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Sodewalking: A toolkit for engaging you in planning and designing urban mobility futures

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A stylized illustration of a city street. The sidewalk is a vibrant pink with a darker pink, cracked pattern. On the left, there are several trees with green, dotted foliage. In the background, there are white buildings with windows and a bus stop shelter. A large tree with a green, dotted canopy is on the right. The sky is light blue with a single white cloud.

Sidewalking

A toolkit for engaging youth in planning and designing urban mobility futures

NAME

cityLAB ^{UCLA}

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TABLE OF CONTENTS

1	ABOUT THE TOOLKIT	1
1.1	WHAT'S IMPORTANT ABOUT YOUTH MOBILITY?	2
1.2	WHAT'S IMPORTANT ABOUT YOUTH ENGAGEMENT?	3
2	PRINCIPLES	4
3	STRATEGIES FOR ENGAGEMENT	8
4	TOOLS FOR ACTION	16
4.1	ROUTE MAPPING	18
4.2	WALKING AUDITS	22
4.3	THICK MAPPING	26
4.4	WALKABOUT	30
4.5	COLLECTIVE MAPPING WORKSHOP	34
4.6	PARTICIPATORY DESIGN WORKSHOP	38
4.7	WALKING TOUR	42
4.8	FEEDBACK SESSION	46
4.9	CELEBRATION	48
5	CASE STUDY	52
5.1	ROUTE MAPPING	56
5.2	WALKING AUDITS	58
5.3	THICK MAPPING	61
5.4	WALKABOUT	62
5.5	COLLECTIVE MAPPING WORKSHOP	64
5.6	PARTICIPATORY DESIGN WORKSHOP	66
5.7	WALKING TOUR	68
5.8	FEEDBACK SESSION	69
5.9	CELEBRATION	70
	ENDNOTES	72

ABOUT THE TOOLKIT

The Sidewalking toolkit supports **youth mobility** and **youth agency** by sharing effective, design-based strategies for engaging young people in envisioning their own mobility futures.

We created this guide to help planners, designers, policymakers, and advocates who are already invested in supporting safe, social mobility options for youth, and who are looking for effective strategies to involve young people directly in planning and design decisions regarding their urban mobility.

The toolkit provides practical guidance for collaborating with youth around issues related to mobility, sidewalks, and the public realm by highlighting effective, actionable insights drawn from our research. It includes four elements:

- The **PRINCIPLES** outline an overarching practice and research orientation toward engaging youth in planning and design for mobility and the public realm, rooted in the value of design for spatial justice.
- The **STRATEGIES FOR ENGAGEMENT** translate the principles into broadly applicable guidance for engaging youth in dialogue and design around mobility, and ideas to consider when planning and undertaking such efforts.
- The **TOOLS FOR ACTION** put the principles and strategies into practice, offering detailed instruments, including workshop formats, design materials, and activity guides, that can be adapted when engaging directly with young people.
- The **CASE STUDY** illustrates all of the principles, strategies, and tools as applied in a recent community-based research project on youth mobility in Los Angeles,¹ highlighting both the process and lessons learned.

The toolkit can be read in sections or as a whole. All materials are designed to be relevant to many different users and flexible enough to be implemented in a diversity of urban contexts. Readers may integrate select strategies and principles, adopt or adapt individual tools, or simply read the case study for inspiration.

We hope this toolkit will inspire new, intergenerational conversations that advance safe, socially vital sidewalks and public spaces that support youth mobility and urban citizenship in diverse communities.

1.1

WHAT'S IMPORTANT ABOUT YOUTH MOBILITY?

For young people in the city, mobility means much more than just getting from A to B. Mobility is a daily practice of movement that facilitates connection to neighborhood destinations as well as to friends and other community members and to the city itself.² Traveling independently has been associated with a host of important benefits for youth, including improved physical health and wellbeing,³ social development and self-esteem,⁴ neighborhood knowledge and engagement,⁵ and sense of place and urban agency.⁶

But in many neighborhoods, the existing built and social environments fail to support young people as they travel in the city by foot, bike, and transit. Poor pedestrian infrastructure resulting from disinvestment in the public realm, high traffic-related injuries and fatalities caused by unsafe road conditions, and fears of crime diminish the travel experiences of many young people.⁷ In some cases, these conditions deter youth from traveling independently altogether (or prompt caregivers to restrict their permissions).⁸

Despite these many challenges, infrastructural and programmatic changes to streets, sidewalks, and other parts of the public realm can meaningfully support young people as they travel independently.⁹ Through place-responsive and user-centered interventions, policymakers, urban planners, and designers are poised to make sidewalks safer and more socially vital spaces for youth in the city. Such positive experiences build urban citizenship, offering young residents a sense of agency and belonging in their cities.¹⁰

1.2

WHAT'S IMPORTANT ABOUT YOUTH ENGAGEMENT?

As young people develop the confidence and capacity to navigate the city, they accumulate first-hand experiences, perceptions, and ideas about their own mobility. But despite this wealth of knowledge, they are rarely engaged in research, planning, and decision-making regarding the mobility issues that directly affect them.¹¹ Existing policy and academic research typically employs quantitative approaches (like surveys) and often engages parents as proxies (instead of working directly with youth).¹² The continued marginalization of youth - both in urban environments and in urban research - limits our ability to understand the complex and varied reality of young people's mobility experiences and to respond effectively.¹³

Urban planners, designers, and policymakers who are tasked with developing infrastructural and programmatic enhancements to support youth mobility have much to gain from engaging young people directly in research and planning efforts.¹⁴ When youth voices are involved, new insights and nuanced perspectives are revealed,¹⁵ analysis and understanding is strengthened,¹⁶ and resulting policies and plans can be more effective.¹⁷

Practitioners and researchers invested in supporting youth mobility need effective, applicable strategies and tools to make collaborative research and decision-making with young people more possible. Creative, youth-centered, design-based approaches that prioritize both research justice and spatial justice can not only help us to better understand, evaluate, and respond to youth mobility needs; these strategies can also help young people to develop the language, capacity, and agency to participate in policy and planning discussions around their mobility futures. Just as cities should support residents as they begin moving independently on sidewalks and streets, so should our research practices engage those same young people with the expectation that their urban participation will continue to grow.

PRINCIPLES



These principles outline fundamental goals of engaging youth in planning and design about their mobility and the public realm, rooted in the value of design for spatial justice.

PRINCIPLES

YOUTH ARE EXPERTS

Youth hold in-depth knowledge and ideas about their urban environments and mobility experiences.¹⁸ Policies, plans, and designs to support their mobility can be more effective, responsive, and just if young people's experiences, perceptions, and needs are integrated into the research that will guide urban transformations.¹⁹

RESEARCH IS RECIPROCAL

Research is not an extractive process, but one that is collaborative, community-based, and justice-oriented. Relationships of respect and reciprocity disrupt conventional power imbalances between researchers and youth participants.²⁰

SIDEWALKS ARE PUBLIC SPACES

Sidewalks are more than spaces for movement that help or hinder mobility; sidewalks are also important public spaces and central to the social lives of urban residents of all ages.²¹ Safety is essential, and sidewalks can do so much more to facilitate social relations and support mobility.

MOBILITY IS AGENCY

Mobility means more than just the ease and efficiency of travel. Mobility is an experiential and embodied practice²² with cultural and symbolic meaning.²³ Positive mobility experiences can help youth develop a sense of place, urban agency, and belonging in the city.²⁴

CONTEXT IS KEY

Age is not the only factor informing mobility experiences; it intersects with other factors of individual and community difference, as well as histories of neighborhood (dis)investment that shape built environment conditions.²⁵ Interventions to support youth mobility are not always easily replicable; they must be responsive to age-based needs and characteristics of this population group, and to the community-based needs and assets of the surrounding neighborhood.

POLICY IS POWER

Policy decisions are the contested result of power relations and struggles between communities, policymakers, planners, and designers. Researchers and practitioners can actively advance the power of youth by supporting their confidence and capacity to participate in policy discussions that directly affect them.²⁶

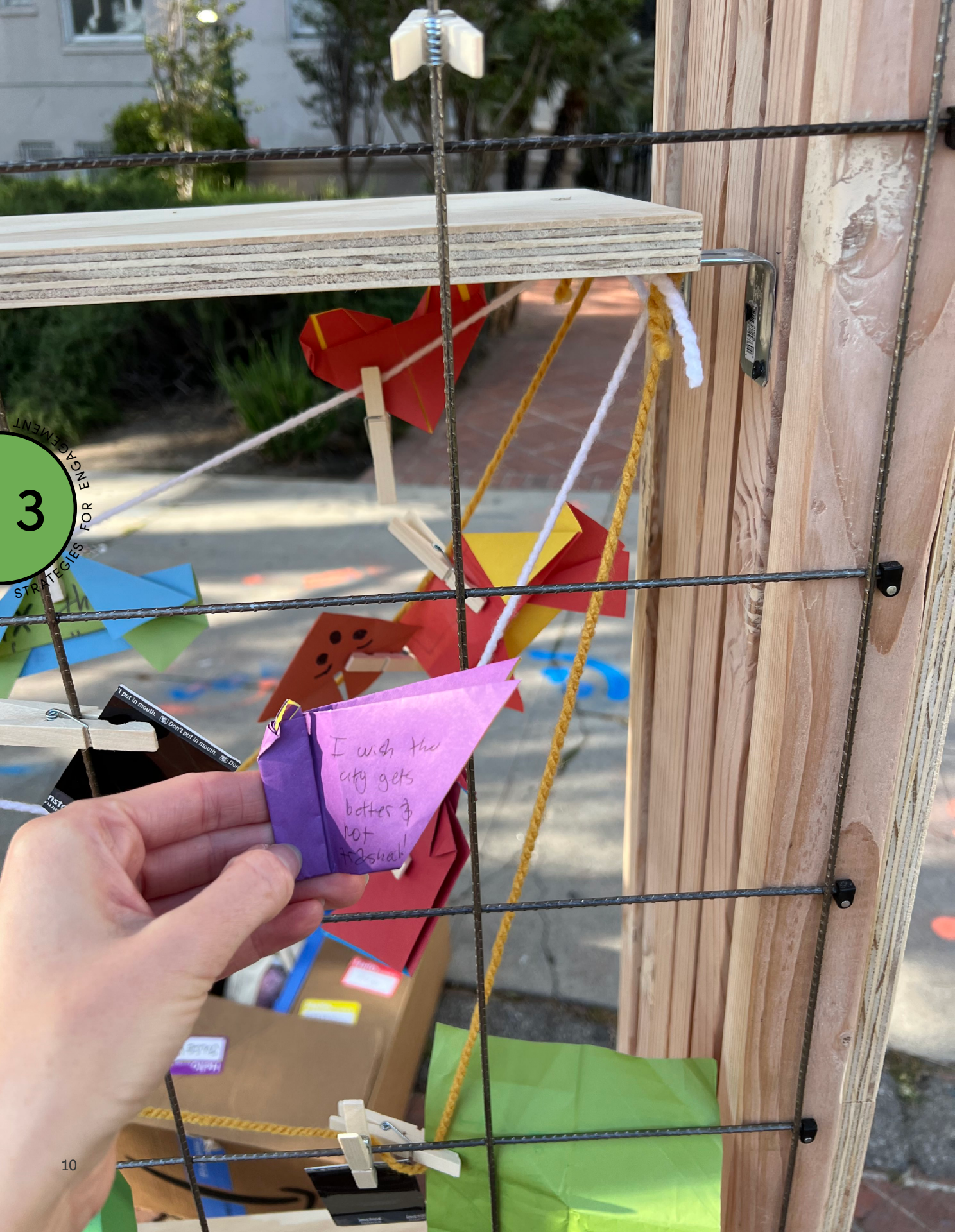
DESIGN IS FUTURITY

Design is a tool to make material the visions, ideas, and desires of youth. Design can change the built environment to improve mobility and is central to envisioning more just mobility futures.²⁷

STRATEGIES FOR ENGAGEMENT



These strategies translate the earlier principles into broadly applicable guidance for researchers and practitioners seeking to engage youth in dialogue and design around mobility.



3.1 BUILD PARTNERSHIPS AND TRUST WITH COMMUNITY INSTITUTIONS

Researchers need to create strong ties with established groups in young people's neighborhoods. Developing strong, sustained partnerships with local institutions - including community organizations, nonprofit groups, and public schools - is key to the success of any research, visioning, or planning effort involving youth. Because local institutions already have deep roots in the neighborhood and connections to young people, they can help gather participants that are already connected to one another and to the issues facing the public realm. This helps researchers forge connections and a necessary sense of trust with youth participants. Consider how to prioritize reciprocity in your partnerships with organization staff and youth participants by offering appropriately scaled monetary compensation, food, certificates of participation, or volunteer labor.

3.2 UNDERSTAND THE COMMUNITY'S HISTORY, ASSETS, AND NEEDS

Any study of youth mobility ought to be situated in the local context of its policy, built history, and social environment. This is because the conditions shaping mobility experiences vary widely, even within the same city, and are shaped by structural factors as well as urban design and social networks. Before engaging directly with youth participants, researchers should gain a strong understanding of neighborhood conditions by reviewing existing research, connecting with community partners, and gathering existing data and information that paints a picture of the local mobility context.

3.3 COMMUNICATE GOALS AND POSSIBLE OUTCOMES CLEARLY TO PARTICIPANTS

When working with youth, particularly those in underserved communities, ensuring that all participants clearly understand the possibilities - and limitations - of the research is an ethical imperative. Activities should encourage imaginative thinking but ground conversations in the realm of feasibility, and should not mislead participants by overstating the potential policy or public realm impacts. While following appropriate research ethics protocols, the project goals and expected outcomes should be clearly communicated when securing youth's informed and enthusiastic assent to participate in the research. Relatedly, identifying the key audience and stakeholders for your project outcomes is important from the outset - whether that is other researchers, policymakers, designers, elected officials, or others.

3.4

TAILOR ACTIVITIES AND MATERIALS TO THE STRENGTHS OF YOUR PARTICIPANTS

Youth hold incredible insights on their own mobility experiences, but are seldom engaged in ways that respect their ideas and agency. All activities - including workshop structures and written and design materials - should be tailored to the unique skill level and capacity of participants; younger participants may feel more comfortable engaging with visual materials like photos and drawings, while older youth may be ready to read brief instructions and record their own notes. Youth of all ages can engage in carefully structured interviews and focus groups. Gauge participants' familiarity with the written and visual language of planning and design, account for age-based capacities and interests, as well as other factors like language, and translate text and adapt materials when necessary.

3.5

SHARE TIME AND SPACE WITH PARTICIPANTS ON THE SIDEWALK

Meeting youth where they already are - in familiar classrooms, public spaces, and trusted community facilities - supports participants' comfort and decreases barriers to participation in research. As much as feasible, conduct activities on the sidewalks and public spaces that are the focus of your engagement. Sharing time and space with research participants in their own neighborhood environments allows deeper reflections on mobility experiences, perceptions, and ideas to emerge, demonstrates the researchers' commitment, and also builds a sense of trust and a collaborative spirit amongst researchers and participants.

3.6

ELEVATE YOUTH VOICES AND VISIONS AT EVERY STEP

When young people are given time and space to think about, share, and express their needs and visions for their own mobility, many insightful and often unexpected ideas emerge. Throughout any research or engagement effort, youth should be positioned as the experts of their own sidewalk experiences. Mobility research involving youth can elevate and center their voices at every step of the research design and reporting. This may include incorporating youth's own words, maps, drawings, and other contributions into both interim analysis and final reports or other outputs.





3.7

EMBED A SPIRIT OF PLAYFULNESS AND DELIGHT INTO ALL EFFORTS

Positive experiences learning about and providing input into urban infrastructure can be formative for young people; these experiences can support curious minds and growing interest that will shape how young people perceive their own capacity to engage in urban issues. Researchers can create such positive experiences for youth participants and enhance engagement outcomes by ensuring that all activities center playfulness and delight. Playfulness and delight can be foundational values embedded into the design of all workshops and materials as well as facilitators' approaches to engagement.

3.8

BUILD IN OPPORTUNITIES FOR FEEDBACK AND ITERATION

Processes involving youth should make special space and time to ensure their voices are heard in visioning, planning, and designing the mobility infrastructures that directly affect them. Furthermore, youth need to feel their ideas are not only being heard, but are understood and are reflected in interim proposals and final project outcomes. Engagement efforts should include multiple, structured opportunities for researchers to share what they have learned and confirm their understanding of these ideas with the young participants themselves.

3.9

CELEBRATE CONTRIBUTIONS, SHARE SUCCESSES, AND REFINE FUTURE EFFORTS

A final celebration at the conclusion of the engagement process can express gratitude to youth participants and demonstrate their contributions to final outputs. This can also ensure youth feel their contributions are valuable and valued, and can share in the success of the project. Efforts involving youth always present opportunities for researchers and practitioners to learn - what worked, what didn't, what's next. Ongoing assessment is necessary for continued impact; evaluate impacts after engagement concludes and refine future efforts.

TOOLS FOR ACTION



These tools put the principles and strategies into practice, offering detailed instruments such as workshop formats, design materials, and activity guides that can be adapted when engaging directly with young people.

4.1

ROUTE MAPPING

LOCATION

Indoors, in a classroom or workshop space

GROUP SIZE

Variable; 5-10 youth per facilitator (up to 40 youth)

DURATION

1 hour **[A]**

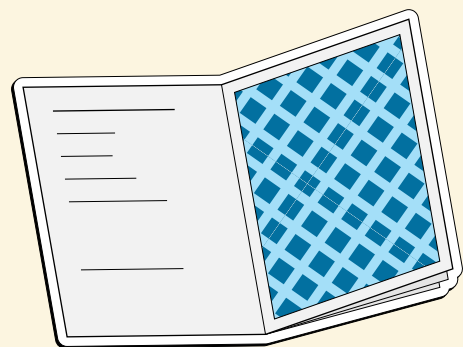
Route mapping is similar to a trip diary; it gathers basic information about youths' independent trips in the city, including origins and destinations, travel modes, routes, accompaniment, detours, and stops. The activity can be repeated over a series of days or weeks and can help identify participants for future research activities, like [4.2 walking audits](#).

DESCRIPTION

In the route mapping activity, participants map their daily independent trips (for example, from school to after-school activities) and respond to a prepared questionnaire about their trips.

PURPOSES

1. Collect basic information on participants' independent travel behavior in the city.
2. Determine the participants for the following research activity, [4.2 walking audits](#).



READY-MADE MATERIALS

- Markers and pens

CUSTOM MATERIALS

- Route mapping workbooks (one for each participant): Prepare a route mapping workbook that includes an initial questionnaire for participants' basic demographic information, and a basemap of the neighborhood area for participants to map each trip accompanied by a questionnaire about each trip with information relevant to your research (for example, travel mode, stops, accompaniment, and unexpected events). **[B]**
- Large format route mapping workbook (one): Print a large version of the route mapping workbook to fill out together as an example during the workshop.

WORKSHOP OUTLINE

1. **Welcome & introductions (5 min)**
 - a. Introduce yourself and the study/project **[C]**
 - b. Introduce the route mapping activity
 - "We've created these workbooks for you, and we want to gather your thoughts, ideas, and experiences about walking in the neighborhood. You walk and take the bus and travel around the neighborhood, so you know it best - you are the experts."
 - c. Conduct oral assent process **[D]**

[A] To collect information about how participants' trips change over time, we recommend conducting the route mapping activity multiple times over several weeks with the same group of participants.

[B] In the workbook, provide multiple copies of the basemaps and trip questionnaires so that participants can record multiple trips over the course of several weeks.

[C] If this is your first time engaging with the youth participants, consider holding an introductory session with them a week prior to the route mapping workshop. At this first session, introduce your study/project, build rapport with the participants, and engage them in a fun and low-stakes activity, such as a cognitive mapping exercise, to familiarize them with basic mapping tools and language.

[D] Typically, research involving youth participants requires informed consent from their parents/guardians. However, in addition to this, a separate youth assent process is important because it gives young participants themselves the opportunity to express their willingness to participate in research and shows respect for their autonomy. In the youth assent process, descriptions of the research activities should be age-appropriate and accessible.

4.1 ROUTE MAPPING

2. **Workbook introduction (10 min)**
 - a. Distribute and introduce the workbooks
 - “We made these workbooks for you to record your experience traveling from [insert trip origin and destination, e.g. from school to after-school activities].”
 - “On the front, please write your first name and last initial.”
 - “Then, on the next page, please write your basic information, including your age and grade and [any other demographic information relevant to your study].” **[E]**
 - b. Walk around as participants fill out the pages and offer assistance
3. **Route mapping (20 min)**
 - a. Introduce the route mapping instructions. Sample instructions:
 - “We want to know all about your journey today.”
 - “On page [insert page number], tell us about how you traveled from [origin] to [destination] today. We are especially interested in the portions of that trip that you walked.”
 - “First, fill in the questionnaire to tell us about how you traveled today, and with whom.”
 - “Next, draw your route on the map, using different colors to show whether you traveled by walking, on the bus, on a bike or scooter, or in a car. There are instructions on the page, including which colors to use for each type of trip.”
 - “If you made any stops along the way - to get some food, to hang out with friends, to go home - please mark those with a circle on the map, and write a little description on the map of where you stopped and why.”
 - “After you draw your route on the map, we want to know if there was anything interesting or unusual about your trip today. Did you take a different route or make a new stop? Did you run into a friend along the way? Did you see something unpleasant or scary? Write in your workbook about what you noticed.”
 - b. Demonstrate how to complete the questionnaire and map for an example trip, using the large format route mapping workbook
 - c. As participants work on mapping their routes, walk around, comment on their maps, and offer advice and feedback

4. **Share out (20 min)**
 - a. Go around the room and ask participants to share their maps
 - “Please show us your map and tell us about your trip today. How did you get to [destination], what did you notice along the way, and was it a typical trip for you?”
 - b. As participants share their maps, ask follow up questions, make encouraging comments, and offer feedback on how participants could enhance them. Sample follow up questions for share out:
 - “How long did your trip take?”
 - “Did you walk, take the bus, scooter, or use another form of transportation?”
 - “Did you travel alone or with a group? Could you show this on your map?”
 - “Is this your usual route, or did you take a different route today?”
 - “What did you notice on your trip today? Could you show this on your map?”
5. **Wrap up (5 min)**
 - a. Thank participants for their time and engagement
 - b. Ask participants to independently record their routes over the next several weeks (if applicable)

NEXT STEPS

This activity can be repeated (for example, every day for a week) to gather information about trips over time. Once participants understand how to use the workbook, facilitators may not need to be present for subsequent activities. After completing the route mapping activity, review the workbooks and analyze the data (using simple descriptive statistics or maps) to identify and describe patterns in the data. Use this data to identify participants for the 4.2 walking audits, with the goal to select participants whose trips exhibit different characteristics that yield variety in trip length, route, mode, stops, and accompaniment (or based on the characteristics that are most relevant to your study). **[F]**

[E] Depending on the type of route you are asking participants to map, you can also collect data about their trip origins and/or destinations. For example, if you are mapping trips from various schools to a shared after-school location, you can ask participants to mark their school location on a map provided in the workbook.

[F] We recommend entering data from the workbooks into a spreadsheet to analyze the following data points: age, gender, travel mode, accompaniment, stops. We also suggest mapping the participants' routes on one combined map to identify those segments of the street network and their sidewalks most highly traveled by the youth. See 4.3 thick mapping and Nelischer, C., Cuff, D., & Loukaitou-Sideris, A. (2023). *Pathways to Autonomy: Supporting Youth Independent Mobility in Westlake, Los Angeles*. Los Angeles: cityLAB-UCLA. <https://escholarship.org/uc/item/1v368kh>

4.2 WALKING AUDITS

LOCATION

Along the participant's typical walking route +
Indoors in a quiet space at destination

GROUP SIZE

1 youth per 2 facilitators

DURATION

Varies depending on the participant's route

Walking audits allow researchers to travel alongside youth on their typical journeys in the city, and to capture youths' perceptions, observations, and ideas about their independent trips in their own voices, in real time and in situ.

DESCRIPTION

Walking audits are one of the most informative means to understand youth perceptions and experiences. In the walking audit, facilitators travel with a participant along their typical independent trip route while asking them to describe what they are seeing, experiencing, and feeling. In a post-walk interview, facilitators invite participants to reflect on the walk they have just completed and on their experiences of independent travel, more broadly.

PURPOSES

1. Capture youths' in-depth, place-based, and real-time perceptions, observations, and ideas about their independent trips in their own voices.
2. Identify common themes emerging from youths' independent travel experiences, which can inform policy and design propositions to improve youth mobility.

READY-MADE MATERIALS

- Markers and pens
- Clipboards
- Sticky notes
- Digital photo device
- Audio recording device
- Loaded transit card (if taking transit)



CUSTOM MATERIALS

- Walking audit worksheet: Prepare a basemap for facilitators to mark participants' routes and take field notes.
- Post-walk mapping worksheet: Prepare a basemap for participants to map their routes and write their responses during the post-walk interview.

WORKSHOP OUTLINE

1. Pre-walk logistics

- a. Work with each participant and their caregiver(s) to determine a meeting time and place (for example, at the front door to the school when the school day ends) **[A]**
- b. Match each participant with a minimum of 2 facilitators
- c. Arrive at the designated meeting spot at least 15 minutes before the designated meeting time and wait for the participant **[B]**

2. Oral assent

- a. After the participant arrives, introduce yourself and conduct oral assent process **[C]**

3. Introduction to activity

- a. Introduce the walking audit activity
 - "Now that we know your route from [origin] to [destination], we want to understand more about your experience moving around the neighborhood and what you see, feel, and think along that route. This activity is called a 'walking audit.'"
 - "We will start by walking with you along your typical route, including any stops you typically make, and ask you to explain what you are seeing and experiencing. We may ask you some follow up questions. We'll record our conversation along the walk and take notes, and you can take photos of spots along the route that you find important."
 - "We'll end our walk at [destination]. There, we'll sit down and ask you to reflect on the walk and the photos you took, and describe more about what you remember about that experience."
 - "If you have any questions along the way, don't hesitate to ask."

[A] We recommend having a backup contact method such as a teacher's name, participant's phone number, or caregiver's phone number.

[B] Use a special t-shirt, placard, or other visual identifier to announce yourself to the participant, if needed.

[C] Typically, research involving youth participants requires informed consent from their parents/guardians. However, in addition to this, a separate youth assent process is important because it gives young participants themselves the opportunity to express their willingness to participate in research and shows respect for their autonomy. In the youth assent process, descriptions of the research activities should be age-appropriate and accessible.

4.2 WALKING AUDITS

4. Walking route

- a. Begin walking together along the participant's typical route and audio recording. One facilitator interacts with participant while the other takes notes and records
- b. As you walk, ask the participant to narrate the route - what they see, experience, feel, like or dislike. This will include all stops along the typical route
- c. Prompt the participant to expand on observations as needed, using the following potential questions:
 - "Describe the street and sidewalk for me. How does it make you feel?"
 - "Why do you choose this street over others?"
 - "What about walking here do you enjoy or not enjoy?"
 - "Are there spaces around here where you avoid walking? If yes, why?"
- d. Based on narration from the participant, encourage them to take photos of important sites along the route - including landmarks, spaces of enjoyment, spaces of fear or discomfort, or any other notable elements. Photo prompts may include:
 - "That's interesting. Should we take a photo of that?"
 - "Can you point to what you're describing, so we can take a photo?"
- e. Throughout, mark the route on the walking audit worksheet, noting important sites with numbers, and recording field notes on a chart with corresponding numbers

5. Post-walk interview

- a. After arriving at the destination, move to a quiet room for the post-walk interview and begin audio recording. One facilitator interacts with participant while the other coordinates materials, takes notes, and records

- b. On the post-walk mapping worksheet, ask the participant to draw out the route just traveled and label key experiences they recall from the walk. Potential prompts:
 - "What things in particular do you remember from the walk?"
 - "How did you feel along the route? Where did you feel most safe? Most unsafe?"
 - "Were there any situations or parts of the walk you found stressful? Why?"
 - "What did you like/dislike seeing or experiencing? Is this usually part of your route?"
 - "What about walking at night? Does your route change when it's dark out? Do you take extra precautions?"
 - "Are there areas that you avoid or never walk through? Why?"
 - "What else stood out on your walk?"
- c. Ask the participant to describe the photos taken on the walk and expand on their importance **[D]**
 - "Please share with me any photos you may have taken. What did you photograph and why?"
 - "Remember this photo? Can you tell me more about it?"
 - "What is important about this space?"
 - "Can you describe more about what is happening in this photo?"
- d. As the participant discusses the route, encourage them to draw and write responses directly on the post-walk mapping worksheet

6. Wrap up

- a. Thank the participant for their time and engagement

NEXT STEPS

In pairs or groups of facilitators, review the data from the walking audits, including audio recordings from both the walks and the post-walk interviews, facilitators' walking audit worksheets, participants' photos, and participants' post-walk mapping worksheets. Identify common themes emerging from the data.

[D] By reviewing the participant's photos and asking follow up questions, you can further capture their ideas and intentions in their own voice, avoiding the risk of misinterpretation associated with a researcher independently reviewing and interpreting participants' photographs.

4.3 THICK MAPPING

GROUP SIZE
4-6 researchers

DURATION
1 to many hours

In youth-centered research, thick mapping is a particularly effective tool to analyze and synthesize complex information while retaining the voices and perspectives of youth. Thick mapping is a cartographic method in which layers of qualitative and quantitative data representing empirical data as well as personal experiences, narratives, and ideas are combined onto a single map of a specific geography.²⁸ Once “thickened,” the map offers a new representation of urban space that reveals unexpected relationships between perceptual, social, and environmental conditions. A thick map is both spatial and social, historical and projective, and reflects personal narratives as well as ideas about improvements.

DESCRIPTION

In thick mapping, researchers assemble existing data about the neighborhood and quantitative and qualitative data gathered from research activities. For example, data from the [4.1](#) route mapping and [4.2](#) walking audit activities are layered onto a single map that shows existing neighborhood data. This reveals relationships between neighborhood conditions and participant observations and experiences, and suggests avenues and interventions for enhancing youth independent mobility. **[A]**

PURPOSES

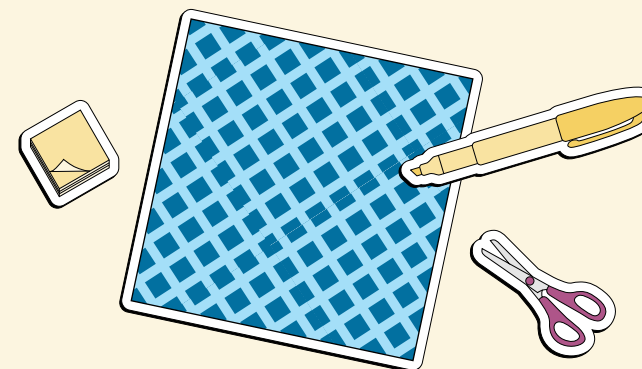
1. Analyze and synthesize information gathered from several different research activities while retaining the voices and perspectives of the youth participants.
2. Identify key sidewalk sites where pilot or permanent interventions would be especially impactful in supporting youth mobility and sidewalk safety.

READY-MADE MATERIALS

- Markers and pens
- Scissors
- Stickers
- Tape
- Sticky notes
- Tracing paper

CUSTOM MATERIALS

- Printed photos taken by participants and/or facilitators during the [4.2](#) walking audits
- Basemap: Print a basemap that shows the main neighborhood area participants traveled through on their trips. Consider incorporating existing neighborhood information into this basemap (see approach 1 below).



[A] While thick mapping is outlined here as a process for researchers to analyze data, the basic principles can also be adapted for activities that directly include youth (see [4.5](#) collective mapping workshop for an example).

4.3 THICK MAPPING

SUGGESTED APPROACHES

This list includes suggestions for how you might approach layering the information gathered from the youth participants, rather than a fixed series of steps to follow. **[B]**

1. **Collect and map existing, publicly available, open source data about the neighborhood onto a basemap**
 - a. Data to map could include: street networks, bus and rail stops, parks, pedestrian-vehicle collisions, bicycle-vehicle collisions, vehicle speed limits, clean streets scores, violent crimes by census tract
 - b. Experiment with combining this data into a single, composite map (for example, using GIS) that shows the relationship between these variables and their impact across the neighborhood
2. **Layer participants' routes onto a basemap that includes existing neighborhood information**
 - a. You can use different color lines for each travel mode such as walking, bus, car, scooter/bike, etc.
 - b. You can vary the line widths of the routes to indicate those segments of the street network and their sidewalks most highly traveled by the youth
3. **Create a map layer for each 4.2 walking audit participant that includes their route, observations, and photos**
 - a. You can map each participant's walk on its own layer of tracing paper, which allows for the various walks to be layered to visualize overlaps and points of intersection and conflict
 - b. Throughout this process, critically discuss the maps in the group
4. **Add all participant observations onto the basemap, color coded green for positive and red for negative**
 - a. You can also consider categorizing participant observations into those related to the built environment vs. social environment
 - b. As you consolidate all participant observations, identify places where there is a high instance of positive, negative, or mixed observations, and analyze the relationship between these areas of concentrated observations and existing neighborhood conditions on the map

5. **Conduct your own site observations, and compare them to those of the participants**

- a. After identifying sidewalk segments with dense concentrations of observations, visit the segments to conduct additional site observations and take additional photos
- b. Compare your observations and photos to those of the participants to consider how youth might experience and perceive the sidewalk space differently

NEXT STEPS

Ask young participants to reflect on the thick map(s) and gather feedback. Analyze the thick map(s) to identify key sidewalk sites where pilot or permanent interventions would be especially impactful in improving the sidewalk as a safe, pleasant, social space for youth. These sidewalk sites can serve as the focus of further research activities. Themes identified from the thick mapping can also inform the design of future sidewalk interventions.

[B] Many of these thick mapping approaches can be undertaken by hand (with printed materials, stickers, sticky notes, etc.) or digitally (with software such as Adobe Illustrator).

4.4

WALKABOUT

LOCATION

Indoors (recommended) +
Sidewalk site

GROUP SIZE

2-4 youth per facilitator

DURATION

1 hour

The walkabout invites youth to explore and traverse the key sidewalk sites identified through previous research (for example, 4.3 thick mapping), yielding additional, more detailed observations about how they perceive and experience this particular sidewalk space in real time.

DESCRIPTION

In the walkabout activity, small groups of participants walk a selected sidewalk site with a facilitator and record their observations of the built and social environments on individual basemap workbooks. **[A]**

PURPOSES

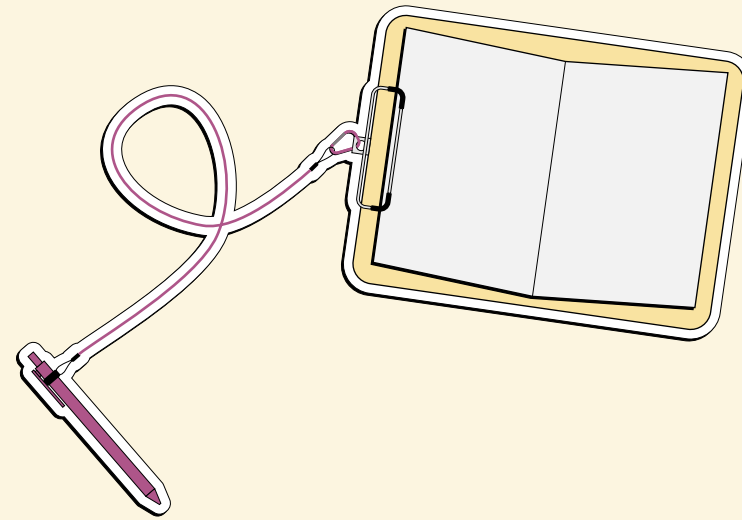
1. Allow participants to explore and familiarize themselves with the sidewalk site.
2. Document participants' individual observations and perceptions of the sidewalk site's built and social environment features.

READY-MADE MATERIALS

- Clipboards with pens and small red and green stickers (to mark negative and positive observations)
- Instant cameras with extra film and batteries **[B]**

CUSTOM MATERIALS

- Basemap workbooks (one for each youth and facilitator): Prepare basemap workbooks showing the sidewalk site that will be explored in the walkabout. Divide each sidewalk site into stops of manageable sizes and number each stop in the workbook. **[C]**
- Large format basemap (one): Print a large version of the basemap to demonstrate how to record observations.



WORKSHOP OUTLINE

1. **Welcome & introductions (10 min)**
 - a. Introduce yourself and the project/activity
 - b. Participants introduce themselves
2. **Map demonstration (5 min)**
 - a. Using the large format basemap, explain the plan and elevation views of the sidewalk site shown **[D]**
 - b. Introduce the prompts (tailored to your research interests) and demonstrate how to record observations on the basemap. Sample prompts:
 - "What do you like about this space? Place a green sticker on that space on your map and write why."
 - "What would you like to change about this space? Place a red sticker on that space on your map and write why."
 - "Choose something to photograph!"
 - c. Invite questions
3. **Form groups & distribute materials (5 min)**
 - a. Help participants form groups of 2-4 with each facilitator
 - b. Hand out clipboards with basemap workbooks, stickers, and pens to all participants

[A] For activities 4.4 walkabout through 4.9 celebration, we recommend working with the same overall group of youth participants so that they can see how their observations, ideas, and desires are translated into design or programmatic sidewalk interventions.

[B] We recommend instant cameras (like Instax or Polaroid), since it can be exciting for the participants to immediately see the photos they've taken. However, if instant cameras are not accessible, you can use disposable cameras and bring the developed photos to the participants at the next research activity.

[C] We recommend showing both the plan (top) and elevation (side) views of the sidewalk site in the basemap (see images on pages 62-63 for examples). Some elements of the sidewalk will be more visible in plan view (for example, planting beds), while others will be more visible in elevation view (for example, lampposts). The different views offer multiple ways for participants to correlate locations between the sidewalk and the basemap and help younger participants and those without strong map reading skills to better understand the materials.

[D] You can use 3D objects, such as a model car or cocktail umbrella, to help explain the relationship between the plan and elevation views shown in the basemap.

4. **Walkabout (30 min)**
 - a. Travel with groups to the first stop of the sidewalk site, and point out the stop number and location on the basemap
 - b. Run through each prompt, observing and encouraging participants to apply stickers to their maps and record their observations and explanations
 - c. Ask participants to find something to photograph, suggesting it could be something they either like or dislike, and help them use the camera. Participants can either affix their photos directly to their maps, or the facilitator can keep the photos for future research activities **[E]**
 - d. As participants record observations, you can add additional prompts:
 - “What do you think about [fill in something specific to the stop]?”
 - “Don’t worry about whether something is feasible to change, just put down anything that is coming up.”
 - “You mention that you don’t like [trash, broken sidewalk, etc.]. Do you want to add a red sticker there or take a picture?”
 - “What are you seeing, hearing, or even smelling?”
 - “How do you feel right now on this walk?”
 - “What thoughts are going through your head as we walk? Do you have memories about this place?”
 - e. Repeat for each stop **[F]**
5. **Wrap up (10 min)**
 - a. Gather all groups and collect basemap workbooks
 - b. Thank participants and preview the next research activity

NEXT STEPS

After the walkabout, review the workbooks to identify shared themes and areas of the sidewalk site with concentrated observations. These can be discussion topics during the next research activity, the [4.5](#) collective mapping workshop.

- [E]** Allowing the participants to take a few photos of themselves and their friends to take home can be a fun way to engage them in the activity and help them practice using the cameras.
- [F]** If you are studying a larger sidewalk site, you may wish to assign groups to address only a smaller segment.

4.5

COLLECTIVE MAPPING WORKSHOP

LOCATION

Indoors, in a classroom or workshop space

GROUP SIZE

4-8 youth per 2 facilitators

DURATION

1 hour

The collective mapping workshop guides youth to reflect on their sidewalk observations, compare them with those of their peers, identify shared opinions, ideas, and concerns about the sidewalk sites, and identify specific areas of interest for future sidewalk interventions. Collective mapping gives participants another opportunity to reflect on their mobility, but also, as with 4.3 thick mapping, to interpret their neighborhood experiences with their peers.

DESCRIPTION

In the collective mapping workshop, participants reflect as they report their experiences from the 4.4 walkabout and their knowledge of the neighborhood, compile individual observations collected during the 4.4 walkabout onto large collective maps, and identify commonly held opinions, interests, and needs for the sidewalk site.

PURPOSES

1. Discover common themes shared by participants, building on their earlier observations and perceptions of the sidewalk site.
2. Encourage collective dialogue between participants about their experiences and perceptions of the sidewalk, including similar and different observations.
3. Identify specific areas of interest for potential sidewalk interventions.

READY-MADE MATERIALS

- Markers and pens
- Stickers, including red and green
- Audio recording device **[A]**

CUSTOM MATERIALS

- Individual basemap workbooks, completed by each participant during the earlier 4.4 walkabout activity, including each participant's photos taken during the walkabout **[B]**
- Large format basemap (one for each group): Print a large version of the basemap for each group to compile their observations.

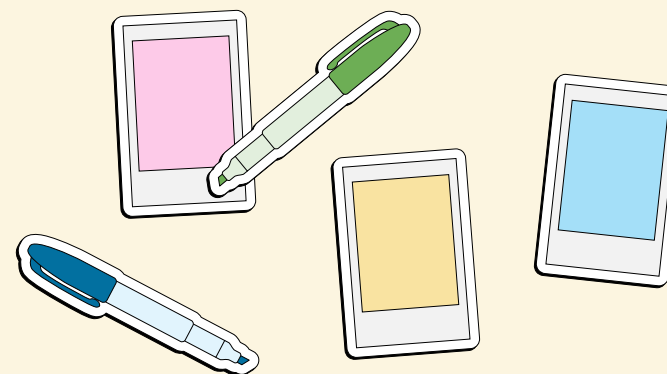
WORKSHOP OUTLINE

1. **Welcome (5 min)**
 - a. Review project and previous activities
 - b. Introduce the collective mapping workshop
 - "Together, we're combining what we each gathered last time onto one shared map."
 - "At the end, we'll share what similarities and differences you notice in your observations."
2. **Settling into groups (10 min)**
 - a. Divide into groups of 4-8 youth with 2 facilitators. One facilitator leads the activities, while the other takes notes **[C]**
 - b. Return individual workbooks and photos taken during the walkabout to each participant
 - c. Inform participants that the workshop will be recorded for note taking purposes
 - d. Participants introduce themselves

[A] We recommend audio recording this workshop, as the recording can capture portions of the conversation that are not recorded directly as text on the maps. Make sure to be transparent with the participants about how the recordings may be used, such as for note taking purposes or future distribution.

[B] Consider "packaging" each participant's workbook and photos into a neat bundle with their name on the front that is exciting for them to receive, and shows respect for their previous contributions and ideas.

[C] If your group is larger and/or if you are studying a larger sidewalk site, you may wish to split participants into smaller groups and assign groups to address only a smaller segment.



4.5 COLLECTIVE MAPPING WORKSHOP

3. **Mapping (30 min)**
 - a. In small groups, ask participants to place their photos on the collective map and share with the group why they took that photo
 - “Let’s go around the circle to look at the photos you took last week and show on the map where they were taken. As you put them on the map, please share why you chose to take that photo and describe your feelings or thoughts about it.”
 - b. Prompt participants to record their written observations from their individual workbooks on the collective map, with green stickers for positive observations and red for negative
 - “What is an area or a specific feature someone liked here? Look at your individual maps from last week or use the photos that have already been placed on the map. Add a green sticker to the large map and write what you liked.”
 - “Does anyone else have the same place or thing on their map? Go ahead and put another green sticker there, so we have a sense of how many people noticed it.”
 - “Does anyone have a different feeling about that place or thing?”
 - “Who has something else they liked in this space?”
 - c. Repeat prompts until all photos and written observations have been added to the collective map. Throughout, ask participants to point out any patterns they are seeing (e.g. spaces with many clustered observations, participants with similar or different perceptions of the same space, common themes emerging from observations)
 - d. If time remains, encourage participants to add anything else they’re thinking about to the collective map
4. **Reflections and decisions (10 min)**
 - a. Initiate collective decision making regarding important areas for potential sidewalk interventions
 - “Where do you see the most concentrated red stickers? Based on our conversations, what areas would you most like to see change?”
 - “Please circle those areas on the map.”
 - “Where do you see the most concentrated green stickers? What do you like about these spaces and what would you like to see more of?”

5. **Share out and wrap up (5 min)**
 - a. (If separated into smaller groups, ask a volunteer from each group to share themes and areas of interest with the larger group)
 - b. Thank participants and preview the next research activity

NEXT STEPS

Review the collective maps and audio recordings for shared themes and specific areas of interest for potential sidewalk interventions. Focus on these themes and areas in the next research activity, the [4.6](#) participatory design workshop. Compare participant driven collective maps with the thick maps that researchers created.

4.6

PARTICIPATORY DESIGN WORKSHOP

LOCATION

Indoors, in a classroom or workshop space

GROUP SIZE

2-3 youth per facilitator

DURATION

1 hour

The participatory design workshop invites youth to select some positive models from existing precedents and imagine their own desired infrastructural and programmatic interventions or changes to improve the sidewalk as a safe, social space. Participants also articulate preferred experiential qualities along the sidewalk site. Together, these can inform the design of site-specific interventions that address sidewalk challenges identified during site exploration and documentation.

DESCRIPTION

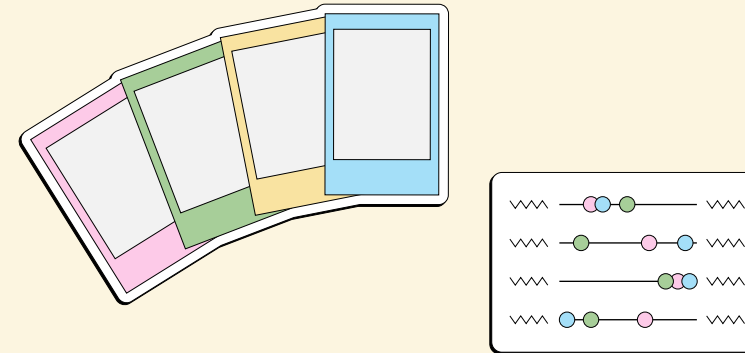
Based on insights gathered from the [4.4](#) walkabout and [4.5](#) collective mapping workshop, participants select desired interventions for specific locations along the sidewalk site and indicate their preferences for experiential qualities on the sidewalk.

PURPOSES

1. Understand the relationship between identified sidewalk challenges and assets and participant preferences for future improvements and new spaces to enhance the sidewalk.
2. Inform the design of site-specific interventions that improve mobility for youth.

READY-MADE MATERIALS

- Markers and pens
- Stickers
- Audio recording device **[A]**



CUSTOM MATERIALS

- Large format basemap: Modify the basemaps used for the [4.4](#) walkabout and [4.5](#) collective mapping workshop to indicate specific areas of focus for potential sidewalk interventions (e.g. by circling key areas). Near each of these focus areas, add a series of sliders that represent various experiential dichotomies. **[B]**
- Suite of sidewalk interventions: Prepare a deck of cards or similar format, with each card showing an image and brief description of a possible physical or programmatic change to the sidewalk that could be implemented in the area of focus. **[C]**
- Original or scanned collective maps from the [4.5](#) collective mapping workshop

WORKSHOP OUTLINE

1. **Welcome (10 min)**
 - a. Review project and previous activities
 - b. Introduce participatory design workshop
 - “This week, you will consider how to address some of the challenges you identified along the sidewalk. From this set of cards, you will select what kinds of changes you’d like to see on the sidewalk, building on the ideas you already shared.”
 - “You’ll also share how you want these spaces to feel, and how we’d categorize different ideas.”
 - c. Inform participants that the workshop will be recorded for note taking purposes
 - d. Divide into groups of 2-3 youth with each facilitator

[A] We recommend audio recording this workshop, as the recording can capture portions of the conversation that are not transcribed directly onto the maps. Make sure to be transparent with the participants about how the recordings may be used, such as for note taking purposes or future distribution.

[B] Sliders invite participants to indicate their preferred experiential quality by placing a dot at any point along a line between two poles of opposite words that represent equally desirable but distinct environmental qualities of a space. Consider using words that are easily understood by or explained to youth, such as open vs. cozy, active vs. passive, social vs. independent.

[C] Interventions may include infrastructural elements, like seating, artistic transformations, like sidewalk murals, or programmatic changes, like food vending. Gather many options for interventions, based on the goals and constraints of your project. Interventions presented should be projective and inspirational, but also practical and implementable. Consider categorizing intervention cards into different types (e.g. activities, furniture, art), and color coding each type, similar to trading card games. You can also make blank cards for participants to write or draw their own ideas. We recommend 20-50 cards.

2. Participatory design activities (40 min)

- a. For each sidewalk space, review the basemap and summarize the observations, themes, and specific areas of focus from previous research activities
 - “Based on what you shared with us, we translated those areas onto this map below.”
- b. Conduct steps 1 and 2 outlined below, then each group rotates to the next stop and repeats the steps for each stop

Step 1: Cards of possible sidewalk interventions

- a. Introduce participants to deck of cards and give them time to look through the interventions
 - “In this deck, each card features an example of a change we could make to the sidewalk, including physical features like benches and shade, as well as activities and programs to support the space.”
- b. Prompt participants to place cards on the basemap, in locations corresponding to their needs and ideas, and ask them to share why they chose those cards
 - “Once you’ve looked through the deck, you can put the ones you’d most like onto the map, in the place you’d like to see it.”
 - “Which type of change would you be most interested in? You can start with activities, furniture, or art and then choose from that category.”
 - “What was the thing you most wanted to change in this space? Is there an example in the deck that feels like it would be good for that?”
 - “Is there an example in the deck that just seems really interesting, and can you imagine it being something that would make the sort of change you’re interested in?”
 - “Great, go ahead and put it on the map. What about this are you interested in?” **[D]**
- c. Participants can add cards to the map or add stickers to support cards that have already been placed **[E]**

Step 2: Sliders that capture how participants want the space to feel

- a. Introduce participants to the sliders and the experiential qualities represented
 - “Now that we’ve talked about the examples and types of changes, we’re going to talk about how we want this space to feel.”
 - “Each of these (point to map) is basically a scale, and you’re going to vote on the scale by placing a sticker next to how you’d most like this area to feel. We’ll go through each one, talk about what it means together, and then everyone will put a sticker.”
 - “For example, starting with open to cozy, you’d put a sticker here if you want it to be entirely open, here for entirely cozy, here for exactly in between or elsewhere on the scale for how much you want it to lean one way.” [adapt for your own experiential qualities as needed]
- b. Prompt participants to place stickers on the slider and ask them to explain their preferences
 - “So you’re hoping it will feel more ____ than ____, why is that?”
- c. Go through each slider, give examples or synonyms for what the words mean, ask participants to vote, and prompt conversation around it

3. Share out and wrap up (10 min)

- a. Once all participants have completed the activities for each space, collect maps
- b. Ask participants (from each group, if applicable) to share verbally the types of changes they would like to see on the sidewalk
- c. Thank participants and preview the next research activity

NEXT STEPS

Review the cards applied to the map and the placement of the stickers on the sliders along with the audio recordings for common themes and challenges raised by the participants, and ways to address these challenges through desired interventions and experiential qualities. Use this information to inform design concepts for pilot or permanent interventions to improve the sidewalk for youth at the specified areas of interest.

[D] It can be helpful to explain that the images on the cards only show one example of that kind of intervention, and do not represent that specific form of the intervention (e.g. an image of a drinking fountain does not mean the intervention will necessarily feature that specific model of drinking fountain). Participants can reflect on and write down or state out loud any modifications they would like to see to the proposed interventions, or use a blank card to add their own idea.

[E] Playing with the deck of cards can be a fun tactile experience for the participants. When multiple participants choose the same cards, assure them that the overlap of opinion is valuable, and encourage them to elaborate on their choices and points of similarity and difference.

4.7 WALKING TOUR

LOCATION
Sidewalk site

GROUP SIZE
6-10 youth and 3-5 guests
per 2 facilitators

DURATION
1 hour

The walking tour empowers youth to communicate, in their own voices, their needs, desires, and ideas for the sidewalk site to invited guests, which may include policymakers, planners, and researchers.

DESCRIPTION

Youth participants lead invited guests on a walking tour of the identified sidewalk site, where they share their perceptions of the challenges and opportunities of the space and their needs and ideas for its future improvement.

PURPOSES

1. Support youth in serving as their own advocates for their public space and sidewalk needs. **[A]**
2. Communicate the needs and desires of young people to relevant policymakers, planners, and researchers, who are able to translate these ideas into design concepts and policy proposals for interventions to improve sidewalk spaces.

READY-MADE MATERIALS

- Clipboards with pens
- Instant cameras with extra film and batteries **[B]**
- Audio recording device **[C]**

CUSTOM MATERIALS

- Basemap workbooks (one for each guest): Print the same workbooks used for the 4.4 walkabout activity for the invited guests to record their observations and take notes on.

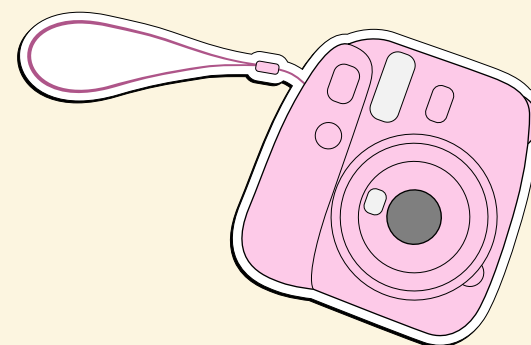
WORKSHOP OUTLINE

1. **Welcome (10 min)**
 - a. Introduce the walking tour
 - “Today, we’re going to walk along the sidewalk we’ve been exploring in the previous research activities. Our guests today are [introduce guests].”
 - [Speaking to youth participants] “You are the experts of your sidewalk - what are the qualities of the space you’d like our guests to notice? This is your opportunity to share your knowledge, experiences, and ideas about the sidewalk with people whose job it is to improve the sidewalk.”
 - “On the tour, you will share the qualities of the sidewalk that you think are most important for the guests to notice. Then, you will discuss some of your ideas about possible changes to the sidewalk we worked on last week, and share them with the guests, who will take notes on their maps.”
 - “Then, with the camera, you can help our guests by taking some photos of the most important characteristics of the sidewalk.”
 - b. Inform all participants that the session will be recorded for note taking purposes
 - c. Invited guests introduce themselves
 - d. Participants introduce themselves
 - e. Divide into groups of 6-10 youth participants with 3-5 guests and 2 facilitators

[A] If time permits, you can work with youth over several days to develop and refine a plan for the walking tour, including determining speakers, key spaces to stop, and important talking points, and rehearsing the walk.

[B] We recommend instant cameras (like Instax or Polaroid), since it can be exciting for the participants to immediately see the photos they’ve taken. However, if instant cameras are not accessible, you can use disposable cameras and develop the photos afterwards.

[C] We recommend audio recording the walking tour so that you can review the recordings as you work to develop the design of the sidewalk interventions. Make sure to be transparent with the participants about how the recordings may be used, such as for note taking purposes or future distribution. It can also be helpful to consider a microphone if the sidewalk space is noisy.



4.7 WALKING TOUR

2. **Walking tour (45 min)**
 - a. With assistance from the facilitators, youth participants lead the invited guests on a walking tour of the sidewalk site
 - b. Throughout, record the conversation using an audio recording device and take field notes
 - c. Stopping at various key locations as identified in previous research activities, ask participants to share specific reflections on these spaces. Sample questions: **[D]**
 - “What would be the most important thing to notice about this stop?”
 - “What do you like most about this space?”
 - “What do you dislike most about this space?”
 - “How would you like to see this space improved?”
 - “What physical changes would you make?”
 - “What activities do you wish you could do in this space?”
 - “Is there something important you would like to photograph in this space?”
 - d. Prompt invited guests to ask questions **[E]**
 - “Is there anything you would like to ask the youth participants?”
 - e. Prompt participants to take photos of the most important characteristics of the sidewalk and give the photos to the invited guests
3. **Wrap up (5 min)**
 - a. Thank participants and preview the next research activity

NEXT STEPS

Review the audio recordings and, based on the ideas communicated by the participants, further develop interventions to improve the sidewalk for youth at the specified areas of interest.

- [D]** It can be helpful to reference conversations and themes from previous research activities to help youth participants recall specific ideas and desires.
- [E]** If possible, encourage invited guests to come prepared with questions for the youth participants to elicit as much information as possible.

4.8 FEEDBACK SESSION

LOCATION

Indoors or sidewalk site as appropriate

GROUP SIZE

2-4 youth per 2-4 facilitators

DURATION

1 hour

After translating the youth participants' ideas into concepts for actionable sidewalk interventions articulated visually through drawings, renderings, and design concepts, the feedback session invites comments, reactions, and feedback from the youth to further refine the concepts.

DESCRIPTION

In the feedback session, you present your design concepts for actionable sidewalk interventions to the youth participants who share their comments, reactions, and feedback.

PURPOSES

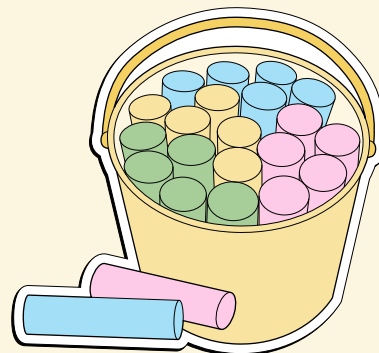
1. Support youth in serving as their own advocates for their public space and sidewalk needs.
2. Ensure that the designs for pilot or permanent design or programmatic interventions accurately reflect youth visions for the future of the sidewalk site.

READY-MADE MATERIALS

- Clipboards with pens
- Audio recording device **[A]**

CUSTOM MATERIALS

- Representations (drawings, renderings, etc.) of the design concepts for proposed interventions
- Handouts for recording participant feedback **[B]**



WORKSHOP OUTLINE

1. **Welcome (5 min)**
 - a. Introduce the feedback session
 - “Last time you shared with the guests about your journeys on the sidewalk and we talked about places you most wanted to see changed.”
 - “Today, we brought some ideas to improve the sidewalk, inspired by the ideas and experiences you shared with us. We want to work together to improve these ideas and make sure they accurately reflect what you want to see.”
 - “You are the experts, so we hope you’ll critique our ideas and share what you do and don’t like. We have some questions to help with that.”
2. **Form groups & orient to activities (5 min)**
 - a. Divide into groups of 2-4 youth with 2-4 facilitators. Ideally there are the same number of groups as there are proposed design concepts
 - b. If appropriate, locate each design concept presentation at its specific proposed location along the sidewalk site. If this is not possible, conduct the session indoors with each design concept as a separate station
3. **Feedback on concept designs (45 min)**
 - a. Groups rotate between the sites (or stations) for each design concept
 - b. At each site, distribute the handouts for participant feedback. Introduce the design concept and the ideas behind it, then ask participants to speak about and record their thoughts and feedback about the design on the handout **[C]**
 - c. Audio record conversations and take field notes throughout
4. **Wrap up (5 minutes)**
 - a. Thank participants and preview the next research activity

NEXT STEPS

Review the participant feedback and audio recordings and, based on participants’ feedback, further refine the design of the proposed interventions to improve the sidewalk for youth at the specified areas of interest.

[A] We recommend audio recording the feedback session so that you can review the recordings as you continue to develop the sidewalk interventions. Make sure to be transparent with the participants about how the recordings may be used, such as for note taking purposes or future distribution. It can also be helpful to consider a microphone if the sidewalk space is noisy.

[B] Think about how your visual representations of design concepts and handouts for feedback can be made most legible and accessible to youth. Consider if the terminology, graphics, and layouts are easily understood by youth. Experiment with creative ways of collecting feedback such as asking participants to use stickers to vote, try their hand at a sidewalk activity, or sketch their ideas with sidewalk chalk.

[C] Consider which aspects of the design you would like feedback on from the participants. Participants will likely have more detailed answers to specific questions rather than abstract ones.

LOCATION

Indoors + Sidewalk site

GROUP SIZE

Dependent on specific interventions

DURATION

2 hours

This final event invites youth to celebrate how their observations, ideas, and desires culminated in proposed, pilot, or permanent physical and/or programmatic interventions to improve the sidewalk. If your efforts produce model or pilot interventions, the event can be an opportunity for participants to collaborate in installing interventions along the sidewalk site, and to experience, explore, and celebrate these outcomes.

DESCRIPTION

In the celebration, the youth participants might view posters or other visual representations of their work to date, explore the latest iteration of design concepts reflecting their guidance, or, if applicable, collaborate with facilitators to install model or pilot sidewalk interventions informed and inspired by their observations, ideas, and desires for the sidewalk site.

PURPOSES

1. Install the pilot interventions in the sidewalk site.
2. Thank participants for sharing their ideas, expertise, and experiences, and acknowledge their important contributions to the project.
3. Experience, explore, and celebrate the sidewalk interventions.

READY-MADE MATERIALS

- Clipboards with pens
- Instant cameras with extra film and batteries **[A]**
- Food and drinks
- Cups, plates, utensils, napkins, tablecloths

CUSTOM MATERIALS

- Model or pilot design or programmatic interventions **[B]**
- Certificates of completion: Print a certificate of completion with the name of each participant recognizing their role as youth collaborators in safe sidewalk and mobility research.
- Thank you cards for each participant

WORKSHOP OUTLINE**1. Welcome (5 min)**

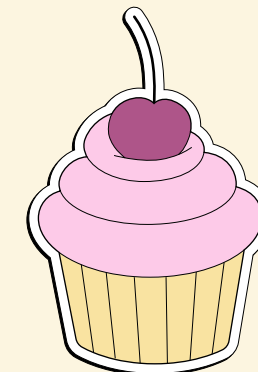
- a. Introduce the celebration
 - “Over the last couple months, you’ve shared with us your knowledge of the sidewalk and your journeys in the city. With your insights and feedback, we’ve designed some sidewalk interventions that we’re ready to share with you today. With your help, we’ll complete and install these sidewalk changes, and then we’ll celebrate with food!”
- b. Divide into groups that will rotate through the activities related to each temporary sidewalk intervention

2. Installation of sidewalk interventions (1 hour 25 min)

- a. Conduct the activities to unveil or install each temporary sidewalk intervention. Possible activities:
 - Installation ceremony where each participant receives their certificate of completion and thank you card
 - Taking photos with the instant camera
 - Making and writing “wishes” to decorate an intervention
 - Painting a sidewalk mural (or using chalk to mark a temporary mural)

3. Celebration (30 min)

- a. Serve food and drinks to the participants
- b. At the end of the celebration, thank the participants for sharing their knowledge, and for their engagement throughout the research activities



[A] Instant cameras can be a fun way to document the installation process and celebration. If instant cameras are not accessible, you can use disposable cameras or phone cameras.

[B] Consider planning fun, participatory activities around several of the design concepts or pilot interventions, and carefully consider the time and materials you will need for each activity. Consider locating each activity in a separate space on the sidewalk and having participants rotate through them to keep group sizes manageable. Think about whether your pilot installations will remain in place or be dismantled after the celebration.

4.9 CELEBRATION

NEXT STEPS

Think about how your pilot interventions or design or programmatic concepts might become permanent interventions at this site, or how they might be deployed at other sidewalk sites. Reflect on your participatory youth-engaged research process and what went well, what could be improved, and the major findings from research. Continue to maintain and nurture relationships with the youth participants, community organizations, and policy and planning stakeholders involved.



CASE STUDY



This case study illustrates this toolkit's principles, strategies, and tools in action by highlighting a research project that explored how youth in Los Angeles experience independent travel and envision their mobility futures.



How do young people experience their independent travel in the city, and what infrastructural and programmatic improvements could support safer, more socially vital youth mobility futures?

These were the questions guiding cityLAB-UCLA's research in the Westlake neighborhood of Los Angeles. The *Pathways to Autonomy* (2022-2023) and *Sidewalking* (2023-2024) studies centered the experiences of late elementary, middle, and early high school students as they travel independently from school to after-school activities in Westlake: a dense, underserved, and largely immigrant neighborhood with little access to green space and a high incidence of traffic-related injuries and fatalities.

By applying the participatory youth engagement principles, strategies, and tools outlined in this toolkit, the project positioned young pedestrians as experts and advocates for their own public space and mobility needs. First, we captured a rich portrait of the independent travel experiences and ideas of youth, in their own voices. Next, along a sidewalk segment where significant impediments to mobility had been identified, we designed and installed a series of temporary, tactical urban interventions that brought participants' ideas to life.

This research built upon a longstanding research collaboration with Heart of Los Angeles (HOLA), a community-based organization that has strong connections to the youth of Westlake. HOLA provides thousands of underserved youth, aged 6-19, with free after-school programming in academics, visual and performing arts, and athletics. Through our partnership with HOLA, we recruited 39 participants aged 11-15 who were enrolled in HOLA after-school programs and who traveled independently in the neighborhood.

Here, we highlight the process and outcomes of our study to illustrate the principles, strategies, and tools in action and to inspire future engagement with youth around mobility issues.



5.1 ROUTE MAPPING

First, we wanted to understand how HOLA youth traveled from school to after-school activities - including their typical routes, modes, stops, accompaniment - so we began with **route mapping**.

Using customized workbooks, participants spent time during their weekly HOLA class to record information about their trips by completing a map exercise and questionnaire. Our study team visited participating HOLA classes to introduce the study, demonstrate how to use the workbook, and offered assistance as students completed the mapping exercise. Study team members engaged youth directly in a conversation about their map in progress, asking questions about the origin, destination, and nature of their trip, and encouraging students to record this information directly on the route map.

Key findings from route mapping:

- Travel routes and modes to after-school activities vary, but most youth traveled by walking or by bus
- Some youth traveled alone, but most were accompanied by a friend of similar age or an older family member
- Stopping along the way to purchase a snack or to nap at home was common
- Youth were readily able to map their routes and had rich comments to add

Pathways to Autonomy: Evaluating Active Mobility Routes among Adolescents

MAP YOUR ROUTE

From the end of school today to the start of this HOLA class, draw the route you took, including any stops.

/Date: **10/12/22**
 /Where did your trip to HOLA start today?
 /How did you travel to HOLA today? (select as many as apply)

car bus train scooter bike walking

other:

/Who accompanied you on your trip from school to HOLA today? (select as many as apply)

an adult a sibling friend(s) just me

other:

Directions:

Mark the route you traveled from school to HOLA today. Use a **green marker** where you walked; a **yellow marker** where you rode a bike or scooter; a **blue marker** where you rode a bus, or train; and a **red marker** for a car. Mark your STARTING point as "S"; mark any stops you made with an "O", and label that location (eg. home, friend's home, 7-11).

/Anything unusual about your trip today?
no

/Any other comments?
mom I walked from school to hola

Pathways to Autonomy: Evaluating Active Mobility Routes among Adolescents

MAP YOUR ROUTE

From the end of school today to the start of this HOLA class, draw the route you took, including any stops.

/Date: **10/19/22**
 /Where did your trip to HOLA start today?
 /How did you travel to HOLA today? (select as many as apply)

car bus train scooter bike walking

other:

/Who accompanied you on your trip from school to HOLA today? (select as many as apply)

an adult a sibling friend(s) just me

other:

Directions:

Mark the route you traveled from school to HOLA today. Use a **green marker** where you walked; a **yellow marker** where you rode a bike or scooter; a **blue marker** where you rode a bus, or train; and a **red marker** for a car. Mark your STARTING point as "S"; mark any stops you made with an "O", and label that location (eg. home, friend's home, 7-11).

/Anything unusual about your trip today?
no

/Any other comments?
I come from school and go home to eat and sleep then I go to hola

Pathways to Autonomy: Evaluating Active Mobility Routes among Adolescents

MAP YOUR ROUTE

From the end of school today to the start of this HOLA class, draw the route you took, including any stops.

/Date: **10/18/2022**
 /Where did your trip to HOLA start today?
 /How did you travel to HOLA today? (select as many as apply)

car bus train scooter bike walking

other:

/Who accompanied you on your trip from school to HOLA today? (select as many as apply)

an adult a sibling friend(s) just me

other:

Directions:

Mark the route you traveled from school to HOLA today. Use a **green marker** where you walked; a **yellow marker** where you rode a bike or scooter; a **blue marker** where you rode a bus, or train; and a **red marker** for a car. Mark your STARTING point as "S"; mark any stops you made with an "O", and label that location (eg. home, friend's home, 7-11).

/Anything unusual about your trip today?
**I saw a trash can near the bus stop
 a lot more trash than usual
 stinks more than usual
 a car wasn't parked correctly**

/Any other comments?
that pretty much it.



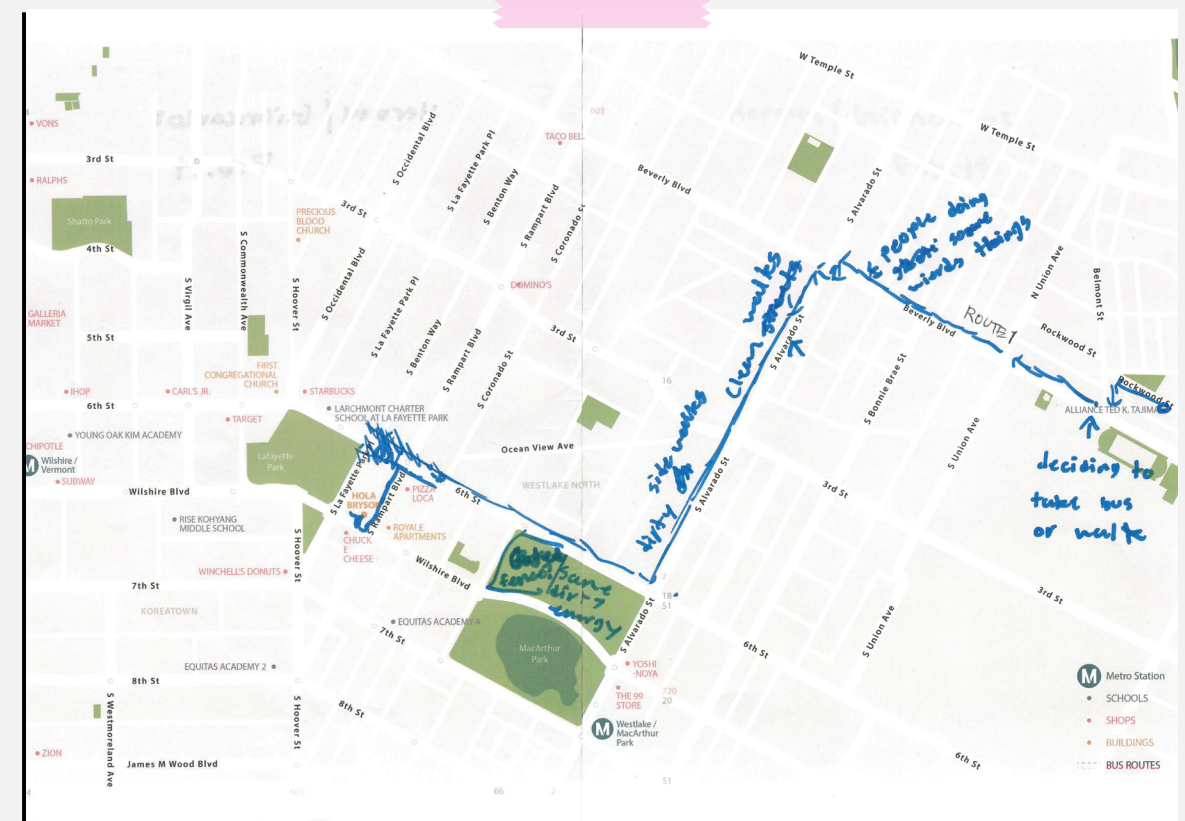
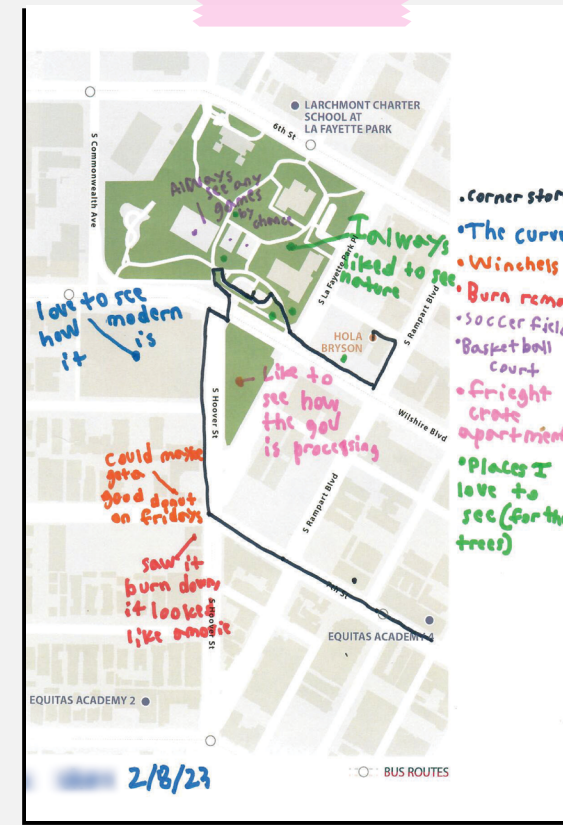
5.2 WALKING AUDITS

With these initial insights about youth travel *patterns*, we wanted to know more about their travel *experiences* - including the sights, sounds, and interactions that shape perceptions of mobility and the neighborhood public realm - so we led **walking audits**.

We recruited participants who primarily walked or took transit and represented a balance of ages, genders, travel distances, and accompaniment. For each walking audit, we met with a youth participant at their school and traveled with them along their typical route to after-school activities. Along the way, we asked participants to share what they were seeing, experiencing, and feeling, and to describe the social and built environments along their route. We audio recorded the conversations, mapped the route, took field notes, and asked participants to use a smartphone with a camera to take photos of notable spaces along the walk. After arriving at our destination, we met in a quiet room for a post-walk interview, where we invited participants to reflect on the walk and map, draw, and write about their experience.

Key findings from walking audits:

- Traveling independently can be a source of confidence and neighborhood connection for youth
- The journey to after-school activities is filled with joyful moments, like spending time with friends, appreciating beautiful neighborhood buildings and trees, and enjoying exercise - and many of these joyful moments are not accounted for in existing youth mobility research
- The journey is also marked by unsafe spaces and unpleasant experiences, like poorly maintained sidewalks, high traffic speeds, lack of shade and seating, and unwanted attention from strangers - while these unpleasant and unsafe elements are better reflected in existing youth mobility research, participants added greater depth and complexity to our understanding of these issues and their impacts
- Young people can clearly explain their strategies to achieve travel goals of safety, on-time arrival, and socializing. Despite many challenges and affordances along the way, participants rarely altered their routes significantly; instead, they tend to travel the same route consistently each day and adopt smaller, adaptive behaviors to avoid certain spaces or to spend more time with friends





5.3 THICK MAPPING

With this in-depth information about youth travel experiences, we wanted to understand how these experiences - and the positive and negative built and social environment features that shape them - were *spatially situated*, so we proceeded with **thick mapping**.

We began with a composite digital thick map, created in GIS, that integrated existing neighborhood data on traffic injuries, speed limits, street maintenance, and crime in a one-mile radius around HOLA's facility. On a printed version of this composite map, we manually layered data from the previous research activities - including travel routes from the route mapping and photographs and observations from walking audits. As we layered this information onto the map, we coded each data point as a positive or negative built environment feature, decision, memory, or desire. This layering allowed us to uncover insightful relationships between qualitative and quantitative, place-based data. We then translated our hand-made map into a digital format that showed more clearly where clusters of positive and negative existing conditions and observations converge throughout the neighborhood.

After aggregating and visualizing our data on the digital thick map, we identified a sidewalk segment in front of HOLA's building that was highly traveled by almost all participants, with a high concentration of both positive and negative observations. We investigated this sidewalk segment further, conducting supplementary site observations and creating a more detailed thick map that compared researchers' photographs and field notes with those collected by youth participants.

Key findings from thick mapping:

- Young pedestrians' experiences and perceptions do not always align with "objective" or existing data about the built and social environment - for example, many negative conditions observed by our research team went unnoticed by youth, while youth pointed out many positive neighborhood features - like beautiful buildings, favorite places to sit, spots with great views - that were not captured in existing data
- Areas where youth recorded many negative observations related to both the built and social environments - "red spots" - often coincided with clusters of negative existing conditions, including areas with high traffic-related injuries and poor sidewalk conditions
- Areas where youth recorded many positive observations - "green spots" - often coincided with important neighborhood landmarks, like school and HOLA, or spaces with fond memories, like the park
- Youth will travel through "red spots" to reach "green spots," making smaller adjustments and precautions but rarely making significant changes to their route, which suggests that supportive infrastructure along the most well-traveled sidewalk segments may more effectively support youth mobility than directing enhancements to alternate, quieter routes



5.4 WALKABOUT

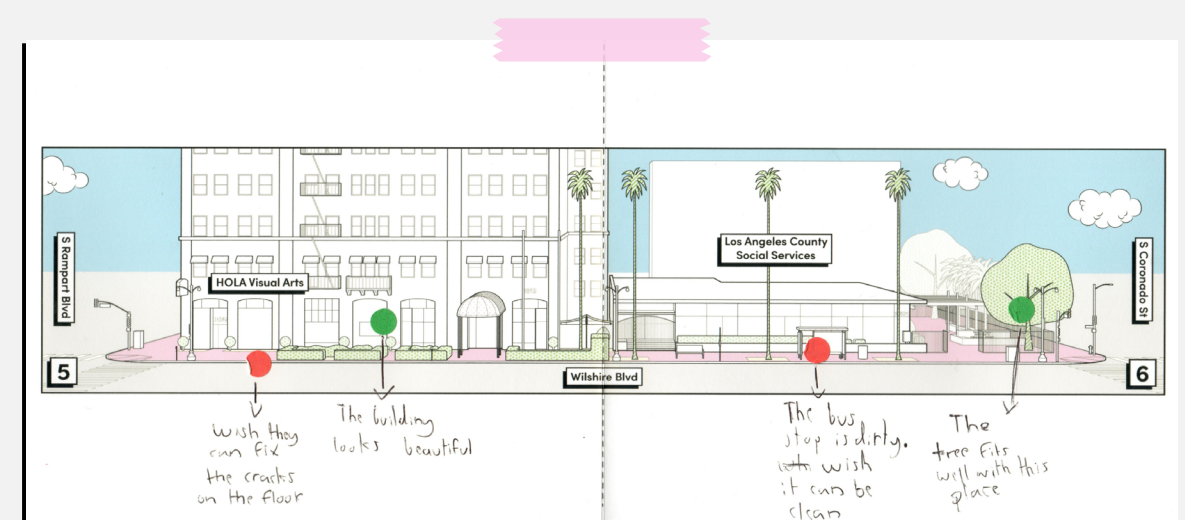
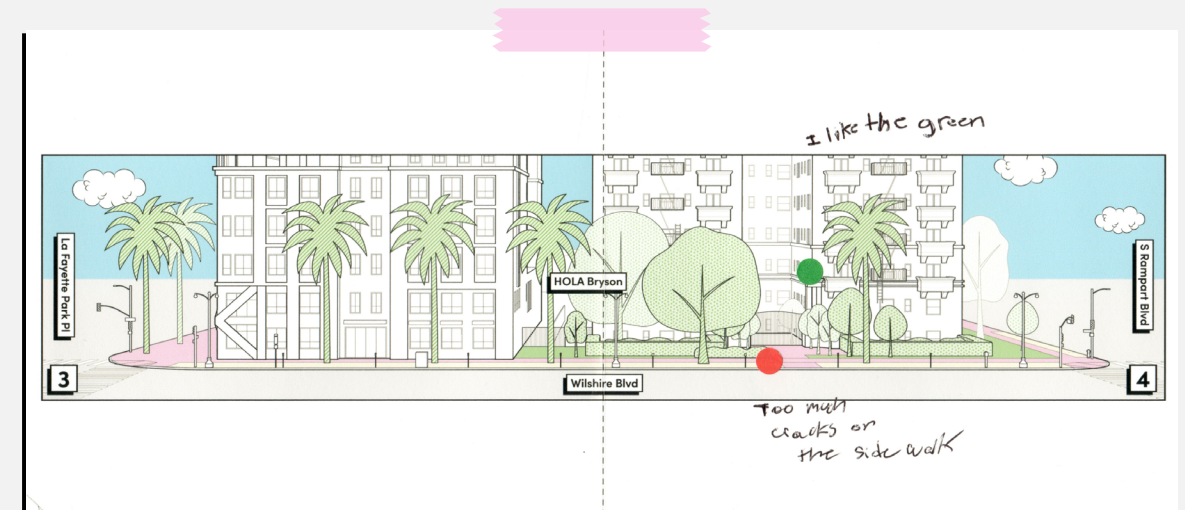
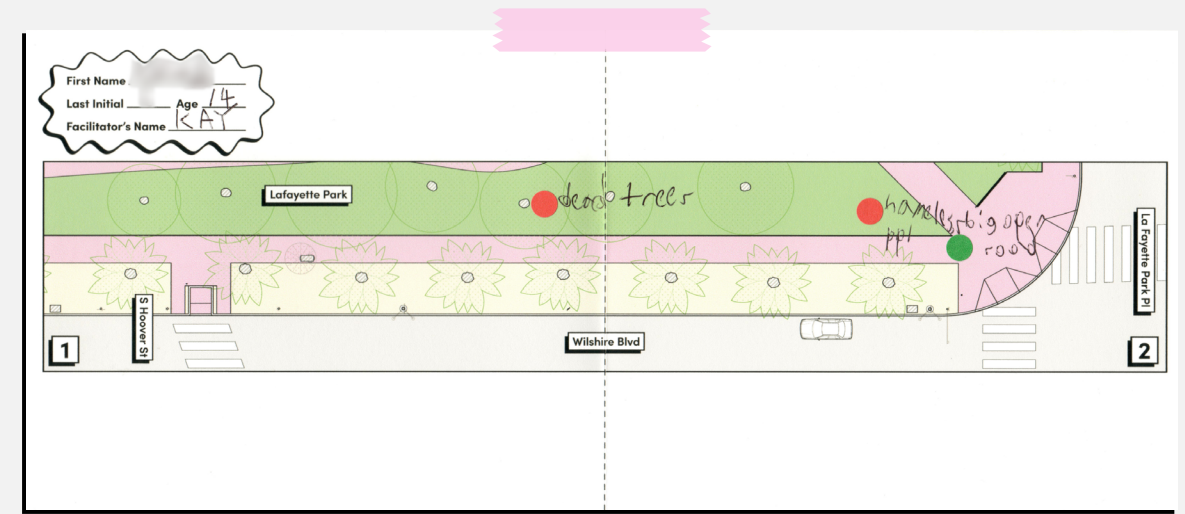
Our thick map offered a complex, layered visual representation of the neighborhood's existing conditions as well as youth experiences and perceptions of the built and social environment, and allowed us to identify a sidewalk segment along Wilshire Boulevard with a high confluence of youth travel routes and positive and negative observations. We wanted to know more about this space from the perspective of youth, and to prepare participants to engage in *forward-thinking conversations* about possible improvements, so we led a **walkabout**.

After a brief introduction at HOLA, researchers led small groups of youth on a walk along the sidewalk segment of interest, stopping every half block to observe the space and record observations. At each stop, participants used a custom workbook that included a map and elevation view of the sidewalk segment to record their individual responses to two questions: What do you like here? And what would you like to change here? Facilitators guided discussions and helped youth to record observations along the

way. After discussing each stop, participants took photos of particularly important spaces, and added these to the workbook.

Key findings from walkabout:

- Youth hold in-depth memories, knowledge, and ideas about the sidewalks and public spaces they travel regularly
- When offered time, space, and engaging activities, youth are excited to share their experiences and ideas about their own mobility and how sidewalks could be improved
- Participants were quickly able to identify and reiterate the positive benefits of elements like shade, good sight lines, vegetation, and familiar faces along the sidewalk, along with the negative impacts of elements like poor sidewalk maintenance, litter, high traffic volumes and speeds, and a lack of seating



5.6 PARTICIPATORY DESIGN WORKSHOP

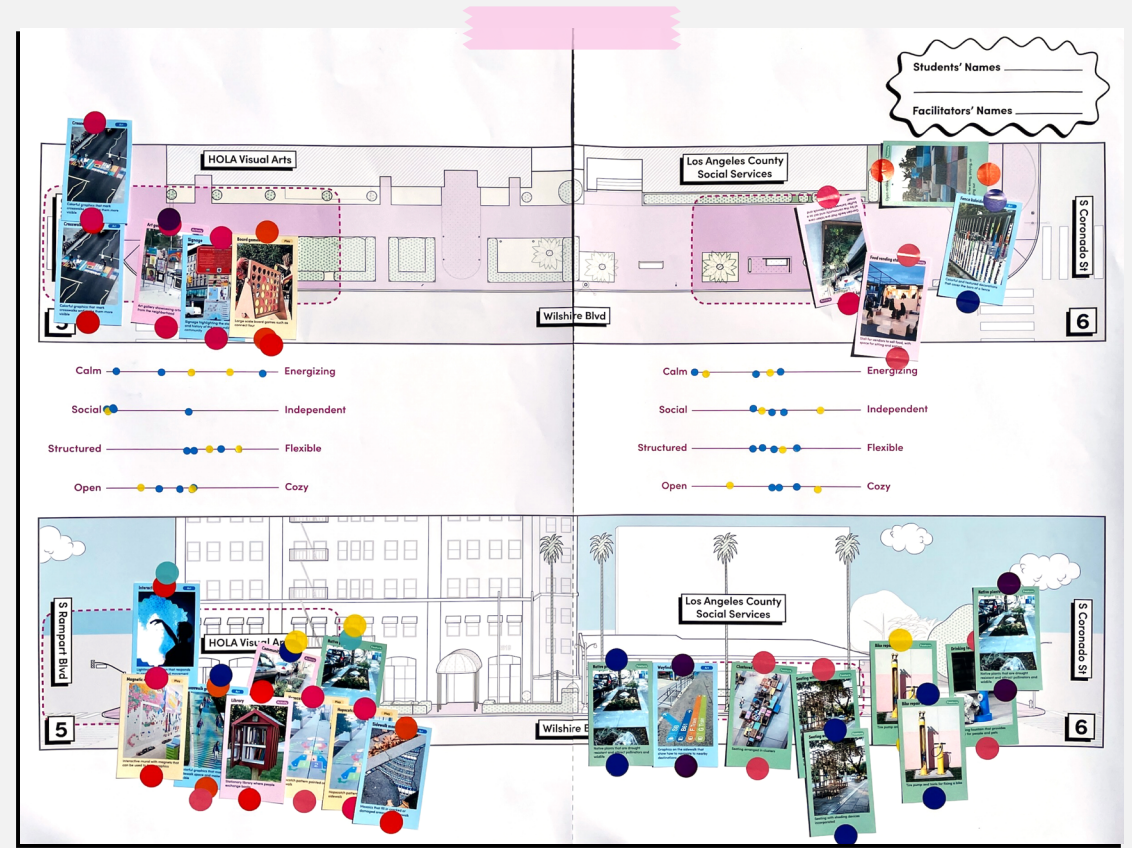
The collective mapping workshop helped our research team and the youth participants articulate a shared experience of the sidewalk. We had collectively identified key sites along a segment of the sidewalk that were most promising for infrastructural and programmatic enhancements. Next, we wanted to understand the *specific kinds of improvements* that youth wanted to see in these spaces, so we hosted a **participatory design workshop**.

First, working in small groups with a facilitator, youth reviewed the shared observations gathered during the collective mapping workshop and the key sites along the sidewalk identified as opportunities for enhancement. Next, they reviewed a deck of cards that visualized examples of different possible sidewalk interventions, categorized into activity, art, play, and feature. Participants selected their preferred interventions and affixed them to the corresponding location on a large format, shared basemap, while discussing their choice with the group. After all participants had added their desired interventions to the shared map, they indicated their preferred experiential qualities for the space - for example, more calm or more energizing, more solitary or more social - by placing a dot along a spectrum.

This process was repeated for each key site along the sidewalk, producing a shared map that represented the specific elements and experiential qualities that the group wished to see at various sites along the sidewalk segment.

Key findings from the participatory mapping workshop:

- The cards depicting possible sidewalk interventions extend the limits of students' experiences, so that they can imagine urban settings and infrastructures they might not have already seen
- There were many points of overlap in the interventions and experiential qualities desired by participants, and the collective nature of the activity enabled some youth to arrive at a shared idea of how best to address the existing sidewalk conditions
- Important shared desires for sidewalk improvements included artistic interventions to mend sidewalk cracks; aesthetic enhancements to assert youth identity and presence in the neighborhood; and shared seating spaces to accommodate waiting, resting, and socializing before HOLA activities
- Important shared desires for experiential qualities along the sidewalk included social and calm spaces of respite from the bustle of the city streets





5.7 WALKING TOUR

After identifying common challenges along the sidewalk segment, and then developing a shared vision for infrastructure and programmatic improvements to address these challenges, we wanted to *support youth in articulating their ideas* to planners, designers, and practitioners who could bring them to life, so we helped the youth lead their own **walking tour** of the sidewalk.

For this project, we collaborated with a class of graduate students in architecture and urban planning at UCLA, who were tasked with translating youth ideas and desires for sidewalk enhancements into design concepts and pilot interventions. To orient this group of UCLA students to the sidewalk segment, the HOLA youth led a walking tour along the sidewalk. Walking together to several key stops along the segment, the youth participants shared their experience and perceptions of the existing sidewalk, including their favorite and least favorite aspects of each space, and the specific infrastructure enhancements they believed could enhance the space. The UCLA students

listened, asked follow up questions, and took their own field notes.

Key findings from the walking tour:

- The walking tour positioned the youth themselves as experts about the sidewalk space and their own experiences, and the UCLA student researchers as guests who were fortunate to learn from the youth
- Youth were able to communicate their opinions and ideas about the sidewalk directly to the UCLA student researchers, gaining confidence in their ability to advocate for their own public space and mobility needs
- The walking tour provided UCLA student researchers with important information about the sidewalk segment, including existing challenges and opportunities and the interventions and experiential qualities that youth wanted to see

5.8 FEEDBACK SESSION

Our team spent the next several weeks translating these insights into a series of small-scale, tactical sidewalk interventions that could improve youth mobility along this specific sidewalk segment. After developing initial design concepts for these interventions, we wanted to ensure that our ideas *accurately reflected* those of the HOLA youth, so we hosted a **feedback session**.

Along the sidewalk segment, our team displayed graphic mock ups of our initial design concepts, each placed in the corresponding site identified for the future intervention. HOLA youth participants visited each site, where we presented the design concept, answered questions, and invited the youth to share their feedback, opinions, and ideas for improvement. Youth were also invited to record their thoughts on provided handouts. Throughout, we recorded notes to inform future refinements to the interventions.

Key findings from the feedback session:

- Youth participants were eager to provide feedback on the proposed interventions, when they were given time and space to reflect and it was made clear that their opinions and ideas were valued
- Youth were especially attracted to the more playful, colorful interventions, and to interventions that marked the presence and voices of youth on the sidewalk, including sidewalk mosaics and a mobile art gallery
- Participants raised practical concerns such as cleaning and maintenance, installation, and theft prevention that helped to refine the intervention designs



5.9 CELEBRATION

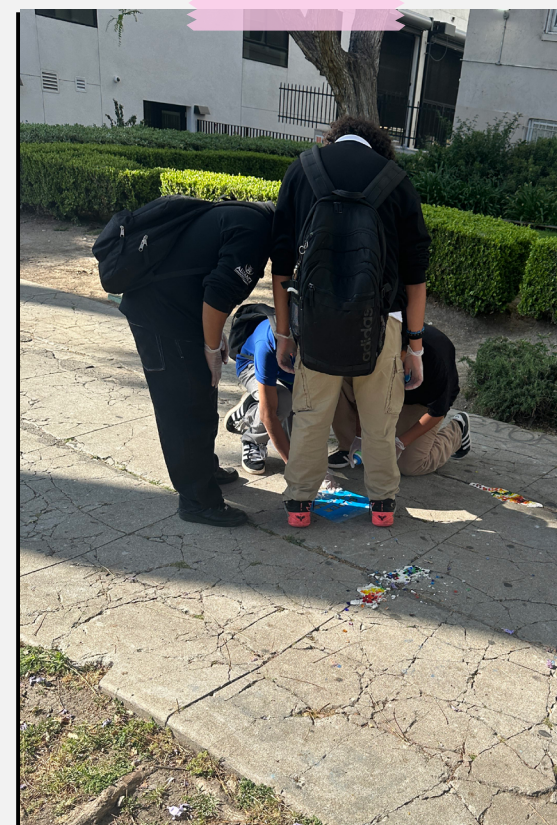
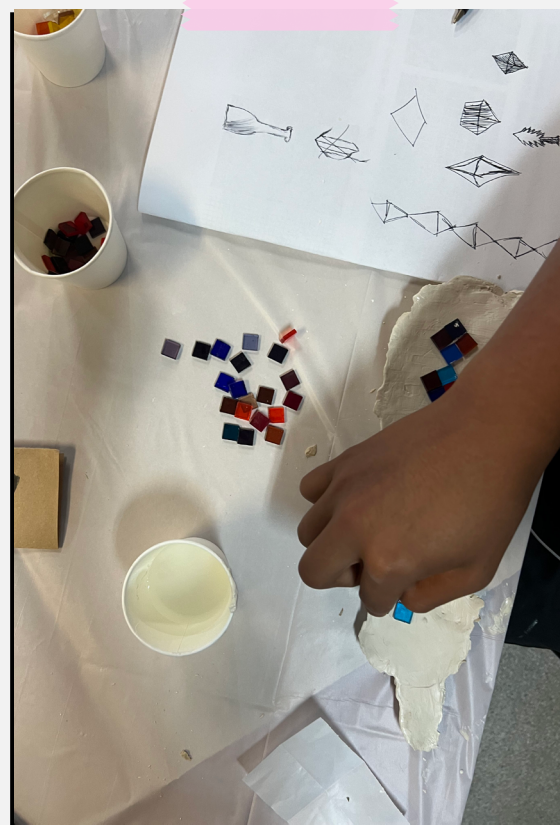
After incorporating feedback, our research team refined our designs and fabricated a series of demonstration sidewalk interventions for temporary installation on the sidewalk segment. We wanted to invite youth to *experience and engage with the designs* that resulted from their ideas and guidance, and to thank them for their contributions throughout the project, so we held a final **celebration**.

The celebration took place on the sidewalk segment we had studied throughout the project, where our research team temporarily installed pilot versions of the sidewalk interventions we had developed in collaboration with the participating youth. These included:

- Hand-made mosaic molds that were designed and crafted by the HOLA youth and filled large cracks in the concrete sidewalk
- Colorful sidewalk art, made with spray chalk and custom stencils, that captured ideas and quotations from the students and asserted their presence in the neighborhood

- A mobile, expandable art gallery structure for temporarily displaying artworks made by HOLA students on the sidewalk in front of the HOLA visual arts facility

During the celebration, youth participants installed the mosaics they had made directly into the sidewalk cracks, tested out the sidewalk stenciling activity, and created origami creatures to display in the art gallery structure. Participants also received certificates of appreciation for their efforts in a small ceremony attended by the research team, HOLA teachers, and several invited guests, including a representative from the local council member's office. The event concluded with pizza and cake, and a spirit of celebration.



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