THE CARPENTRIES

CarpentryCon 2022
Evaluation Report

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Thank You

CarpentryCon2022 - *Expanding Data Frontiers* - aimed to host and document an accessible and inclusive virtual event that maximised the benefits of an online experience while serving as a model that other open science organisations could adapt. We are grateful for the funding provided by the Alfred P. Sloan Foundation. We are also grateful to the CarpentryCon Committee, members of The Carpentries community who volunteered their time to support the planning and implementation of this event.

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Executive Summary

CarpentryCon 2022 was held virtually over a two-week period, 1-12 August 2022. To identify outcomes from this event and provide recommendations for hosting future events, data were pulled from the program, registration, Zoom, social media, and a post-conference survey which yielded 63 total responses. Seven intended outcomes are listed in italics and include findings relevant to each. We then list a number of recommendations based on these findings.

Networking opportunities providing community interactions
The final program consisted of 71 sessions, and 18% of these sessions were informal meetups. We aimed to have a minimum of one social session per time block each week of the conference, and we met that target. These informal meetups had an average of 12 attendees. When asked how satisfied survey respondents were with the level of interaction they had with other community members during the conference, of the 58 responses, 34% were extremely satisfied, and 36% were satisfied. Two percent of respondents were not at all satisfied. When asked, "*what do you feel was the most useful part of the conference*," many participants responded *"meeting other community members and the Core Team."*

Community resources co-developed
We aimed to have five proposals submitted in the resource development sprint category, but we only received four. With some sessions repeated, 18% of the sessions in the final program were focused on the development of three resources: a handbook for community coordinators, the HPC workflows lesson, and a Git lesson utility. These resource development sprints had an average of 14 attendees. We aimed to have a minimum of one resource development sprint per time block each week of the conference, but we did not meet that target. This was due to the session leads being unavailable to lead their sessions during one of the time blocks.

Participants build their personal capacity
We aimed to have five proposals submitted in the skill-up category and received eight. Of the 71 sessions, 20% were skill-up sessions with an average of 23 attendees. We also aimed to have a minimum of one skill-up session per time block each week of the conference, and we met that target. Of the 63 survey responses, approximately 70% of respondents agreed with two statements ("*The conference helped me develop new skills*," "*I feel more prepared to serve in my roles in The Carpentries community*"), while less than 10% disagreed. This was below our target of 75% agreement. Fifty percent of survey respondents provided an answer to the question, "*what is something you learned through your participation in the conference?*"

A growing, engaged and diverse community
This year, CarpentryCon brought in 319 unique participants from 42 countries compared to 256 participants from 21 countries in 2020. The @CarpentryCon Twitter account posted 40 tweets that gained 136 new followers and resulted in a 1% engagement rate, which is considered good for non-profit organisations. When comparing 2022 to 2020, the number of individuals registered, the number of participants, and the countries represented grew by 85%, 25%, and

50%, respectively. Of the survey respondents, 23% had little involvement with the organisation prior to attending, and 80% indicated plans to stay engaged. This exceeded our target of 60%.

An inclusive event
The survey had respondents indicate to what extent they agreed with the following statements: "*My contributions to discussions were heard and valued*" and "*The conference provided a welcoming, positive, and supportive environment.*" Most survey respondents agreed with both statements, indicating 81% and 93% agreement, respectively. This met our target of 85% agreement averaged across the two statements. Only very small percentages (3% and 2%) disagreed.

An accessible event
Data from the post-conference survey indicated that more people used the accommodations provided than requested them. Respondents were satisfied with most of the accommodations, including closed captions, electronic copies of materials, sign language interpreters, and other requests. Of the ten respondents who indicated they had requested translation services, one (10%) indicated not being satisfied with the service. During registration, participants could request to be reimbursed for expenses incurred to participate in the event. Survey respondents who used childcare and mobile data services were satisfied (50% and 75%, respectively) or had no opinion. No opinion responses likely were related to the reimbursements not being completed before the survey was taken. Survey respondents were asked how strongly they agreed with the statement: "*The conference had enough sessions that were convenient for my time zone.*" Of the 58 responses, 57% were extremely satisfied, 22% were satisfied, 13% were neutral, 8% were dissatisfied, and 0% were not at all satisfied.

Participants satisfied with conference experience
Committee members who provided feedback on their experience (N=7) all agreed that participation was worth their time and that their contributions were valued. When ranking their overall experience from poor (1) to excellent (5), 29% ranked it as a 3, 57% ranked it as 4, and 14% ranked it as a 5. Post-conference survey respondents indicated agreement in varying degrees with the following statements relevant to their satisfaction: "*My personal goals for participating in the conference were met*" (84%), "*The conference met my expectations*" (81%), "*I intend to stay engaged with The Carpentries now that the conference is over*" (89%), and "*Participation in the conference was worth my time*" (89%). Respondents also indicated their satisfaction with communications surrounding the conference (81%), level of interaction with other community members (70%), and keynote presentations (95%). Tools used to support the event included Etherpad, YouTube, and Zoom. Each had 81%, 81% and 93% satisfaction, respectively. Etherpads, an open-source online collaborative editor, had the lowest satisfaction rating, with 6% dissatisfied with its use. The Net Promoter Score (NPS) was calculated at 46 (56% promoters - 10% detractors), while the NPS in 2020 resulted in a 62 NPS (6% detractors, 27% passives, 68% promoters).

Based on these outcomes and findings that are further explored in the text of this document, we recommend the following changes to improve future events:

- Assess community and Core Team capacity to support events
- Improve CarpentryCon Committee recruitment, onboarding, and communications
- Provide onboarding support for participants not familiar with the organisation
- Provide clear next steps for continued community engagement
- Increase programming in multiple languages
- Increase professional development offerings
- Continue and enhance activities that support event accessibility
- Pursue more opportunities for community interaction
- Increase communications to broaden event engagement and acknowledge volunteer contributions
- Explore alternative tools to improve volunteer experience

Introduction

The Carpentries, an organisation that teaches foundational coding and data science skills to researchers worldwide, hosts a conference for its community members every two years. This event, CarpentryCon, provides opportunities for community members to share tools and practices relevant to coding, data science, and community in an inclusive space guided by our core values and Code of Conduct. It also supports networking across members to build and sustain local and regional communities engaged in this work. In 2022, a decision was made to take lessons learned from our community and adjacent open science communities to model an accessible and inclusive fully virtual event that maximised the benefits of an online experience. The event, themed "Expanding Data Frontiers", was held from 1-12 August 2022.

Event Planning

To begin planning for the event, members of the community were invited to join the CarpentryCon Committee, which would be responsible for conference planning and implementation. Recruitment occurred through our communication channels (i.e., social media, newsletters, blog posts) and two one-hour-long community discussions where information for serving on the Committee was presented. From these efforts, 29 community members joined the Committee. Four co-chairs were selected, two in the eastern hemisphere and two in the western hemisphere, to accommodate planning across multiple time zones. Two members of the Community Development Team, one in the east and one in the west, supported the co-chairs. The accessibility subcommittee, with seven members, worked with The Carpentries Accessibility Manager to ensure the event was accessible and inclusive to all attendees. The program subcommittee, with eight members, developed the program and supported event scheduling and logistics. The website subcommittee, with six members, set up and kept content updated on the CarpentryCon website. The communications subcommittee, with four members, worked with The Carpentries Communications Manager to support all communications surrounding the event.

The Committee provided multiple opportunities for community members to identify and prioritise topics of interest to inform session topics. The program was then developed using an unconference format that allowed members of the community to propose sessions to lead within five broad categories:
- ***Skill-up workshops*** provided professional development opportunities where community members shared their expertise with other participants.
- ***Breakout discussions*** connected participants based on common interests and stimulated discussion on relevant topics.
- ***Lightning talks*** were short presentations to share tips with the community. These were pre-recorded for asynchronous viewing, with sessions dedicated to synchronous viewing, discussion, and asking questions of the presenters.
- ***Social events and informal meetups*** allowed attendees to network with each other. These sessions ranged from informal discussions to playing games as determined by each session host.

- ***Lesson and resource development sprints*** were collaborative efforts to co-develop lessons and resources relevant to the community.

Keynote speakers were also identified by the Committee and included speakers who brought expertise and diverse perspectives to community-relevant issues.

Of the 45 proposals submitted, all were accepted. With some sessions repeated, the final program included 71 sessions: 14 skill-up workshops, 12 breakout discussions, as well as 5 panel discussions, 9 lightning talks, 13 social events, 8 resource development sprints, and 4 keynote presentations.

Funding was made available through the Alfred P. Sloan Foundation and the Gordon and Betty Moore Foundation to host the event. This supported free registration, so anyone interested could participate in one or more sessions of the program. Funding also supported live closed captioning for all sessions, American Sign Language and translation for keynote presentations, and personal accommodation requests. Requests could be made through conference registration or by contacting the Accessibility Manager.

Prior to the event, an accessibility audit of existing tools used within the community was conducted by the Accessibility Manager and recommendations were enacted. Presenters were also asked to upload all conference materials at least one week in advance, and instructions were provided on how to make presentations more accessible. An accessibility statement was added to the website that included this information and stated our commitment to accessibility as part of event planning and implementation.

Event Implementation

Sessions extended across three primary time blocks, and some sessions were repeated to ensure that individuals in different time zones could participate. Several lightning talks and one of the keynote presentations were given in Spanish.

There was a minimum of one facilitator and one Zoom helper assigned to each session to support the session leads. Individuals were asked if they could support these roles as part of registration. Detailed instructions were then distributed to everyone who served in these roles.

During registration, individuals were asked to read and agree to our Code of Conduct. It was also referenced at the start of the conference, the beginning of each session and linked on all conference platforms.

Evaluation Methods

Evaluation of CarpentryCon was guided by our event goals and objectives.

- **Goal 1: To build community**
    - Networking opportunities provide community interactions
    - Community resources co-developed
    - A growing, engaged and diverse community
    - Participants satisfied with conference experience
- **Goal 2: To offer professional development opportunities of value to the community**
    - Participants build capacity
    - Participants satisfied with conference experience
- **Goal 3: To foster a diverse and inclusive community**
    - An inclusive event
    - An accessible event
    - A growing, engaged and diverse community
    - Participants satisfied with conference experience

Appendix A (Tables A-1, A-2, A-3) highlights the outcomes and indicators of success for each goal and objective. At this time, indicators of success are subjective and aspirational. They will be used to establish an initial baseline and may be modified for future events as trends emerge. We also wanted to address the following evaluation questions:

- Did the conference reach its intended audience? Why or why not?
- Did the conference provide ample opportunities for attendees to build community and learn new skills?
- Were conference participants and members of the volunteer Committee satisfied with their experience?
- What lessons have we learned about improving future events?

Analytics data were pulled from The Carpentries Twitter account. On the final day of the conference, an online survey developed using Typeform was shared with participants during the closing ceremonies (Appendix B). It was later distributed on 15 August to everyone who registered for the event, and a final reminder was sent on 17 August. We received 64 responses to the post-conference survey, a 20% response rate. When applicable, comparisons were made to the CarpentryCon 2020 evaluation report (Jordan and Hurt 2020).

A form was also distributed to Committee members to get feedback about their experience (Appendix C). We received 7 responses to the form, a 24% response rate.

We used Zoom session data to determine the number of unique attendees at each session and their geographic locations. With this information, we generated maps of attendee locations and plots displaying attendees by country, session type, and session name.

On 1 September, members of the Core Team spent time reflecting on the event and responded to the following prompts: what went well, what could be improved, concerns, and ideas for future events.

Findings

In the following sections, we provide a summary of the data available to address each of our objectives and intended outcomes (Appendix A).

Networking opportunities providing community interactions

Six proposals were submitted in the informal meetup category. With some sessions repeated, the final program consisted of 71 sessions, with 18% of this session type. Two sessions were regional for the Australia/New Zealand and Africa subcommunities, and three were listening sessions hosted by the Core Team. Feedback received from the Core Team identified connecting to new community members as one of the best aspects of the conference. These informal meetups had an average of 12 attendees (Figure 1).
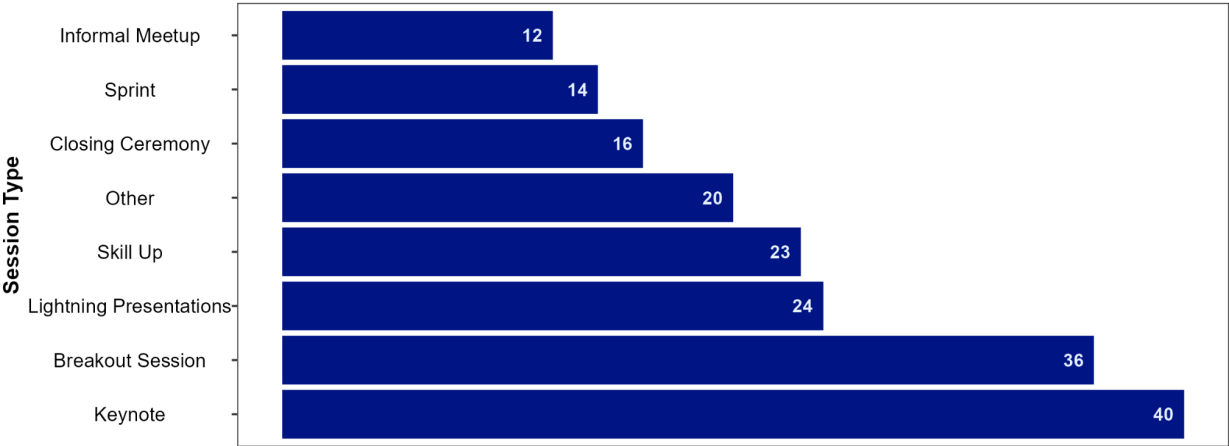
Figure 1. Average number of attendees by session type.

We aimed to have a minimum of one social session per time block each week of the conference, and we met that target (Table 1; Appendix A).

Table 1. Number of informal meetups by time block in weeks one and two of CarpentryCon.

Time Block	Week 1	Week 2
Time Block 1 (10 pm -1 am UTC)	2	1
Time Block 2 (7 am -10 am UTC)	2	2
Time Block 3 (2 pm - 5 pm UTC)	3	3

Survey respondents were asked to select how satisfied they were with the level of interaction they had with other community members during the conference. Of the 58 responses received, 34% were extremely satisfied, 36% were satisfied, 21% were neutral, 7% were dissatisfied, and

2% were not at all satisfied. We aimed for a 75% satisfaction rate, so satisfaction was slightly below our target (Appendix A).

When asked, "What do you feel was the most useful part of the conference?" many participants responded "meeting other community members and the Core Team." Comments included:

> "MEETING PEOPLE! Getting to know the broader networks of The Carpentries community, outside of routine admin. Putting faces to names, and exploring interesting problems together, being human together."

> "Space and time to connect with people outside of community discussions and workshops."

Community resource co-developed

We aimed to have five proposals submitted in the resource development sprint category, but we only received four. With some sessions repeated, 18% of the sessions in the final program (N=71) were resource development sprints focused on the development of three resources: a handbook for community coordinators, the HPC workflows lesson, and a GIT lesson utility. We aimed to have a minimum of one resource development sprint per time block each week of the conference, but we did not meet that target (Table 2; Appendix A). This was due to the session leads being unavailable to lead their sessions during time block one. These resource development sprints had an average of 14 attendees (Figure 1).

Table 2. Number of resource development sprints by time block in weeks one and two of CarpentryCon.

Time Block	Week 1	Week 2
Time Block 1 (10 pm -1 am UTC)	0	0
Time Block 2 (7 am -10 am UTC)	3	2
Time Block 3 (2 pm - 5 pm UTC)	2	1

One of the sessions, *A Handbook for The Carpentries Community Coordinators*, supported the development of a new handbook for community members who serve as leaders of our local and regional subcommunities. Over the course of three sessions, participants listed out relevant roles and responsibilities, time commitments, and resources to support individuals serving in these roles. This information was pulled into a draft template where content continues to be added as part of the Community Development Program.

Another session, *High Performance Workflows with Snakemake*, had attendees contribute to the HPC Workflows lesson in development. As part of four sessions, many pull requests and commits were made to the GitHub repository holding the lesson. Since the conference ended,

the session hosts and other community members have continued building on the work that began in these sessions.

The last of these sessions, *Git lesson repository wrangler utility demonstration and development sprint*, included a successful demonstration of [the featured tool](#) to attendees, but concluded without a subsequent development sprint. The planned sprint element required all attendees to have a GitHub account and additional suggestions for features that could be added to the tool, which was not the case in the session itself. The session lead instead adjusted the focus of the latter part of the session to discuss how the current features of the tool could be improved and expanded.

Participants build their personal capacity

We aimed to have five proposals submitted in the skill-up category and received eight. With some sessions repeated, 20% of the sessions in the final program (N=71) were skill-up sessions. These sessions provided professional development opportunities where community members shared their expertise with other participants. We also aimed to have a minimum of one skill-up session per time block each week of the conference, and we met that target (Table 3; Appendix A). These skill-up sessions had an average of 23 attendees (Figure 1). Breakout sessions had an average of 36 attendees.

Table 3. Number of skill-up sessions by time block in weeks one and two of CarpentryCon.

Time Block	Week 1	Week 2
Time Block 1 (10 pm -1 am UTC)	2	2
Time Block 2 (7 am -10 am UTC)	1	5
Time Block 3 (2 pm - 5 pm UTC)	3	1

The post conference survey asked respondents how strongly they agreed with the following statements: "*The conference helped me develop new skills*" and "*I feel more prepared to serve in my role(s) in The Carpentries community*." Of the 63 responses, approximately 70% of respondents agreed with both of these statements, while less than 10% disagreed (Figure 2). This was below our target of 75% agreement (Appendix A).
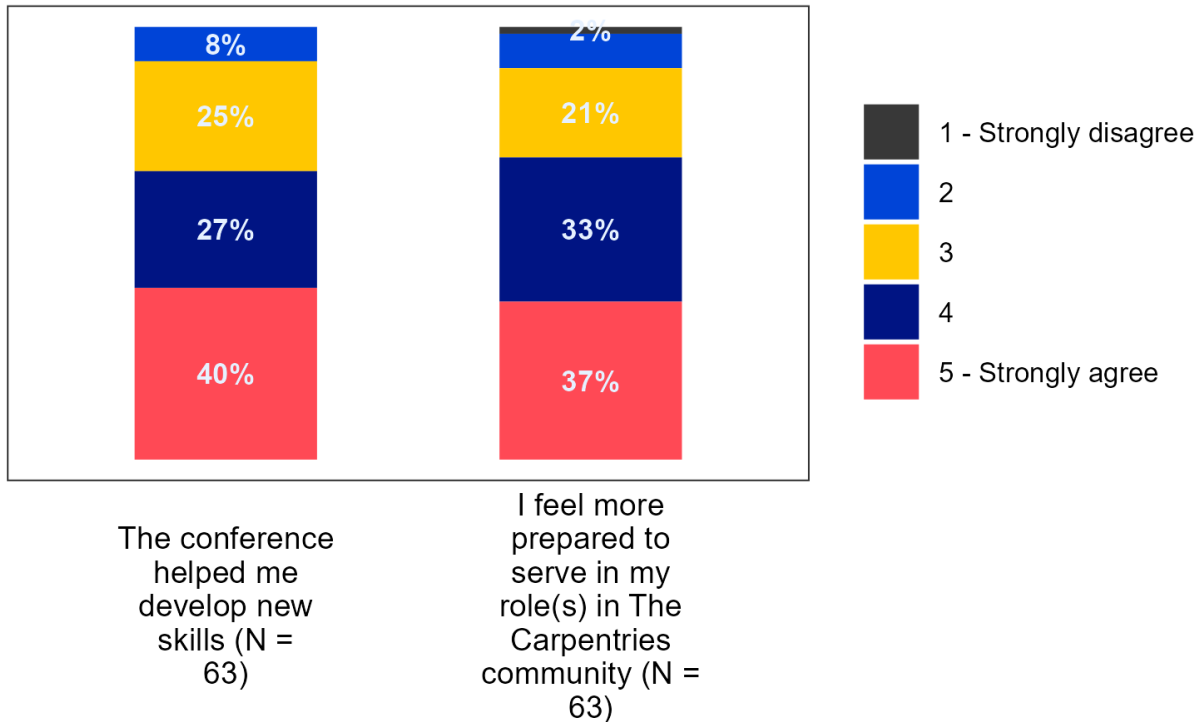
Figure 2. Percentage of respondents (N=63) indicating to what extent they agreed with statements relevant to professional development.

When asked, "What do you feel was the most useful part of the conference?" discussion sessions that encouraged participant interactions, learning tips from other community members, and sessions where participants applied new skills were most commonly cited. One participant wrote:

> "The breakout discussions - it was so nice to see groups making decisions and making progress, and making new connections."

Thirty-one survey respondents (50%) provided an answer to the question, "what is something you learned through your participation in the conference?" Specific responses included:
- Confidence and there are no stupid questions
- I learned about HPC Carpentry
- Joy lists!
- Intersectionality: origins of this research topic and the data behind it
- You can change the settings in Zoom so that it doesn't automatically maximise the window when someone shares their screen
- How to host an inclusive tech conference/community
- How to approach the new Carpentries Workbench
- How the Carpentries communities work on a daily basis
- How to set a welcoming environment

- I learned about new developments in The Carpentries as an organisation, and also about many initiatives by community members. I learned new GitHub and collaboration skills
- The community of carpentries and the use of open source tools such as etherpad
- The successful organising of a virtual or physical training session should be something thought of with prior advance while keeping the intended audience informed of how the arrangements will be and getting feedback.
- How to use GitHub for community collaboration (Turing Way) as well as more advanced commands in the Skill up in Git workshop. These sessions were complimentary and worked well as a pair.
- I learnt that carpentry is a community which is furthering data management at all levels with the help of tools and software. - For a successful carpentry workshopping, your need to have a checklists of things to do
- Affirmation of my contributions: that they are worth the time and appreciated/amplified by people with whom the thoughts resonated.
- How to think about running a workshop
- I learned more about the curriculum development committee and the ongoing reevaluation of the library carpentry workshops.

A growing, engaged and diverse community

One of The Carpentries core values is that we champion strength through diversity. One method of measuring community diversity is through attendance at CarpentryCon. This year, the event brought in 319 unique participants from 42 countries (Figure 3).

# of attendees

1 2 4 8 16 32 124
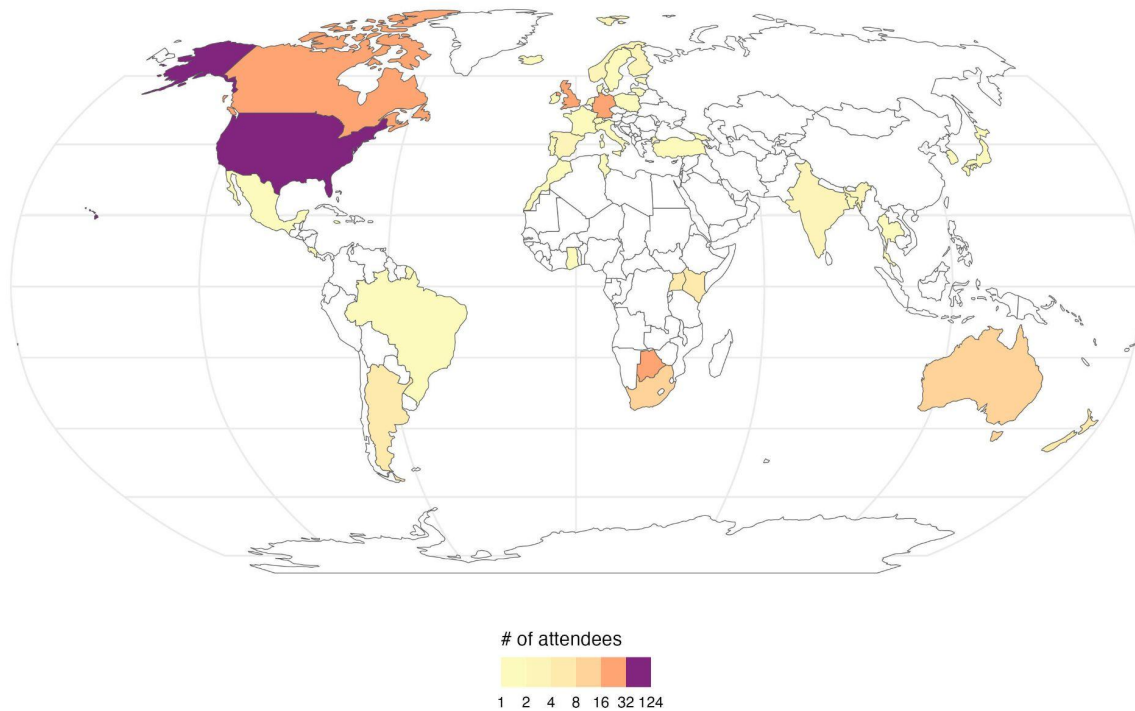
Figure 3. Map indicating the number of CarpentryCon participants by country.

During the promotion of the event (October 2021-August 2022), the @CarpentryCon Twitter account gained 136 new followers. There were 485 total engagements (229 retweets, 228 likes, 26 quote tweets, and 2 replies) and 44,291 impressions for 40 posted tweets prior to and during the event. This resulted in a 1% Twitter engagement rate, which is considered good (Source: https://www.adobe.com/express/learn/blog/what-is-a-good-social-media-engagement-rate). Top engagements included major announcements surrounding the event (e.g., confirmed dates, proposal submission opening, registration opening).

When comparing 2022 to 2020, data showed a growing community with increases in the number of individuals registered, the number of participants and the countries represented (Table 4).

Table 4. Number of event engagements in 2020 and 2022, including percent change between the two years.

Event engagement	# in 2020	# in 2022	% change
Individuals Registered	271	501	+85%
Event Participants	256	319	+25%
Countries Represented	21	42	+50%

Survey respondents (N=64) were asked how involved they were with The Carpentries prior to attending the conference, and 23% had little involvement with the organisation prior to attending. A large percentage of survey respondents indicated intent to stay engaged with the organisation (89%). A cross-tab analysis provided additional insight into community engagement (Appendix D). Only six respondents, three with little engagement and three with some engagement, indicated a limited interest in staying engaged (Appendix D). Twelve respondents who had little engagement with the organisation before the event, planned to stay engaged (80%; Appendix D). This exceeded our target of 60% (Appendix A). Comments from respondents included:

> *"I was very inspired by The Carpentries community to continue contributing!"*

> *"Really admired the program - things that matter (Indigenous data governance! Accessibility!) very instructor focussed, addressing all the thorny questions and offering workshops for skills that really matter. I'd like to see CarpentryCon keep functioning as a hub for testing new ideas and encouraging community feedback. I was impressed by each workshop and feedback session - especially the interaction structure, kind and welcoming facilitators, making it easy to share and learn from each other. Validated my trust in the Carpentries Community, and renewed my enthusiasm for new goals."*

Comments indicated some barriers by those attending who had less familiarity with the organisation:

> *"This was my first Carpentries Conference, so I didn't know what to expect. I was a bit confused at first how and when to attend different sessions and what is expected from me in each session. I suggest that you simplify the landing page a little bit or at list provide a guide for first time attenders. The conference was great! I got to learn a lot and got inspired to continue learning on my own. The community is very kind, informative, considerate and accomodating."*

> *"I was participating at the conference to know if my organization should get involved. The conference didn't quite meet this expectation so it would be useful to have sessions showing why getting involved in carpentries."*

> *"I think it's important to guide the first time attendees as to what is available for them to attend and what is expected from them during the sessions. I am very grateful to The Carpentries for this opportunity and I look forward to being a resident part of the community."*

An inclusive event

One of our core values as an organisation is Inclusive of All, so we strive to host and model inclusive events. Therefore, the survey had respondents indicate to what extent they agreed

with the following statements: "*My contributions to discussions were heard and valued*" and "*The conference provided a welcoming, positive, and supportive environment.*" Most survey respondents agreed with both statements, indicating 81% and 93% agreement, respectively (Figure 4). This resulted in us meeting our target of 85% agreement averaged across the two statements (Appendix A). Only very small percentages (3% and 2%, respectively) disagreed with the statements (Figure 4).
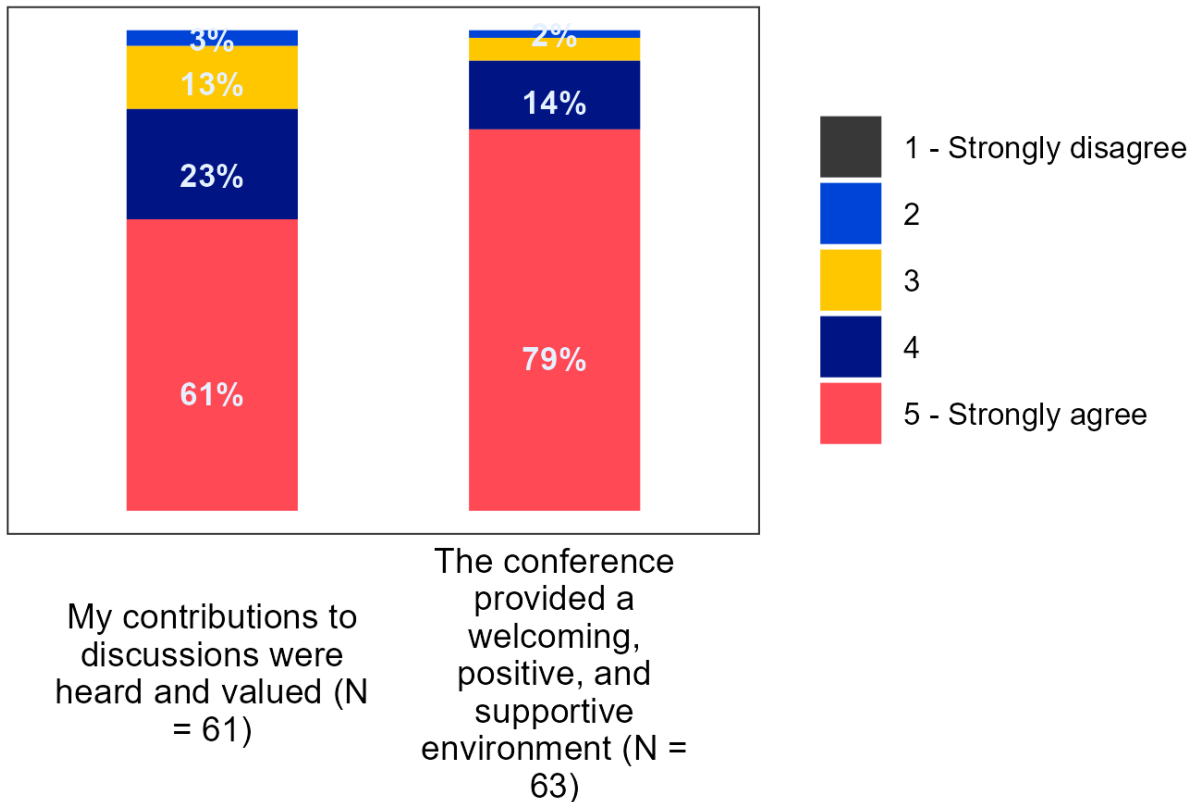
Figure 4. Percentage of respondents (N=63) indicating to what extent they agreed with statements relevant to event inclusivity.

When asked, "What do you feel was the most useful part of the conference?" one participant wrote:

> "*Breakout groups discussing burnout and other mental health issues in open science*"

Providing space for these types of conversations is an important aspect of hosting an inclusive event. Another participant commented:

> "*Note that I am a professional (long since left university) who is learning data-science, so I'm not a tutor or student (which is your normal demographic).*

Nevertheless, this conference is very open and welcoming and much more preferred than other data science conferences out there."

An accessible event

Another one of our core values is Access for All, so we strive to create multiple avenues for participation where all people can learn and contribute. To improve the accessibility of the event, an accessibility statement was added to the conference website. Live closed captioning was available for all sessions, and all keynote presentations included American Sign Language interpreters. During registration, individuals could select from a number of additional accommodations: electronic copies of materials in advance, translation services, sign language interpreters, funds for mobile data, funds for caregiver/childcare services, or request other accommodations not listed (Table 5).

Table 5. The number of accommodations requested by type and the percentage of total registrations (N=501).

Accommodation	# of Requests
Electronic Copies in Advance	103 (21%)
Mobile Data	41 (8%)
Captions	25 (5%)
Childcare	10 (2%)
Translations	6 (1%)

The post-conference survey asked respondents which accommodations they requested as part of registration and which accommodations they used during the conference. These data demonstrated that many who did not request accommodations still used them when available (Figure 5).
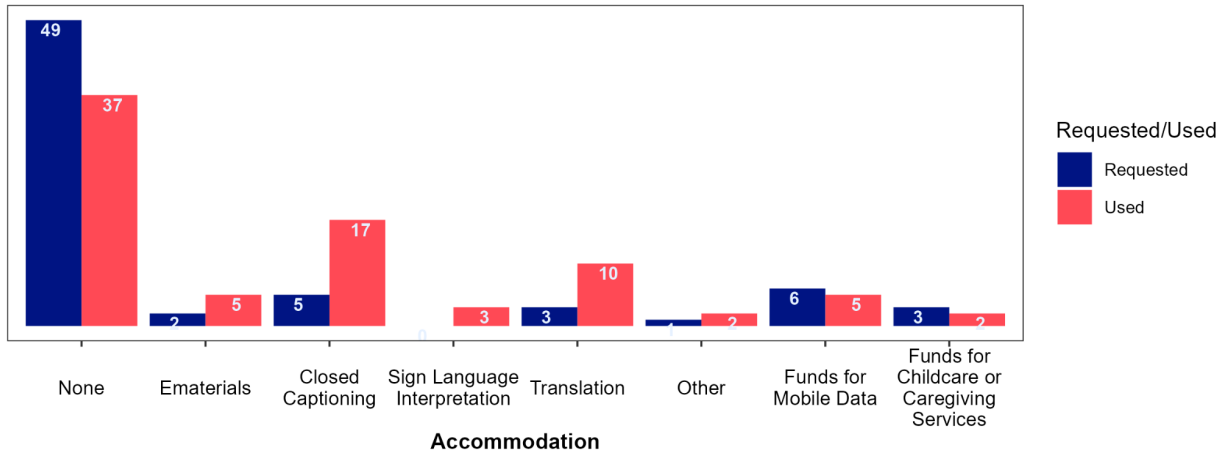
Figure 5. Percentage of survey respondents who requested and used a number of accommodations.

Of the 52 survey respondents, those who indicated they had requested accommodations were asked to select how satisfied they were with them. Respondents were satisfied with most of the accommodations, including closed captions, electronic copies of materials, sign language interpreters, and other requests (Figure 6). Ten respondents indicated that they had requested translation services, and one (10%) indicated not being satisfied with the service (Figure 6).
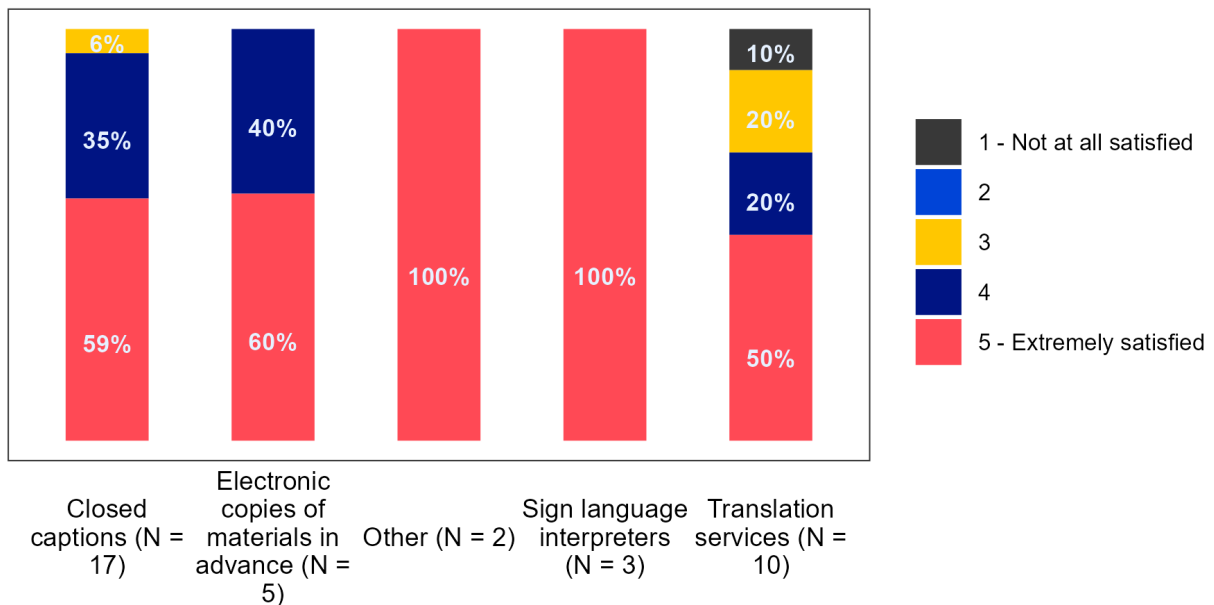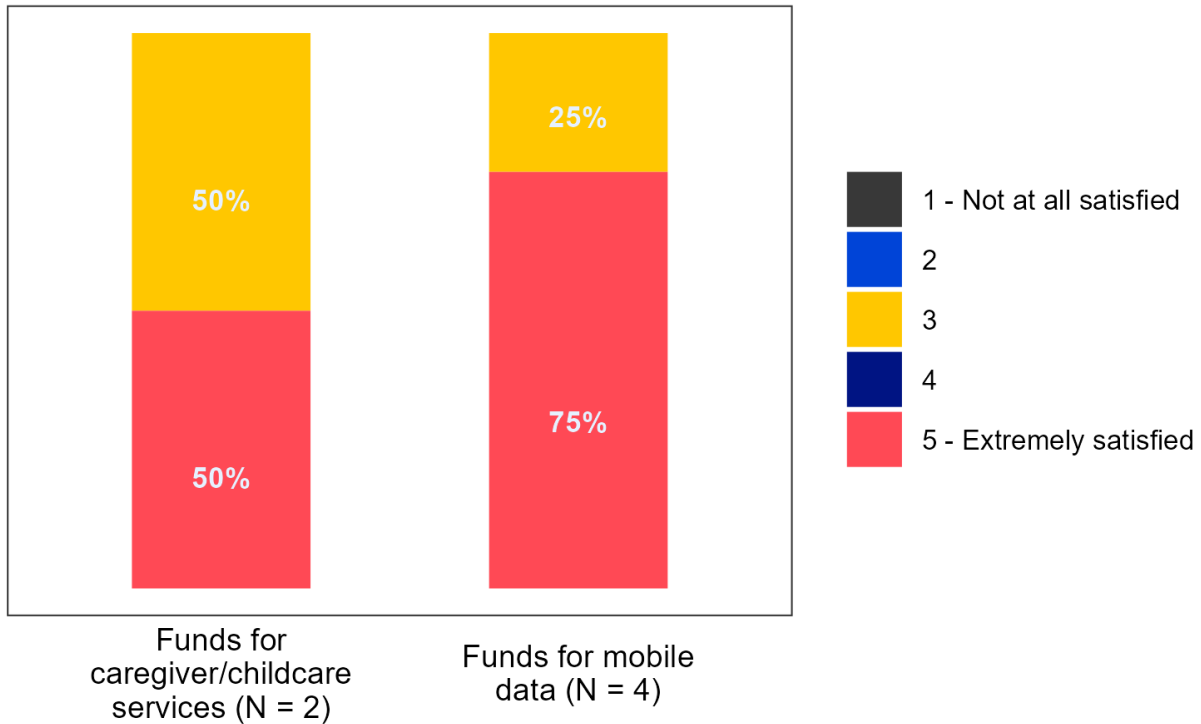

Figure 6. Percentage of respondents (N varies) indicating to what extent they were satisfied with accommodations they used during the conference.

Two participants wrote:

"Having the translation run in separate browser window was not a good experience on a small laptop. The translation also had significant lag which was unfortunate and made things hard to follow. In the future it may be worth asking speakers to take things slowly and add pauses so those watching a live translation can catch up."

"I use two monitors. When the presenter shares their screen one of my screens will have the presentation and the other a gallery of the attendants. Zoom placed the closed captions on the gallery screen, which meant that I couldn't follow the presentation and read the captions. So I wasn't really able to use the captions. With the translations I didn't realise at first that both the Spanish and the English were displayed on the screen - the Spanish on top and the English just underneath. I was trying to read everything on the screen which, to me, seemed to be a garbled mixture of Spanish and English words. Eventually, I caught on to what was happening. However, the translation was very direct which meant it didn't make much sense in English - I thus struggled to follow the Spanish keynote presentation which was disappointing as I was quite looking forward to it."

During registration, participants could also request to be reimbursed for expenses incurred when participating in the event. Funds were requested for childcare services (2%) and for mobile data (8%; Table 5). Survey respondents who used those services were satisfied (50% and 75%, respectively) or had no opinion (Figure 7). No opinion responses were likely related to the reimbursements not being completed before the survey was taken. One participant wrote, "I received a confirmation that my request was approved for the very exact amount that I requested. However, I haven't received the reimbursement yet."

Figure 7. Percentage of respondents (N varies) indicating to what extent they were satisfied with accommodations they used during the conference.

Survey respondents were asked how strongly they agreed with the statement: "*The conference had enough sessions that were convenient for my time zone*". Of the 58 responses, 57% were extremely satisfied, 22% were satisfied, 13% were neutral, 8% were dissatisfied, and 0% were not at all satisfied. A cross-tab analysis provided additional insight into the satisfaction with the number of sessions offered by time zone (Appendix E). Only 3 time zones had respondents dissatisfied with the number of sessions offered: UTC -6, UTC, and UTC +10. When examining the number of sessions across the three time blocks in weeks one and two, the number of sessions was similar in week one, and all time blocks dropped by three or four sessions in week two (Table 6).

Table 6. Number of total sessions by time block in weeks one and two of CarpentryCon.

Time Block	Week 1	Week 2
Time Block 1 (10 pm -1 am UTC)	12	8
Time Block 2 (7 am -10 am UTC)	15	12
Time Block 3 (2 pm - 5 pm UTC)	13	9

The following additional comments were provided by survey respondents regarding the accessibility of the event.
- This was the most accessible conference I've ever attended.

- It was really useful to have access to slides to follow along during the presentations. It was also very useful that someone took detailed notes during the session
- Captions surprised me and were great. Collaborative note-taking was also useful for catching up
- Live captioning was really helpful as I was taking notes as an engaged participant. I didn't realise how helpful it would be until the accommodation was provided.
- It is a great opportunity to include such services to allow for full participation
- I really appreciate attending a conference with speakers other than English. It helps me take off my privilege hat and practice humility.
- The fact that you don't need to be in a geographical location anymore OR indeed available at a specific time, AND if you want to interact, there were repeated sessions that suited your time zone.
- I appreciate that I can watch the recordings and read the notes of the sessions I was not able to attend live.
- Thank you for the effective work in modeling an accommodating, welcoming, international conference with a minimal carbon footprint. Those words don't begin to cover the organisation, planning, and translation services necessary to make it seamless.

Participants satisfied with conference experience

The Committee was set up to include 4-5 community members serving as Committee Co-Chairs and members of four additional subcommittees across a range of time zones. This was meant to support planning and not place too much work on only one or two individuals. However, with 29 Committee members, there was confusion regarding roles and responsibilities across chairs, subcommittee chairs, subcommittee members, and Core Team liaisons. Of the 7 Committee members who responded to our feedback form, one wrote:

> *"Sometimes the distribution of roles between me and the co-chairs from the subcommittee was unclear, as I sometimes had the feeling that I did not want to take their tasks out of their hands and at the same time wanted to be supportive. The communication was very good. You could always reach someone to exchange ideas or get help. I was sometimes a bit overwhelmed by the many different ways of communication from 2 email addresses, Topicbox, Etherpad, Asana and Slack."*

Although Committee Co-Chairs were divided into east and west hemispheres to accommodate meeting times, this was not done for subcommittees. This created a barrier for some subcommittee members to participate fully. Efforts were made to recruit Committee members from the global community, but many members were located in North America and meetings were scheduled during their work hours.

Committee members who provided feedback on their experience all agreed that participation was worth their time and that their contributions were valued. There was one respondent who

indicated neutrality to the statements "*I understood my roles and responsibilities*" and "*I received adequate communications.*" When ranking their overall experience from poor (1) to excellent (5), 29% ranked it as a three, 57% ranked it as 4, and 14% ranked it as a 5. When asked about barriers to serving in this role, one respondent wrote:

> *"Low committee participation and engagement. Too short of timeline to get some tasks done (screen proposals), particularly tasks that were dependent on other committees actions. Conference ran too close to academic year. Was hard to coordinate support while also in high-preparation mode for regular job."*

There were mixed reactions from those who volunteered to support sessions who did not sit on the Committee:

> *"I volunteered and would like to suggest some improvements because I found that experience a bit overwhelming. Please be clear to about what is expected of each role when asking for volunteers and provide details about what is expected and what they are responsible for before they sign up. The host instruction sheet was ...complex. Had I seen that ahead of time I would have known it wasn't for me."*

> *"I would encourage others to volunteer (I helped as Zoom and once as a facilitator)--that was an unexpected enhancement of the whole experience for me, too: connecting with my community to craft a land acknowledgment, learning more about how to work with professional captioners and Zoom, and giving back to the community. I hope more volunteer (even just one shift) next time."*

Several questions on the post-conference survey addressed participant satisfaction among conference attendees (Appendix A). Survey respondents indicated agreement in varying degrees with the following statements relevant to their satisfaction: "*My personal goals for participating in the conference were met*" (84%), "*The conference met my expectations*" (81%), "*I intend to stay engaged with The Carpentries now that the conference is over*" (89%), and "*Participation in the conference was worth my time*" (89%; Figure 8).
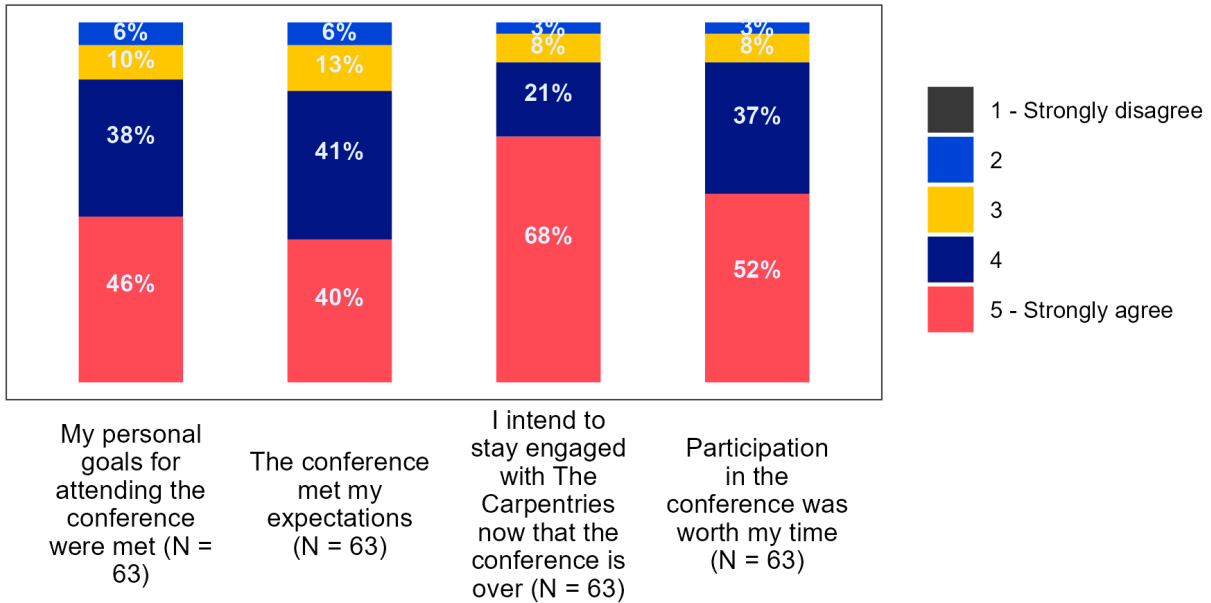
Figure 8. Percentage of respondents (N=63) indicating to what extent they agreed with statements relevant to their participation in the conference.

As an open science community, The Carpentries works to adopt primarily open-source tools. For CarpentryCon, it was decided to adopt tools already available and used by the community following an accessibility audit. Tools used included Etherpad, YouTube, and Zoom. Each had 81%, 81% and 93% satisfaction, respectively (Figure 9). Recording sessions and making them available on YouTube increased accessibility.

> *"Unfortunately I wasn't able to attend very many sessions due to time zone and other commitments. I hope to catch some of the things I missed via recordings on YouTube."*

> *"I've already sent students etc the links to the programme/YT channel!"*

Etherpads, an open-source online collaborative editor, had the lowest satisfaction rating, with 6% dissatisfied with its use. One survey respondent commented that *"CodiMD is much better than EtherPad."* CodiMD is an open-source real-time collaborative Markdown editor and was used by some session leaders.
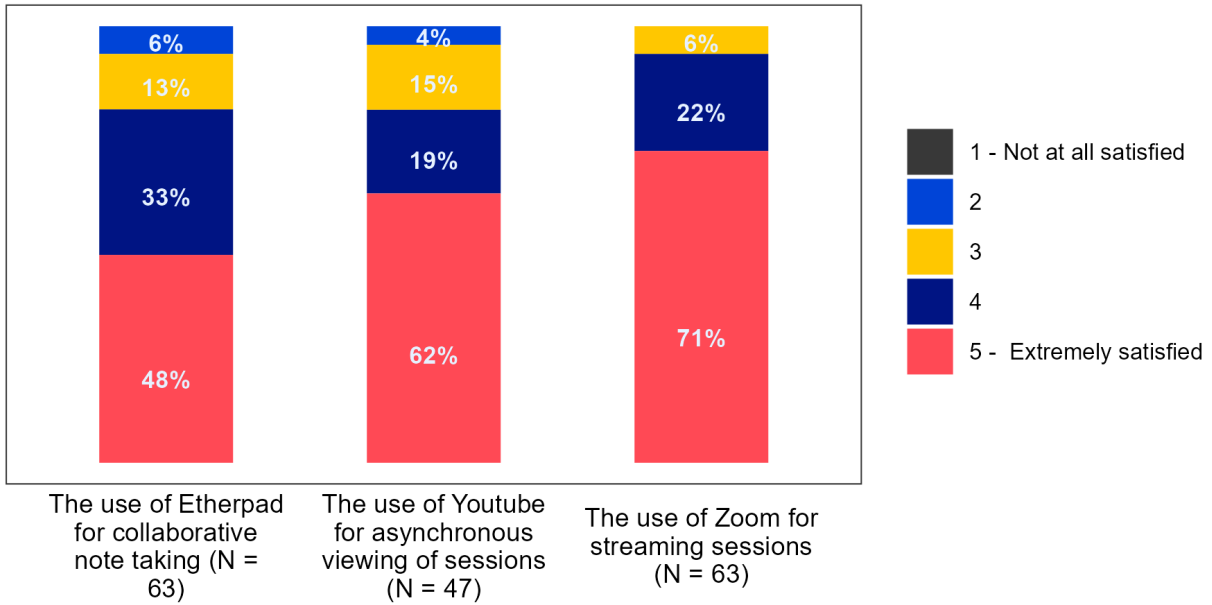
Figure 9. Percentage of respondents (N varies) indicating to what extent they were satisfied with the platforms adopted during the conference.

Survey respondents indicated satisfaction in varying degrees with the following: communications surrounding the conference (81%), level of interaction with other community members (70%), and keynote presentations (95%; Figure 10). There were a small number of respondents somewhat dissatisfied with conference communications (9%) and their interaction with community members (9%; Figure 10).
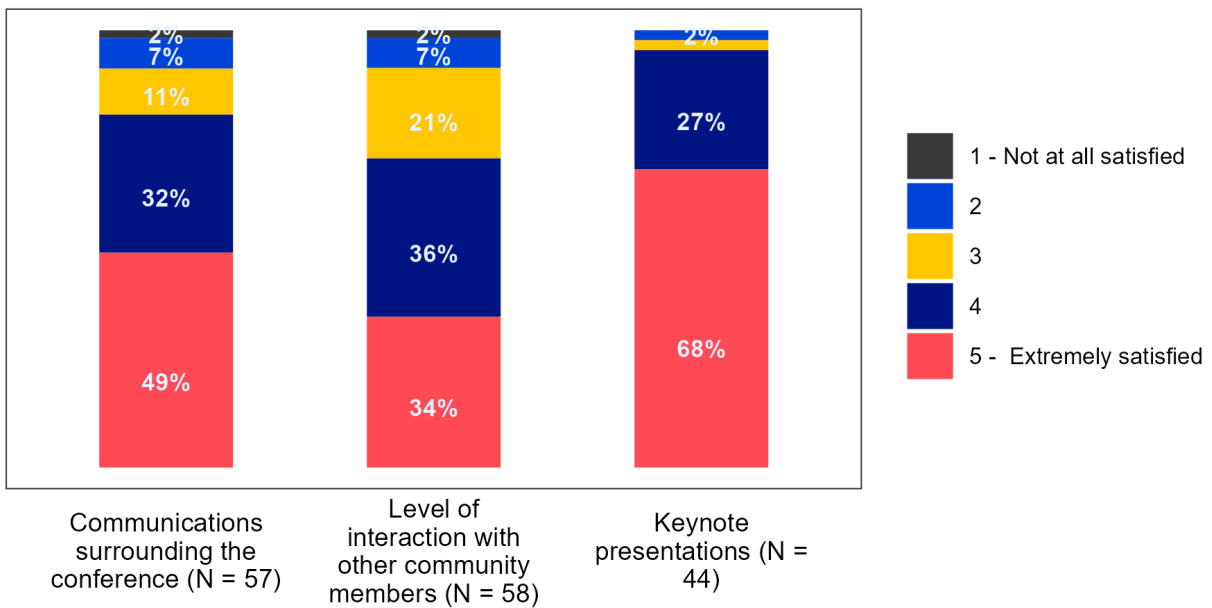
Figure 10. Percentage of respondents (N varies) indicating to what extent they were satisfied with communications, community interactions, and keynote presentations during the conference.

A significant indicator of participant satisfaction is the Net Promoter Score (NPS). This score asks respondents how likely they are to recommend CarpentryCon on a scale of 0 to 10. Attendees scoring from 0 to 6 are labelled *detractors*, and are believed to be less likely to recommend the event and may speak negatively of the organisation. Those who respond with a score of 9 to 10 are called *promoters*, and are considered highly likely to recommend the event and enthusiastic about the organisation. Respondents between 7 and 8 are labelled *passives* and are considered indifferent to the potential of becoming a Promoter or Detractor.

An NPS above 20 is considered favourable and a higher than 30 is great, so we defined our target as at or above 20 (Appendix A). Using this method, the NPS was calculated at 46 (56% promoters - 10% detractors; Figure 11). In 2020, attendees were asked how likely they are to recommend CarpentryCon session overall. This method resulted in a 62 NPS (68% promoters - 6% detractors).
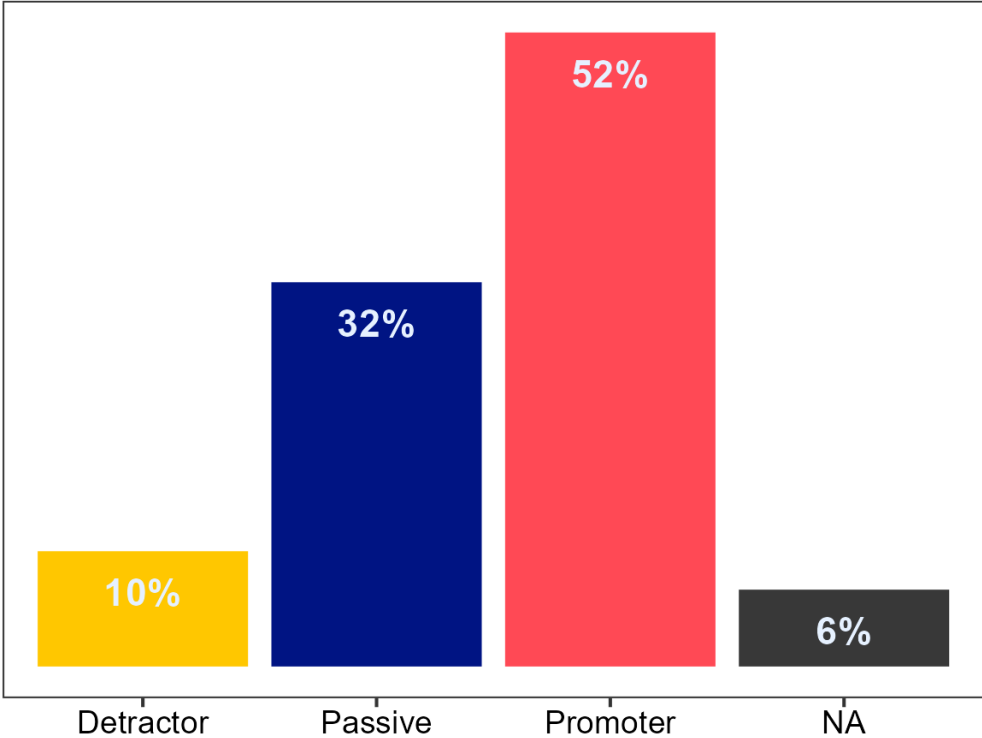
Figure 11. Percentage of CarpentryCon 2022 survey respondents (N=63) who were classified as detractors, passives, or promoters based on their NPS ranking.

Responses to the question "What do you feel was the most useful part of the conference?" pointed to areas of satisfaction. One respondent wrote:

"The discussions on each topic are deep and informative and the notetaking was very useful! I also like the suggestions made by people for how to improve or optimise efficiency. I have bookmarked a lot of pages and websites that were suggested by the community."

Responses to areas for improvement included:

"There were some holes in tech support for the conference that made it hard to participate for those of us unused to The Carpentries and some of the software/tech. Ex 1) told to join the Slack workspace, which I did, but I didn't know how to find the right channel...I'm not sure if this is due to change in Slack or an oversight in how the join link was made. Ex 2) the live transcript for the keynote used a second piece of software separate from Zoom and my laptop screen was not large enough to run both windows... there was also significant lag with the transcription so I eventually gave up and left the session early. It would have been nice to get some recommendations about ""how to get the most"" out of your attendance ahead of time as most of these issues could have been avoided."

"The multi-time zone, two-week event was... confusing. I applaud the commitment and effort for equity and inclusion but it may be worth asking "what was lost" and "what was gained". For me, …what was lost was the ability to make connections and learn about the community. Because I wasn't able to join so many of the sessions, or there were 4-days between the sessions I attended, it felt pretty disjointed."

Recommendations

Based on the findings found in this report and feedback received from members of the Committee and Core Team, we have the following recommendations for improving future events hosted by The Carpentries.

Assess community and Core Team capacity to support events

Before event planning begins, the Community Development Team needs to fully assess the capacity of the community and Core Team to support an event. Doing this will help identify the appropriate scope that builds in contingencies to adjust the event size, considering community engagement and availability of Core Team members. For example, prior to a call for proposals, a decision should be made on how many sessions and the type of sessions that can be adequately supported. This may result in a shorter program with fewer sessions, but it will ensure that those sessions are valuable and impactful for the community. As a member of the broader open science community, this early assessment could also result in the identification of

opportunities to partner with other organisations sharing similar values to host a collaborative event.

The community may also want to consider the value of having CarpentryCon-type programming throughout the year. This would support right-place-right-time programming that could be more accessible and impactful to the community. It would also create less logistical burden during periods of excessive burnout.

Improve CarpentryCon Committee recruitment, onboarding, and communications

Based on feedback from the Core Team and Committee members, we recommend limiting the size of the Committee to no more than ten community members and two primary Core Team liaisons. To support planning across time zones, there should be a Committee East and Committee West that has members located in time zones within the eastern and western hemispheres. Each group would include individuals serving in the following roles: Committee Chair, Communications Lead, Program Lead, Accessibility Lead, and Core Team Liaison.

When onboarding new members, roles and responsibilities will need to be clearly defined and communicated. This is especially important for distinguishing tasks that need to be community-led and those tasks that should be the responsibility of the Core Team. Considerations include: ensuring the event is driven by community needs and interests, what are appropriate contributions for volunteers, and who can access planning and event platforms. It will be especially important to document how decisions will be made to bring further clarity to how Committee members will collaborate. Having a set governance and accompanying volunteer agreement should be considered.

Once onboarded, the Committee needs to identify communication channels to be adopted for synchronous and asynchronous communications. Everyone has different communication preferences (e.g., Slack versus mailing list), but the Committee should work to identify one primary channel to ensure everyone is receiving important updates and announcements. A project management platform should be adopted that provides a detailed timeline with specific deliverables and deadlines. The timeline should be very conservative to allow for flexibility if needed as the event draws near. Members of the Core Team not serving as liaisons should also be brought in early to support relevant activities throughout the planning process. The Committee should also identify opportunities to engage additional community members in planning and implementing the event (e.g., translating communications, creating artwork, and serving as session facilitators).

Provide onboarding support for participants not familiar with the organisation

Almost a quarter (23%) of survey respondents were new to The Carpentries community and comments indicated confusion about how to effectively engage as a conference participant. A question needs to be added to registration, not only the post-conference survey, asking about familiarity with the organisation. For those individuals with limited knowledge, we can direct communications and provide programming that supports community onboarding. This may include having welcome sessions the week before the event begins where individuals can learn more about our values as a community, our Code of Conduct, and our communication channels and have their questions answered. All conference materials will also need to be tailored in a way that assumes people are not familiar with our organisation.

Provide clear next steps for continued community engagement

A large majority of survey respondents (70%) indicated intent to stay engaged with the organisation following the conference. Follow-up communications should provide specific opportunities about how to engage. This will be especially important for those individuals who are new to the community and may need additional support navigating the many volunteer roles offered across the organisation. A session on the final day of the event could provide space for members of the community to host a World Café, a session type where we would create breakout rooms for multiple engagement opportunities that participants could join to learn more about ways to further engage with The Carpentries.

Increase programming in multiple languages

As an international community, it is important that we offer programming that reaches all of our community members, having sessions in multiple languages is one way to do this. This year, community members were able to propose sessions in any language, and individuals were able to request translation services through registration. However, sessions were only proposed in English and Spanish. More can be done to increase proposal submissions and therefore programming, in more languages. Specific recommendations include: sending out major communications in a minimum of three languages, developing a proposal submission form in those same languages, and reaching out to sub-community leaders to recruit session leads and/or host a conference segment for their region.

Increase professional development offerings

A major goal of CarpentryCon is to offer professional development opportunities for our community members. Our program is currently limited by what sessions are proposed by members of our community, and we only had eight proposals submitted in the skill-up category. However skill-up sessions, and breakout discussions were some of our most attended sessions, averaging 23 and 36 attendees, respectively. If programming gaps are identified after the proposal submission process has ended, speakers from other organisations and/or adjacent

communities could be invited to offer sessions on topics of known community interest or importance, or that teach more advanced skills. Depending on the training, it may be necessary to budget for these offerings or require a small registration fee for each one. The Core Team should also consider opportunities to provide skill-up sessions outside of these events that happen only every two years.

Continue and enhance activities that support event accessibility

Many steps were taken this year to improve the accessibility of our event: live closed captioning, hosting the event virtually, repeating sessions in multiple time blocks, recording sessions for later viewing, adding captions in multiple languages to recordings, and offering funds for accommodation requests. These should be continued and prioritised in the event budget. For example, the cost of live closed captioning for all sessions this year was approximately $18,000 USD for 93.5 hours of programming.

Data showed that several accommodations were used by participants even though they had not requested them during registration. Making session materials available in advance, offering live closed captioning and offering translation services supported everyone's attendance at the event. However, it is important to consider the costs of services like these and when they can be offered of the most value to participants, so funds are distributed in the best possible way.

Survey respondents were least satisfied with the translation services offered. There seemed to be challenges with viewing the translations on a separate screen from the Zoom, and there was a significant lag between when the individual spoke and when the translation displayed on screen. Such services need to be tested before the event to improve the conference experience.

Several survey respondents also recommended having in person events in the future. If the event is hosted in person, a virtual option to participate should always be kept to improve accessibility. Regional satellite events, like CarpentryConnects, could also be coordinated at the same time to support building community across scales. There could be a regional host for the satellite event so the culture of the region could be built into a theme, with sessions and videos highlighting the region. Hybrid and satellite events require extensive planning to be successful and equitable so all participants have a similar experience, so a decision about where and when to host CarpentryCon 2024 will need to be made as soon as possible.

Pursue more opportunities for community interaction

Social sessions were primarily led by members of the Core Team, and these events were not well attended averaging 12 participants per session. We should explore different types of networking and engagement offerings, including more regional offerings which were better attended. A conference participant recommended virtual coffee tables where someone could invite any of the organisers or presenters to a one-on-one discussion on a topic of interest to

connect more. Sessions led by the Executive Council would also help members of the community meet them and better understand their role within the organisation.

Increase communications to broaden event engagement and acknowledge volunteer contributions

The community and members of the Core Team should be asked to better support communications surrounding the event to broaden engagement. This includes retweeting posts and acknowledging contributions from the community leading sessions. One participant commented:

> *[Name] made my week when she tweeted about my lightning talk! What a high!*

This year, session leads were asked to provide their social media handles so their sessions could be tweeted about. Sixty-three volunteers signed on to support communications during the event as part of registration, and instructions were sent for doing this. However, there seemed to be few posts using the event hashtag, or tagging session leads by members of the community. Identifying a core group of volunteers to help with this aspect of the event would likely be more successful.

Explore alternative tools to improve participant experience

We adopted platforms already widely used in the community or available through The Carpentries organisation to support this event. Following the accessibility audit, Etherpad was identified as the primary tool to use at all conference sessions, but it had the lowest satisfaction rating among participants. CodiMD was used for some sessions and recommended as an alternative. However, as a Markdown editor, there are issues with cognitive load when using the CodiMD platform. The Carpentries should explore alternative collaborative note-taking platforms that may be more accessible to the community.

Registration for the full program and sessions with an attendance cap was set up in Eventbrite. Those sessions not requiring registration made it difficult for session leads to know how many participants to expect and plan accordingly. A detailed schedule was added to a Google calendar and embedded in the conference website. It included the names of the session leads, an abstract, and information about how to join the session. However, if an individual added sessions of interest to their calendar and changes were made to the schedule, those changes would not update on the individual's calendar. Alternative platforms need to be considered for registration and scheduling to improve the conference experience.

All of the lessons learned and recommendations described in this report will be considered and applied when planning future events hosted by The Carpentries. Please direct any questions or comments to The Carpentries [Community Development Team](#).

Appendices

Appendix A: Metrics and targets for each goal

Table A-1. Metrics and targets for goal 1: to build community

Objective	Activity	Outcome	Metric	Target	2022 Result
To provide networking opportunities that provide community interactions	Offer social and informal meetup sessions	Increased access to opportunities to network with other community members	# of session proposals submitted in this category	A minimum of 5 proposals submitted	6 proposals submitted
			% of total sessions in this category	A minimum of 5% of sessions within this category	18% of sessions within this category
			# of sessions in this category by time block	A minimum of one social session per time block each week of the conference	target met; Table 1
		Participants satisfied with the level of interaction they had with other community members	5-point Likert scale for relevant statement on post survey	75% of respondents satisfied	70% of respondents satisfied
To provide opportunities for community members to co-develop resources	Offer lesson and resource development sprints	Increased access to opportunities for community members to co-develop resources	# of session proposals submitted in this category	A minimum of 5 proposals submitted	4 proposal submitted
			% of total sessions in this category	A minimum of 5% of sessions within this category	18% of sessions within this category
			# of sessions in this category by time block	A minimum of one session per time block each week of the conference	target not met; Table 2
		Increased number of community resources available	# of outputs from resource development sprints	A minimum of one output from each session	Each session had a minimum of one output
To support a growing, engaged, and diverse community	Promote conference	Increase awareness of the event	# of social media posts	A minimum of one post each day of the event	Posts every day except one
			# of retweets	90% of tweets have at least one retweet	97% of tweets had at least one retweet
	Host conference	A growing community	# registered	# registered greater than previous event	+85% greater; Table 4
			# of participants	# of participants greater than previous event	+25% greater; Table 4
			# of social media followers	# of followers grows during promotion and hosting the event	Gained 136 followers
		Increased community engagement resulting from the event	# of social media engagements (retweets, likes, quote tweets, replies) and impressions	Engagement rate (engagement divided by the number of impressions) is equal to or greater than 0.5%	Engagement rate of 1%

Objective	Activity	Outcome	Metric	Target	2022 Result
			5-point Likert scale for relevant statements on post survey	60% of respondents minimally engaged with org. before event plan to stay engaged	80% of respondents
		A diverse community	# of countries represented at the event	Number of countries is equal to or greater than the previous event	+50% greater; Table 4
			% of sessions in languages other than English	10% of sessions held in languages other than English	14% of sessions
Participants satisfied with conference experience	Support CarpentryCon Committee	Community guides event planning	Y/N Program Subcommittee formed to advise on community interest	Program Subcommittee formed	Program Subcommittee formed
	Request session proposals from community	Offer sessions of interest to the community	# of sessions proposed by community that are accepted	Minimum of 15 sessions proposed that are accepted	35 sessions proposed; all accepted
			# of sessions proposed/accepted by community versus # proposed/accepted by Core Team	Minimum of 75% of proposed sessions accepted from community	76% of proposed sessions from community
	Host conference	Participants satisfied with conference experience	# of sessions offered	30 sessions offered (1 session in each of 3 time zones across 10 days)	71 sessions offered
			5-point Likert scale for relevant statements on post survey	Average of 85% respondents satisfied across each statement	Average of 86%

Table A-2. Metrics and targets for goal 2: to offer professional development opportunities of value to the community.

Objective	Activity	Outcome	Metric	Target	2022 Result
To build community member capacity	Offer skill up workshop sessions	Increased access to professional development opportunities for community members	# of session proposals submitted in this category	A minimum of 5 proposals submitted	8 proposals submitted
			% of total sessions in this category	A minimum of 5% of sessions within this category	20% of sessions within this category
			# of sessions in this category by time block	A minimum of two skill up sessions per time block each week of the conference	target met; Table 3
		Community members gain new skills	5-point Likert scale for relevant statements on post survey	50% of respondents indicate that they have gained new skills	67% of respondents
			# of survey respondents answering "what is something you learned through the conference"	50% of respondents list a skill gained	50% listed a skill gained
Participants satisfied with conference experience	Host conference	Conference participants likely to recommend the event and enthusiastic about the organisation	Net Promoter Score (NPS)	NPS at or above 20	NPS = 46

Table A-3. Metrics and targets for goal 3: to foster a diverse and inclusive community.

Objective	Activity	Outcome	Metric	Target	2022 Result
To host an inclusive event	Host conference	Participants agree that the event was inclusive	5-point Likert scale for relevant statements on post survey	85% of respondents agree with relevant statements	Average 87% agreement; Figure 3
To host an accessible event	Support CarpentryCon Committee	Community guides event planning	Y/N Accessibility Subcommittee formed to advise on community accessibility needs	Accessibility Subcommittee formed	Accessibility Subcommittee formed
	Open registration	An accessible event	# of accommodation requests from registration	100% of accommodation requests filled	100% filled
			Y/N accessibility statement included on website	Accessibility statement posted on website	Accessibility statement posted on website
	Host conference	An accessible event	# of sessions within each time block	Similar number of sessions offered in each time block	Table 6
		Participants satisfied with accessibility of event	5-point Likert scale for relevant statements on post survey	85% of respondents agree with relevant statements	Average 93% agreement; Figure 5
To support a growing, engaged, and diverse community	Host conference	A diverse community	# of countries represented at the event	Number of countries is equal to or greater than the previous event	+50% greater; Table 4
			% of sessions in languages other than English	10% of sessions held in languages other than English	14% of sessions
Participants satisfied with conference experience	Host conference	Conference participants likely to recommend the event and enthusiastic about the organisation	Net Promoter Score (NPS)	NPS at or above 20	NPS = 46

Appendix B: Post Conference Survey

Thank you for joining us for CarpentryCon 2022!

We would like feedback on your conference experience to understand the benefits you got from participation and to inform the development of future events. The information you provide will also be used to report back to our funders, the Alfred P. Sloan Foundation and the Gordon and Betty Moore Foundation.

If you have any questions or need any support completing this survey, please contact us at carpentrycon@carpentries.org.

From what time zone did you join the conference?

From what country did you attend the conference?

Prior to attending the conference, how involved were you in The Carpentries? Please select on a scale from 0 (Not at all involved) to 10 (Extremely involved).

Please select how strongly you agree with the following statements: Please select on a scale from 1 (Strongly disagree) to 5 (Strongly agree).
- The Carpentries met my expectations
- Participation in the conference was worth my time
- My personal goals for attending the conference were met
- My contributions to discussions were heard and valued
- I intend to stay engaged with the Carpentries now that the conference is over
- I feel more prepared to serve in my role in the Carpentries community
- The conference provided a welcoming, positive, and supportive environment
- The conference had enough sessions that were convenient for my time zone
- The conference helped me develop new skills

Please provide any comments relevant to your above responses.

Please select how satisfied you were with each of the following components of the conference. Please select on a scale from 1 (Not at all satisfied) to 5 (Extremely satisfied).
- The use of Zoom for streaming sessions
- The use of Etherpad for collaborative note taking
- The use of YouTube for asynchronous viewing of sessions
- Communications surrounding the conference
- Level of interaction with other community members
- Keynote presentations

Please provide any comments relative to your above responses.

Please select the types of accommodations you requested during registration.
- I did not request accommodations
- Funds for mobile data
- Closed captions
- Translation services
- Funds for caregiver/childcare services
- Electronic copies of materials in advance
- Sign language interpreters
- Other accommodations

Please select which types of accommodations you used during the conference
- I did not use any accommodations
- Closed captions
- Translation services
- Electronic copies of materials in advance
- Funds for mobile data
- Sign language interpreters
- Funds for caregiver/childcare services
- Other accommodations

How satisfied were you with the following accommodation: Please select on a scale from 1 (Not at all satisfied) to 5 (Extremely satisfied)
- Electronic copies of materials in advance
- Sign language interpreters
- Closed captions
- Translation services
- Funds for mobile data
- Funds for caregiver/childcare services
- Other accommodations

Please provide any comments relevant to your experience with accommodations.

What do you feel was the most useful part of the conference?

What would you like to see at a future CarpentryCon event?

What is something you learned through your participation in the conference?

How likely are you to recommend CarpentryCon to a friend or colleague?

Please provide any additional comments relevant to your experience as a CarpentryCon participant.

Thanks for providing input on your CarpentryCon experience!

Appendix C: Committee Member Feedback Form

The Core Team would like feedback related to your experience as a CarpentryCon Committee member, so we can continue to improve how we support our volunteers for future events. Providing a response to any of the questions is optional. Thank you again for your support of CarpentryCon and The Carpentries community!

We are collecting and processing personal data collected with this form in accordance with our Privacy Policy (https://docs.carpentries.org/topic_folders/policies/privacy.html).

In what time zone do you currently reside? Please provide your response in UTC (Find your time zone here: https://www.timeanddate.com/time/map).

Which of the following roles did you serve in as a CarpentryCon Committee Member? Select all that apply.
- Committee Chair
- Subcommittee Chair
- Accessibility Subcommittee member
- Communications Subcommittee member
- Program Subcommittee member
- Website Subcommittee member

How much time did you spend serving as a member of the Committee? Try to be as accurate as possible so we can better communicate with future Committee members regarding the time requirement for serving in these roles.

How would you rank your overall experience serving as a member of the Committee? [Linear scale from 1 poor to 5 excellent]

Please select how strongly you agree with each of the following statements relevant to your participation in the Committee. [Options of strongly disagree, disagree, neutral, agree, strongly agree]
- Participation in the Committee was worth my time.
- I understood my roles and responsibilities as a Committee member.
- My contributions to the Committee were valued.
- I received adequate communications during my time as a Committee member.

Please provide any comments relevant to your above responses.

What barriers did you experience as a Committee member?

How can the Core Team improve the experience for future Committee members?

Please provide any additional comments relevant to your Committee experience.

Appendix D: Cross Tab Analysis of Engagement

A cross tab analysis displaying respondents' prior engagement with The Carpentries and their interest in staying engaged following the conference.

Stay Engaged	Previous Involvement											Total
	0	1	2	3	4	5	6	7	8	9	10	
1	–	–	–	–	–	–	–	–	–	–	–	0
2	1	–	–	1	–	–	–	–	–	–	–	2
3	1	1	–	–	1	–	1	–	–	–	–	4
4	4	1	2	–	–	2	2	1	–	–	1	13
5	2	2	1	–	3	5	5	12	6	2	5	43
Total	8	4	3	1	4	7	8	13	6	2	6	62

Appendix E: Cross Tab Analysis of Sessions by Time Zone

A cross tab analysis displaying respondents' agreement with the statement " and the time zone from where they attended the conference.

Time Zone	Enough Sessions Per Time Zone					Total
	1	2	3	4	5	
UTC -8	–	–	–	–	1	1
UTC -7	–	–	2	–	1	3
UTC -6	–	1	–	2	4	7
UTC -5	–	–	1	1	4	6
UTC -4	–	–	1	5	5	11
UTC -3	–	–	–	1	4	5
UTC -1	–	–	–	–	2	2
UTC	–	2	–	–	1	3
UTC +1	–	–	–	1	1	2
UTC +2	–	–	3	3	5	11
UTC +3	–	–	–	–	2	2
UTC +5	–	–	–	–	1	1
UTC +6	–	–	–	1	–	1
UTC +10	–	2	–	–	1	3
Total	0	5	7	14	32	58