

Static Sensory Mapping Report - Milestone 2

Cover page

This research is funded by iMOVE CRC and supported by the Cooperative Research Centres program, an Australian Government initiative.

<i>iMOVE project number and title</i>	3-048 Sensory Sensitivity
<i>Milestone number and deliverable name</i>	Milestone 2 - Static Sensory Mapping Report (including annotated site maps, mapping methodology, sensory trigger categories, and user feedback from validation phase).
<i>Report Completed by</i>	Anna Wright - MapitX trading as BindiMaps Keith Urquhart - MapitX trading as BindiMaps
<i>Date of Report</i>	17 December 2025

Cover page.....	1
Executive Summary.....	3
1. Introduction.....	4
2. Project Context and Objectives.....	4
3. Sensory Mapping Approach.....	5
4. Mapping Methodology.....	6
4.1 Sensory Sensitivity Audit.....	6
4.2 Development of Sensory Trigger Categories.....	6
4.3 Creation of Static Sensory Maps.....	7
4.4 Digital Translation and Prototype Implementation.....	7
4.5 Review and Iterative Refinement.....	7
5. Sensory Trigger Categories.....	8
5.1 Sound (Auditory Sensory Triggers).....	8
5.2 Light and Visual Sensory Triggers.....	9
5.3 Smell and Airflow.....	9
5.4 Tactile, Spatial, and Proprioceptive Triggers.....	9
5.5 High Sensory Load Areas.....	10
Summary.....	10
6. Annotated Site Maps.....	10
7. Prototype Used for Validation.....	11
8. Validation and User Feedback.....	11
8.1 Validation Participants.....	11
8.2 Validation Process.....	12
8.3 Emerging Feedback Themes.....	12
8.4 Ongoing Analysis and Refinement.....	12
8.5 Qualitative Data Analysis Approach.....	13
9. Key Findings and Implications.....	13
9.1 Feasibility of Static Sensory Mapping.....	13
9.2 Value of Lived Experience in Defining Sensory Triggers.....	14
9.3 Insights from Initial Focus Group.....	14
9.4 Importance of Representing Cumulative Sensory Load.....	15
9.5 Role of Static Sensory Information in Preparation and Anticipation.....	15
9.6 Implications for Subsequent Project Stages.....	15
10. Next Steps.....	16
Appendix A: ASPECT Sensory Sensitivity Audit and Annotated Site Maps (PDF).....	17
Figure A1: ASPECT Sensory Sensitivity Audit – Paper-Based Sensory Map.....	17
Figure A2: ASPECT Sensory Sensitivity Audit – Action Plan Document.....	18
Appendix B: BindiWeb Digital Prototype Screenshots (Validation Purposes Only).....	19
Figure B1: BindiWeb Prototype – Initial Map View (Landing Screen).....	19
Figure B2: BindiWeb Prototype – Static Sensory Overlays and Trigger Annotations.....	20
Figure B3: BindiWeb Prototype – Action Plan View (Clickable Guidance).....	21
Figure B4: BindiWeb Prototype – BindiView Visualisation Example.....	22

Executive Summary

The Sensory Sensitivity Wayfinding project aims to improve the accessibility of public transport environments for people with sensory sensitivities by exploring how sensory information can be identified, represented, and communicated through digital wayfinding tools. Led by BindiMaps and supported by iMOVE CRC, the project focuses on grounding wayfinding design in lived experience, with auditory sensitivity identified as a core consideration alongside other interacting sensory inputs.

This Milestone 2 deliverable presents the Static Sensory Mapping Report, which documents the approach, outputs, and initial learnings from the static sensory mapping phase of the project. In collaboration with ASPECT, a sensory sensitivity audit was undertaken to identify static sensory characteristics across a selected public transport environment. This audit produced paper-based sensory maps and notes informed by specialist expertise and lived experience. These outputs were used to define sensory trigger categories and create annotated static sensory maps.

To support validation, the static sensory mapping outputs were translated into a low-fidelity digital prototype within the BindiWeb platform. The prototype was developed solely as a research and validation tool, enabling participants to review and interpret sensory information in a digital context. Validation activities included iterative review by ASPECT staff with lived experience and a facilitated focus group with additional participants with sensory sensitivities. Feedback from these activities is currently being analysed and has informed initial refinements to sensory categories, annotations, and representation approaches.

Key findings from Milestone 2 confirm that static sensory characteristics can be systematically identified and mapped, and that lived experience is critical in defining meaningful sensory trigger categories. Validation insights also highlight that sensory challenges are often cumulative and that users place strong value on advance awareness and preparation. Importantly, early focus group feedback suggests that planning-oriented representations of sensory information, such as action-focused guidance supported by visual context, may be more intuitive and useful for users than map-centric interfaces alone.

The work completed under Milestone 2 establishes a validated, user-informed foundation for subsequent stages of the project. Findings from this phase will inform ongoing refinement of sensory representations, prioritisation of sensory inputs, and exploration of alternative ways to present sensory information in future development and testing, while maintaining alignment with the project's objective to support confident and independent navigation for people with sensory sensitivities.

1. Introduction

This report documents the delivery of Milestone 2: Static Sensory Mapping for the Sensory Sensitivity Wayfinding project, funded through iMOVE CRC and led by BindiMaps. The purpose of this milestone is to establish and validate an approach to identifying, categorising, and representing static sensory characteristics within public transport environments, and to assess the suitability of these representations for inclusion in digital wayfinding tools.

The Static Sensory Mapping Report describes the process undertaken to develop sensory maps and trigger categories in collaboration with ASPECT, translate these outputs into a digital prototype within BindiMaps' BindiWeb platform, and validate the resulting representations with people who have lived experience of sensory sensitivities. The report includes an overview of the mapping methodology, annotated site maps, defined sensory trigger categories, and findings from the validation phase. Together, these elements provide a grounded evidence base to inform subsequent stages of the project, including further refinement of sensory representations and future prototype development.

2. Project Context and Objectives

People with sensory sensitivities, including many autistic people and those with sensory processing differences, often encounter significant barriers when navigating public transport environments. Sensory characteristics such as noise, lighting, visual complexity, crowding, and spatial transitions can increase stress and reduce confidence, limiting the ability to travel independently. While auditory sensitivity was identified as the initial primary focus of this project, lived experience consistently demonstrates that sensory challenges are rarely experienced in isolation, and that multiple sensory inputs often interact to shape a person's navigation experience.

The Sensory Sensitivity Wayfinding project was established to explore how digital wayfinding tools can better support people with sensory sensitivities by making sensory characteristics visible, predictable, and navigable. The project aims to develop a research-informed framework for sensory-sensitive wayfinding that can be embedded within BindiMaps' digital platforms and adapted for use across a range of public transport and public space contexts.

The objective of Milestone 2 is to demonstrate the feasibility and value of static sensory mapping as a foundation for sensory-sensitive wayfinding. To achieve this, BindiMaps partnered with ASPECT to undertake a sensory sensitivity audit of selected environments. ASPECT developed paper-based sensory maps and accompanying notes informed by specialist expertise and lived experience. These outputs were then translated into a digital prototype within BindiWeb to support structured review and validation.

Specifically, this milestone seeks to:

- Define a clear and replicable approach to identifying and documenting static sensory characteristics within public transport environments
- Establish sensory trigger categories informed by lived experience and specialist input, with auditory sensitivity remaining a core consideration
- Produce annotated site maps that represent sensory information in a form suitable for digital wayfinding contexts
- Validate the clarity, usefulness, and interpretability of these representations through review by people with lived experience of sensory sensitivities

This milestone does not seek to measure outcomes or assess impact. Instead, it provides the conceptual and practical groundwork required for subsequent stages of the project, including refinement of sensory representations, prioritisation of sensory inputs for future development, and progression toward more advanced prototype features.

3. Sensory Mapping Approach

The sensory mapping approach for this milestone was designed to ensure that static sensory information was grounded in lived experience, interpretable by users, and suitable for translation into a digital wayfinding context. The approach combined specialist-led sensory auditing, collaborative refinement, and user validation, progressing from paper-based artefacts to a digital prototype representation.

BindiMaps partnered with ASPECT, an organisation with specialist expertise and lived experience in sensory sensitivity and autism, to lead the initial sensory mapping activity. ASPECT conducted a sensory sensitivity audit of the selected environment, producing paper-based sensory maps and accompanying notes that identified key sensory characteristics and potential sensory triggers across the site. This work drew on both professional practice and lived experience, ensuring that the identified sensory elements reflected real-world navigation challenges.

While the project application identified auditory sensitivity as an initial primary focus, the sensory mapping approach intentionally incorporated a broader range of sensory inputs where these were identified by ASPECT as relevant to user experience. This decision reflected the interconnected nature of sensory processing and ensured that the resulting maps provided a realistic and holistic representation of the environment. Auditory sensory characteristics remained a core consideration throughout the mapping process and were treated as a priority input for future stages of the project.

Following completion of the paper-based sensory maps, BindiMaps translated the ASPECT outputs into a digital prototype within the BindiWeb platform. This prototype implemented the

static sensory maps and trigger categories in a format that allowed users to view, interpret, and interact with the sensory information as it would appear in a digital wayfinding context. The prototype was not intended as a deployed product, but as a research and validation tool to support structured review and feedback.

ASPECT staff reviewed the digital prototype and provided feedback on the representation, terminology, and clarity of the sensory information. Iterative refinements were made to the prototype based on this feedback to improve alignment with lived experience and reduce potential sources of confusion or misinterpretation.

The refined prototype was then used in a facilitated focus group with five participants with lived experience of sensory sensitivities. The focus group explored how participants interpreted the sensory maps and categories, how the sensory information was presented and understood, and how useful the information was for preparation and navigation planning. Feedback from both ASPECT reviewers and focus group participants was captured, with detailed analysis ongoing, and is being used to inform refinement of the static sensory mapping framework and approaches to representing sensory information in subsequent project stages.

4. Mapping Methodology

The static sensory mapping methodology for this milestone was designed to be systematic, repeatable, and grounded in lived experience. The methodology progressed through a series of defined stages, from specialist-led sensory auditing to digital representation and user validation. Each stage informed the next, enabling iterative refinement while maintaining a clear audit trail from initial observations to validated outputs.

4.1 Sensory Sensitivity Audit

ASPECT conducted a sensory sensitivity audit of the selected environment (Adelaide Railway Station), drawing on specialist expertise and lived experience of sensory sensitivities. The audit focused on identifying static sensory characteristics that may influence navigation, comfort, and stress levels for people with sensory sensitivities. Observations were recorded using paper-based site maps and structured notes, allowing sensory characteristics to be spatially referenced and contextualised within the environment.

While auditory sensory characteristics were a primary focus, the audit also captured other sensory inputs where these were identified as relevant by ASPECT. This ensured that the mapping reflected the real-world, multi-sensory nature of the environment and avoided isolating sensory factors that are commonly experienced in combination.

4.2 Development of Sensory Trigger Categories

Based on the findings of the sensory sensitivity audit, ASPECT defined a set of sensory trigger categories to describe the types of sensory characteristics present within the

environment. These categories were informed by lived experience and professional practice and were intended to be understandable, meaningful, and suitable for representation within a digital wayfinding context.

The categories were designed to be:

- Clear and consistently interpretable by users
- Applicable across different locations and contexts
- Flexible enough to support future refinement and expansion

Auditory-related triggers were explicitly identified within this framework and retained as a core category to support alignment with the project's initial focus and future dynamic data exploration.

4.3 Creation of Static Sensory Maps

The sensory trigger categories were applied to the paper-based site maps to produce static sensory maps that visually represented the location and nature of identified sensory characteristics. These maps included annotations and notes to provide additional context, such as the source of a sensory trigger or the conditions under which it may be more pronounced.

The resulting static sensory maps formed the primary artefacts for Milestone 2 and provided the basis for subsequent digital translation and validation.

4.4 Digital Translation and Prototype Implementation

BindiMaps translated the paper-based static sensory maps and trigger categories into a digital prototype within the BindiWeb platform. This involved implementing sensory layers, annotations, and category labels in a format consistent with existing BindiMaps wayfinding conventions.

The purpose of the digital prototype was to enable users to review and interpret the static sensory information in a realistic digital context. The prototype was not designed for deployment or performance testing, but to support validation of the sensory representations, terminology, and overall approach.

4.5 Review and Iterative Refinement

ASPECT staff reviewed the initial digital prototype and provided feedback on the accuracy, clarity, and interpretability of the sensory representations. Based on this feedback, refinements were made to improve alignment with lived experience and reduce potential ambiguity.

The refined prototype was then used in a facilitated focus group with five participants with lived experience of sensory sensitivities. The focus group explored how participants understood the sensory maps and categories, how the sensory information was presented and interpreted, and where further clarification or adjustment may be required to support preparation and navigation planning.

Insights from both ASPECT review and focus group participation were documented, with detailed analysis ongoing, and are informing continued refinement of the static sensory mapping approach and consideration of how sensory inputs may be prioritised and represented in later stages of the project.

5. Sensory Trigger Categories

This section outlines the sensory trigger categories identified through the sensory sensitivity audit conducted by ASPECT and used in the static sensory mapping process for this milestone. The categories are derived directly from ASPECT's paper-based sensory maps and accompanying notes and reflect the sensory characteristics observed across different areas of the site.

While auditory sensitivity was identified as a primary focus of the project, the categories reflect the broader range of sensory inputs identified by ASPECT as relevant to lived experience. These categories were retained to ensure that the static sensory maps accurately represent the real-world sensory environment and support meaningful validation by users. Auditory-related triggers are identified as a core category and feature prominently across mapped locations.

5.1 Sound (Auditory Sensory Triggers)

Auditory sensory triggers were consistently identified across the site and represent a core focus of the static sensory mapping. These include both continuous background sounds and intermittent or unpredictable noise events that may increase stress or discomfort.

Common auditory triggers observed include:

- Reverberation and sound build-up in large, hard-surfaced spaces
- Multiple simultaneous sound sources, such as announcements, footsteps, trains, alarms, advertising audio, and mechanical sounds
- High-frequency sounds and prolonged beeping, particularly from train doors and turnstiles
- Sudden or unexpected loud noises, including emergency vehicles and metal impacts
- Low-frequency rumble from trains passing overhead or beneath enclosed spaces

These auditory characteristics were frequently noted as compounding over time, particularly in large concourse and platform areas, leading to increased sensory load and reduced comfort.

5.2 Light and Visual Sensory Triggers

Visual sensory triggers were identified throughout the environment and often interacted with auditory stimuli to increase overall sensory load. Lighting characteristics varied significantly between spaces, creating both positive and challenging experiences.

Visual triggers include:

- High-contrast lighting transitions between indoor and outdoor environments
- Bright direct lighting and uncovered uplighting positioned at or near eye level
- Flickering or rolling light sources, including LED panels, advertising displays, and clocks
- Reflective surfaces, such as tiled floors, glass, and ceilings, amplifying glare and visual complexity
- High visual information density from signage, advertising, and competing visual cues

In some areas, consistent, warm, and diffused lighting was noted as providing a sense of flow and comfort, highlighting opportunities for positive sensory experiences alongside identified challenges.

5.3 Smell and Airflow

Olfactory and airflow-related triggers were identified in specific locations and were noted as particularly impactful due to their intensity and unpredictability.

These triggers include:

- Strong chemical or cleaning-related smells, particularly in and around toilet areas
- Food-related smells where venues were operating or expected to operate
- Concentrated or unexpected airflow from vents, creating sudden tactile sensations
- Temperature changes between spaces, including cooler enclosed areas and warmer platforms

While less frequent than auditory or visual triggers, these factors were noted as highly aversive when present and difficult for users to anticipate without prior information.

5.4 Tactile, Spatial, and Proprioceptive Triggers

Physical characteristics of the environment contributed to sensory load through tactile feedback, spatial constraints, and impacts on balance and body awareness.

Identified triggers include:

- Hard, reflective surfaces that amplify sound and alter visual perception
- Tight or narrow passageways, including turnstiles and entrances
- Variable resistance and mechanical movement, such as turnstiles and escalators
- Sloped surfaces and gradients affecting balance and proprioception
- Vibrations transmitted through floors or structures from passing trains

These triggers were often described as subtle but cumulative, particularly when combined with auditory and visual stressors.

5.5 High Sensory Load Areas

In several locations, multiple sensory triggers were present simultaneously, resulting in areas of particularly high sensory load. These areas were characterised by combinations of sound, light, movement, and visual complexity, often without clear directional cues or opportunities for sensory relief.

High sensory load areas were identified as priorities for:

- Clear sensory annotation within static maps
- Advance warning or preparation for users
- Future exploration of mitigation strategies in later project stages

Summary

The sensory trigger categories described above provided the framework for annotating static sensory maps and implementing sensory information within the digital prototype used for validation. These categories reflect both specialist assessment and lived experience and form a foundational taxonomy for sensory-sensitive wayfinding. The categories will inform subsequent refinement, prioritisation of sensory inputs, and future development stages within the Sensory Sensitivity Wayfinding project.

6. Annotated Site Maps

Annotated static sensory maps were produced to spatially represent the sensory trigger categories identified through the ASPECT-led sensory sensitivity audit. These maps indicate the location and nature of static sensory characteristics across the site, including areas of heightened auditory load, visual intensity, and combined sensory impacts.

The annotated maps were first developed in paper format by ASPECT and subsequently translated into a digital representation within the BindiWeb prototype to support validation with users. The annotations apply the sensory trigger categories consistently across different areas of the site, enabling comparison between spaces and identification of high sensory load areas.

The annotated site maps form a key artefact for Milestone 2 and provide the visual foundation for user validation and subsequent refinement of the sensory mapping framework. The full set of annotated sensory maps is included in Appendix A.

7. Prototype Used for Validation

To support validation of the static sensory maps and trigger categories, the mapping outputs developed with ASPECT were implemented into a low-fidelity digital prototype within the BindiWeb platform. The prototype enabled participants to view static sensory information in a digital wayfinding context, including sensory categories and annotated locations.

The prototype was developed solely as a research and validation tool. It was not intended for deployment, performance testing, or evaluation of outcomes. Its purpose was to allow participants to review and interpret how sensory information was represented, and to provide feedback on terminology, clarity, and perceived usefulness prior to further refinement.

8. Validation and User Feedback

Validation of the static sensory mapping approach was undertaken to assess whether the identified sensory trigger categories and their representation within a digital context are understandable, meaningful, and aligned with lived experience. This validation activity focused on gathering qualitative insights to inform refinement, rather than on evaluating outcomes or measuring impact.

8.1 Validation Participants

Validation activities involved people with lived experience of sensory sensitivities, including:

- Three ASPECT staff members with lived experience, who reviewed the digital prototype and provided iterative feedback during the refinement process
- Five additional participants with lived experience of sensory sensitivities who participated in a facilitated focus group

This combination ensured that validation incorporated both specialist insight and broader user perspectives.

ASPECT staff participated in the validation activities in a dual capacity, contributing both specialist expertise and lived experience of sensory sensitivity. Their involvement primarily supported facilitation, interpretive insight, and iterative review of the sensory representations, drawing on their professional practice and personal experience. While their insights informed refinement and contextual understanding, the primary participant-derived findings presented in this report are grounded in feedback from the facilitated focus group with participants outside the project team.

8.2 Validation Process

Participants engaged with a low-fidelity digital prototype implemented within the BindiWeb platform, which presented the static sensory maps and trigger categories. Validation sessions explored how participants interpreted the sensory information, how they understood the spatial representation of sensory characteristics, and how the information supported anticipation and preparation for navigating the environment.

Feedback was gathered through facilitated discussion and observational notes. Detailed transcripts are currently being reviewed and analysed to support deeper interpretation of participant responses.

8.3 Emerging Feedback Themes

Initial review of validation feedback indicates several emerging themes, which will be further refined as transcript analysis is completed:

- Participants valued the visibility of sensory information and the ability to anticipate challenging areas in advance
- Clear and consistent terminology was important to support understanding and reduce cognitive load
- Sensory challenges were frequently described as cumulative, reinforcing the relevance of identifying areas of high sensory load
- Advance awareness of sensory conditions was perceived as helpful, even where sensory triggers could not be avoided
- Participants expressed a strong preference for planning-oriented information, including clear explanations and images, with maps acting as a secondary reference rather than the primary interface.

These themes are preliminary and may be refined or expanded as further analysis is completed.

8.4 Ongoing Analysis and Refinement

Analysis of focus group transcripts and detailed feedback is ongoing. Insights from this work will be used to refine sensory trigger categories, annotation approaches, and the way sensory information is represented within a digital wayfinding context.

The validation activities undertaken for this milestone establish a qualitative evidence base that supports continued development in subsequent stages of the project, including refinement of representations and prioritisation of sensory inputs for future work.

While further thematic synthesis is ongoing, the findings presented reflect stable patterns observed across participants and validation activities.

8.5 Qualitative Data Analysis Approach

Qualitative data generated through the validation activities, including focus group discussions and supplementary written feedback, was analysed using a manual, inductive coding approach. Transcripts were reviewed in full and participant feedback was systematically organised into descriptive codes, which were iteratively refined through comparison across participants and sessions. This process enabled patterns and areas of convergence to be identified while avoiding selective interpretation of individual comments.

An audit trail of the coding process was maintained to document how raw data informed the findings presented in this report. This approach ensures that reported insights are grounded in participant input and can be demonstrated as evidence-based if required for grant acquittal or review. While further thematic synthesis will continue beyond this milestone, the findings presented here reflect stable patterns observed across the validation dataset.

9. Key Findings and Implications

The static sensory mapping and validation activities undertaken for this milestone generated a number of key findings that inform the ongoing development of sensory-sensitive wayfinding. These findings are based on the ASPECT-led sensory audit, iterative review of the digital prototype, and initial analysis of user validation feedback. Further detail will be incorporated as transcript analysis is completed.

9.1 Feasibility of Static Sensory Mapping

The project demonstrated that static sensory characteristics within a complex public transport environment can be identified, categorised, and represented in a structured and interpretable way. This was achieved through the development of paper-based sensory maps and notes via specialist assessment, which were then translated into a digital prototype to support expert review and user validation discussions.

These findings indicate that static sensory mapping provides a robust underlying evidence base for sensory-sensitive wayfinding, while validation insights suggest that planning- and action-oriented representations may be more effective as the primary user-facing format.

9.2 Value of Lived Experience in Defining Sensory Triggers

Engagement with ASPECT and participants with lived experience was critical in identifying sensory triggers that may not be evident through environmental observation alone. Lived experience informed both the selection of sensory trigger categories and the interpretation of how different sensory inputs interact within specific spaces.

This reinforces the importance of co-design and lived-experience-led approaches in accessibility-focused wayfinding work.

9.3 Insights from Initial Focus Group

Initial feedback from the first focus group provided valuable direction on how users engage with sensory information and challenged several assumptions about the role of maps in sensory-sensitive wayfinding. These insights are preliminary and will be further refined through ongoing analysis of focus group transcripts and subsequent validation activities.

A key principle guiding the prototype design was the deliberate minimisation of assumptions. The prototype was intentionally kept low fidelity and exploratory, enabling participants to guide discussion and reveal preferences without being constrained by pre-defined solutions. This approach was intended to surface unexpected insights and reduce bias in interpretation.

Participants consistently compared their expectations to familiar consumer navigation tools, particularly Google Maps and Google Street View. Rather than actively exploring map layers or searching within the prototype, participants expected sensory information to be presented in a more direct, guided, and visually grounded manner. Map-based interaction was not intuitive for most participants in this context, and several described the sensory map as visually noisy or overwhelming when multiple icons and overlays were present.

Participants consistently gravitated toward action-plan-style content when available, engaging more readily with structured guidance and imagery than with map-based interfaces. However, feedback also highlighted limitations in traditional sensory map representations. While the sensory sensitivity audit and action planning undertaken by ASPECT were viewed as comprehensive and valuable, participants found that static sensory maps alone were difficult to interpret without additional narrative context. This reinforced the observation that action-oriented guidance, such as what to expect and how to prepare, may be more accessible and useful to users than map-based representations alone.

Participants expressed a strong preference for planning-oriented information, including simple explanations, images, and contextual cues, rather than dense visual overlays. There was interest in formats that support pre-journey preparation, such as structured action plans, step-by-step guidance, or embedded visuals, with maps acting as a secondary reference rather than the primary interface.

These early insights suggest that static sensory mapping may be most effective when used as an underlying data layer that informs planning-focused outputs, rather than as a standalone navigational map. This has implications for how sensory information is presented within digital wayfinding tools and highlights the importance of separating sensory information design from conventional map-centric interfaces.

These findings are informing ongoing refinement of the sensory mapping framework and will guide further exploration of alternative representations, including action-plan-based formats and simplified digital experiences, in subsequent project stages.

9.4 Importance of Representing Cumulative Sensory Load

Validation activities highlighted that sensory challenges are often experienced cumulatively rather than as isolated triggers. Areas where multiple sensory inputs co-occur were consistently identified as more challenging, underscoring the value of explicitly representing high sensory load zones within static maps.

This finding has implications for how sensory information is prioritised and presented in future digital wayfinding features.

9.5 Role of Static Sensory Information in Preparation and Anticipation

Participants indicated that access to static sensory information would be valuable for preparation, even where sensory triggers could not be avoided. Advance awareness of sensory conditions was perceived as supporting confidence, reducing uncertainty, and enabling more informed navigation decisions.

This suggests that the primary value of static sensory mapping lies in predictability and preparation, rather than in real-time mitigation alone.

9.6 Implications for Subsequent Project Stages

The findings from Milestone 2 indicate that while static sensory mapping is a feasible and valuable foundation, the way sensory information is represented and surfaced to users is critical to its usefulness. Validation activities, including insights from the initial focus group, suggest that map-centric interfaces may not always be the most accessible or intuitive primary format for sensory-sensitive wayfinding, particularly for pre-journey planning and preparation.

These findings highlight the importance of distinguishing between sensory data and sensory information presentation. Static sensory maps and trigger categories provide a robust underlying data layer; however, users may benefit more from planning-oriented representations that prioritise clarity, narrative context, and advance awareness over dense visual overlays.

The results reinforce the value of lived experience in shaping not only what sensory information is captured, but how it is communicated. They also suggest that static sensory mapping may be most effective when it informs a range of outputs, including action-plan-style guidance and simplified digital representations, with maps functioning as a secondary or supporting reference rather than the sole interface.

These implications will guide subsequent project stages by informing decisions about representation, interaction design, and prioritisation of sensory inputs, while maintaining alignment with the project's objective to support confident, independent navigation for people with sensory sensitivities.

10. Next Steps

Building on the findings and implications of Milestone 2, the next phase of the Sensory Sensitivity Wayfinding project will focus on refinement, representation, and preparation for further development and testing.

Immediate next steps include:

- Completion of detailed analysis of focus group transcripts and validation notes to further refine emerging themes
- Refinement of sensory trigger categories, annotations, and terminology based on lived-experience feedback
- Exploration of alternative representations of static sensory information, including planning- and action-oriented formats that complement or sit alongside map-based views
- Clarification of how static sensory mapping can function as an underlying data layer to support multiple user-facing outputs
- Prioritisation of sensory inputs for subsequent development, with auditory sensitivity remaining a core focus

These activities will inform later project stages, including further prototype development, investigation of dynamic sensory data where available, and preparation for pilot testing in a real-world transport environment. Progression beyond Milestone 2 will continue to prioritise lived experience, simplicity of communication, and reduction of cognitive load, ensuring that future development remains grounded in the validated insights generated through this milestone.

Appendix A: ASPECT Sensory Sensitivity Audit and Annotated Site Maps (PDF)

Figure A1: ASPECT Sensory Sensitivity Audit – Paper-Based Sensory Map

This image shows the paper-based sensory map produced by ASPECT as part of the sensory sensitivity audit. The map identifies static sensory characteristics and areas of heightened sensory impact, informed by specialist expertise and lived experience.

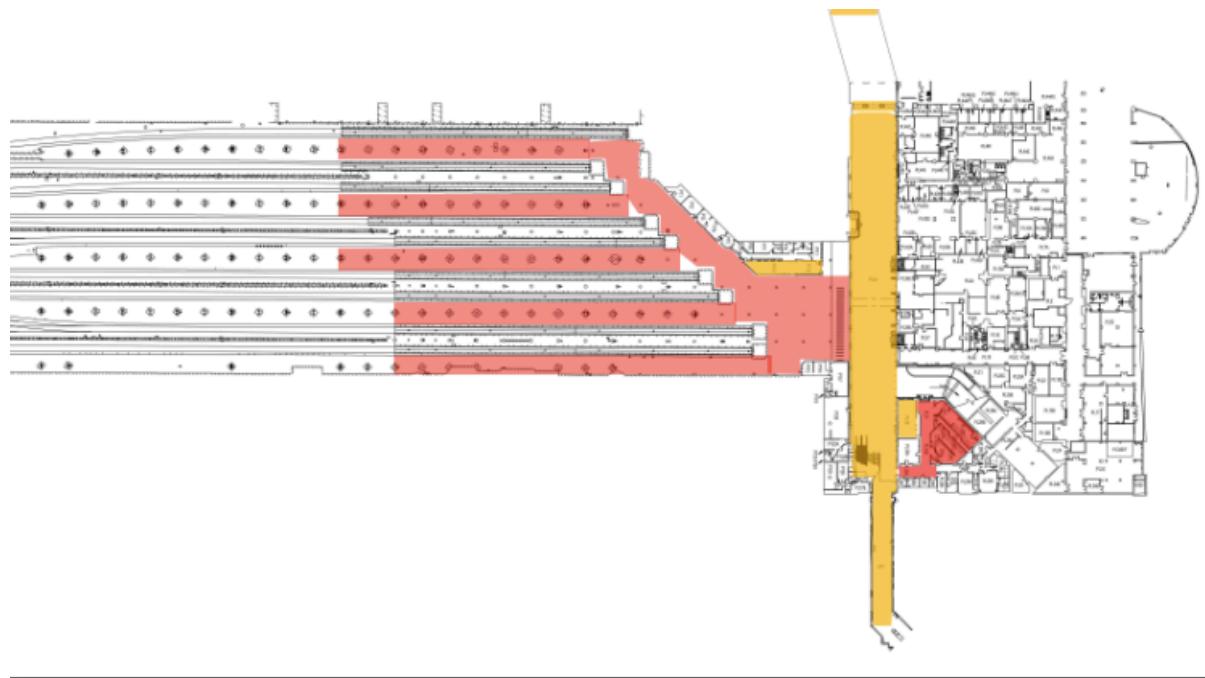


Figure A2: ASPECT Sensory Sensitivity Audit – Action Plan Document

This image shows an extract of the action plan developed by ASPECT as part of the sensory sensitivity audit. The document provides structured, narrative guidance describing sensory conditions, potential challenges, and considerations for navigating the environment.

Entry/Exit Festival Drive:

1. Around 25m from the entrance the sun was very bright was reflecting strongly from:
 - a. Light coloured paving
 - b. Mirrored Glass from nearby buildings
2. There was a significant difference between the light inside the and outside. At the entrance this created a high contrast shadow line on the floor. This type of lighting may affect those with:
 - a. Low vision
 - b. Dementia
 - c. Balance conditions
3. There was a strong breeze coming from the direction of the river
4. There were no strong noises before entering



Appendix B: BindiWeb Digital Prototype Screenshots (Validation Purposes Only)

This appendix includes screenshots of the BindiWeb digital prototype used to present static sensory maps and trigger categories for validation activities. The prototype was developed solely as a research and validation tool and does not represent a deployed or final product.

Figure B1: BindiWeb Prototype – Initial Map View (Landing Screen)

This screenshot shows the initial map view presented to users when first accessing the BindiWeb prototype. Participants commonly began their interaction by orienting themselves within this view before exploring sensory information or other features.



Figure B2: BindiWeb Prototype – Static Sensory Overlays and Trigger Annotations

This image illustrates static sensory overlays applied to the map, including colour-coded areas, icons, and text-based sensory trigger annotations (for example, bright lights). These representations were used to support validation of how sensory information is visually communicated.

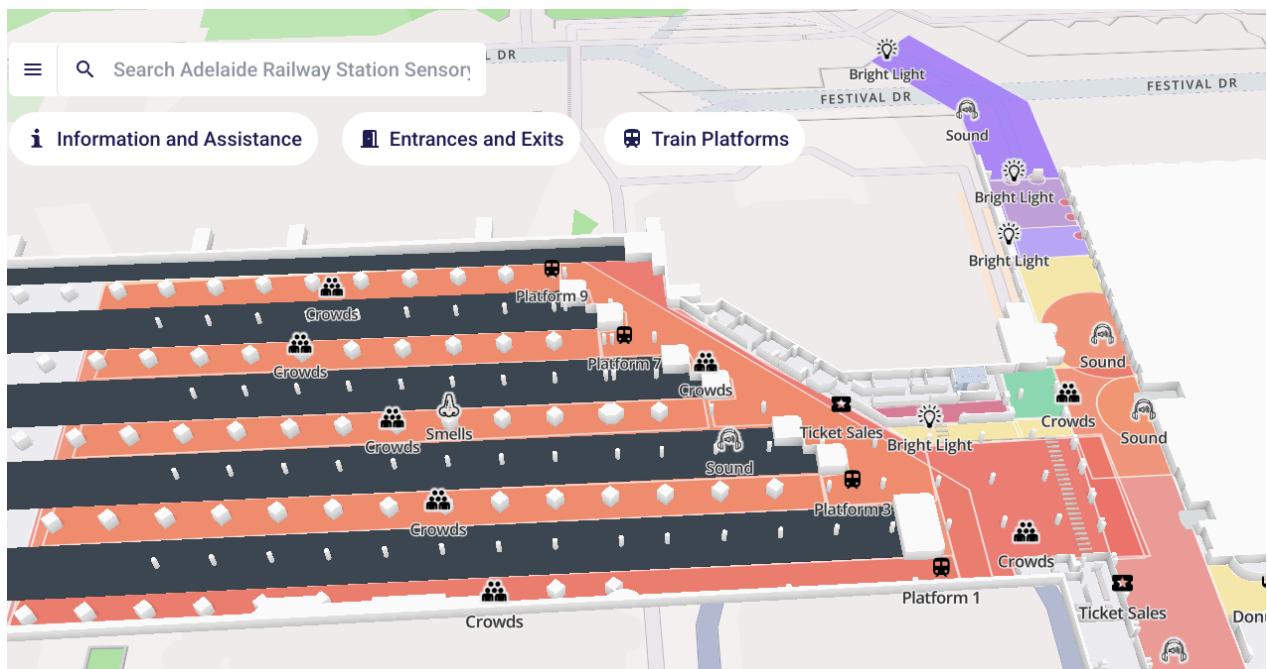


Figure B3: BindiWeb Prototype – Action Plan View (Clickable Guidance)

This screenshot shows the action plan view within the prototype, providing structured, planning-oriented sensory guidance linked to the environment. Participants engaged readily with this format and frequently described it as useful for preparation and anticipation.

The screenshot displays the 'Action Plan' section of the BindiWeb Prototype. At the top right are buttons for 'Show All Details' (blue), 'Hide All Details' (grey), and 'Print'. Below this, the title 'Action Plan' is on the left, and on the right are three small icons: a lightbulb, a sun, and a circle.

Entry/Exit Festival Drive (with a downward arrow icon): Bright sun, high contrast lighting, and strong breeze near entrance.

- Around 25m from the entrance the sun was very bright was reflecting strongly from:
 - Light coloured paving
 - Mirrored Glass from nearby buildings
- There was a significant difference between the light inside and outside. At the entrance this created a high contrast shadow line on the floor. This type of lighting may affect those with:
 - Low vision
 - Dementia
 - Balance conditions
- There was a strong breeze coming from the direction of the river
- There were no strong noises before entering

Walkway from newer entrance to main concourse (with a right-pointing arrow icon): Comfortable cove lighting but uncomfortable uncovered uplighting.

North Entrance (with a right-pointing arrow icon): Narrow entrance with unavoidable uncomfortable uplighting.

Figure B4: BindiWeb Prototype – BindiView Visualisation Example

This image shows an example of the BindiView visualisation used in the prototype to provide additional visual context for selected locations. The feature was explored during validation as a supplementary aid to understanding spatial layout and sensory context.

