

# Sustainable Urban Futures

## Impact report 2023

*A cross-disciplinary summer residential for Y12s from widening participation backgrounds to explore interdisciplinary courses through the lens of global sustainable development. Aspirational and confidence-boosting to encourage Y12s to apply to Cambridge or other leading universities.*



CHURCHILL COLLEGE  
UNIVERSITY OF CAMBRIDGE



**Isaac  
Newton  
Trust**



## Summary

Sustainable Urban Futures focused on addressing UN SDG 11, building safe, inclusive cities, 40 Y12 students from widening participation backgrounds visited Churchill College for a cross-disciplinary residential programme.

The program demystified Cambridge, meeting with current students, sharing insights into university life, breaking stereotypes, and inspiring Y12s how applying to study at competitive universities can equip them to tackle global challenges they care about.

This report looks at the highlights, learnings and impact of this programme. Evaluation was carried out immediately following the residential (38/38 responses), and after 6 months in Jan 2024 (15/38 so far).

Overall, this programme was hugely beneficial for both those taking part and for current students and we are applying for funding to repeat in summer 2024. We have learnt a lot from this and would be pleased to share with other colleges receiving WPIF funding, particularly in recruiting a diverse WP cohort and ensuring they feel included and 'at home' in Cambridge.

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## Participant profile

**77%**

Underrepresented ethnic groups

**21%**

Free school meals

**74%**

Female

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**“The highlight of my week was interacting with people studying different subjects from all over the UK and being able to collaborate and build such an amazing thing that I’d never have had the opportunity to do outside this programme”**  
Ffion, Y12 from Wales

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## 6-Months Impact - Jan 2024

**93%**

Applied to Russell Group Universities

**11**

Applied to Oxbridge (from 18 responses)

**3**

Oxbridge offers

**“[The thing I gained most was...] The confidence to feel worthy of going to incredible institutions like Cambridge”**



## IN-DEPTH

The following pages look in more detail at each aspect.

What was great and we would look to keep.

What we learnt to improve future programmes



**sustainable  
urban  
futures**

# Who went?

We think that one major area we would be able to help other colleges is in recruitment to appeal to a diverse cohort of students and a fair and inclusive selection process.

We received 100 applications, and offered places to 40 students, which meant that we had some really tough decisions to make. We advertised the opportunity via the college website and social media, as well as circulating via School Liaison network and with College link areas. We made a video advert for Instagram and TikTok to meet Y12s where they access social media.

Students were encouraged to apply individually or mention a friend also applying. From informal conversations with students, this may have encouraged more female candidates to step outside their comfort zone and apply. For many it was the first time they had ever stayed away from home

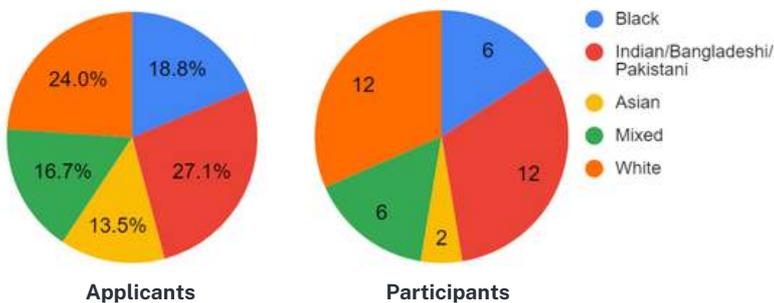
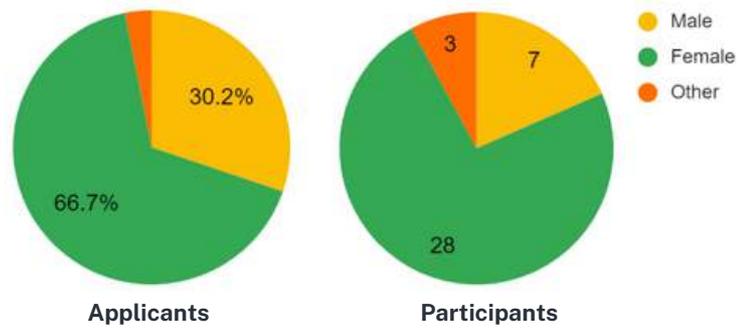
Overall Y12s felt positive about the application process, being clear and effective in selecting determined and curious people. There were minor critiques we can learn from and share that learning with other colleges too.

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## Gender

Our original intention was to recruit a gender-balanced group, but our concerns were with the focus on construction, that this may be heavily skewed towards male applicants. However, we actually found the opposite scenario, where a majority of female applicants! One Y12 gave feedback that 50:50 would be preferred, however, this time this was not possible given the applications received!

One observation was that there were a higher proportion of applications from male students who did not meet the required grades, which is why the proportion of applicants vs participants is slightly different



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## Ethnicity

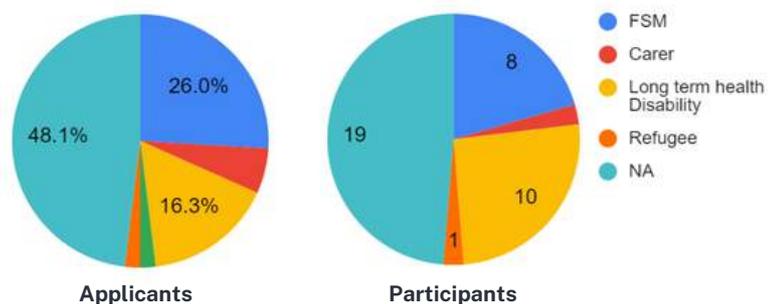
We found a high proportion of applicants from different ethnic backgrounds. Of the white UK students, many were from South Wales, one of our college link areas

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## Other WP flags

Our original criteria included not only those with WP flags themselves, but also schools which had a high proportion of pupils with Free School Meals/Pupil Premium and Ethnic minorities. Or a very high proportion of one of these alone.

This aligns with the selection criteria of Engineering UK, and cast a broader net, appreciating those in schools with large WP cohorts will necessarily impact all pupils.



# The programme & UCAS

The residential included a mixture of academic sessions, University Applications, and Social/Free. Student feedback on the timetable was positive with some suggestions including: starting breakfast later, having more free time activities, and less time allotted to certain activities where participants finished early. Others requested more sessions and more free time!

We wanted to strike a balance between academic and extracurricular, whilst leaving time to relax and discover who they are in this new context. Overall we think we got this about right and would act on the more specific feedback such as session length, breaks, and variety of extracurricular sessions to improve for future residentials.

	21st August	22nd August	23rd August	24th August	25th August
	Monday	Tuesday	Wednesday	Thursday	Friday
Morning		08:00 Breakfast	from 07:30 Breakfast I'm suggesting go at 8am, but if you need more time, go earlier	from 07:30 Breakfast I'm suggesting go at 8am, but if you need more time, go earlier	Return room key by 08:30 From 07:30 Breakfast
		JC Hall 08:45-09:00 Briefing	JC Hall 08:45-09:00 Briefing	JC Hall 08:45-09:00 Briefing	JC Hall 08:45-09:00 Briefing
		JC Hall & Storey's Way: 09:00-12:45 Sustainable development	JC Hall 09:00-11:00 Land Economy 11:00-12:00 Leave campus for walking city tour 12:00-13:00 Museum of Archaeology and Anthropology	JC Hall 09:00-10:30 Archaeology 10:30-11:00 Break	JC Hall & Storey's Way: 09:00-10:30 Sustainable development 10:30-11:00 Break
	13:00-14:30 Arrive at college (Optional lunch if arrive by 12:30, if you will be later, please have a packed lunch while travelling)	12:45- 13:30 Lunch	Picnic lunch in town Walk to Engineering department	13:00 - 13:30 Lunch	JC Hall 11:00-12:00 Regenerative Leadership Lunch
Afternoon	15:00 JC Hall: Welcome	Storey's Way: 13:30 Wildlife shelters 14:00 Shelter building/design process 15:30 Biodiversity tour	14:00-17:00 Engineering	Playing fields, JC Hall 13:30-17:00 Games afternoon/Shelter decorating	JC Hall 13:00-15:00 Showcase of student work & meet role models
	JC Hall: 16:00-17:00 Sustainable development	JC Hall & Storey's Way: 15:00-18:00 Sustainable development	Return to college 17:30-18:15	15:00 - 16:00 (optional) What are online interviews at Cambridge like?	Depart College 15:00
	17:30 Check in to rooms	18:00 Dinner	JC Hall 18:45-19:30 Pre-formal briefing 19:30 Formal dinner	17:00-18:00 JC Hall University admissions Q&A	
Evening	18:00 Dinner	18:45 JC Hall Social activities, combined with STEMBridge	After dinner - free time	18:30 Dinner After dinner - wide games	
	22:45 Curfew - back in own rooms				

## Focus on University Applications

Two sessions looked at:

- 1) University applications, looking in depth into Cambridge applications and student finance, an area that many students from WP backgrounds are keenly interested in.
- 2) Interviews: Including what an online interview might look like, and an opportunity to discuss potential styles of interview questions with examples spanning all disciplines participants were interested in

60%

Something in the week changed opinion on applying to Cambridge

75%

SUF changed their thinking about UCAS

90%

SUF would contribute to their UCAS

### Areas cited as being the biggest contributions to UCAS:

Soft skills, teamwork, personal statement, showing passion for your subject, Cambridge application process, discover new subjects, confidence.

# Academic Sessions

## Archaeology

Eat your Homework! This interactive session on ethnohistory by research fellow Dr. Josh Fitzgerald, explored Aztec cultural identity through food and food-object ritual practices. This was supported by a visit to the museum of Archaeology and Anthropology and both were really popular activities.

**“I had never really considered the significance of food heritage before and found his session genuinely interesting and valuable.”**



## Architecture

Mini lecture and hands-on activity about earthquake-proof design and use of local building materials. Designing and testing a ‘bamboo’ emergency shelter. Session proposed by Ana Gatoo from Architecture. Unfortunately Ana was not able to lead the session herself at short notice so this was led by Rachel. We would look to have an architecture student or academic lead in future



## Land Economy

Dr. Rekha Bhangaonkar led a workshop on building resilient and sustainable food production systems. Students were guided through the complex and often competing challenges of deciding land use choices for both food production and agricultural income whilst maintaining biodiversity and ecosystem services. Students enjoyed this, but it was a bit complex, with a lot of new terminology, so would be adapted to cover slightly less material and more scaffolded.

## Geopolitics, Geography, Law

Students participated in a model UN-style session on environmental justice for unrepresented nations such as Guam and Kosovo. This session was developed by Dr. Liam Saddington and the department of geography. As a ready-made digital resource, this was a great opportunity for 2 of the more experienced student helpers to lead a session and build confidence in their own leadership and teaching. The session was 2 hours, but feedback shows that this was one of the sessions students were most engaged in. This was unexpected and we would look to devote more time to this in future.



## Regenerative leadership

This session was led by an outside provider, Nicole Bosky from Primal Gathering. This was challenging in that it was a total different style of delivery and perspective. However, feedback was not so positive, so would look to replace this for an alternate session more closely linked to a potential degree subject. Economics, biochemistry, biomedical and environmental sciences were popular interdisciplinary options when participants were surveyed about future directions.



# Shelter Building

A highlight of the week for many was building an informal settlement shelters. They loved the **“teamwork and creativity”**. This was designed and led by undergraduate summer interns. Working in teams students constructed a full-scale informal shelter. Primarily, this was intended to empower Y12s with a sense that they can do really impressive things, by using real tools and construction methods. Also to spark design ideas and understanding through doing and better visualising the space that many families have available as their home. Feedback shows that it was a successful activity on these counts.

## Surprises!

The unexpected outcome was the enthusiasm Y12s and student helpers had for personalising and making this their real home during the week! The shelter building area became the go-to hang out and social space for free time. It was humbling to see how proud the students were of their achievements.

It also had a positive impact on the college community, bringing together people with all career paths, from catering - cooking outdoors, housekeeping and maintenance providing recycled materials for building, gardens building bug homes and hedgehog shelters and going on a biodiversity tour, and getting great conversations going about sustainability across departments.

## Learnings - roadshow not viable

This was designed and built by undergraduate student interns, and it was a steep learning curve for all. One intern had to return home unexpectedly, and due to this and a possibly too ambitious initial plan (time, cost) to build 4 full-scale shelters, we scaled back this element. Instead we built 1 shelter for the entire group - this actually worked better given the limited time of the entire programme, and there was more community with everyone contributing to a shared goal.

We had intended this to be re-usable in a road trip to take this activity into communities. It is re-useable and we would love to run this again in college or locally, however, it was much less portable than originally hoped for due to design constraints to ensure sturdiness for safety, materials availability/costs and transportation limitations.

Other feedback we would like to incorporate more is to have more freedom to incorporate their own design elements from research. The shelter building aspect was a triumph, and really worth repeating.



**“[Highlight of the week...]**

**Building the shelters as it was applying what we'd learnt about sustainability , and rather than just be information” Y12**

**“a cooperative task where I was able to speak to new people and work collaboratively to build a shelter we could all feel accomplished about.” Y12**

# Learnings - Organisation

In terms of organisation, the biggest recommendation is to increase admin support. The need for this was underestimated and would greatly improve responsiveness of the recruitment and selection process, making sure everyone felt informed. We would also increase staffing during the week beyond having student helpers. College has acknowledged that more support in this area is needed and has newly appointed an outreach assistant to support programmes like this and the school's liaison officer.

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## Recruitment and selection

Y12s generally commented that it was straightforward to apply, with clear instructions, and that the application process was inclusive and fair. They liked that there was the requirement for a teacher reference and a personal statement to determine the best applicants. Some thought that the application could have been more rigorous, however, we wanted to strike a balance between the information we needed to make decisions, and not putting off potential applicants.

Teacher references were gathered after the Y12 application. However, there was a lot of chasing to get these references, and in some cases none was received, which excluded students from being selected. A more streamlined process would help here, moving the responsibility to get teacher references to applicants.

Participants were selected based on widening participation criteria. Following an initial sift for predicted grades (potential Cambridge offer) and appropriate subject interest (variety, prioritising interdisciplinary subjects). After this, there were still too many good applicants, so the pool was narrowed by removing those who had participated in another Oxbridge residential, and admitting a maximum of 2 students from any school where there were multiple applications. Students from schools with no or little history of Oxbridge attendance were prioritised over those which we know to have a very active Oxbridge preparation programme.

Behind the scenes, the volume of applicants and ensuring students felt that they were kept informed would benefit from increased admin support. Things are always smoother the second time, but increasing support would en

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## Drop-outs & pre-residential process

Overall, this was difficult and time consuming. We got many more applications than we had expected. After making the initial choices, we then had to make quite a few repeat selections due to non-response.

We made an effort to communicate regularly with all those selected beforehand about travel and what to expect, and this came through in the evaluation with comments mainly indicating that they felt comfortable and informed. Some Y12s commented that both the promotion and the final decision-making could have been quicker. We agree!

Overall, we would look to improve the pre-residential process by:

- 1) Initially we would over-offer by about 10% as some declined the place or did not respond
  - 2) To make selections faster by implementing the system we had to discover in 2023
  - 3) Improve pre-residential communication with an online Q&A for Y12s and their parents
  - 4) Add a list of FAQs to the website - compiled from the questions we received in 2023
  - 5) Communication close to the event as a final confirmation of attendance: We had 3 last-minute drop outs. Managed to find one last-minute replacement, but it was disappointing to have places empty
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## During the week

During the week, there was 1 full-time staff member, well supported by student helpers. However, the experience was pretty stressful at times and an extra pair of experienced hands would be valuable. For example, ensuring all travel plans home have been arranged, and to assist with (thankfully minor) medical panics!

# Further-reaching Benefits

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## STEMSMART collaboration & Fellows

One synergy was with STEMSMART, both residential programmes had a cohort staying in Churchill at the same time. So we combined evening social activities to bring these groups together and allow slightly more ambitious activities. For example, Wednesday was a formal dinner, with the larger Y12 cohort, fellows attending were asked to meet students after the formal and talk about their subjects giving an insight into the breadth of academic life here. This was great and Y12s mentioned it as a highlight!

The intention of the modular format was to facilitate participation in outreach by academics with relevant work who might not otherwise have done this. This approach seemed to work, as fellows were quite willing to deliver one session without needing to be concerned with organisation of an audience. Josh who delivered the archaeology session has since adapted it for a family day at the Museum of Arch & Anth, so this was a great way to test it and get thoughtful feedback.

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## Benefits to current students

2 Summer student interns (1 funded by Churchill college, another by EPSRC, £7750 total), main role was in developing shelter-building and engineering activities. Talking to alumni, using Dyson centre in engineering and ahead of the game for 2nd year studies. Also helped during the week and took a lead role in the construction.

The time scales for materials development were tighter than we expected in the summer as it took more support than anticipated to get summer interns up to speed. In hindsight, this isn't unexpected, but as I was new to the role and had not had undergrad interns before this was new for me! I know better what to expect in future, and whilst a lot of energy was required to supervise, overall the experience was worthwhile for all involved. We did still get out to a local school to do some hands-on testing, but only for 1 activity.

5 Student helpers - role models, assisting with organisation and running activities, games and social time outside of academic sessions. Varied and interesting role. Opportunities to lead session for more experienced students, 2 chaired the Model UN style discussion for geopolitics, which was one of the most highly rated sessions.

Postgraduate students attended the final day showcase, bringing research projects and had the experience of communicating their interests and career path with a non-specialist audience. All that took part really enjoyed this, and we hope it will spark enthusiasm to continue participating in widening participation initiatives. We would look to make this showcase a bigger event by increasing collaboration with PhD students from Cambridge Institute of Sustainability Leadership, MPhil in Engineering for sustainable development and Cambridge Zero, the University's climate change initiative.

This was advertised as a public event however, only 3 non-university members attended. We would look to promote this further with local sixth forms and increase the reach of this.

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## Social media

One unexpected thing was the amount of engagement this week had across social media. This was due to having a clear comms strategy (and great team!), and also to the willingness of the Y12s to be involved in this aspect. TikTok was especially popular, with content made by the demographic we hope to reach. We would want to do more of this in future, and would like to share this video with you here!



# Budget - Spending

## Original budget vs spend

Overall, our anticipated budget was reasonable. Where we had made adjustments, or had had challenges, we have explained here and can learn from for future.

The final column shows the spend.

In the spend, we have not included where items were billed internally and covered by Churchill College. We have also combined some lines that were itemised in the original budget, for example, conferencing where we were invoiced for accomodation and food together.

Type	Description
Resource/program me development and testing	Project Management & development (15% FTE day per week). **1/3 met by Chu Coll
	10 week summer intern: resource creation/testing (£3000 bursary + £1500 accom subsidy)
	Development and manufacture of shelters
	Estates and maintenance team assistance (Safety, workshop to manufacture prototype, supply and training with PPE and tools) 1 week, £450)
	Development of 5 modular activities *** includes ancillary set up costs, not anitipated originally, but most reusable eg. storage, lanyards, stationary
	Staff/PG travel to test 5 modular activities with local schools (car hire + food. £150*5 visits = £750)
	Ancillary set up costs
Training	Venue and refreshments for facilitator training (1 day room hire £382+ lunch (£10.70*5 facilitators)
5-day Residential	Student facilitators 24 hours at 11.33 p/h *5 student ambassadors
	Conferencing: B&B accom & Catering
	Pupil and facilitator travel on public transport (based on average of 2022 residential summer school rate Churchill college (45*£70pp ) Travel areas Bradford/Brighton as example = £2925
	Flat classroom space - room booking @382pd*4 days
Public event	Venue hire for public showcase event - £382pd
Evaluation & Legacy	Video filming and editing for documenting video - will be used for legacy resource
<b>Total</b>	
<b>Funding requested</b>	

\*Denotes costs met by Churchill college, contingent on the award being successful.

\*\*Denotes ≥50% met by Churchill College

Plus: 4500 additional EPSRC funding

## Additional resource

One additional resource that we got for this project was a 10-week EPSRC summer intern (£4500 stipend) in addition to 2 summer bursaries for interns funded by Churchill. The student from engineering who got this EPSRC internship was invaluable in developing resources and helping during the week. This was additional to original budget as an academic who had proposed a project for this dropped out and could no longer supervise. One of the Churchill summer bursaries interns had to return for a family emergency, so we still had 2 for development and with a lot of initial support and guidance, they made a great team.

# Budget - Learnings

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## Areas where budget was adjusted

### People

Churchill college contributed more than expected to salary due to the recruitment and selection being more time consuming than anticipated. Budgeting for additional admin support would make this much more manageable.

### Shelters/Materials

There was sufficient resource to make great activities for this, spending slightly under the full budget. However, as mentioned earlier, it was necessary to scale back the shelter building from individual groups to one for the cohort - in hindsight a really good decision. We would include some budget in future for (cheap) extracurricular activities, eg. football, card games, as well as small items like stationary, lanyards that we thought we had in store but didn't. These would be minimal, and where possible, re-usable. We categorised this under 'activities' in the spending above. Overall, the more achievable plan meant we used less budget than anticipated for shelter building, and for testing in schools. Underspend from these, including the contribution from Churchill College, was used to supplement salary where more time was taken.

### Transport

Rising train fares meant that we had significantly under budgeted for travel. This became apparent with many students travelling from Wales. To avoid going over budget, we made some adaptations, which increased admin load.

- 1) Ensured that Y12s bought the cheapest advance tickets possible.
- 2) Subsidised 16-17 railcards as these give a 50% discount, where this made overall total cheaper. Students could then benefit from these for attending uni open days.
- 3) Some decisions for the final participants (to replace drop outs) were made on the basis of minimising travel costs, where candidates had approximately equal applications in other respects.

### In future we would:

Plan a minibus from South Wales, travelling along the M4 corridor and aim to fill the seats on that. Budget slightly higher to enable free choice in candidates on WP basis, rather than influenced by travel  
Include travel booking and confirmation in the proposed online Q&A to make parents more informed about this part rather than relying on Y12s.

### Unexpected costs & other adjustments

On the scale of the week, these were minimal, but would prefer to avoid them in future if possible! These included emergency transport for students where trains were cancelled (unfortunately, Wales). Allergy medication for pupil having an adverse reaction. Additional snacks and drinks with an incredibly hot week. The weather was lovely, but almost too much so at times.

### Accommodation and helpers

Increased costs of living meant that the student helper wage increased. We also hadn't factored in HR overheads to the base salary. To reduce this risk in future we have included a 20X scaling factor for student helpers. If there is no salary rise, this will allow for any additional tasks for student helpers. For example, additional cleanup was needed as some helpers had to leave early for trains affected by the hot weather.

