

Complex System Map

Group 4

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Design implication

Rather than treating crime as an isolated issue, this system map positions safety as a collective, evolving condition. Effective interventions must address both physical infrastructure and social dynamics.

Focusing on these routes supports safe autonomy and everyday freedom. Small, strategic public realm upgrades can trigger positive safety feedback loops.

Girls' highest mobility occurs between schools, parks, transport nodes, local shops, and housing — creating predictable paths where safety improvements will have the greatest impact.

Event

Our project positions girls and children as central stakeholders within the safety system.

Public space is shaped by many actors, but girls and children are most affected by safety decisions while having minimal influence in decision-making.

Stakeholder

Our project intervenes at key points to trigger positive safety cycles over time.

Safety conditions are reinforced over time: active spaces strengthen safety, while neglected and avoidance design declines.

Feedback Loops

Fear shapes behavior and limits independence for girls aged 8–16. Design interventions must address both emotional and physical safety simultaneously.

Harassment and robbery are key threats along isolated routes, blind corners, under-arches, and poorly lit transition spaces affecting both perceived and actual safety.

Crime Rate

Our project reframes youth safety as a core indicator of regeneration success.

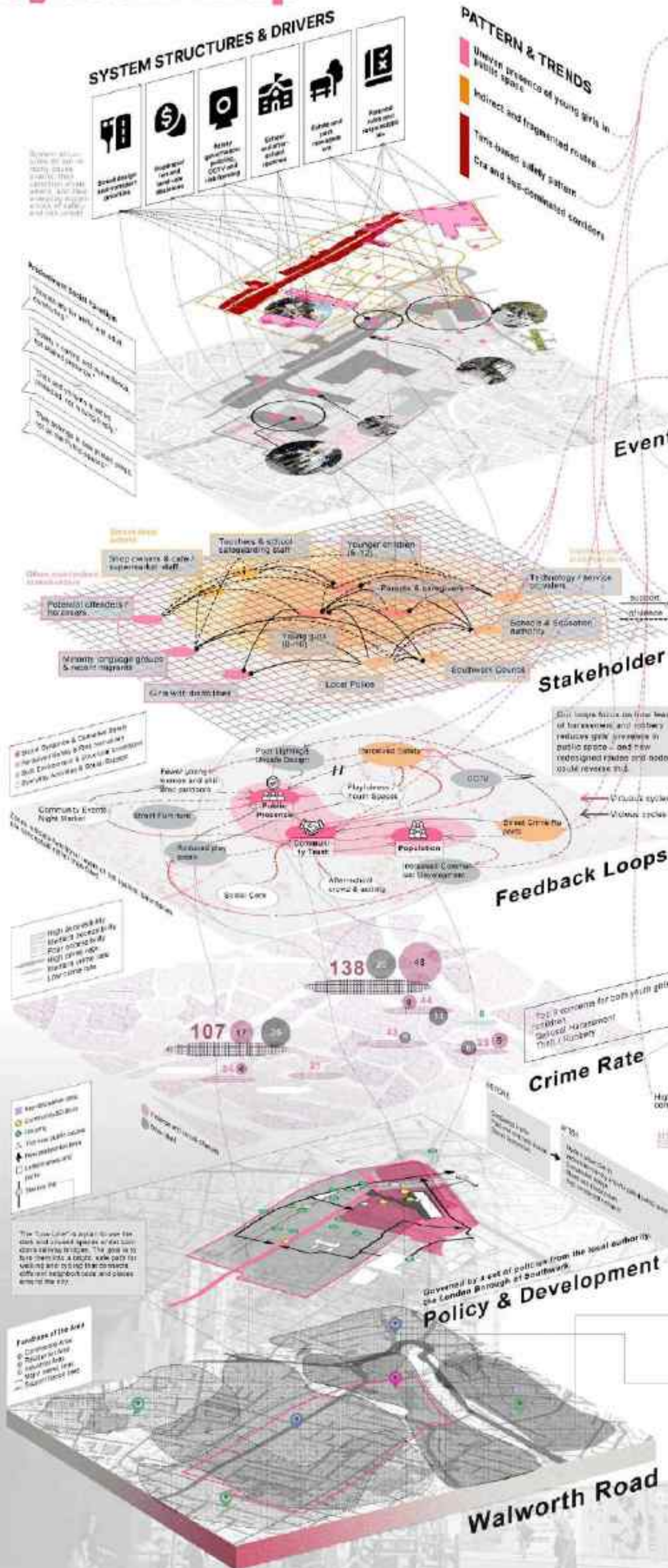
Local policy promotes a mixed-use, walkable district, yet regeneration focuses on core sites while everyday routes toward Waterloo Road — used by girls — receive less attention. Development priorities therefore direct where safety improvements occur.

Policy & Development

Our project responds to inherited urban patterns, addressing existing spatial inequalities rather than redesigning from scratch.

Long-term planning decisions shape today's street layouts, access, and land use, establishing baseline conditions for safety and risk. Elephant and Castle shifted from a post-war, car-led area to a dense, mixed community, but spatial quality and accessibility remain uneven, especially for children and young women.

Historical and urban foundation



Leverage point

1. Information flow and rapid response

We intervene at the information flow level because safety breaks down when signals of fear are delayed, fragmented, or invisible to those who can respond.

2. Shared safety perception in a multilingual street

We address shared perception because safety is shaped not only by events, but by how people collectively interpret and anticipate risk in everyday movement.

3. Community led spatial redesign for safe mobility routes

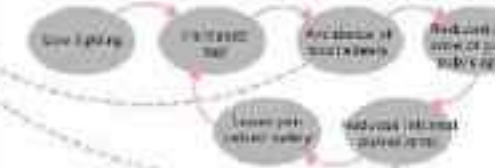
We intervene in spatial structures because unclear routes and fragmented environments directly reinforce avoidance behaviour and negative safety feedback loops.

4. Co-governed street design

We address governance because without redistributing decision-making power, safety interventions remain temporary and fail to adapt to lived experience over time.

Trade-offs: Economic development vs social equity

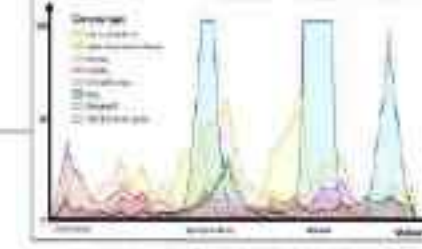
Mechanism A: Environmental fear — withdrawal



Mechanism B: Social unfamiliarity — self-surveillance



The number of crimes



Trade-offs: systemic planning delivers lasting change but cannot quickly address immediate harassment and violence.

Demographic, economic, and social data



Bottlenecks: multiple stakeholders create long decision chains and coordination delays.

Delays: Elephant & Castle's regeneration is long-term due to multi-department approvals and government funding and procurement delays.

Location Overview



Historical Analysis



Design Strategy

Youth, Play and Safety

Address how children and young girls experience the street

Overview

Design Strategy: Listening to Safety on Walworth Road, Elephant & Castle

Project Intro

Project Name: **Youth, Play and Safety**

-Address how children and young girls experience the street

Project Overview

This design strategy focus on daily safety issue of Elephant & Castle area, especially around **Walworth Rd**. This area is a important channel both on transportation and business, but also a site of rapid regeneration and social change. Different group--the locals, new arrivals, commuters and visitors share the streets, but they has different experience with safety.

Our project focus on how youth, especially young girls and women, feel and navigate safety under this circumstance. Different with treating safety as just collecting crime statistics, we understand it as a outcome of complex system made by physical environment, policy and social relation.

This design strategy based on desk research, system map and prototype experiment, which support safer and more inclusive street in Elephant & Castle.

Unit and Team Information

Unit: **Complex Systems**

Academic Year: **2025-26**

Location: **Elephant & Castle / Walworth Road, London**

Team Members: **Luyang Wang(Navia), Hongyu Wang(Sherry), Tin Wing Kam(Tiffany), Xiao Chen**

Alignment with Colab & 4P

This project sits within the Colab safer streets mission, by focusing on daily safety experience on Walworth Rd(Elephant & Castle), our work connects to this mission from the ground up, especially paying attention to issue that make people feel unsafe, watched and uncomfortable, even it has no crime is recorded. Within the policing 4P framework--*Prevent, Prepare, Project and pursue*, our strategy focus on **prevent** and **protect**. On the one side, it supports prevention by making patterns of felt risk more visible; on the other side, supporting reference to the public by highlighting voice from young women and children.

1. Southwark Council (2024) Elephant and Castle - current and future development. Southwark Council.

2. HM Government (2025) Safer Streets: Plan for Change - Our Mission.

3. HM Government (2018) The United Kingdom's Strategy for Countering International Terrorism (CONTEST). London: Home Office.

Why Elephant & Castle/ Walworth Rd

We chose Elephant & Castle, and specifically Walworth Rd, because this area has concentrates a complex and systematic issue in everyday life. Transportation hub, residential area, school, store and night activity all overlap on the same street, different user with different daily routines encounter in one area.

At same time, Elephant & Castle now in transition. *Regeneration Project* has brought more people here, and also changing who live, work and spend time here. It made Walworth Rd become a useful lens to observe and realize who had to adjust their behavior to feel safe under the regeneration of urban environment.

And this area also has some feature that other area did not has, more than 120 languages used in this area. Finally, the area already appears in local discussions about safety, policing and trust. Focusing on this site that is both ordinary and strategically important, our project can connect everyday life of young people, especially young women and children, and wider questions about safer streets in London.



Current Challenge

- **Safety as a lived, embodied and linguistic experience**
In some official document, safety usually present through number: counts of incidents, crime categories and trends over time. These metrics are important but they only present what has been **formally reported**, which **cannot fully describe** real feeling of people walk on the street, wait on bus platform and walk across stranger at night, especially when people living in a city where the language are not their own language.

- **Structural gaps in reporting and engagement**
Currently, mechanisms for reporting and discussing safety--police reporting form, local authority consultations, formal surveys are not designed for some detailed daily experience. They are often contain lots of text and inconvenient process, they assume that people have confidence in institutions, strong language skills.

Field trip :

Date: 17/10/2025

Time: 4:30-7:30p.m (daytime to night time)

Purpose: Field Trip Purpose: To gain a first-hand understanding of how children and young girls use and perceive public spaces as day turns to night, focusing on shifting safety dynamics, location, and cultural diversity.

1. Southwark Council (2024) Elephant and Castle and Walworth: Town Centre Action Plan. London: Southwark Council.

2. Southwark Council (2024) 'The new town centre - Elephant and Castle'. Southwark Council - Current and future development.

3. Southwark Council (2019) Annual Public Health Report 2019: Statistical Appendix. London: Southwark Council.

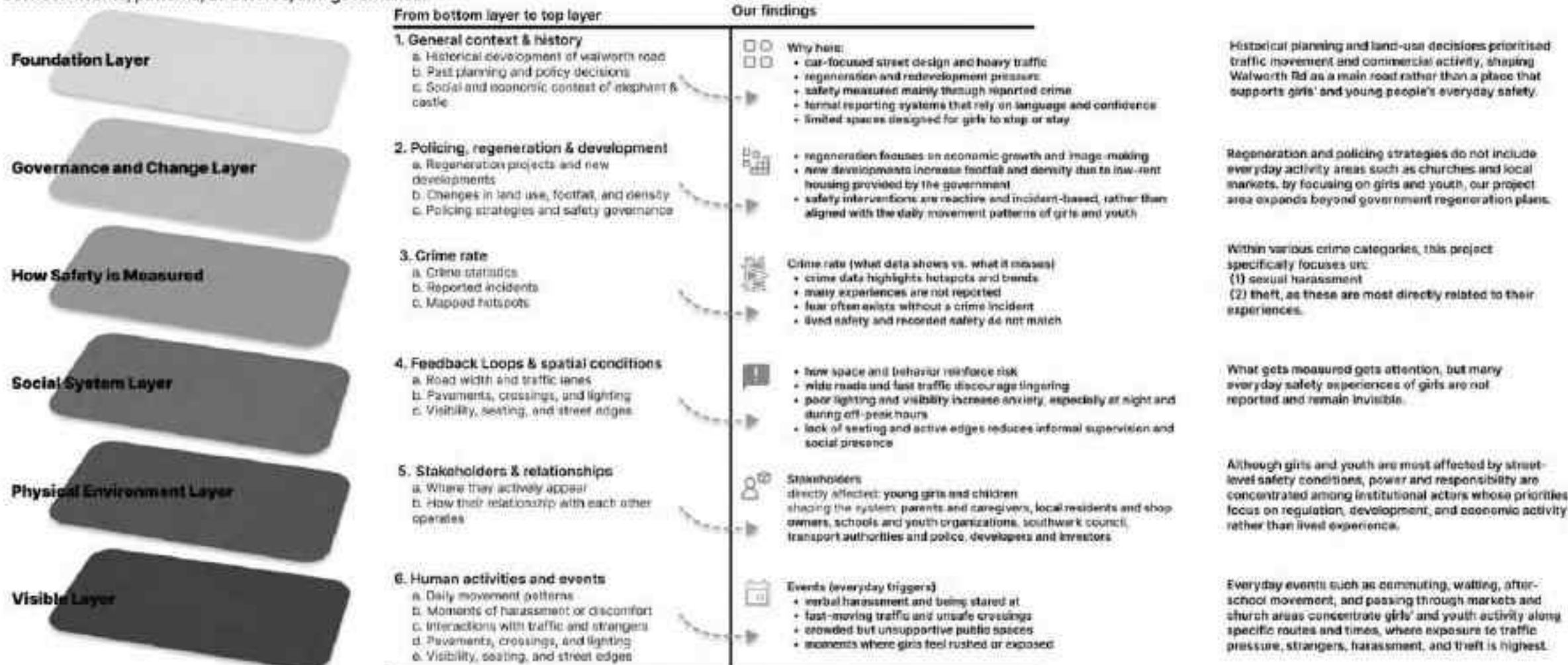
4. Greater London Authority (GLA) (2021) Safety in Public Space: Women, Girls and Gender Diverse People - Principles and Toolkit. London: Mayor of London / Good Growth by Design.

5. NPCC National Police Chiefs' Council (2024) Policing Violence Against Women and Girls: National Framework for Delivery 2024-2027. London: NPCC.

System Thinking:

A multi-layered system diagnosis that traces how girls' safety on walworth road emerges from interactions between events, patterns, structures, and governance.

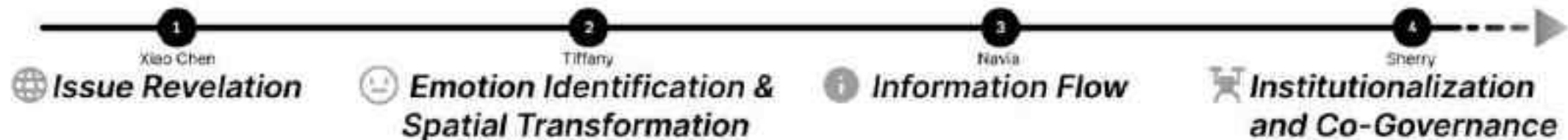
From System Diagnosis to Leverage Point



Design Process

PERSONA1

SOCIAL



Problems

Language barriers

Unsympathetic street design

Fragmented safety data

One-way governance

Visual Bridge-Use visuals to surface unspoken safety concerns.

Spatial Design:Community-Led Spatial Redesign to Establish Intuitive and Safe Mobility Routes

Translate Visual Consensus-convert visual signals into actionable safety data.

Practice Tangible Co-Governance-enable visible, participatory decision-making.

Project Brief

Use visual cues to reveal hidden safety fears without relying on language, creating a shared, intuitive channel for expression.

Emotional data from girls' experiences is translated into spatial signals that reshape how safety is perceived and navigated.

Personal safety signals are converted into shared data, enabling real-time communication between users, designers, and institutions.

Distributed safety data supports collaborative decision-making between communities, designers, and public institutions.

Theoretical Grounding

Individual fears and experiences exist implicitly and can be revealed through non-verbal expression.

Spatial understanding is shaped by bodily experience and emotional interaction with the environment.

Meaning emerges from how information circulates within social and technical systems.

Users are active contributors in shaping systems that affect their lives.

Polanyi, M. (1966). *The Tacit Dimension*. University of Chicago Press.

Lakoff, G. & Johnson, M. (1999). *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*. Basic Books.

Nardi, B. A. & O'Day, V. (1999). *Information Ecologies: Using Technology with Heart*. MIT Press.

Sanders, E. B.-N. & Stappers, P. J. (2014). *Probes, Toolkits and Prototypes*. In *Routledge International Handbook of Participatory Design*.

1. Polanyi, M. (1966) *The Tacit Dimension*. Chicago: University of Chicago Press.

2. Lakoff, G. and Johnson, M. (1999) *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*. New York: Basic Books.

3. Nardi, B. A. and O'Day, V. (1999) *Information Ecologies: Using Technology with Heart*. Cambridge, MA: MIT Press.

4. Sanders, E. B.-N. & Stappers, P. J. (2014). *Probes, Toolkits and Prototypes*. In *Routledge International Handbook of Participatory Design*.

Leverage Point

Shared Safety Perception in a Multilingual Street

Create a shared, low-barrier language for expressing safety experiences (brightness, comfort, feeling watched) on the different levels of Weixian Road can see patterns, negotiate each others' concerns, and inform how urbanistic decisions in a diverse, multilingual context.

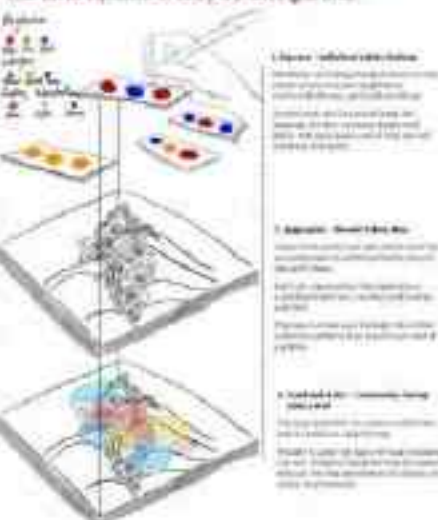
Project Focus & Predominantly

Low-barrier expression of safety in a multilingual street. To build shared understanding of "safety" across different cultural groups, reducing uncertainty and strengthening trust in Deqian & Caste.



Shared Safety Perception System

Low-barrier expression of safety in a multilingual street



- Physical Map**
- Express individual safety concerns (residents mark locations on a map) across the entire street where they feel right less comfortable, less watched, less safe
 - Quick 3-ingredient input: Brightness / Comfort / Feeling watched captured via color-coded and a simple 3-level scale to indicate text and language barriers
- Digital App**
- Shared safety map merged off-line with topographic and online capabilities. Anyone with the map can see concerns, trends, clusters, and trends
 - Visible patterns & priorities: color and text clues reveal where the most intensive concerns are, highlighting connections/trends for attention
 - Community-facing feedback & action: Safety tool - a portable, multi-modal safety support danger among residents, youth, and shops, facilitating ongoing interaction/maintenance

Prototypes Low-Fi



Prototypes Hi-Fi



Impact on Behaviors & Experiences

- Positive**
1. Shared "third language" safety feelings (visibility through a shared words, say)
 2. Shared safety perception (visibility, visibility, visibility, visibility)
 3. Shared safety perception (visibility, visibility, visibility, visibility)
 4. Shared safety perception (visibility, visibility, visibility, visibility)
- Negative / Risks**
1. Public visualization of safety concerns and discomfort in marginalization
 2. Shared safety perception (visibility, visibility, visibility, visibility)

Experiment and Feedback (from workshop 4 - experimentation)

- 1. Name of the experiment**
- Shared Safety Perception System: A shared safety perception system (visibility, visibility, visibility, visibility)
- 2. Computer-controlled set-up article**
- Shared Safety Perception System: A shared safety perception system (visibility, visibility, visibility, visibility)
- 3. Key points and conclusions**
- Shared Safety Perception System: A shared safety perception system (visibility, visibility, visibility, visibility)



Feasibility of Prototypes

1. Low-Fi prototype (visibility, visibility, visibility, visibility)
 2. Hi-Fi prototype (visibility, visibility, visibility, visibility)
 3. Shared safety perception (visibility, visibility, visibility, visibility)
 4. Shared safety perception (visibility, visibility, visibility, visibility)
- Risks**
1. Shared safety perception (visibility, visibility, visibility, visibility)
 2. Shared safety perception (visibility, visibility, visibility, visibility)
 3. Shared safety perception (visibility, visibility, visibility, visibility)
 4. Shared safety perception (visibility, visibility, visibility, visibility)

Iteration and Refinement:

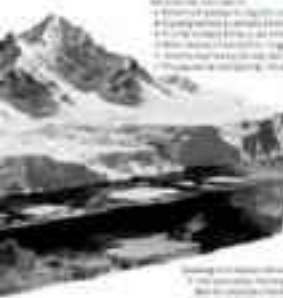
This project continued a shared safety system, through offline board and online digital mini-app, residents' feelings of brightness, comfort and feeling watched are turned into a visible, shared map rather than remaining private worries. Experiments show that icon and color, low-text prompts are more intuitive and inclusive.

And the feasibility show that with modest resources and local partners, the system is realistic at community scale and can be expanded to other streets. At the same time, the project also has long-term risks that the map may exacerbate the marginalization of some areas, which means ongoing maintenance, careful framing and inclusive facilitation are essential.

Leverage Point

Spatial Design Blueprint: From Blind Spots to Legible Urban Routes, Making Insecurity Visible

Fragmented and overlooked street spaces undermine young women's perceived safety, creating isolated territories and inhibiting everyday mobility.



- 1. Fragmented and overlooked street spaces undermine young women's perceived safety, creating isolated territories and inhibiting everyday mobility.
- 2. The spatial design blueprint identifies overlooked street spaces and connects them into a continuous, visible route that exposes existing insecurity rather than hiding it. Using the railway as a spatial guide to enhance orientation and perceived safety, the prototype combines mapping and street design interventions to reconfigure these neglected areas into a legible, supportive network that restores confidence, connection, and a sense of belonging.
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From Insecurity to Safe Streets: A Through Scenario

Makes invisible street points visible



- 1. From insecurity to safe streets: a through scenario.
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Methodology:

Community-led prototype design. The research team and girls are involved in co-designing a community-led prototype design of urban routes in a series of workshops through which we integrate with-through experience and use-stability prototyping.

Project Focus & Predominantly

This project focuses on:

(1) identifying overlooked blind spots and residual urban spaces and connecting them into a visible route as a guiding spatial element, that reveals existing safety issues rather than concealing them, increase the sense of orientation and perceived security.

(2) In parallel, street design interventions are proposed to improve environmental quality and transform these neglected areas into safer, more legible, and more supportive public spaces for everyday use.

Traditional street design prioritises traffic flow and commercial efficiency, often systematically erasing the human scale. This results in an environment that lacks orientation and legibility, leaving users lost, disoriented, and insecure. This project aims to reconfigure these overlooked spaces into a legible, supportive network that restores confidence, connection, and a sense of belonging.

The research intervention is a process of co-designing a prototype that uses the railway as a spatial guide to enhance orientation and perceived safety. The prototype combines mapping and street design interventions to reconfigure these neglected areas into a legible, supportive network that restores confidence, connection, and a sense of belonging.

DATA INPUT

Spatial inputs:

- 1. Per location mapping process where participants feel unsafe, uncomfortable, or stressed.
- 2. Thematic observations including avoided or anxiety-driven routes.

Experiential inputs:

- 1. Verbal or written descriptions of specific moments (e.g. going home, heading to public transport).
- 2. Emotional responses associated with particular locations or journeys.

Perceptual triggers:

- 1. Reasons for discomfort such as poor visibility, blind corners, isolation, traffic danger, or feeling watched.

User-generated suggestions:

- 1. Why these processes for environmental design interventions at specific points along the route.

OUTPUT

- 1. Visual clustering of high-stress locations and routes noted a re-orientation of the route network rather than a linear path.
- 2. Insights into behavioural patterns, including where women avoid walking, driving, or experience reduced confidence and discomfort.
- 3. Spatial priorities for intervention.
- 4. Evidence to support design-led street interventions.

Prototypes Low-Fi



How to Measure

Experiential data:

Participants' lived experiences, emotions, and perceptions of safety during everyday journeys.

Spatial data:

The physical locations and routes where feelings of safety or stress occur, mapped through place and connections.

Iteration and Refinement:

Feedback from workshop experimentation shows that a simulated environment on paper can effectively identify stress points that remain invisible in conventional planning models. These insights inform iterative refinement of the route network and intervention priorities.

I divided participants into two groups:

One that received an introduction to the map's locations and layout.

The second was given the map without explanation. Each iteration strengthens alignment between lived experience, spatial design, and policy relevance, ensuring that the prototype remains grounded, actionable, and scalable.

Experiment and Feedback- (from workshop 4-experimentation) Psychological Safety Mapping Tool & Community Anxiety Heatmap prototype



- 1. Goals of the experiment:
 - Map women's perceived psychological safety across everyday routes.
 - Identify locations where women feel unsafe or stressed.
 - Explore how these feelings relate to specific locations and routes.
 - Test the prototype's effectiveness in identifying safety issues.

2. Key objectives and design considerations:

- 1. Easy to use: Simple and intuitive design.
- 2. Engaging: Interactive and visually appealing.
- 3. Flexible: Adaptable to different contexts and locations.
- 4. Evidence-based: Grounded in research and user feedback.
- 5. Scalable: Suitable for use in various communities and settings.

3. Design implications:

- 1. Improve perceived safety and confidence.
- 2. Increase awareness of safety issues and potential solutions.
- 3. Inform policy and planning decisions.
- 4. Strengthen community resilience and support networks.

Coherent Action- Tin Wing Kam

Impact on Behaviors & Experiences

Positive:

- 1. Increased confidence and safety during everyday journeys.
- 2. Improved perceived safety and confidence.
- 3. Increased awareness of safety issues and potential solutions.
- 4. Strengthened community resilience and support networks.

Negative / Risks:

- 1. Safety concerns and potential risks during everyday journeys.
- 2. Increased awareness of safety issues and potential solutions.
- 3. Strengthened community resilience and support networks.

Prototype:



4. Key objectives and design considerations:

- 1. Easy to use: Simple and intuitive design.
- 2. Engaging: Interactive and visually appealing.
- 3. Flexible: Adaptable to different contexts and locations.
- 4. Evidence-based: Grounded in research and user feedback.
- 5. Scalable: Suitable for use in various communities and settings.

Leverage Point

Information Flow & Rapid Response Network

Set up simple Safe Spots on Waltham Road so young girls can quickly ask for help, and then rapidly go to nearby trusted staff or police through a clear telephone network.

Project Focus & Predominantly

Redesign how young girls and families ask for help, report issues, or seek support on Waltham Road—in ways that feel easy, safe and respectful. Build a full chain of "how they speak to the system / ask for help / report" via safe routes and safe spots.

Girls safe contact network system on Waltham Rd



SAFE INPUT

- Micro-report network + time + type (visual) + content/signaling/flowing

- Safe Spot layout, distribution + choice among nodes/network/emergency

OUTPUT

- Anonymous database / heatmap for design and policy analysis

- Risk visualization + routing data to police / council / designer / youth org / school

- Visual intervention zones as trigger points or street design actions

Prototypes



Impact on Behaviors & Experiences

- Change nodes and contact + change girls' route choices and dwell + change public surveillance (visibility) structure + influence drive and fear of crime home
- Make help visible and accessible at 5 different urgency events + more reporting and safe route use (intervention hypothesis)

Experiment and Feedback

(from workshop 4 - experimentation)

- Large heatmap based on crime data + site observation highlighted key zones (high crime / low footfall / poor lighting)
- Key learning: immediate response matters; girls may not have time to reach a Safe Spot. Safe Spots therefore function as a safer real space + deterrence, requiring stronger visibility
- Feedback: requiring time doesn't provide real-time support. The police must connect to nearby police for quick communication via support (e.g. staff response) instantly

Feasibility of Prototypes

- Realistic network of nodes (e.g., Newspaper library, Museum, police station, transport hub, market)
- Police example: convert supermarket entrance into a "form-friendly" Safe Spot + Safe Spot with lighting/signage/signage + staff trained as guardians
- Core community arrival support: without creating community tension police and staff act as "guardians"
- High uncertainty stages: girls misidentified the Safe Spot and can distinguish most risks from benignity and staff at police

Iteration and Refinement:

- Refinement 1: test coverage and blind spots via "risk zones" + Safe Spot distribution
- Refinement 2: shift from "single-point help" to "visible deterrence + safe resting space" strengthen signage
- Refinement 3: add a real-time response chain: Safe Spot + online platforms + nearby staff/police communication
- Next steps: test comprehension (A options / B buttons) and response time + willingness across different node layouts

Coherent Action- Hongyu Wang

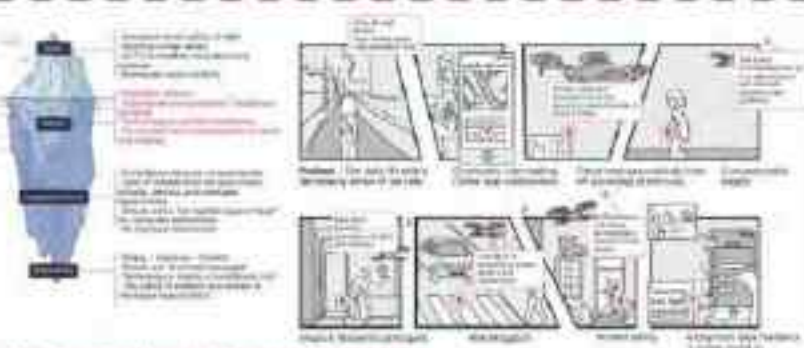
Leverage Point

Ergebnisidentifikation & -separation

Transformations
to reduce the structural safety, increase reliability,
and productivity of construction and giving workers
working environments through a Co-operative
Industrialisation-Construction system.

Project Focus & Predominantly

To redesign the everyday movement experience of children and women in Waverly by giving them not only safety, but agency, instead of relying on surveillance or policing, the project builds a community technology governance system that supports people throughout the day and across different contexts, not only at night.



Co-Generated Image Compression System

A culture system where courses are governed by the community, not an individual, kept.



Prototypes Hi-Fi



How to Measure

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Feasibility of Prototypes

This system relies on mature civilian drones, geosensing, and community infrastructure. It avoids introducing advanced surveillance technologies, instead allowing residents to collaboratively define governing rules and priorities. Its feasibility lies not only in its contextualized technology and cheap but also in its multilingual, low-barrier-to-entry public participation mechanisms and the governance capabilities of neutral coordinating organizations.

In the short term, the system can enhance safety visibility and trust; in the long term, it helps reshape urban safety perceptions, viewing streets as intercommunity manageable public spaces. Overall, the system is realistically feasible in terms of operation, organization, technology, and finance.

Testing and Feedback

(from workshop 4 - experimentation)

death day | pronounced death | death means the end of life

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† For a complete list, please visit www.sagepub.com. Wherever relevant, we have also provided the journal title and the page range of the article.

Impact on Behaviors and Experiences

That on-powered system that safety from indoors is supplied should be improved, increasing its efficiency and giving the preference to electricity in conversion and making complete transition. Safety is enhanced by public use of other fuel alternatives, drawing away the gas industry's attention and reducing gas use.

Experiment

From 4 to 6 mg phentolamine administered orally.
 Note: The most common phentolamine side effect is "feeling hot."
 Note: Phentolamine is used as a "rescue" vasodilator.

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1. **What is the purpose of the study?**
 2. **What are the research objectives?**
 3. **What is the research methodology?**
 4. **What are the results of the study?**
 5. **What are the conclusions of the study?**
 6. **What are the limitations of the study?**
 7. **What are the implications of the study?**
 8. **What are the future research directions?**
 9. **What are the references of the study?**
 10. **What are the appendices of the study?**

Source: <http://www.fishbase.org> (2010-09-08)



Participants emphasized the need for clear ownership and agency—who owns the data, how they change, and how the system responds in everyday situations. As a result, the final system prioritizes community co-governance, allowing shared rules to guide how companion technologies operate in public space. The show is reframed not as a surveillance tool, but as a visible sign of shared care and mutual support.

The project ultimately positions street safety as a relational and adaptive process, shaped by community participation rather than top-down control.

5. Sengupta, T. S., K. von Klitzing, R. J. Quinn & Thomas, Graham and perspectives from experiments in creating a new standard. In *Quantum in the Natural Handbook of Fundamental Physics*, ed. J. J. Hall, pp. 3-12. © London: 1994. The Quantum Book: A Handbook of Fundamental Physics. Cambridge: Perseus Press.

How our prototype connect

Our group design strategies are not rely on a single solution, but intervene from a sequence of 4 prototypes at different level of system. Describing a causal pathway from **listening everyday safety feeling** to **safety street as a public system**:

Prototype 1--Shared Sensing System: Making feelings from young women and children who from multi-language and multi-cultural community visible.

Prototype 2--Passive Guardianship & Safe Paths: By redesigning daily walking path, so that safety becomes embedded in street life, not just in emergency responses.

Prototype 3--Safe Spot & Multi-level Contact System: Transforming that knowledge into concrete options for support and escalation.

Prototype 4--Co-Governed Drone Companion System: By exploring a long-term future, so that technology and community define safety rule together.

Taken together, creating a pathway: individual invisible feeling → shared map and data → safer everyday chosen → accessible support → shared power over how safety technological operate.

Causal Pathways Table

Prototype	Inputs & Activities	Immediate Outputs	Short-Medium Outcomes	Long-Medium Outcomes
Shared Sensing System	Listening residents rate places on Waterworth Rd by using 2 indicators(Brightness, Comfort, Feeling Watched). Through workshop and informal systems to invite residents especially young women and children to add their feeling.	A cross-cultural Safety Experience Map showing where people feel safe, unsafe or watched. A shared, visual language for talking about safety across different cultural and linguistic groups.	Users get a more nuanced understanding of safety that include feeling, not only incidents. Safety information starts to flow across cultural groups instead of staying within one group.	Everyday safety becomes recognized as legitimate knowledge in planning and safe streets discussions. Future decisions are less likely to ignore young, multilingual residents' experiences.
Safe Paths & Passive Guardianship	- Use PI map patterns to identify key segments, corners, and "comfort nodes." - Co-design route maps (lighting priorities, wayfinding, active edges near shops/hubs).	- A set of suggested safer routes + nodes (segments, not only points). - Simple visual cues/signage for everyday navigation.	- Reduced avoidance; more confident independent movement for girls and children. - Increased footfall on safer segments (streets) over informal guardianship.	- Safety becomes embedded in everyday street life, not only emergency responses. - Clear priorities for long-term street design improvements.
Safe Spots & Multi-level Contact System	Designing Safe Spots along main road/stores, coffee shop, libraries, etc./with visible signs and QR and NFC touchpoints. When someone feel unsafe and uncomfortable, the interface will offers several clear options(report/ take/ report/ immediate help).	- A visible network of Safe Spots + a clear contact pathway. - Standardized logo/ interface linked to location and time.	- Lower barrier to seeking help, faster support and escalation when needed. - Increased trust that "someone is there" within everyday routes.	- Safe Spots become part of local safety infrastructure and routine practices. - Shared evidence supports better coordination across community and institutions.
Co-Governed Drone Companion System	- Co-design governance: consent, transparency, limits, accountability. - Define opt-in use cases (visitors/ visibility/alerts), not continuous surveillance.	- A co-governance charter + rules for when/how the system operates. - A future-facing prototype to test social acceptance and risks.	- Clearer community oversight and tech literacy; clearer trust institutions. - Institutions adopt safety tech with stronger legitimacy.	- Safety technologies are defined and constrained by community rules. - A sustainable public model for "safety tech with citizens."

Assumptions, Risks, Uncertainties and Personal reflection



Personal reflections and outcomes

Chen Xiao

In this project, I focused on turning residents' everyday feelings on Walworth Rd into something visible and shareable. By using three simple indicators—Brightness, Comfort, and Feeling Watched—and translating them into a cross-cultural visual language, the Safety Experience Map helps people talk about safety beyond incidents. I learned that low-text, icon-based participation can be more inclusive, and can help safety knowledge circulate across different cultural and linguistic groups over time.

Tin Wing Kam

I worked on shifting the map from "where feels unsafe" to "how we move safely." Using patterns from the shared map, I helped identify key segments, corners, and comfort nodes, then co-designed route cues such as lighting priorities, wayfinding, and active edges near shops or hubs. My key outcome is supporting more confident, independent movement for girls and children, while strengthening informal guardianship by increasing footfall on safer street segments.

Luyang Wang

My contribution focused on designing a practical support layer that people can access in real situations. I developed the idea of a visible network of Safe Spots along the main road, supported by clear touchpoints (signage + QR/NFC) and multiple options—record / talk / report / immediate help. This process taught me that safety also means lowering the barrier to seeking help, building trust that "someone is there," and creating shared evidence that can improve coordination between community and institutions.

Hongyu Wang

I worked on reframing safety technology through governance: consent, transparency, limits, and accountability. Instead of continuous surveillance, the drone companion becomes an opt-in, rule-bound tool (report / visibility / alert) guided by a co-governance charter. The tabletop experiment reinforced that people care less about advanced tech and more about who controls it, how rules change, and how the system responds to daily situations. My takeaway is that legitimacy comes from community-defined constraints—safety tech should be supportive, visible, and collectively governed.

Division of labour

Shared Sensing System: Led the concept and prototyping of the shared sensing approach (Brightness / Comfort / Feeling Watched). Developed the icon-and-color visual language and the Safety Experience Map format, and synthesized key insights from testing into iteration points.

Safe Paths & Passive Guardianship: Led the safe-route intervention based on map patterns, defining key segments, corners, and comfort nodes. Proposed multi-scale (wayfinding, lighting priorities, active edges) and art-collared expected outcomes for everyday navigation and passive guardianship.

Safe Spots & Multi-level Contact System: Led the Safe Spots network design along the main road, including signage and QR/NFC touchpoints. Developed the multi-option support flow (record / talk / report / immediate help) and the basic logging/referral logic for real-world use.

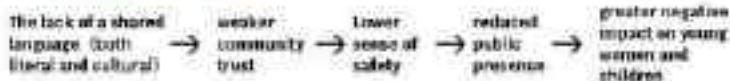
Co-Governed Drone Companion System: Led the co-governed drone companion concept, focusing on consent, transparency, limits, and accountability. Produced the co-governance charter/rules, integrated tabletop feedback, and reframed the drone as a supportive, opt-in public companion rather than surveillance.

*Individual Prototype
(Feasibility Study)*

Shared Safety Perception System

Focus: Low-barrier expression of safety in a multilingual street

To build shared understanding of "safety" across different cultural groups, reducing uncertainty and strengthening trust in Elephant & Castle.



A small, community-led mini-workshop where residents learn.

Participants then apply these words to annotate a shared Safety Map of Walsworth Road.

Design a set of visual and multilingual "Safety Language Cards" that pair simple safety key words with icons and include blank spaces for residents to add their own languages. People use the cards to express what feels safe or unsafe, creating a cross-cultural communication tool.



Create a Shared Safety Map of Walsworth Road by posting a printed map in key streets and inviting residents from different cultural backgrounds to mark how they perceive safety in different locations.

Participants use colour stickers or symbols such as

- Safe for kids
- ⚠ I feel nervous here
- ⚠ People are watching
- ⚠ Dark / empty / not visible

Shared Safety Perception System

Elephant&Castle Cross-Cultural Safety Dialogue System — Low-Fi Hybrid Prototype

Chosen Layer: System Structures & Drivers

— specifically, Information Flow

Across Elephant&Castle and Northwest Road, different cultural groups use different words, concepts, and cues to describe "safety."

Because there is no shared language or shared map of safety experiences:

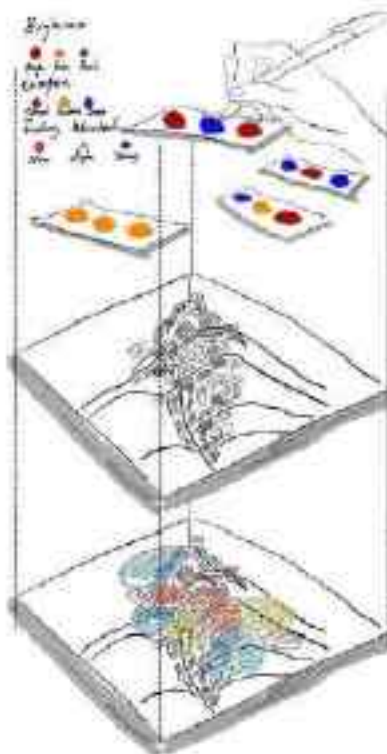
- safety information stays within cultural silos
- misunderstandings spread
- youth, young women, and children avoid certain areas
- community trust becomes weaker

This prototype intervenes directly in the system's "Information Flow" structure, enabling safety knowledge to become transparent, shared, and co-constructed across cultures.



Shared Safety Perception System

System Flow – From Individual Feelings to Shared Safety



1. Express – Individual safety feelings

Residents use Safety Concern Cards to mark places where they feel brightness, convenience or safety with red, yellow or blue.

English icons and keywords help the language barrier, or taking photos and audio can capture ideas even if they are not confident in English.

2. Aggregate – Shared Safety Map

Inputs from worksheets and online data are aggregated into a shared safety map of the neighbourhood.

Look at the map, read the experience, record by brightness, comfort and feeling satisfied.

The map can provide feelings and safety perception patterns that are used for local guidance.

3. Feedback & Act : Community-facing Safety Work

The map is shared with community leaders and residents to guide the work.

Residents, youth groups and local businesses can see hotspots, identify risks and resources, and use the map as evidence to discuss small safety improvements.



Shared Safety Perception System

Elephant&Castle Cross-Cultural Safety Dialogue System — Low-Fi Hybrid Prototype

Using hand-drawn map and data stickers to represent the sensing, which is lightweight, comfortable and feeling working. The system can mark the route and control what to show before using the system. It can also control the content of the system, which is not standard app, but a visual place in which platform is considered as a way to use, sharing the same data as the physical board.

Offline Community Board



Online Map



Shared Safety Perception System

Elephant&Castle Cross-Cultural Safety Dialogue System

— High-Fi Hybrid Prototype

Offline Community Board



Online Map



Shared Safety Perception System

Experimentation & Learning

1. Aims of the experiment

The aim of this experiment is to check and explore whether a shared safety perception system could help study road condition better.

1.1. Aim to participants

- Q1: The road condition could use those three warning (red color for hazardous, orange for conflict, and green for safe).
- Q2: Whether the map and community board can be used as a communication tool in raising of safety feeling within the same place.
- Q3: Whether it is better making a shared could reduce the risk that people think is not shared and purely individual conditions.

2. Comparative experiment: set-up and data

It appears whether the principle could operate in the real life setting. It was prepared a comparative experiment into the workshop, focusing on key design choices within the shared safety perception system: whether participants would respond more readily to icon, color and size text elements than to text related instructions, and whether icons, colors can understand the (marked) map without any reminder.

In the first stage of the experiment, I invited three participants from different districts and asked them to share their safety experiences on the map using their flower language they felt best because that is roughly all three offers to write in their mother tongue, combining their associations with three color codes to highlight on second way participants responding to the three warning indicators. In the second stage, I invited new participants who haven't taken part in the initial marking to interpret the warning map using only the three language indicators and text coloring. They were asked to read and analyze the map—for example, identifying which areas appeared to be more severe, and where the map of being watched seemed to cluster.



3. Key insight and design implications

This experiment has collected several form data and evidence: the participants feel more quickly and better understanding with color and font than written text and explanations, which was more likely to participate in information flow.

And what I found in the process, participants prefer to mark issues and concerns before their early point, which suggests me that the system needs to support suggestions and clusters instead of only a feedback point.

At last, when multiple markers appeared in the same area, several participants explicitly referred that "it's not just me", which confirms the shared making safety feeling within a community to the community goal.



Shared Safety Perception System

Feasibility Study (1/2)

1. Context and target users

This application scenarios of the prototype is Walworth Rd in Elephant & Castle, which is a diverse, multicultural and multilingual high street where transport hubs, housing, schools, shops and night-time venues overlap in a relatively constrained urban corridor.

The main stakeholders of Shared Safety Perception System is young women and children, they often need to adjust their behaviour (noise, timings, clothing) to get the sense of safety. At same time, this system can benefit to the local shop owners, community organisations, schools and youth clubs, the emerging safety map can function as a conversational card and a participatory evidence for them, and it also can be used when reflecting on safety, public space and everyday mobility.

2. Implementation model

In practical term, the shared safety perception system would not be hosted by single designer but the local actor, such as community organisations, schools and youth charity and neighbourhood forum.

On the offline channel, a shared safety board will be installed in visible public location such as a entrance of library, school and community centre, and through regular workshop to update it. The residents will be invited to add new marks and reflect the change of street environment, and discussing the map to enhance community trust.

Online channel, the system take the form of a lightweight embedded mini-app rather than a standalone application, through scanning the QR code in the community board can enter the digital shared safety map. The input marks from both online and offline will be uploaded in a same dataset, for ensuring that offline and online views remain synchronised.

3. Resources required

The resources required to implement the system at the street are modest and relatively predictable.

Human resource: At least one part-time coordinator would be responsible for organising workshops, maintaining the physical board, moderating the digital map and liaising with partner organizations. In workshop, the coordinator can be supported by volunteer, youth workers and student for explanation and recording.

Material resource: Offline part rely on low-cost material, including print Walworth map, three poster stickers, written tools and durable poster board or pinboard. A small amount of publicly accessible wall or floor space is needed for hosting workshop activities.

Digital resource: The digital component can be made as a simple mini-app using existing mapping tools and basic database services, rather than a fully engineered app.

Shared Safety Perception System

Feasibility Study (2/2)

A. Scalability

The Shared Safety Perception System was designed with consideration for other areas than walkworth from the very beginning. On the one hand, the model can be replicated on the other streets in Highbury & Canon by changing the main map, keeping the same icon, color and workshop system. On the other hand, it also can be transfer to other multilingual and multicultural communities. In addition, this map can be embedded into existing project like street safety education, youth protection project or local council consultations, so that it can be a visible and evidence example support for these project.

B. Short-term and long-term effects

In the short-term effects, this system is expected to make everyday safety experience more visible across different user group:

- (1) Everyday worries about safety become shared, mapped (information) instead of remaining private.
- (2) Does residents a concrete companion tool. Young women and children can compare different walking routes and identify where they feel comfort and safe.
- (3) Supporting a reference to the local organisations to have improvements in some aspects, like lighting, crossing, spotting mark, etc.

However, in this stage there is also a risk that highlight "unsafe" areas may unintentionally stigmatize particular streets or businesses, especially if the map is read without context.

Over the longer term, if maintained with community partners, the system has the potential shift from prevention to connecting with community built.

- (1) Build shared norms in public space. New shared norms around care, attentiveness and acceptable behaviour on a diverse high street like Watworth Road.
- (2) Creates a participatory evidence base. Provides residents' generated evidence to inform future regeneration and safety policies.

At the same time in the longer term, two key risks need to be acknowledged.

- (1) If certain areas receive very few positive markings over an extended period, the map may unintentionally reinforce existing stigma or even generate new forms of discrimination.
- (2) If the physical board and digital map are not regularly maintained, updated and communicated, they may gradually become outdated or ignored, so that reducing public and community trust.

C. Conclusion

This project construct a shared safety system, through offline board and online digital map, residents' feelings of brightness, comfort and feeling watched are turned into a visible, shared map rather than remaining private worries. Experiments show that icon and color, low-text prompts are more inclusive and inclusive. And the feasibility show that, with modest resources and local partners, the system is realistic at community scale and can be expanded to other streets. At the same time, the project also has long-term risks that the map may coarsen the marginalization of some areas, which means ongoing maintenance, careful framing and inclusive facilitation are essential.

Final Presentation PPT



Royal College of Art
Foster Wheeler Art & Design

25-DIT105 Complex Systems

Group 4

Youth, Play and Safety

Address how children and young girls experience the street

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Youth, Play and Safety

Address how children and young girls experience the street

TOPIC

Youth, Play and Safety

Address how children and young girls experience the street

WHO

Children (ages ~5-12)

Young Girls (ages ~8-16)

Play

learn and development,
Fun, social skills,
physical coordination,
creativity

When

future 5-10 years

Safety

Physical
Security
Psychological-
Emotional

Unsafe Space

Refer to street areas
that induce physical,
social, or
psychological stress
for children and
young girls.

Low-lighting zones
Traffic-heavy junctions
Commercialised/empty street segments
Narrow pavements
Areas where girls feel
Watched

QUESTION STATEMENT

In Elephant & Castle, rapid regeneration and cultural diversity have created a busy but challenging environment. Young women and children often feel unsafe and overlooked, with poor lighting, few inclusive spaces, and streets shaped mainly by commercial needs.

Group intro and project overview



Location :
**Walworth Road
of the
Elephant Castle**

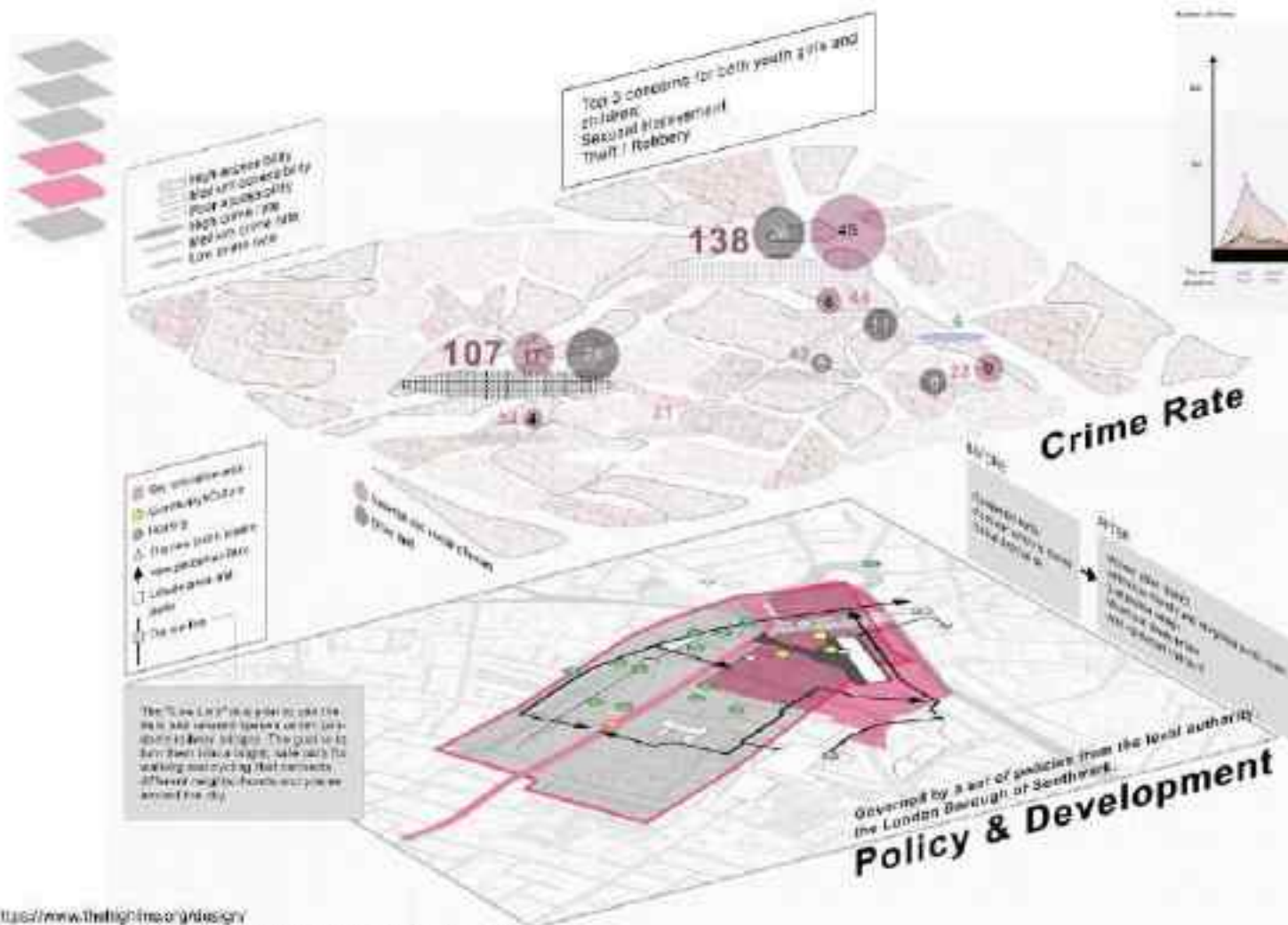
**Why we choice
here :**
Elephant and Castle
was chosen for its
rapid urban
regeneration and
diverse communities,
where vulnerable
groups, especially
young women and
children are often
overlooked.

RESEARCH QUESTION

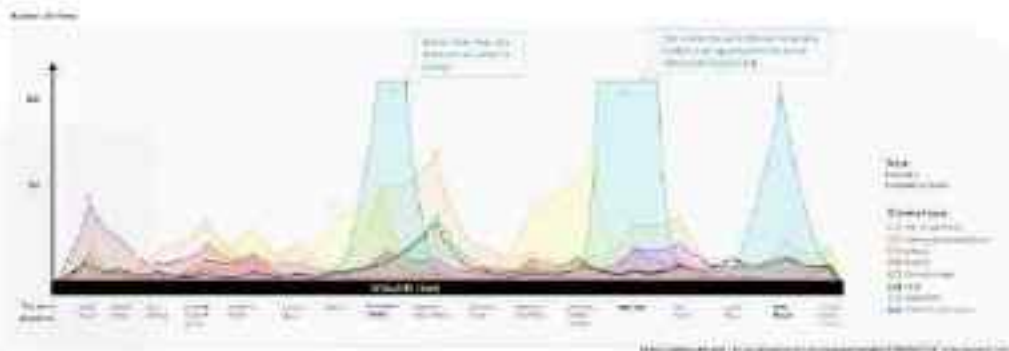
How do policies, community behaviours and urban planning together shape the everyday experiences of young women and children in this area, and how might participatory, interactive design help them reclaim visibility and agency in public spaces?

Youth, Play and Safety

Address how children and young girls experience the street



System map-Policy and Data Landscape



Trade-offs: systemic planning delivers lasting change but cannot quickly address immediate harassment and violence.

Harassment and robbery are key threats along isolated routes, blind corners, under arches, and poorly lit transition spaces-affecting both perceived and actual safety.

Local policy promotes a mixed-use, walkable district, yet regeneration focuses on core sites while everyday routes toward Walworth Road-used by girls-receive less attention. Development priorities therefore direct where safety improvements occur.



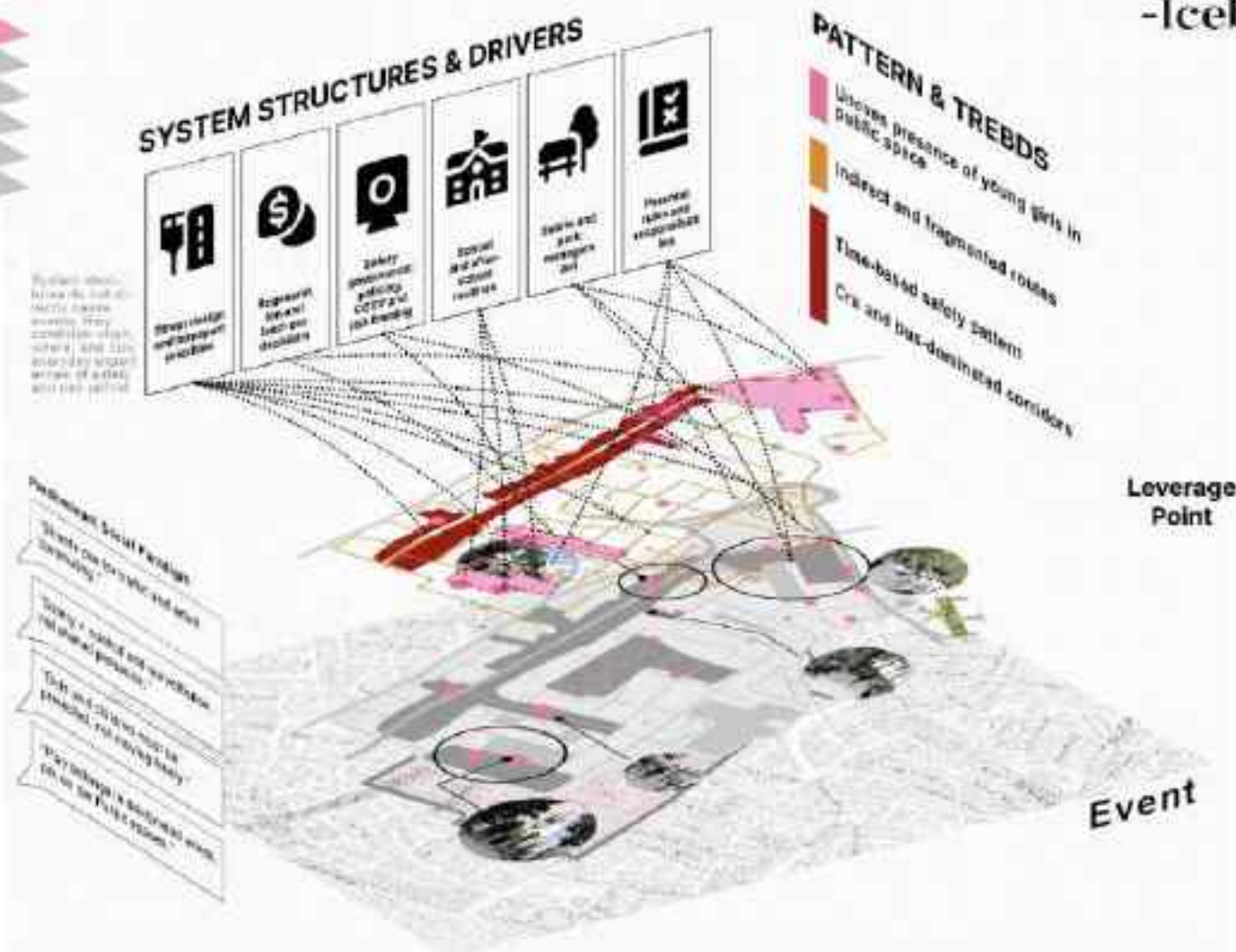
Bottlenecks: multiple stakeholders create long decision chains and coordination delays.



Delays: Elephant & Castle's regeneration is long-term due to multi-department approvals and government funding and procurement delays.



System map -Iceberg Diagram and Leverage Point



PATTERN & TRENDS



1. Community led spatial redesign for safe mobility routes

We intervene in spatial structure because unclear routes and fragmented environments directly reinforce avoidance behaviour and negative safety feedback loops.



2. Co governed street design

We address governance because without redistributing decision making power, safety interventions remain temporary and fail to adapt to lived experience over time.

System Structures & Drivers



3. Information flow and rapid response

We intervene at the information flow level because safety breaks down when signals of fear are delayed, fragmented, or invisible to those who can respond.



4. Shared safety perception in a multilingual street

We address shared perception because safety is shaped not only by events, but by how people collectively interpret and anticipate risk in everyday movement.

Group Strategy:

Build a community-owned safety ecology along everyday routes, combining visible paths, clearer environments, shared understanding, and trusted contact points for young girls and children on Walworth Road.

We shift from reactive, police-only safety towards a care-oriented neighbourhood safety network, starting from everyday safe spots where girls can reach help early.

Community-led & co-designed

Children helped select designs, multi-ethnic residents collaborated to create safety language, and girls participated in testing and naming the Safe Spot.

Not policing-only, is care-oriented community safety.



Our group design strategies are not rely on a single solution, but intervene from a sequence of 4 prototypes at different level of system.
Describing a causal pathway from **listening everyday safety feeling** to **safety street as a public system**:



Xiao Chen

Tiffany

Navia

Sherry

Topic



**Issue
Revelation**



**Emotion Identification
& Spatial
Transformation**



**Information Flow &
Rapid Response Network**



**Institutionalization
and Co-Governance**

Problems

Language barriers

Visual Bridge- Use visuals to
surface unspoken safety concerns.

Unsympathetic street design

Spatial Design: Community-Led Spatial
Redesign to Establish Intuitive and
Safe Mobility Routes

Fragmented safety data

Translate Visual Consensus-
convert visual signals into actionable
safety data.

One-way governance

Practice Tangible Co-Governance-
enable visible, participatory decision-
making.

Project
Brief

Use visual cues to reveal hidden
safety fears without relying on
language, creating a shared,
intuitive channel for expression.

Emotional data from girls'
experiences is translated into
spatial signals that reshape how
safety is perceived and navigated.

Personal safety signals are
converted into shared data,
enabling real-time communication
between users, designers, and
institutions.

Distributed safety data supports
collaborative decision-making
between communities, designers, and
public institutions.

Project
Type



Service Design / System Design



Service Design / System Design



Service Design / System Design

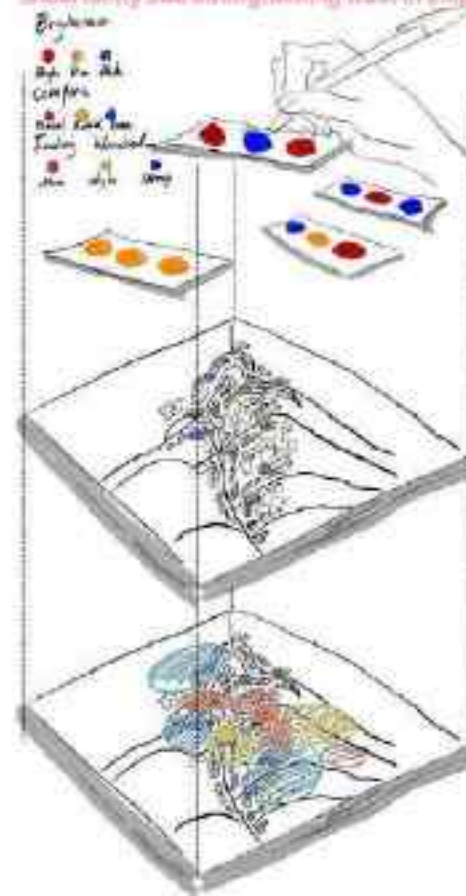


Service Design / System Design

Shared Safety Perception System

Focus: Low-barrier expression of safety in a multilingual street

To build shared understanding of "safety" across different cultural groups, reducing uncertainty and strengthening trust in Elephant & Castle.



The lack of a shared language (both literal and cultural) → weaker community trust → Lower sense of safety → reduced public presence → greater negative impact on young women and children

1. Express - Individual safety feelings

Residents use Safety Dialogue Cards to mark places where they feel bright/dark, comfortable/tense, watched/unnoticed.

Simple icons and key words lower the language burden, so young people and adults can participate even if they are not confident in English.

2. Aggregate - Shared Safety Map

Inputs from workshops and online channels are combined into a Shared Safety Map of Walworth Road.

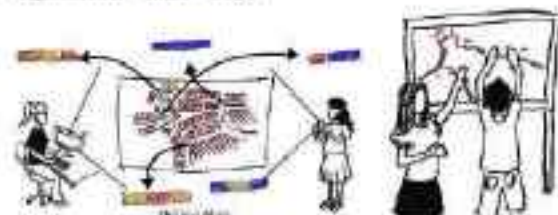
Each dot represents a lived experience, coded by brightness, comfort and feeling-watched.

The map turns private feelings into visible collective patterns that anyone can read at a glance.

3. Feed back & Act : Community-facing Safety Wall

The map is printed on a community board and mirrored on a digital map.

Residents, youth groups and local institutions can see hotspots, recognise shared concerns, and use the map as evidence to discuss small safety improvements.



Experiment



Prototypes Low-Fi



Prototypes Hi-Fi



Safe Paths & Passive Guardianship

Leverage Point Spatial Design Blueprint: From Blind Spots to Legible Urban Routes, Making Insecurity Visible

Spatial Design: Community-Led Spatial Redesign to Establish Intuitive and Safe Mobility Routes

Fragmented and overlooked street spaces undermine young women's perceived safety, shaping avoidance behaviours and limiting everyday mobility.

Project Focus & Predominantly

Design Blueprint: From Blind Spots to Legible Urban Routes, Making Insecurity Visible

This project focuses on:

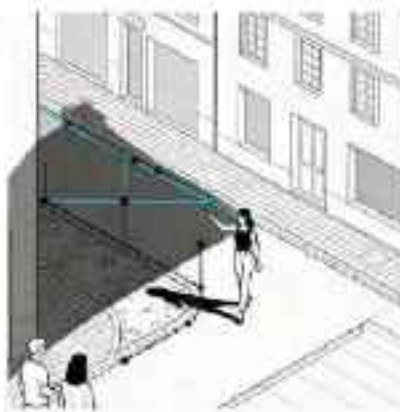
(1) identifying overlooked blind spots and residual urban spaces and connecting them into a visible route as a guiding spatial element, that reveals existing safety issues rather than concealing them, increase the sense of orientation and perceived security.

(2) In parallel, street design interventions are proposed to improve environmental quality and transform these neglected areas into safer, more legible, and more supportive public spaces for everyday use.

Iterative testing through low-fidelity prototypes and walk-through scenarios

Prototyping: Psychological safety mapping and community safety heatmaps

Blueprint: Integrating women and girls' embodied experiences into spatial



Impact

Positive

- Improved visibility and wayfinding increase confidence
- Child-friendly, co-designed spaces support autonomy and belonging

Risks

- Inactive streets and low visibility increase anxiety and avoidance

Prototypes Low-Fi



This low-fi prototype maps how fragmented moments of visibility and activity shape young women's perceived safety, revealing an otherwise invisible unsafe route formed through accumulated spatial stress.

Experiment and Feedback (from workshop 4 - experimentation)



Findings and development (prototype)



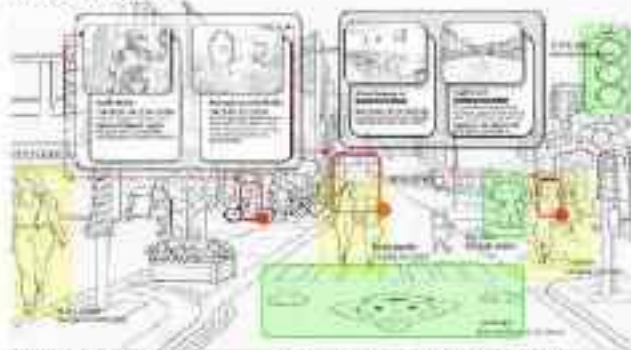
I divided participants into two groups: the first received an introduction to the map's locations and layout.

The second was given the map without explanation.

Key insights and design implications

- Tear in route-based, not location-based
- Main triggers include poor lighting, blind corners, isolation, feeling watched, and traffic danger
- Perceived safety strongly affects women's confidence and willingness to walk

Micro Blueprint



Design implications

- Improve continuous visibility and clear sightlines
- Activate streets through mixed-use and passive surveillance
- Redesign crossings to reduce traffic stress
- Integrate emotional data into urban planning tools

1. Where does discomfort begin?
2. How do small changes shift behaviour?

Spatial focus:

- corners, poles, walls, eye-level cues, and ground markings
- eye-level cues and ground-level signals
- visual dominance controls
- design logic
- modular, plug-in interventions
- catalogue of repeatable micro-interventions

Girls' Safe Contact Network on Walworth Road

Service Design / System Design

Focus on How can we redesign how young girls and families can ask for help, report issues, or seek support on Walworth Road, in ways that feel easy, safe and respectful?

Leverage Point System structures & drivers

Leverage Point 1 : Information Flow & Rapid Response Network

Set up simple Safe Spots on Walworth Road so young girls can quickly ask for help, and their signals go to nearby trusted staff or police through a clear response network.

Leverage Point 2 : Street-level Spatial Design

Prototyping showed that Safe Spots cannot just be "icons on the map"; they must feel like micro safe zones in the street.

Prototype 1 – LEGO Spatial Model of Safe Spots & Risk Zones



Prototype 2 – Sticker-Based Street Scenario Test

Method

Participants are required to select and record the perceived severity level based on street conditions?

- Record situation
- Talk with staff
- Alert the police
- Emergency alarm

This system serves to assess the necessity of establishing "Talk with" and police checkpoints.

Feedback



How the System Works in Practice

On the street - Offline protection and data collection

Quick actions in the phone:
In the Girls' Safe Contact Network, there are four simple actions, all accessed through a phone shortcut (QR / NFC / home-screen icon)

- Record situation
- Talk with staff
- Alert the police
- Emergency alarm

Safe Spot - Street Buffer Point

Each Safe Spot is a small, clearly visible safety zone in the street. It includes:

- A defined, visible space
- Camera coverage
- Seating / perch space
- Warning / information sign
- Physical alarm button (Emergency mode)
- Phone-based quick actions

In many cases, the main action is **Talk with staff**.



In the backend - Information Flow Organisation

- The Safe Spot sends tagged data (time, place, severity level, chosen action) to a shared dashboard.
- Nearby staff receive a low-barrier alert.
- More serious cases trigger police notice or emergency escalation, depending on the action selected.

For long-term planning

- Aggregated data (no personal info) shows hot spots, recurring time bands, and patterns of fear.
- Planners and community groups use this to redesign routes, add or move Safe Spots, improve lighting, or adapt school travel policies.

Co-Governed Companion System

Project Focus & Predominantly

To redesign the everyday movement experience of children and women in Walworth by giving them not only safety, but agency.

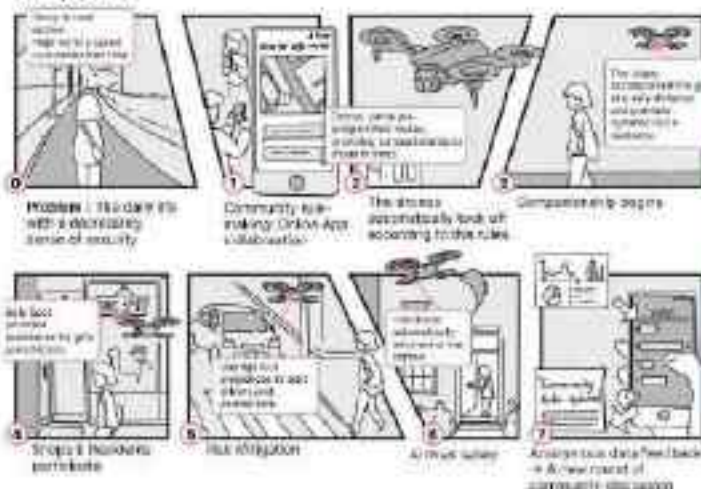
Instead of relying on surveillance or policing, the project builds a community-technology co-governance system that supports people throughout the day and across different contexts, not only at night.

Leverage Point

Emotion Identification & Spatial Transformation

Increase the relational safety, shared visibility, and predictability of children's and young women's walking environments through a co-governed technological-community system.

Storyboard



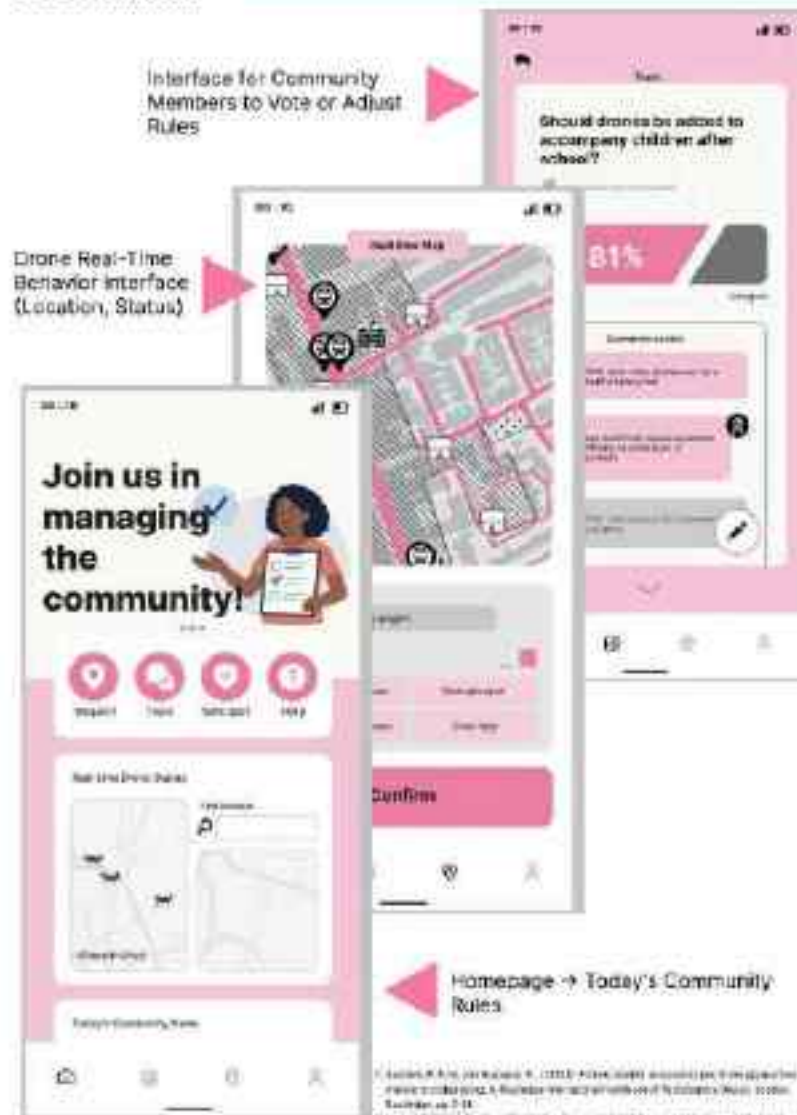
Prototypes



Impact

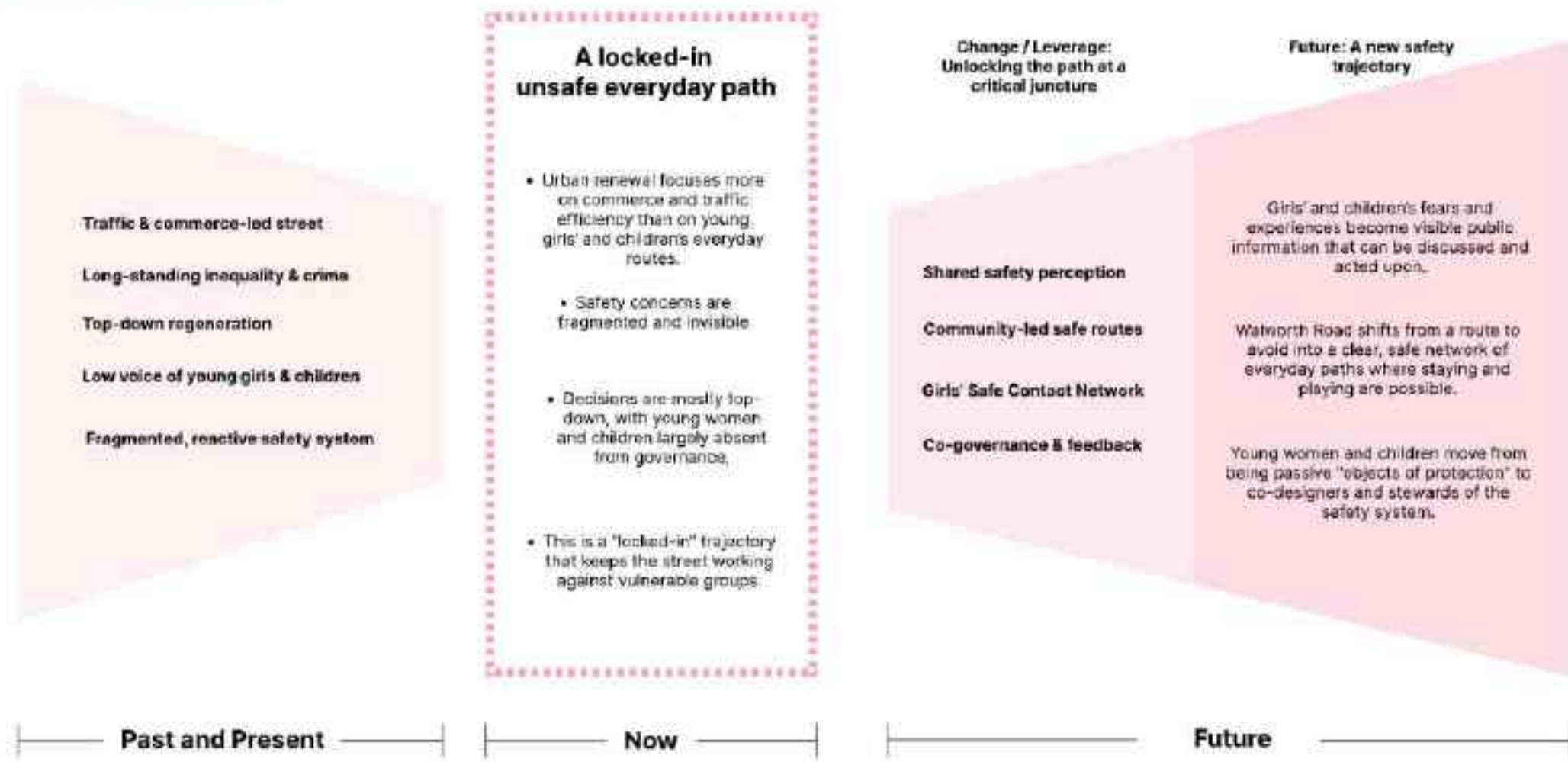
- Shifts safety from individual coping to shared responsibility
- Increases children's and young girls' confidence and independent movement
- Safety is perceived as visible care, not control

Co-Governed APP



Causal Pathways Table

Prototype	Inputs & Activities	Immediate Outputs	Short-Medium Outcomes	Long-Medium Outcomes
Shared Sensing System	Letting residents rate places on Welworth Rd by using 3 indicators (Brightness, Comfort, Feeling Watched). Through workshop and informal sessions to invite residents especially young women and children to add their feeling.	A cross-cultural Safety Experience Map showing where people feel safe, unsafe or watched. A shared, visual language for talking about safety across different cultural and linguistic groups.	Users get a more nuanced understanding of safety that include feeling, not only incidents. Safety information starts to flow across cultural group instead of staying within one group.	Everyday safety becomes recognised as legitimate knowledge in planning and safer-streets discussions. Future decisions are less likely to ignore young, multilingual residents' experiences.
Safe Paths & Passive Guardianship	- Use P1 map patterns to identify key segments, corners, and "comfort nodes." - Co-design route cues (lighting priorities, wayfinding, active edges near shops/hubs).	- A set of suggested safer routes + nodes (segments, not only points). - Simple visual cues/signage for everyday navigation.	- Reduced avoidance; more confident, independent movement for girls and children. - Increased footfall on safer segments strengthens informal guardianship.	- Safety becomes embedded in everyday street life, not only emergency responses. - Clear priorities for long-term street design improvements.
Safe Spots & Multi-level Contact System	Designing Safe Spots along main road (store, coffee shop, library, etc.) with visible signs and QR and NFC touchpoints. When someone feel unsafe and uncomfortable, the interface will offers several clear options (record/ talk/ report/ immediate help).	- A visible network of Safe Spots + a clear contact pathway. - Standardised logs/referrals linked to location and time.	- Lower barrier to seeking help; faster support and escalation when needed. - Increased trust that "someone is there" within everyday routes.	- Safe Spots become part of local safety infrastructure and routine practice. - Shared evidence supports better coordination across community and institutions.
Co-Governed Drone Companion System	- Co-design governance: consent, transparency, limits, accountability. - Define opt-in use cases (escort/ visibility/alert), not continuous surveillance.	- A co-governance charter + rules for when/how the system operates. - A future-facing prototype to test social acceptance and risks.	- Greater community oversight and tech literacy; clearer trust conditions. - Institutions adopt safety tech with stronger legitimacy.	- Safety technologies are defined and constrained by community rules. - A sustainable public model for "safety tech with consent."



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Thank you.

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