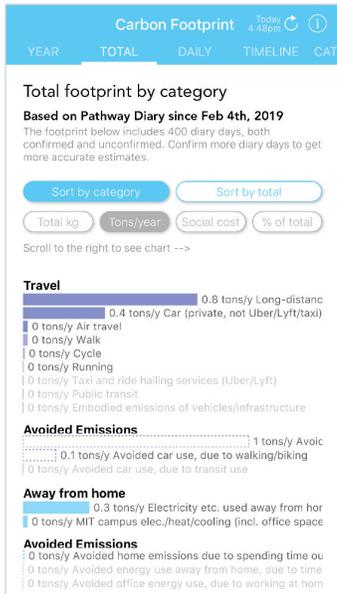
The Daily screen shows the same footprint exploration tool as the Compare Changes on the Home screen. See Page 16 for a description of this tool.

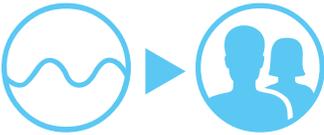
► TIMELINE

This screen displays a timeline of the carbon footprint of each activity you have recorded in the Pathway Diary. Pink bars are estimates for unconfirmed activities. Select each month to view those days.

► CATEGORY

The Category screen gives a detailed, day-by-day comparison of all the footprint categories that MCF estimates per day.





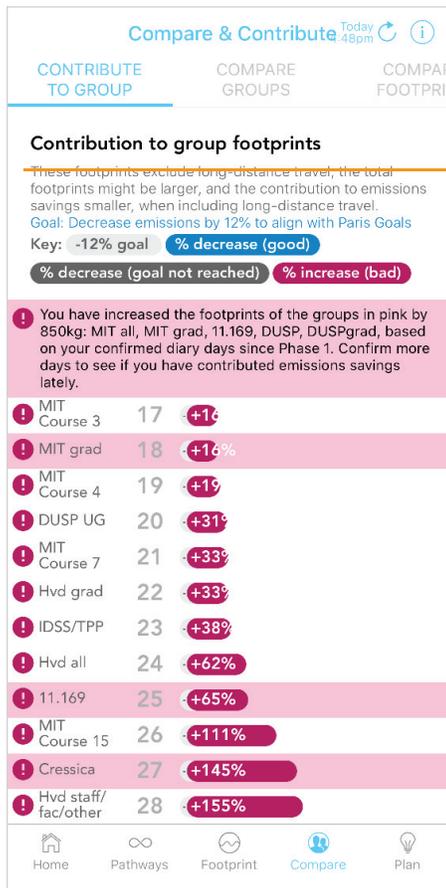
Compare & Contribute Tab (Part 1)

These screens show how your footprint contributes to your groups, and how each participant's footprint compares to others'. To make these comparisons, MCF ranks both (a) the total footprint value and (b) the percent improvement that each participant and group has achieved. Blue checkmarks appear next to participants who have improved footprints by 12% to align with the Paris Climate Goals, or whose footprints are lower than the global average of 5 tons per year. These rankings update each time a participant confirms a diary day. Click the Refresh button to see the most recent rankings.

▶ CONTRIBUTE TO GROUP

Includes confirmed days (after baseline) + all travel
Groups are ranked by how much each has increased or decreased its footprint since the baseline diary phase ended. This percent change of each group's emissions is a metric for tracking if we are making a meaningful reduction in emissions overall.

If you have reduced your footprint, then you have also contributed to reducing your groups' footprints. Or, in my case, I increased my groups' footprints.

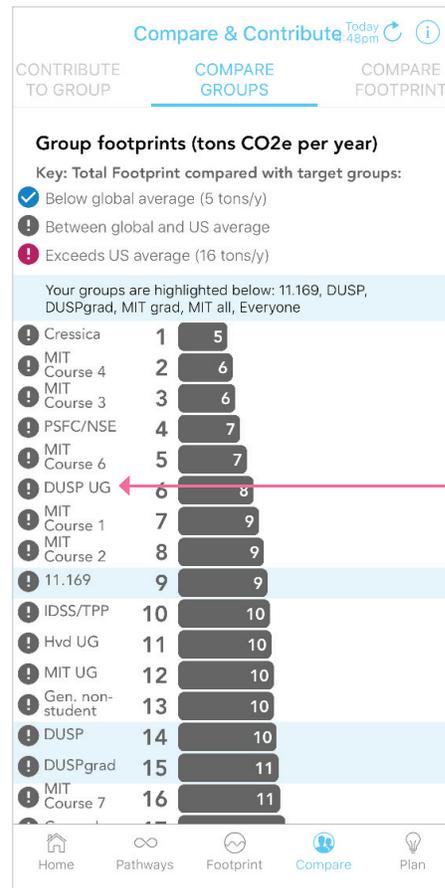


Correction: these % changes include long-distance travel

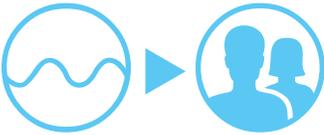
▶ COMPARE GROUPS

Includes all confirmed days + all travel
This list shows how each of your groups is performing compared to all other groups. You can see which of your groups are averaging a higher or lower footprint than your own.

In my case, my 5t/y footprint is lower than all of the groups to which I belong. Even though I have increased my footprint to 145% above my baseline, I have helped to lower the average footprint of each of my groups.



Group abbreviations:
Hvd (Harvard)
Gen (participants who selected Other/general public)
UG (undergrad)



Compare & Contribute Tab (Part 2)

How can I improve my footprint in these rankings?

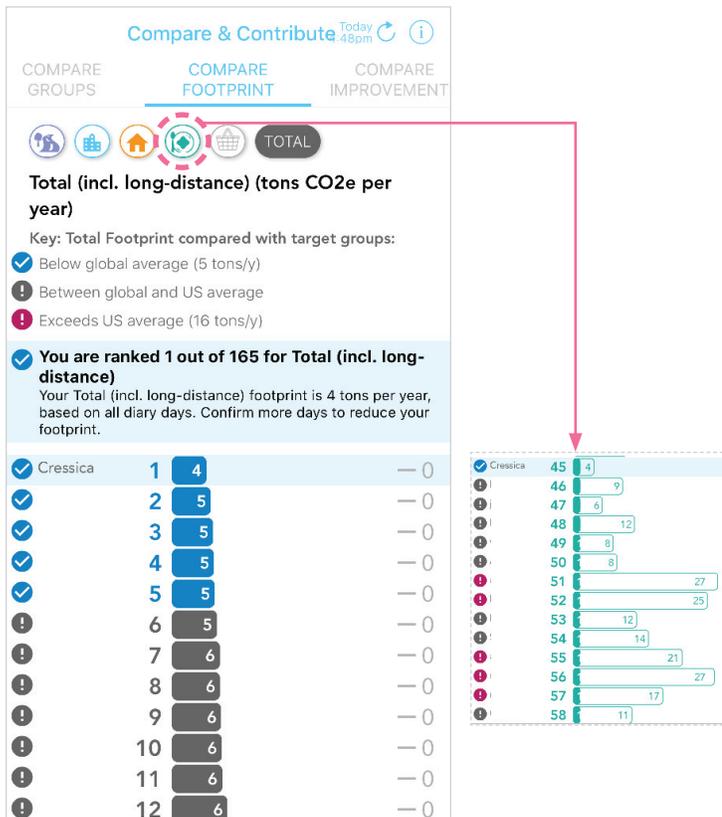
- (1) Confirm more Pathway Diary days to register the contribution from those days. Unconfirmed days also tend to have conservative emissions estimates, so confirming more days might lower your footprint.
- (2) Look at which actions have the highest footprints on the Footprint screens, and which actions have a meaningful impact on the Plan Week/Year screens (e.g. replacing car trips, beef, and long episodes away from home).

► COMPARE FOOTPRINT

Includes all days + all travel

This screen shows your overall (total) diary footprint compared with everyone else.

Improve your ranking by confirming more diary days. Click on the Category buttons to see how you compare within each category (overall footprints are shown as outlines, to compare with the category's footprint). The food category is shown below.

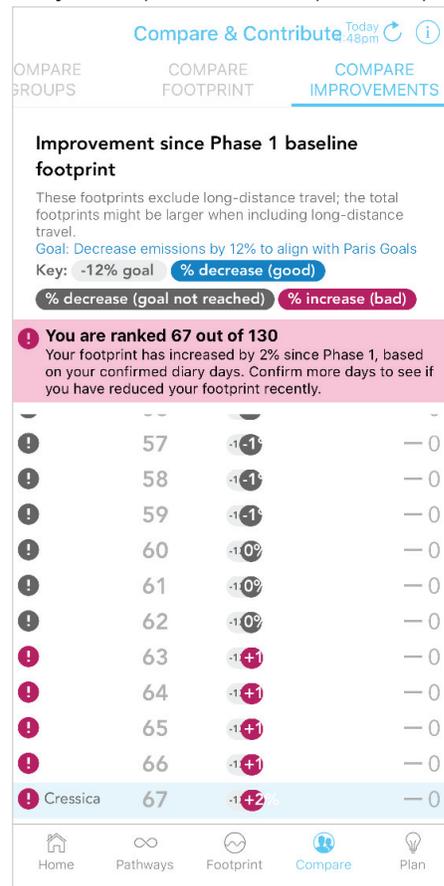


► COMPARE IMPROVEMENT

Includes confirmed days (after baseline) + local travel

Use the Compare Improvements screen to see if you are decreasing your footprint faster than other participants. Or not, in my case.

This list ranks participants by how much their footprints have improved, compared to their baseline diary days (Phase 1). Only local travel is included, to make the comparison across participants' daily activities more consistent--and because it would be too easy to improve after a plane trip.





Completing the Week Plan Pilot

① Complete the Follow-Up Survey for the original MCF pilot

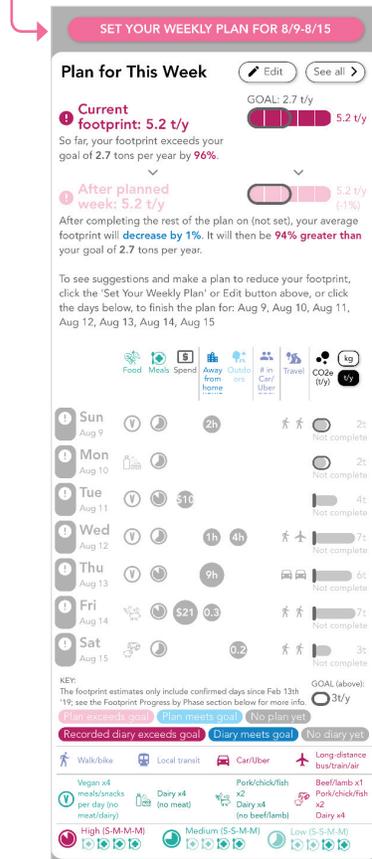
See Pages 2-3 for these steps. The Week Plan pilot will be available in the Study Progress after you complete Phases 1 & 2.

② Fill out the Week Plan completely in one day

The instructions for filling out the Week Plan start on the following page. To get to the Week Plan screen, click on the Plan tab, Week Plan button in Study Progress, or the Edit button in Plan for This Week.

③ Use MCF to record and confirm the 7 diary days covered by the Week Plan

See how your recorded activities and footprint compare with your planned activities each day.





Plan Tab

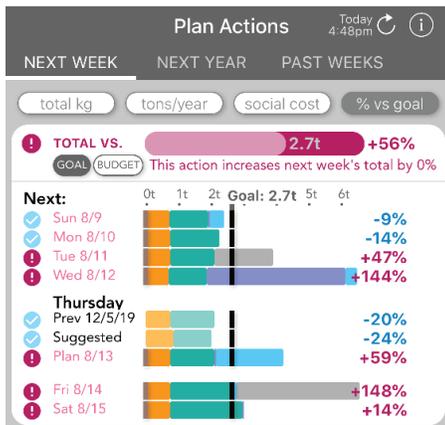
► WEEK PLAN (Part 2)

⑦ The 3 rows in each day's form below correspond to 3 bar rows in the chart above:

- the previous day's footprint, corresponding to the trips/time use/food/spending activities shown below the day's form
- the footprint of the suggested activities
- the footprint of the planned day. Watch the footprint respond as you change the planned number of trips, hours away from home, food, and spending

⑧ In the day's Plan form:

- The form's default values are the previous confirmed day's values.
- If the default value is zero, then that part of the form is "confirmed" by default. If the value starts as zero, click on the + sign to enter the number of each new action you intend to do on this day. For example, on my previous Thursday, I took 2 car trips. But on the next Thursday, I plan to take 2 walking trips instead, so I changed the 0 value to 2 trips.
- If the default value is not zero, that form control will be pink. Click on each of the pink form controls to change the values and "confirm" that action. The previous page shows my form, before I started to confirm it, when the Private Car trip value was pink.
- Start with the trips you plan to make via walk/bike run, transit, private car, Uber/taxi, and long-distance bus/train/plane. If you plan a car/Uber trip, also enter the number of people in the vehicle. The reference distance of the trips appears below the # of trips bubble. This trip distance comes from your previous week's average trip length per travel method. It is just used to approximate the carbon footprint for your planned trips, so that you do not need to calculate the distance you will travel.
- Continue to fill out the rest of the form: hours to spend at MIT, in other buildings, and outdoors; the amount you will spend across all spending categories; and the food contents and meal sizes.

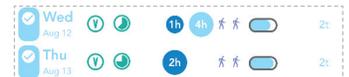


⑦

⑧

⑨ When you have completed that day's form, the border will turn blue. Move to the next day by clicking the down arrow button.

When you return to the Home screen, the Plan for Next Week will update to the plan you just filled out:



To complete the Week Plan pilot, continue to record and confirm the diary days shown in the Study Progress.



Plan Tab

► YEAR PLAN

Footprint feedback

The Year Plan tool allows you to test out how your activities (recorded in the Entrance Survey) contribute to your yearly footprint, and which changes in activities could align your footprint with an emissions reduction goal for the next year.

This footprint is based only on the Entrance Survey responses, separate from the Pathway Diary.

Long-Distance Travel Plan

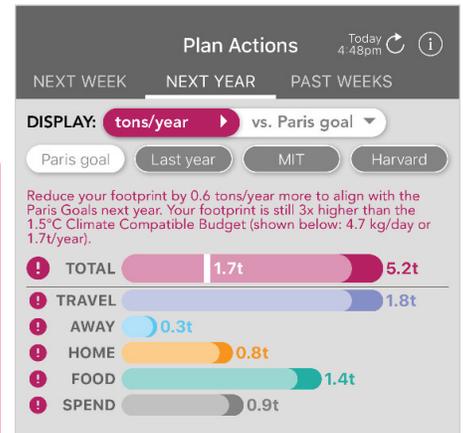
However, to account for infrequent long-distance travel plans that might increase this year's travel footprint, the Travel screen allows you to enter how many upcoming long-distance trips you have planned for the calendar year. This long-distance travel footprint is added to the Footprint for All Days in Home



DISPLAY MENU:

To start, the Year Plan shows the Paris Goal values on the comparison (white) bars. This goal is a 12% reduction from last year's footprint.

Click on Display ► vs. Paris Goal (the Compare dropdown menu), then select Last Year to see how the new plan compares with your responses from last year.



NOTE: There are two sets of long-distance trip questions below. The first set (trips that will happen between now and the end of this calendar year) are added this year's total footprint on the Home Screen. The second set is for planning your footprint for the next 12 months.

FROM NOW UNTIL END OF THIS CALENDAR YEAR: SHORT flight segments (<2.5 hours) - 4 segments

FROM NOW UNTIL END OF THIS CALENDAR YEAR: LONG flight segments (>2.5 hours) - 4 segments

Home Pathways Footprint Compare Plan



TRAVEL AWAY HOME FOOD SPEND

Products purchased online (e.g. Amazon - NOT FOOD)

Last year: \$40 per month

Next year: \$30 per month

Products purchased in stores (electronics, household goods, personal care, clothing, etc - NOT FOOD)

Last year: \$50 per month

Next year: \$40 per month

Services (including entertainment, memberships, personal care, internet/phone, healthcare etc - DO

Home Pathways Footprint Compare Plan



Start tracking my footprint

If you are a new to MCF, start with these steps. Before using the Pathway Diary, search for an e-mail from mobilecarbonfootprinting@gmail.com, and use the provided link to confirm your e-mail address.

① Complete the Entrance Survey
 Complete this survey after signing up, or open it by clicking on the Entrance Survey button on the Home screen. MCF uses this survey info to calculate several components of your footprint. Some parts of the survey might be difficult to read on small phone screens.

② Follow the steps in Study Progress
 In Phase 1 (baseline diary collection), this screen shows only the diary days necessary for collecting a sufficient baseline for footprint estimation. Click on each diary day when it turns pink. Click on the Pathways Tab to see all other calendar days.

③ Fill in the Pathway Diary for Phase 1
 See the next page for instructions.

⑤ Start Phase 3 by filling in the Week Plan
 See Page 22 for how to fill in the Week Plan.

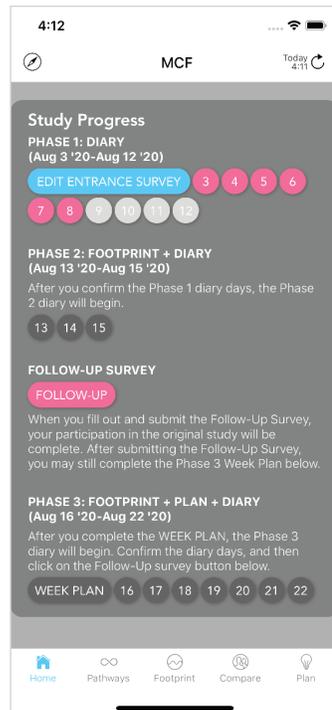
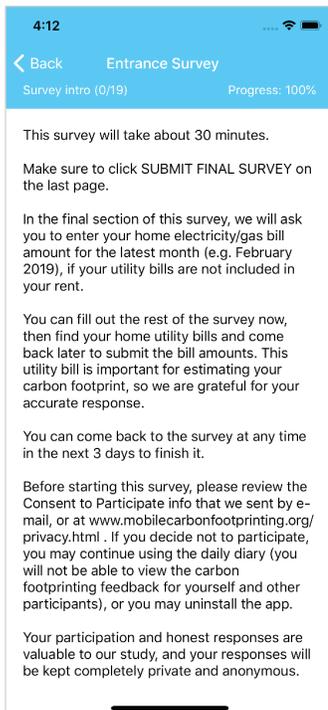
④ Look at the Footprint Feedback while completing Phase 2
 Record 3 more days while reviewing the Footprint Feedback (see info starting on Page 2).

More info on the phases of MCF:

The research study has two phases that should take about an hour total, over 3 weeks (approximately 21 days total). In the first phase, you collect a diary that we will use to estimate your baseline carbon footprint. In the second phase, you will view your carbon footprint, fill out a plan for your footprint-related activities for one week, and then see how your daily diary compares with that plan. You can complete these steps at your convenience via this app:

PHASE 1: DIARY
 a. Entrance survey (20 minutes)
 b. Confirm a daily diary for approx. 10 consecutive days (1-2 minutes per day)

PHASE 2: FOOTPRINT + PLAN + DIARY
 c. After 3 days of viewing your carbon footprint and continuing to confirm your diary, fill out the 1-Week Plan survey. The Plan is similar in length to one diary day (less than 5 minutes).
 d. Then continue to confirm the pathway diary for that planned week (1-2 minutes per day), while continuing to view your carbon footprint.
 e. Follow-up survey (20 minutes)





Pathway Diary Instructions

Review how to confirm the Pathway Diary below, and see the following pages for illustrations of the diary confirmation process. This guide is also available on the Pathway Diary screen in the MCF app, and the blue screens below appear in the Introduction to the App.

Pathways are diaries of daily actions that are important for your carbon footprint.

- First, select a day using the Calendar. Red dots mark diary days that you need to fill in.

Then, for each day, record the following actions. To minimize the info that you need to input, we have limited this diary to the most relevant info for understanding daily differences in your carbon footprint.

The goal: turn all of the diary entries from pink to blue.

Spending (\$)

- Products purchased online (delivery orders)
- Products purchased in stores (like clothing and other products), excluding food
- Spending on services (like entertainment, memberships, phone/internet, personal care, etc), excluding food and home utilities

Food

The carbon footprint of a meal is related to its contents and size. The diary includes Breakfast (B), Lunch (L), Dinner (D), and any other meals and snacks (O).

Meal Contents

The following categories of food contents correspond to the key differences in daily carbon footprints. For each meal, select the foods that the meal contains:

- Vegan (no meat nor dairy)
- Dairy (cheese, milk, eggs)
- Poultry, fish, or pork
- Beef, lamb, or other meat

Meal size

Record the size of your meals for this day. Include additional snacks and beverages in the size of the Other meal. We only use this info to more accurately calculate your food carbon footprint. Only you can view the calorie values. The approximate total calories for the day is displayed. Consider that people in the U.S. typically underestimate their calorie intake by ~25% on average.

- You did not eat this meal
- Up to 400 calories (e.g. oatmeal and fruit, or a Clover breakfast sandwich)
- 400-700 calories (e.g. a cheeseburger, or a Clover Chickpea Fritter sandwich)
- Greater than 700 calories (e.g. a cheeseburger and fries)

PATHWAY DIARY: Diary of Places and Traveling

We have limited this diary to the most relevant info for understanding differences in emissions, among travel methods and building types.

- First, get oriented by clicking on the Map Marker icon (or the sidebar or location name) to see a map of this diary entry. For travel entries, the distance is shown in miles (mi).
- On the right side of the screen, see the duration and start time of this diary entry. You do not need to confirm or revise the time or distance info.
- If a diary entry does not make sense (e.g. if the time or place appears to be incorrect, or if a trip you made during that time frame appears to be missing), flag this entry to help us improve our automated diary creation, by clicking on the (!) icon on the right side of the screen.

For each diary entry, select the primary place or way you traveled for that time frame. The entry will turn blue when it is complete.

- Travel or Outdoor Exercise: click on this icon, then select the primary travel method or outdoor activity/exercise (e.g. walking, running) from the options that appear below. Click on each of the options to see its description. If your travel method is a private or for-hire car, then enter the total number of passengers using the + or - buttons that will appear below the travel options.
- Your home
- Another person's home or residential place
- Outdoor activity (e.g. a park or street)
- Other indoor places: when you click on this icon, a window will appear with a list of place options from Google. Select the correct place name from the list. If you do not see the place name, then drag the map to your location and click 'Select this location'.
- MIT: when you click this icon, a window will appear with a list of MIT Buildings. Select the MIT building by name from the list.

Activities at home and away

For each non-travel diary entry, select each of the activities that you did at that location:

- Eating/drinking
- Studying or education-related activities
- Work or work-related
- Shopping, buying things, using services, doing errands (including online shopping, if you are at home)
- Social activities in person
- Entertainment or leisure (not exercise), like watching TV/film or reading
- Exercise, sports, recreation
- Caring for or accompanying others, including children, adults, or pets
- None of these activities

Key points for confirming the pathway diary

For us to provide meaningful feedback about your carbon footprint, we ask you to confirm the diary info as accurately and as honestly as possible. Your responses will be confidential.

In particular, try to select the most appropriate place name or transportation type for each pathway episode, considering the following:

- Places away from home: each type of destination (e.g. supermarkets, cafes, offices) has different energy demands, so selecting the Place Name is important for improving the footprint estimate
- MIT building number: in the second phase of the study, we will show you the differences among the footprints of campus buildings

These transport options have meaningful differences in emissions:

- Car (private vehicle, e.g. owned by self/family/friends) vs.
 - Taxi vs.
 - Ride-hailing service (Uber/Lyft/etc)
- Also note that these transit options have important differences:
- Subway/light rail (not commuter rail)
 - Local Bus (not long-distance bus)
 - Long-distance bus/coach, long-distance rail (e.g. Amtrak), or Commuter Rail



Pathways Tab: Pathway Diary Calendar & Diary Day (Part 1)

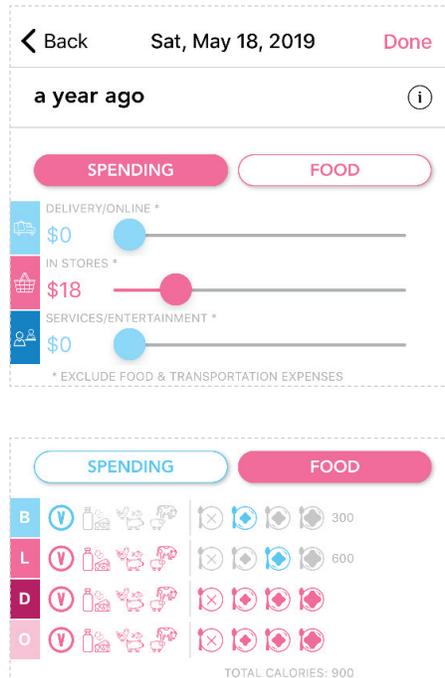
① Click on an unconfirmed diary day on the Pathway Diary screen (or a confirmed day, to edit it)

When a diary day is being sent to the MCF server, the day appears as a gray dot.



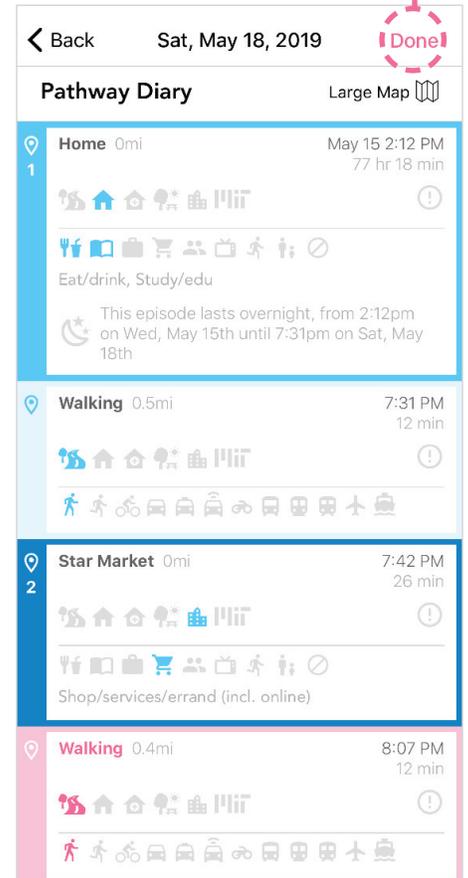
② Fill out Spending & Food

Each element will turn blue when the diary is complete. Note: For the Other Food selection, enter your total snacks/drinks/other food. Most people consume at least 300 calories of food/drinks that are not accounted for in the Breakfast, Lunch, or Dinner diary.



③ For each entry in the Pathway Diary, select the type of place or travel. See next page for Away/MIT place types.

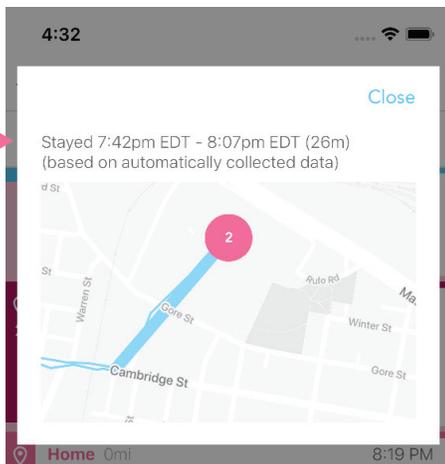
For places, also select the activities you did there. For travel, select your travel method and, if it's a car or Uber, how many people were in the vehicle. When the diary is complete, all entries and the Done button will turn blue.



Pathways Tab: Pathway Diary Day (Part 2): AWAY/MIT Entries

① Click on the Map buttons

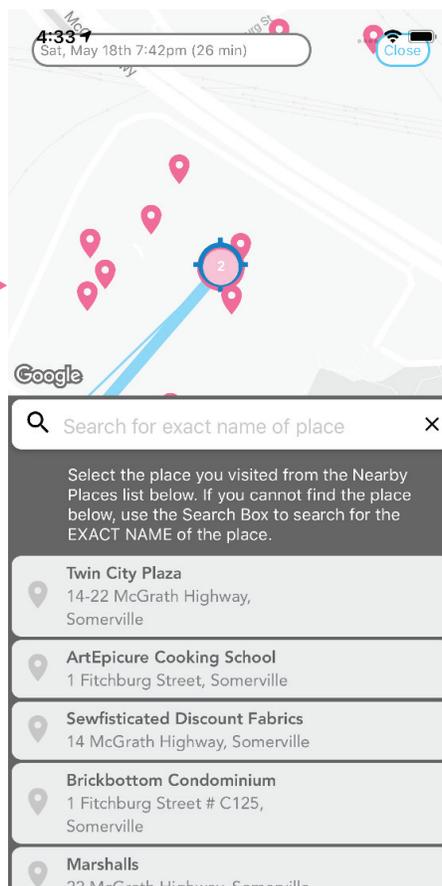
Before selecting the diary entry type, you can orient yourself on the Map by clicking the diary entry's sidebar OR the Large Map button.



② Click Away or MIT to see the pop-up selection screen

For MIT, select the building in the pop-up screen.

For Away, select the name of the store/establishment you were inside.

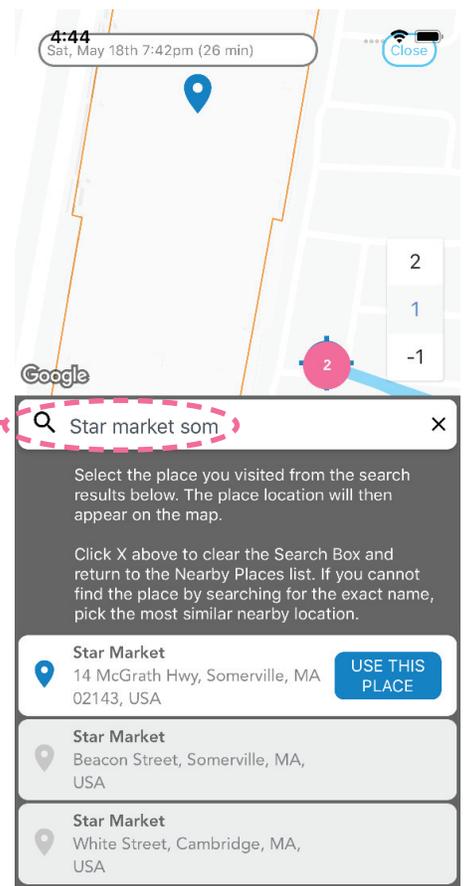


③ Search for the name of the place, if you don't see it in the Nearby Places list

Search for the exact name and location to find the correct place. In this case, I had to enter "Star Market Som" before the Somerville store appeared in the results.

Read the additional on-screen instructions.

Click **USE THIS PLACE** to complete the selection, or **CLOSE** to return to the diary.

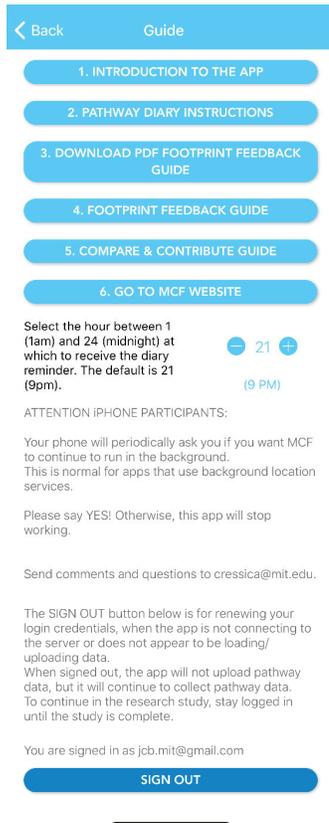




Guides & Account Pages

Open the Guide Screen by clicking on the compass icon  at the top of the Home screen. The in-app guides introduce the basic objectives and footprinting methods used in the app.

At the bottom of the screen, use the SIGN OUT button to return to the login screen, renew your credentials, and download your most recent data.



Back Guide

1. INTRODUCTION TO THE APP
2. PATHWAY DIARY INSTRUCTIONS
3. DOWNLOAD PDF FOOTPRINT FEEDBACK GUIDE
4. FOOTPRINT FEEDBACK GUIDE
5. COMPARE & CONTRIBUTE GUIDE
6. GO TO MCF WEBSITE

Select the hour between 1 (1am) and 24 (midnight) at which to receive the diary reminder. The default is 21 (9pm).

ATTENTION IPHONE PARTICIPANTS:

Your phone will periodically ask you if you want MCF to continue to run in the background. This is normal for apps that use background location services.

Please say YES! Otherwise, this app will stop working.

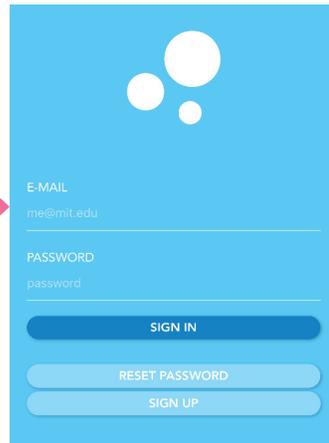
Send comments and questions to cressica@mit.edu.

The SIGN OUT button below is for renewing your login credentials, when the app is not connecting to the server or does not appear to be loading/uploading data.

When signed out, the app will not upload pathway data, but it will continue to collect pathway data. To continue in the research study, stay logged in until the study is complete.

You are signed in as jcb.mit@gmail.com

SIGN OUT



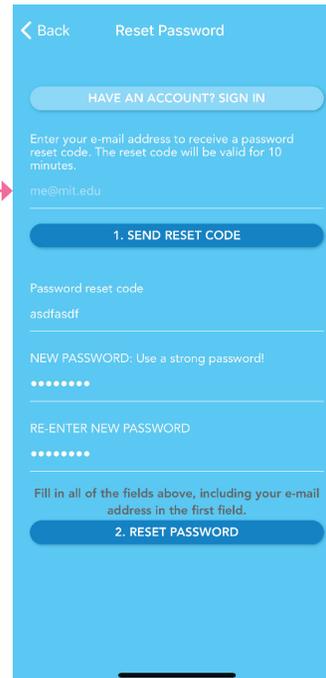
E-MAIL

PASSWORD

SIGN IN

RESET PASSWORD

SIGN UP



Back Reset Password

HAVE AN ACCOUNT? SIGN IN

Enter your e-mail address to receive a password reset code. The reset code will be valid for 10 minutes.

1. SEND RESET CODE

Password reset code

NEW PASSWORD: Use a strong password!

RE-ENTER NEW PASSWORD

Fill in all of the fields above, including your e-mail address in the first field.

2. RESET PASSWORD

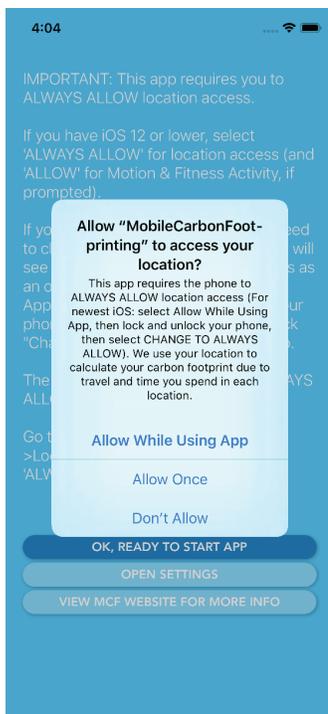
Use the Reset Password screen to get a password reset code sent to your account's e-mail address.



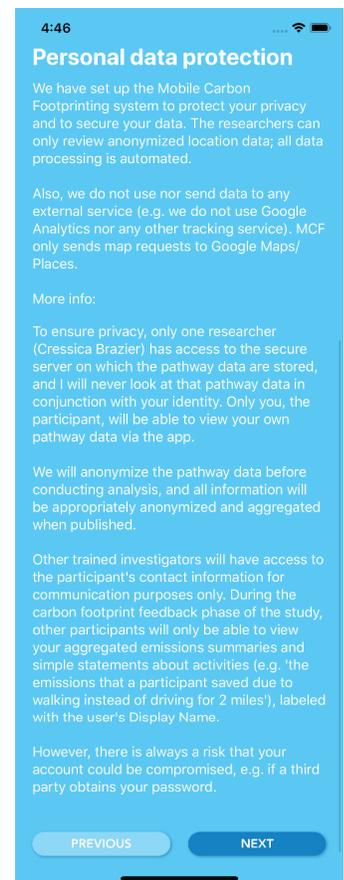
App Permissions Page

MCF uses the smartphone's location and activity sensor data to automatically create the Pathway Diaries. Your phone needs to grant MCF permissions to use these sensors "ALWAYS", in order for the MCF app to load and operate.

In new versions of the iPhone, granting permission to MCF is a two-step process: first, select Allow While Using App. Then lock and unlock your phone, and select CHANGE TO ALWAYS ALLOW to complete the permissions process. If you don't see the CHANGE TO ALWAYS ALLOW popup, click Open Settings and manually select the ALWAYS ALLOW option in Settings -> MCF -> Location permissions.



For more info on MCF's use of sensors, see the Privacy Policy on the following page and the Introduction to the App:





Frequently Asked Questions & MCF Project Info

FAQ

<https://www.mobilecarbonfootprinting.org/faq.html>

Privacy Policy

<https://mobilecarbonfootprinting.org/privacy.html>

2019 MIT/Harvard Pilot Info & Consent to Participate

https://mobilecarbonfootprinting.org/couhes_consenttoparticipate_mcf.pdf

Mobile Carbon Footprinting website

<https://www.mobilecarbonfootprinting.org>

Apple App Store link

<https://itunes.apple.com/us/app/mobile-carbon-footprinting/id1340559555?mt=8>

Google Play Store link

<https://play.google.com/store/apps/details?id=org.mcf.mcfmobileapp>

Contact

J. Cressica Brazier prepared this guide for the Mobile Carbon Footprinting project. Feel free to send comments and questions to cressica@mit.edu

