GUIDING THE FLOW: DISPERSING TOURISTS THROUGH SMARTER COMMUNICATION

LESSONS FROM AMSTERDAM & COPENHAGEN

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AT NITE

In urban contexts, visitors respond to directional cues embedded in the information they receive.

Executive Summary

This project explored the effectiveness of various information channels in influencing tourist movements and experiences in Amsterdam and Copenhagen. Visitors were recruited via pop-ups on each destination's official marketing site and assigned to one of four experimental groups. These groups received different types of visitor guidance:

- Zoey (interactive assistant) with either must-see attractions or hidden gems
- Paper maps (in Amsterdam) and web-based maps (in Copenhagen) with either must-see attractions or hidden gems

Participants installed a GPS tracking app on their phones and completed surveys before, during and after their visit.

Key Findings of the experiment:

- Visitor experience outcomes (overall satisfaction, likelihood to recommend) did not significantly differ between groups, regardless of channel or content type.
- Movement patterns showed more impact:

1. In Copenhagen, participants using maps with hidden gems were 11.88 times more likely to explore hidden areas compared to those with maps of must-sees. Those using Zoey with hidden gems were 3.58 times more likely.
2. In Amsterdam, these patterns were present but not statistically significant.
3. Exposure to hidden gems (especially via Zoey) was associated with reduced movement around must-sees, though effects varied by city.

On July 2, 2025, a co-creation workshop was held with stakeholders from both cities to interpret the findings and shape future interventions. The idea sprint generated ideas that were clustered into five strategic pathways, along with an additional pathway focused on policy, governance, and long-term impact. After careful evaluation, two of these pathways were selected for further exploration in a prototype lab. This process resulted in the development of two concept ideas and actionable plans for next steps.

Two main strategic pathways emerged:

- Personalized & Dynamic Digital Visitor Navigation: real-time, technology-enabled visitor support using interactive maps and nudging tools to create flexible, personalized visitor journeys
- Collaborative Partnership Model Centred on Data Sharing: building strategic alliances to improve message targeting and communication.

These pathways offer promising directions for managing visitor flows and enhancing urban tourism sustainability through smarter communication.

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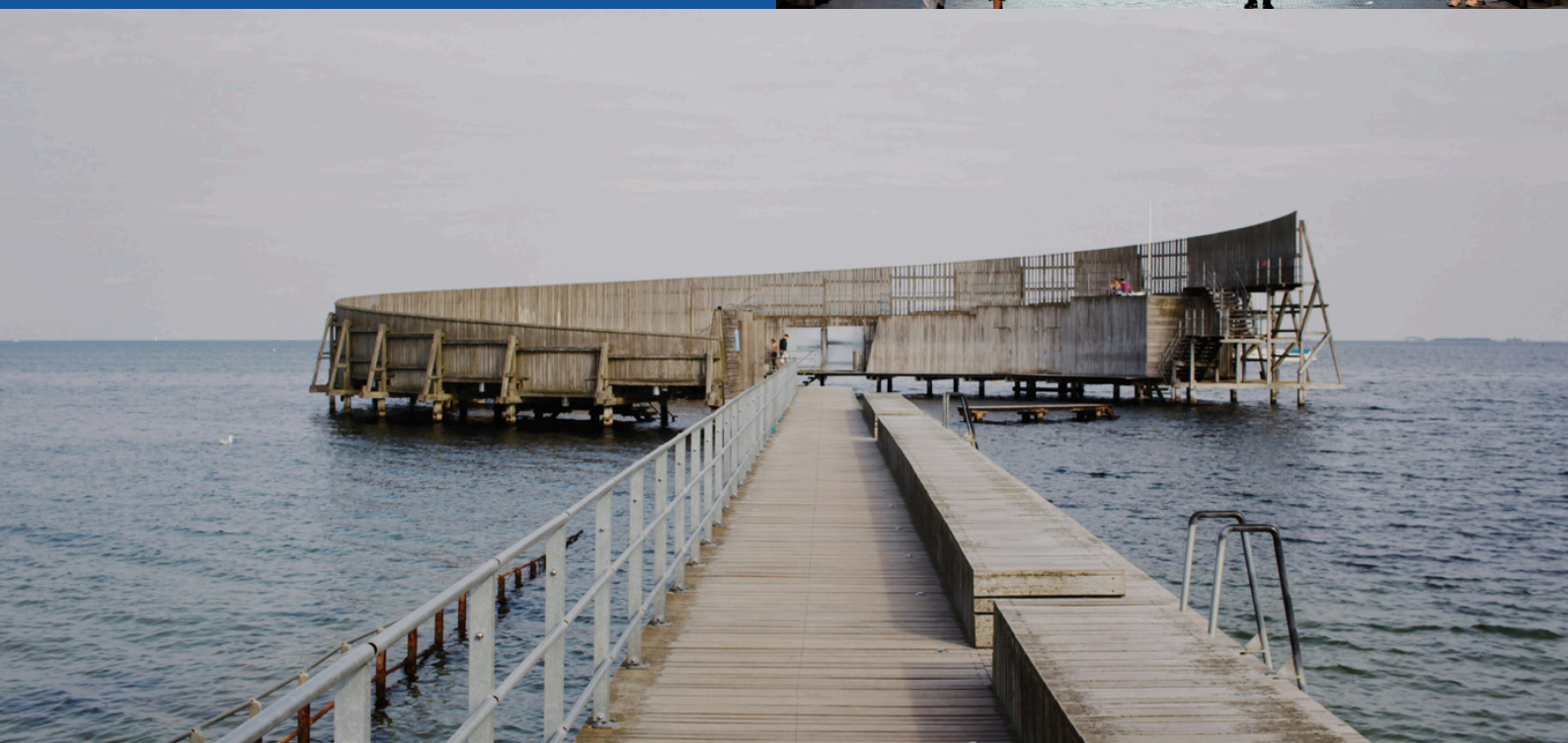
There was no measurable risk to the tourist experience when marketing hidden gems exclusively.



Introduction

Destination Management Organizations (DMOs) have been looking for interventions that would effectively discourage tourists from visiting crowded hotspots.

Ideally, such interventions would also attract tourists to less-visited locations. Many proposed interventions, such as changing infrastructure, are very expensive. Others, such as charging entry fees or requiring reservations for entry to public spaces, are politically controversial. A much more straightforward intervention is to simply inform tourists differently, though there has been doubt whether such interventions are effective. Certainly, using signage or social media to inform tourists about cultural behavior is now well-tested and known to be ineffective except in very specific, hard-to-replicate conditions (Weiler et al., 2021). On the other hand, informing tourists on-demand about destination attractions has been effective in changing their spatial behavior (Mitas et al., 2023).

Numerous studies of how tourists used information to make destination and booking decisions exist (Bastiaansen et al., 2018; Mitas et al., 2024). However, much less is known about how tourists use information at the destination to make moment-to-moment decisions about where to go. In the Experience Overijssel* project we used an information intervention experiment to determine whether an information intervention would effectively spread tourists, and whether it worked across different information channels. We found that the intervention spread tourists away from hotspots toward less-visited attractions, did not affect vacation outcomes, and was effective across information channels (Mitas et al., 2023). However, the research was conducted over a large area, visited mostly for nature-based tourism and brief visits to small cities. It remained unknown whether the same effects would occur in large national capital cities experiencing overtourism.

In the present study, we repeated this experiment in Amsterdam and Copenhagen in cooperation with their DMOs and with the personalized recommendation service Zoey. We compared the interactive hybrid chat channel Zoey with a more conventional information channel, which differed per destination. The conventional information channel was a paper map in Amsterdam, but a website with an interactive map for Copenhagen. These choices were determined by a combination of practical and strategic considerations of each DMO, and up to 10 narrative interviews at each city conducted as part of a student thesis.

The experiment addressed the question:
To what extent does receiving information about either popular attractions or less-visited attractions, presented as "highlights" of the city, influence the movement of tourists to popular or less-visited attractions, and how does this differ by the information channel through which the information is presented?

As well as:
To what extent does receiving information about either popular attractions or less-visited attractions, presented as "highlights" of the city, influence tourists' experience, including their evaluations of the destination, their visit as a whole, and the specific information channel they received, and how did this differ by the information channel through which the information is presented?

*Experience Overijssel Project: https://www.mdpi.com/1660-4601/20/8/5441

Methods

The project comprised a replication of the Experience Overijssel project, but was conducted within Amsterdam and Copenhagen, from October to December 2024. Participants were recruited using pop-up messages on each destination's official marketing site. If they responded affirmatively to an email sent based on their visit dates, respondents filled in an intake questionnaire and received instructions to install the GPS tracking app Sesamo, as well as instructions to access the information channel.
A 2x2 true experimental design was implemented, testing two factors:

- Information channel: Zoey vs. web/paper map
- Content type: Hidden gems vs. must-sees

Thus, each participant was randomly assigned to one of the four resulting conditions. Based on the random group assignment, participants were directed to receive information which had been changed according to the intervention e.g.: motivating them to visit less-visited attractions (henceforth "hidden gems") or standard information with usual highlighting of hotspots (henceforth "must sees"). Furthermore, they were directed to either add the correct phone number to WhatsApp for Zoey (the hidden gems and must-sees condition having different numbers) or to the correct website (Copenhagen), or to the iamsterdam brand store in Amsterdam Central Station to pick up the correct paper map.

The GPS tracking app also pushed a brief daily questionnaire to the participants measuring their experience. On the last day of the vacation, a longer questionnaire evaluated the vacation as a whole. The questionnaires contained the following measures:

- Overall grade for visit: 0 (very poor) to 10 (excellent), measured on the last day
- Net Promoter Score (NPS):
  - For the city – measured on the last day
  - For the information source (Zoey, website, or map) – measured on the last day
- Positive emotions: positive, happy, joyful, content, positively surprised (internal consistency: $\alpha = 0.85$), measured daily
- Negative emotions: negative, sad, angry, afraid (internal consistency: $\alpha = 0.68$), measured daily

Findings: Information channel experiment

Overview of collected data

After two months of data collection (mid October to mid December 2024), we obtained the following data:

GPS data

- 1.7 million rows of movement data
- 220 users contributed usable GPS data

Questionnaire data

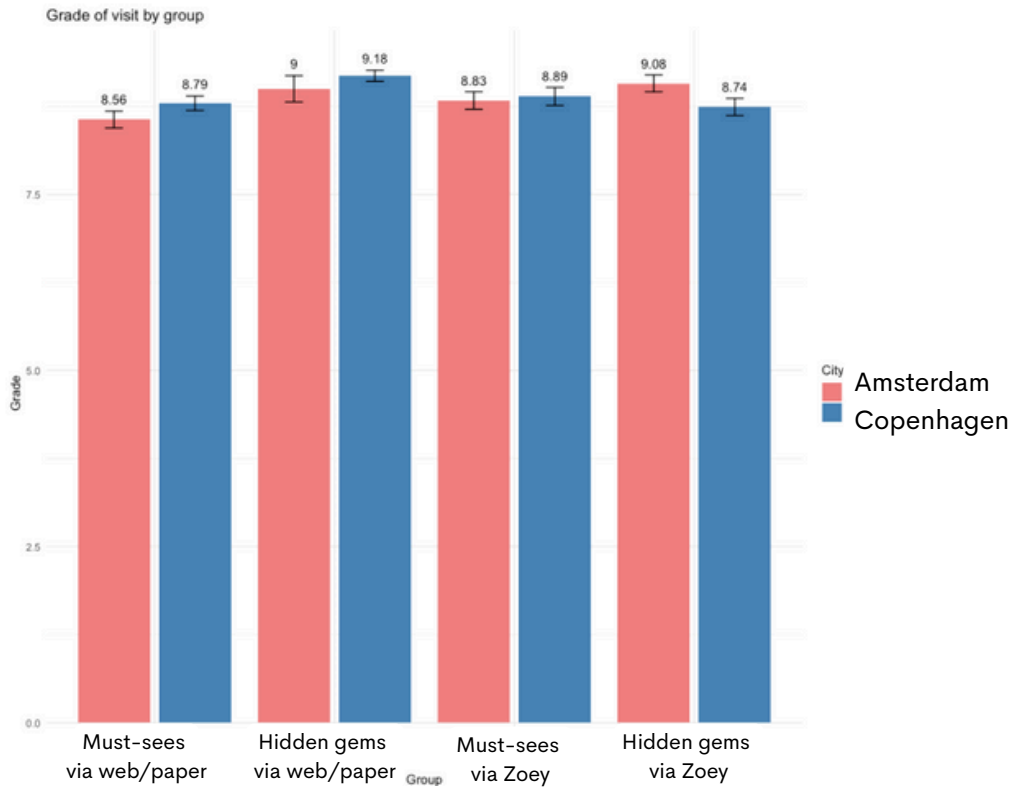
- High attrition rates: 90–95%
- Final usable sample sizes:

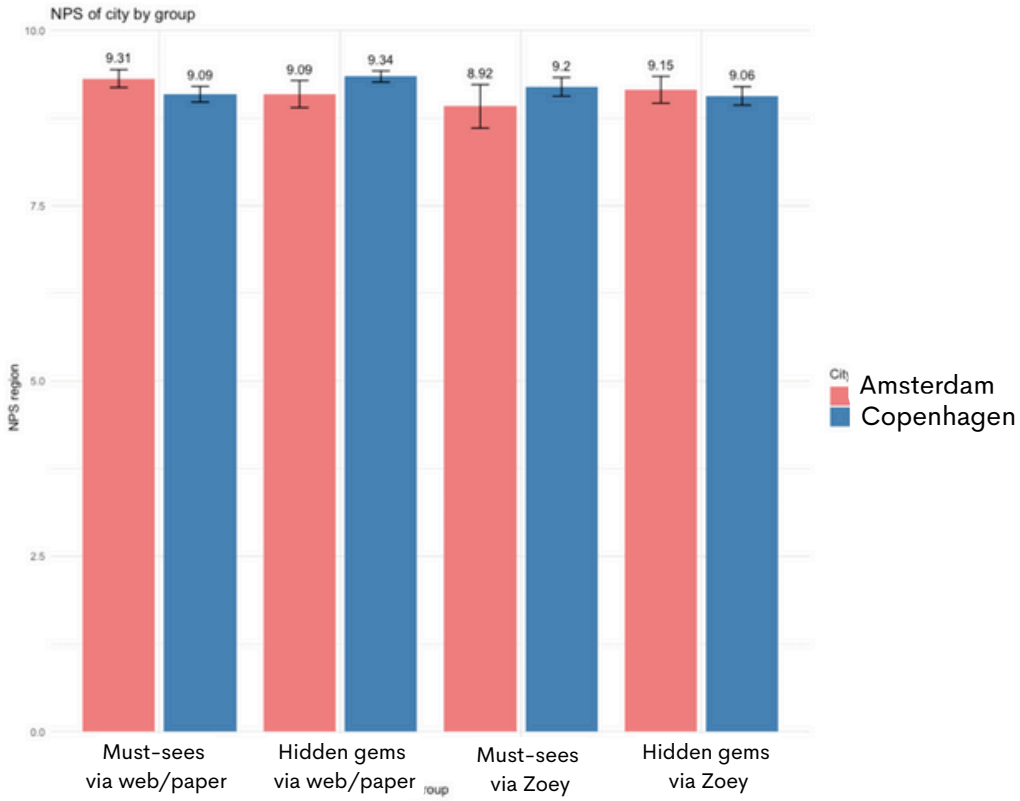
177 provided intake and some daily data
169 provided intake, some daily data, and GPS
155 provided intake and last-day questionnaire
145 provided intake and exit questionnaire

As we walk the reader through the analyses of the statistical results, it is necessary to point out an issue of statistical power, that is, the sensitivity of the analyses to detect differences between groups in these data. Namely, statistical power depends greatly on sample size.

Analyses of questionnaire data mostly depend on the 155 responses to the last-day questionnaire. Divided across 4 experimental groups and 2 cities, 155 is a fairly small sample size. Thus, real-life differences between experimental groups may go undetected here just because the sample was a bit too small. Analysis based on GPS, with nearly 2 million data points, face the opposite issue, here even practically very small differences are detected as statistically significant. We ask the reader to keep these quirks of this particular dataset in mind as we review the findings.

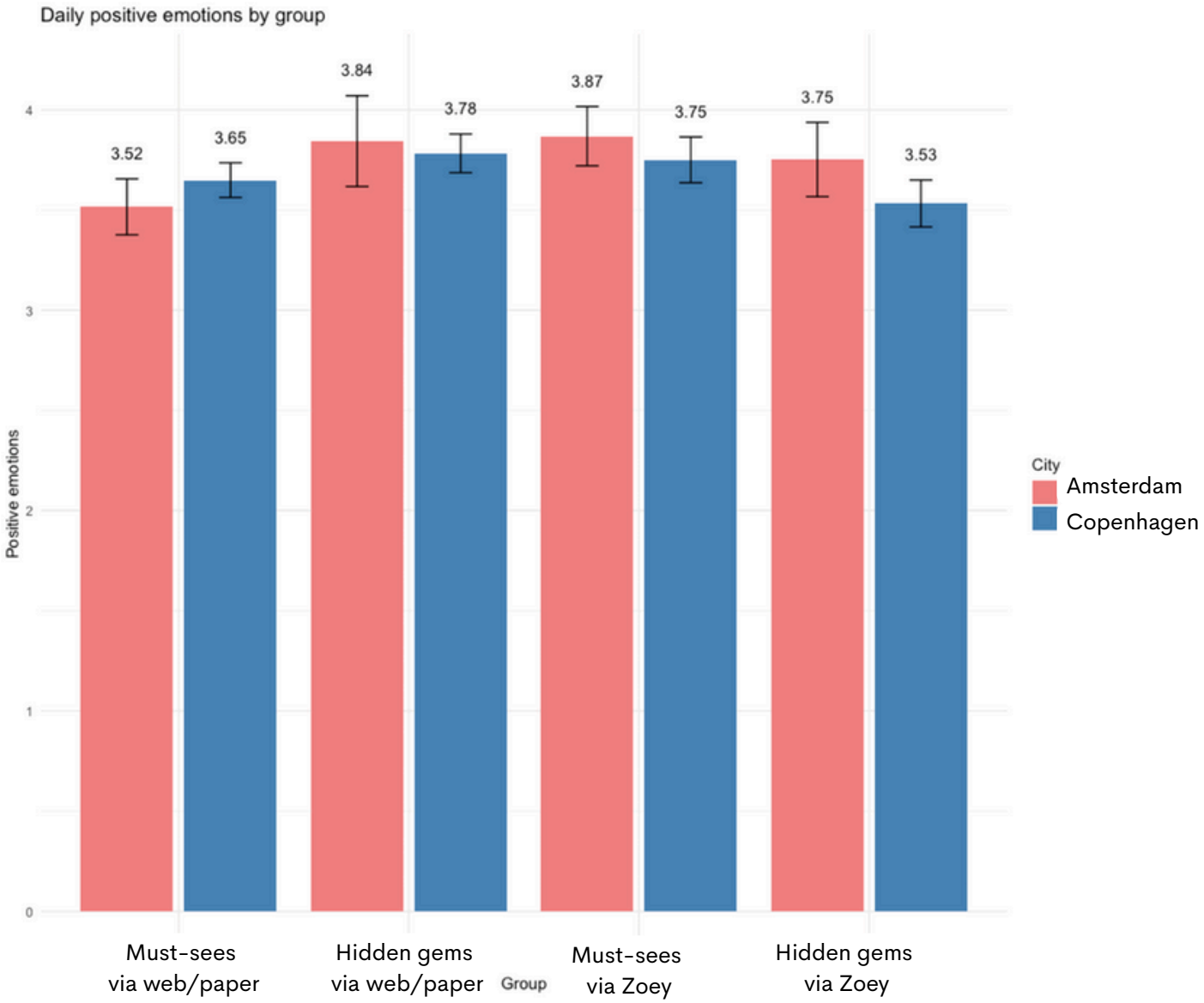
As expected and as seen in the previous project in Overijssel, neither the information channel nor the type of information being provided (hidden gems vs. must-sees) created any significant difference in any self-reported variable of tourists' experiences. First of all, the grade each tourist gave for their visit, and their intent to recommend each city, was for all purposes practically identical (Amsterdam is pink, Copenhagen is blue).



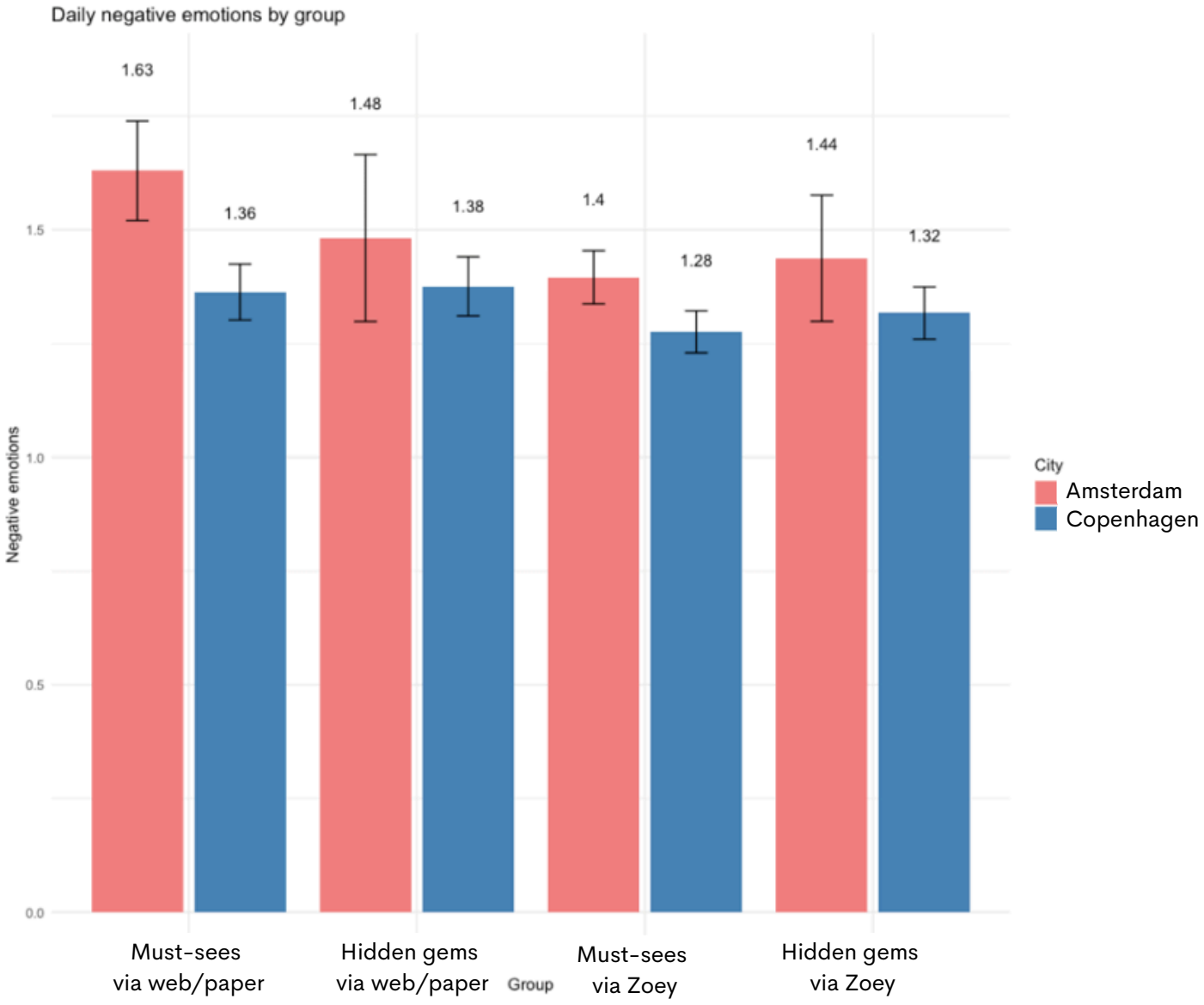


Daily positive emotions

There appeared to be more variation in the aggregation (that is, average of all days of the visit, within each participant) of positive and negative daily emotions. However, differences occurred more between the cities, and were never significant between the experimental groups.

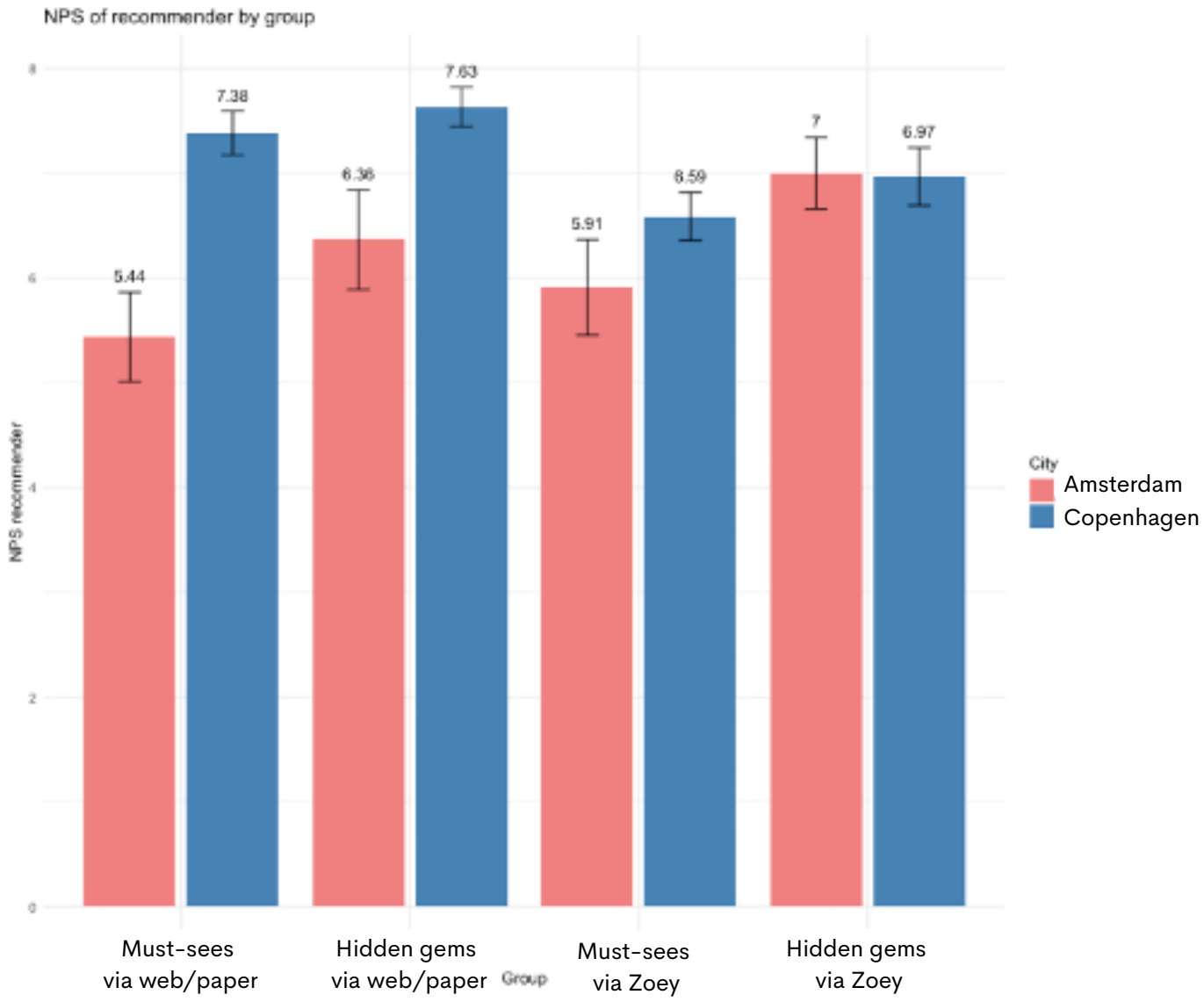


Daily negative emotions



NPS of recommender

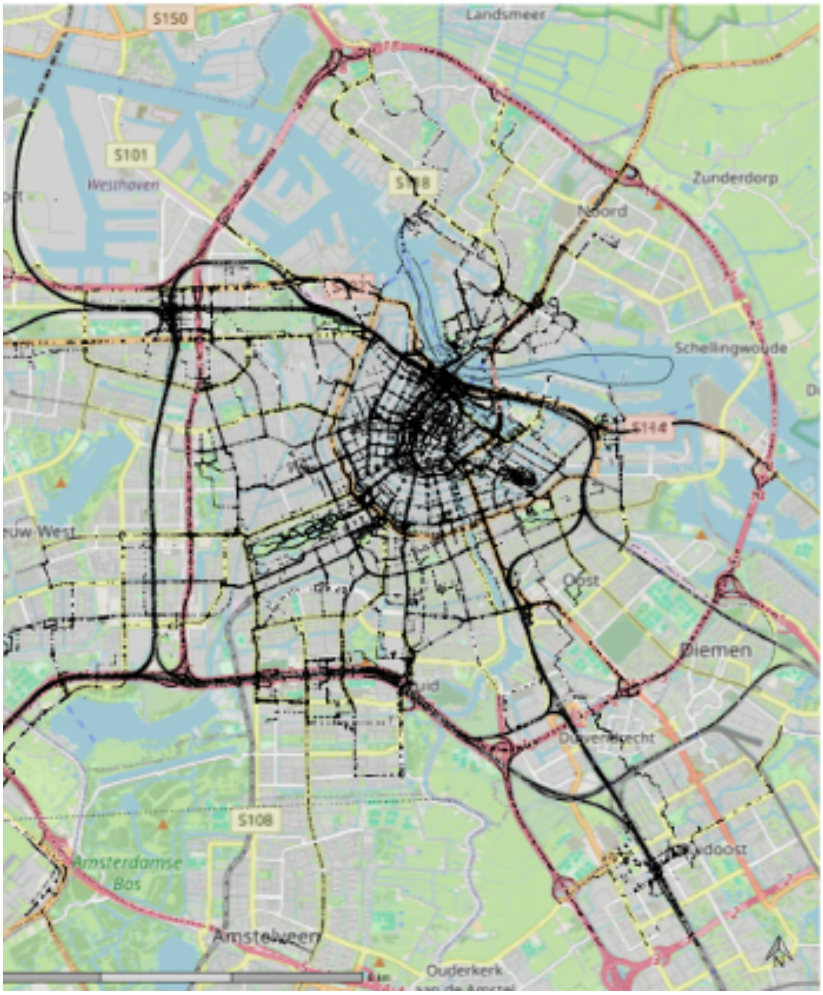
There appeared to be even more variation in ratings of the information channel, but differences between experimental groups were not statistically significant here either.



Locations of movements

To begin our analysis of the GPS data, we first share maps of the raw GPS tracks (shown as back dots) to show coverage of the relevant research area. These maps clearly show both city centers well visited.

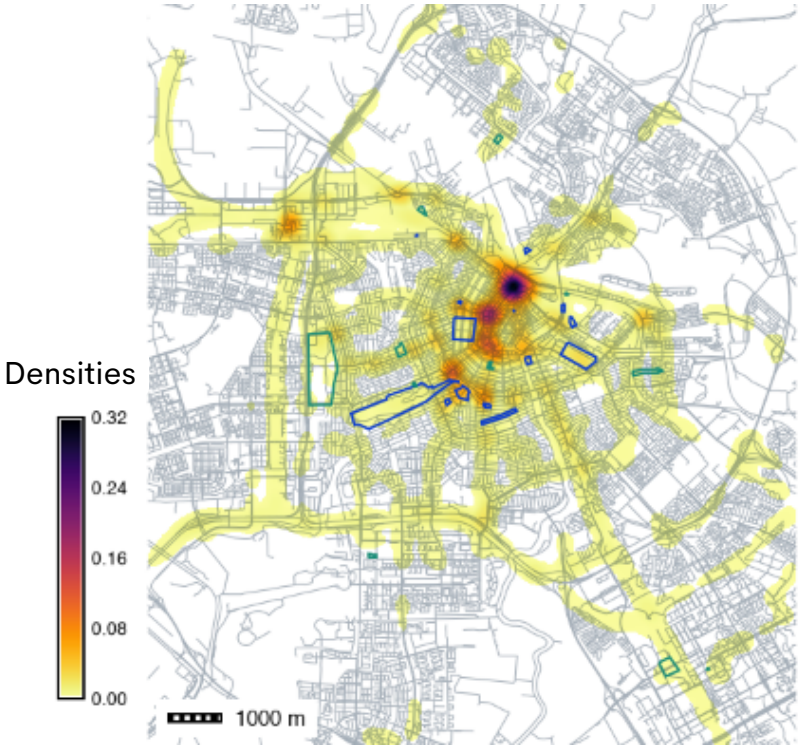
Amsterdam



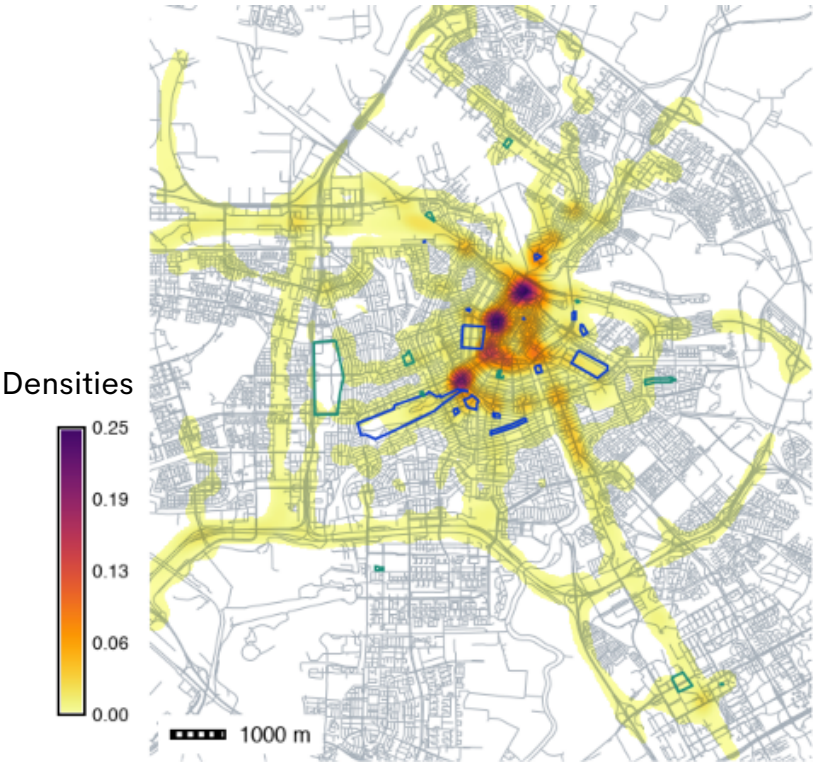
Copenhagen

Next, using more detailed maps made in GRASS GIS, we examine visitor density in Amsterdam, comparing the two information types: must-see vs. hidden gems. Blue polygons show the outlines of must-see attractions, while green polygons show the outlines of the hidden gem attractions. Looking at density maps of both groups, we see that their concentration in the city's tourism hotspots is broadly the same.

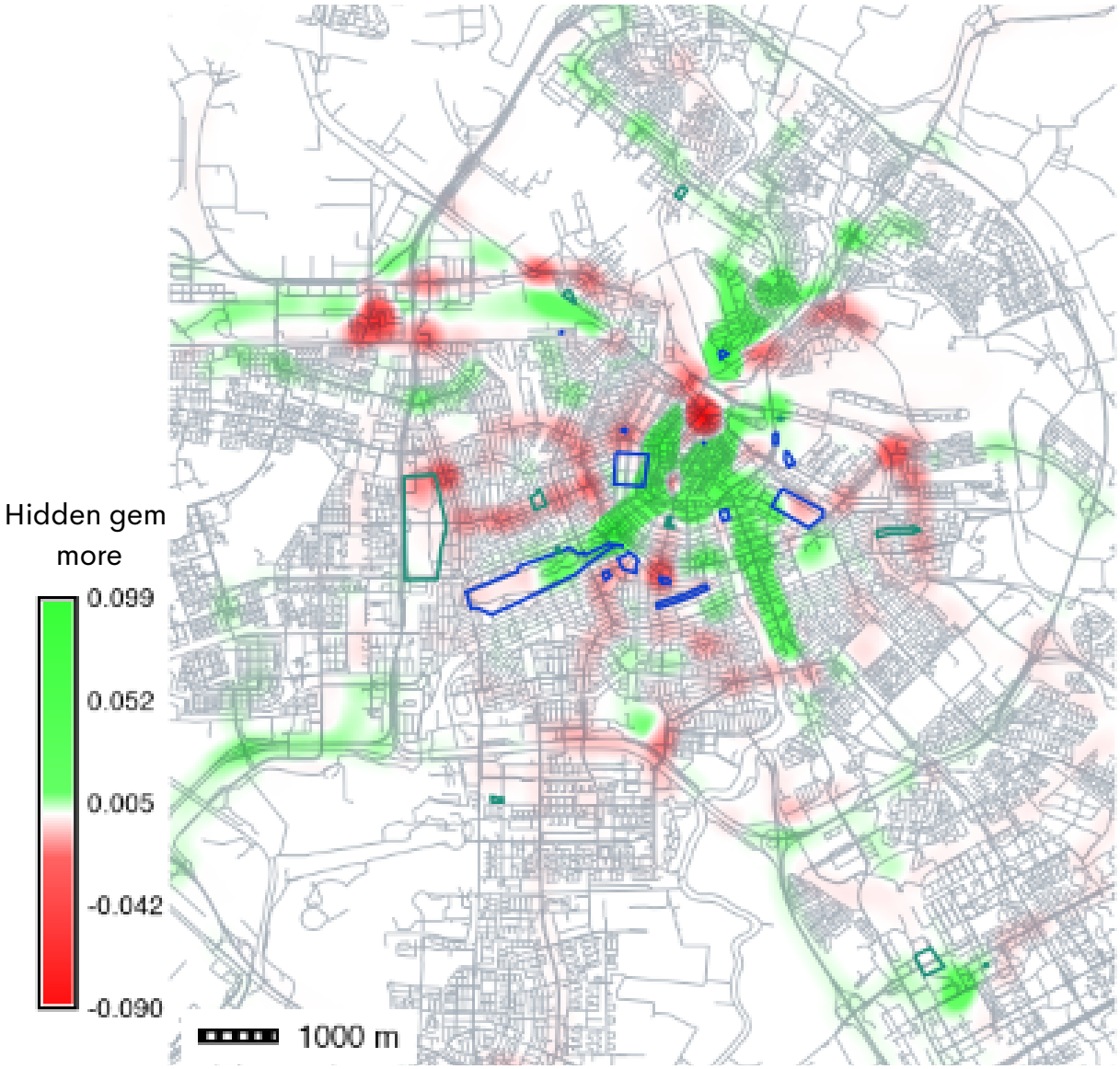
Must-see map Amsterdam



Hidden gem map Amsterdam



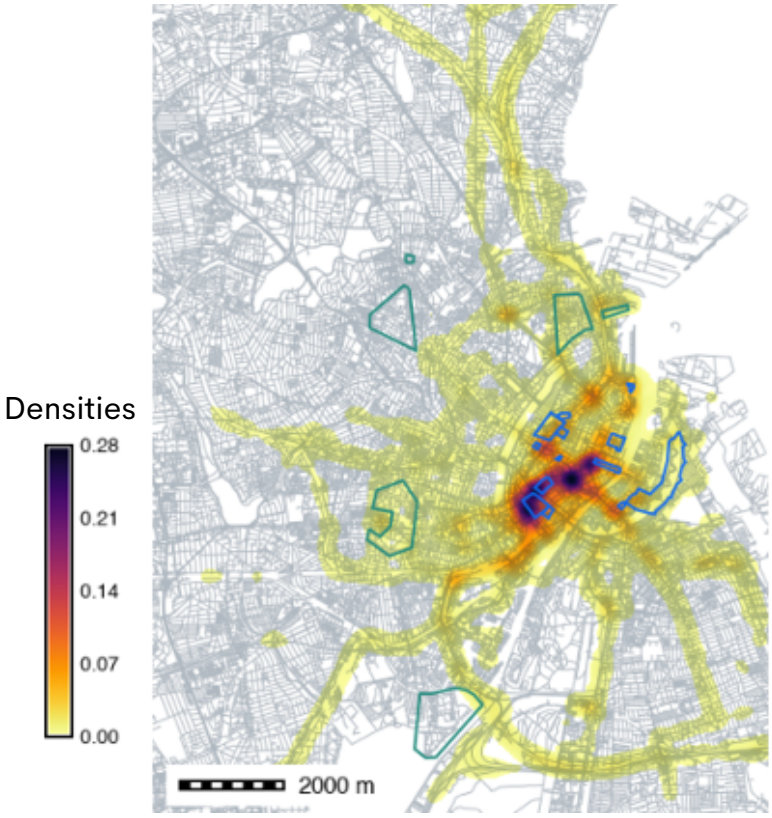
However, in a third map wherein the densities of these two maps are subtracted, clear differences between the two groups are evident. The hidden gems group was more present in the canal ring, while the must-sees group concentrated around the train station. Also, specific to the relevant attractions, there was more visitation from the must-see group around the Heineken/Cuyp area and most of Artis, while the hidden gem group was more present around the Arena and the museums in the north. In the Appendix these are further broken down by recommender type.



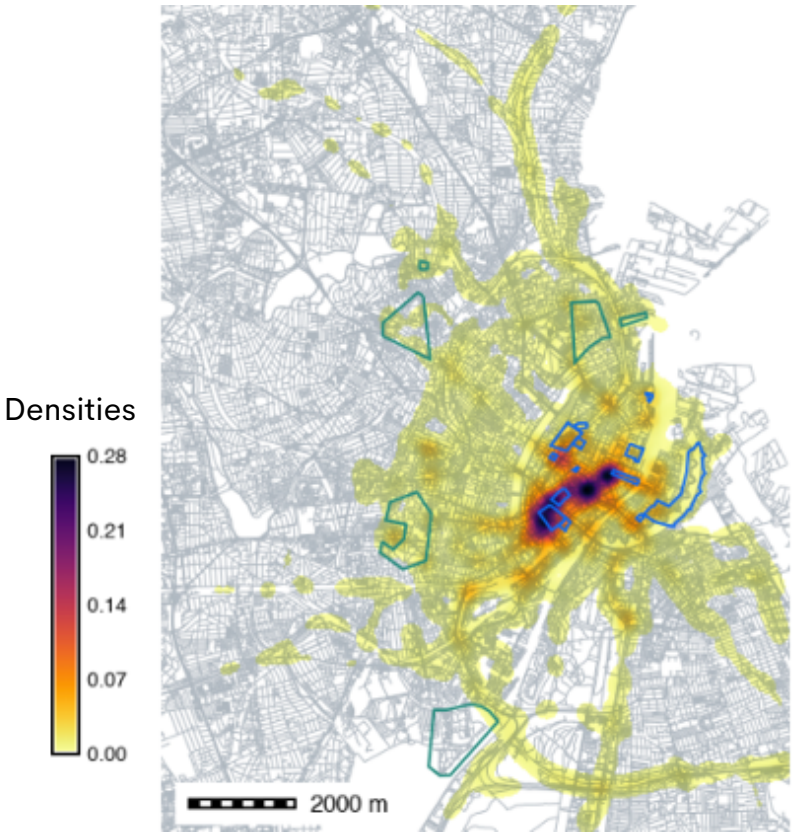
Green means there were more movements of tourists who saw the hidden-gem information.

The patterns were similar in Copenhagen, with tourists showing broadly similar movements regardless of which group they were assigned to. Blue polygons show the outlines of must-see attractions, while green polygons show the outlines of the hidden gem attractions. The colored fields indicate density levels.

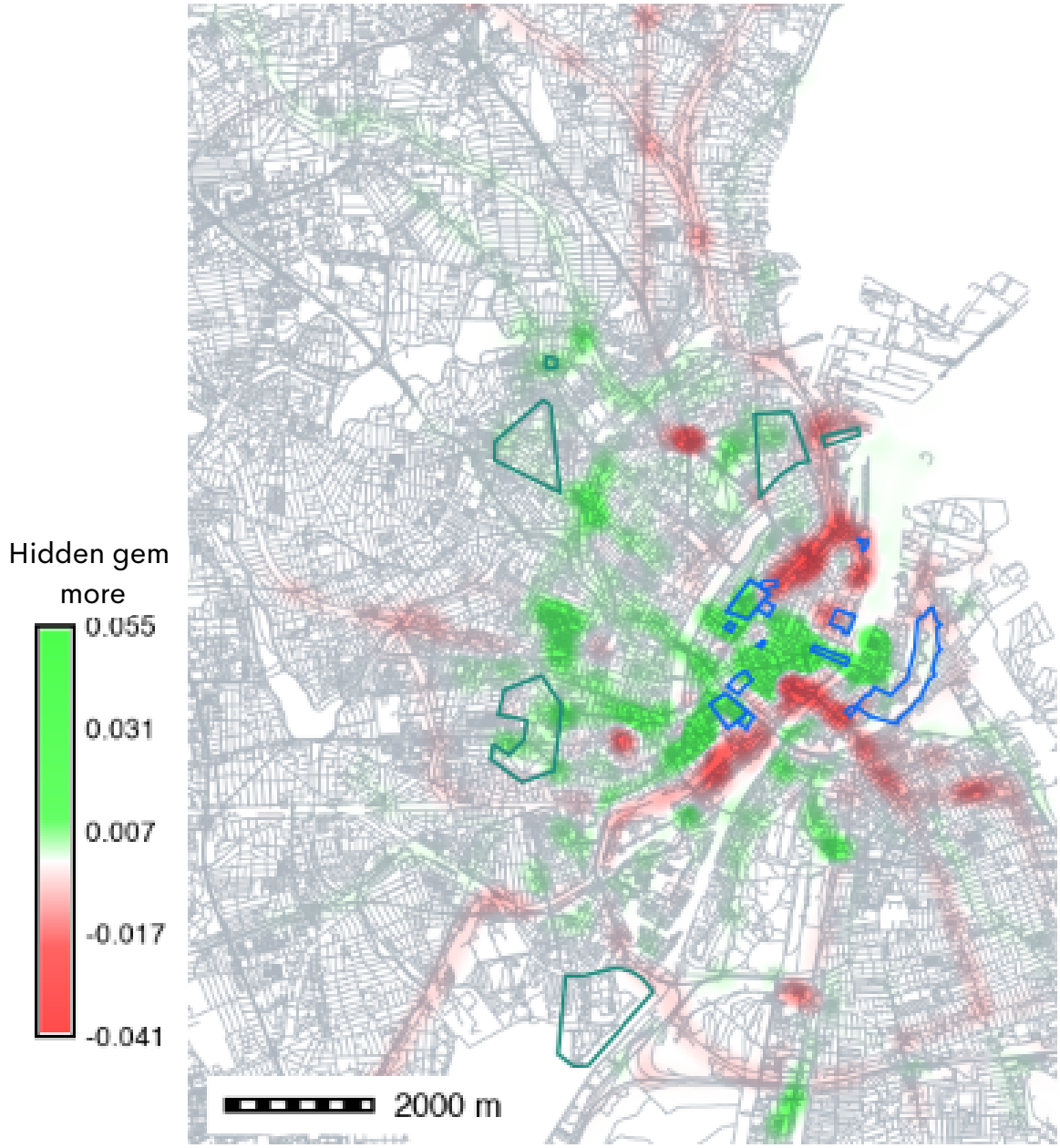
Must-see map Copenhagen



Hidden gem map Copenhagen



As for Amsterdam, subtracting the two density maps reveals meaningful differences. While both groups concentrated mostly in and around Indre By, the hidden gems group was more present near the Opera House, and crossed into Frederiksberg, and some of the outer districts of Copenhagen. The must-see group remained in the area of the Amalienborg Palace, the Fortress, the Rosenborg Castle as well as in Freetown Christiania and areas of the Vesterbro district.



Green means there were more movements of tourists who saw the hidden-gem information.

Statistical tests reveal a number of differences between experimental groups in location of movements.

Movements around hidden gems

Compared to the baseline condition (web/paper map with must-sees):

- Web/paper map with hidden gems: Participants were 11.88 times more likely to move around hidden gems in Copenhagen (not statistically significant in Amsterdam).
- Zoey with hidden gems: Participants were 3.58 times more likely to move around hidden gems in Copenhagen (not statistically significant in Amsterdam).

Movements around must-sees

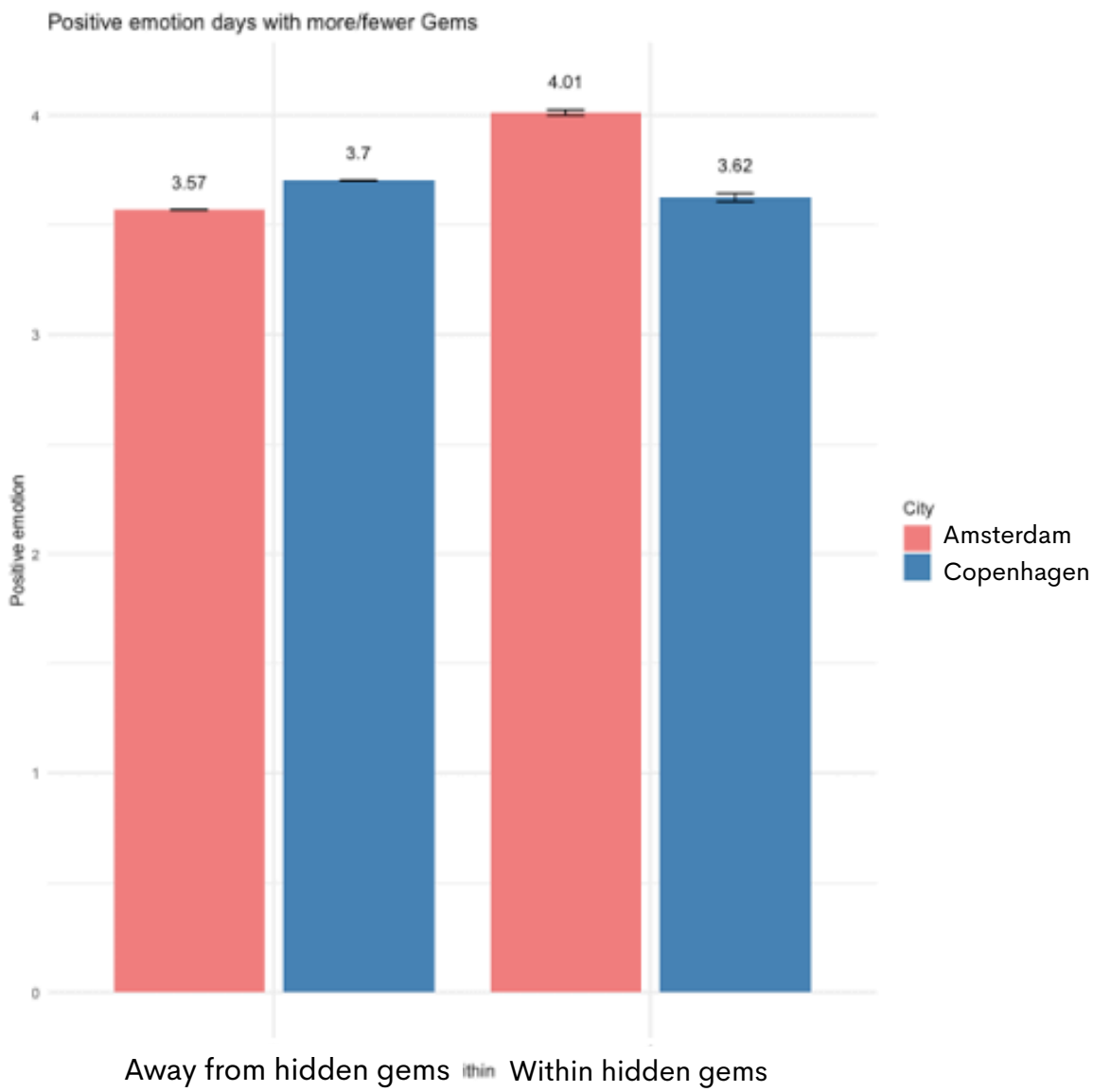
Compared to the baseline condition (web/paper map with must-sees):

- Web/paper map with hidden gems: Participants were 1.38 times more likely to move around must-sees (not statistically significant when Amsterdam and Copenhagen analyzed individually).
- Zoey with hidden gems: Participants were only 0.63 times as likely to move around must-sees (only 0.57 times as likely in Amsterdam; not significant in Copenhagen)

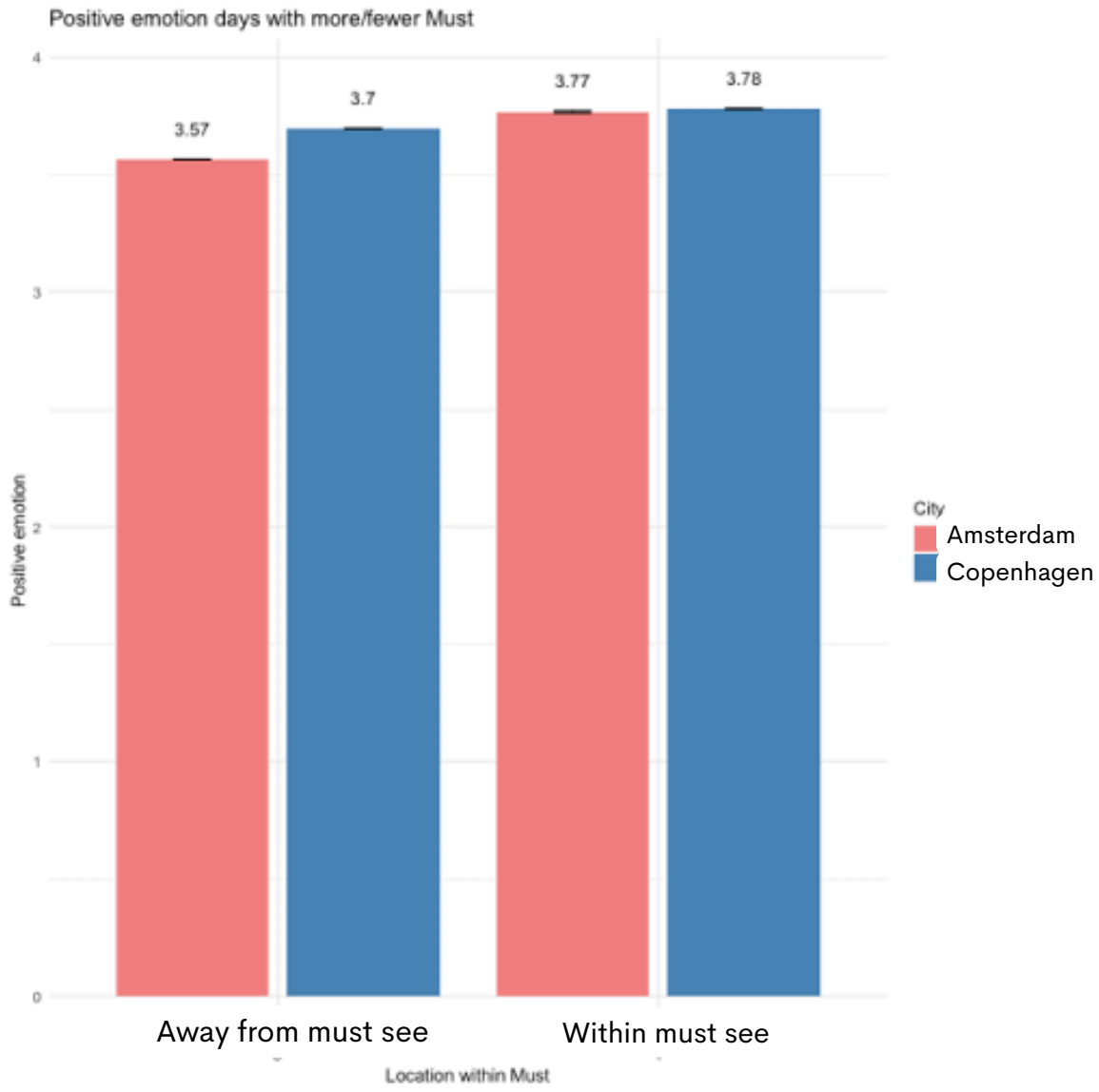
As the above odds ratios show, differences in location of movements between experimental groups are not only statistically significant, but meaningful in size.

Emotional experience

Days with more hidden gems and must-sees visited appeared to be associated with better reported emotional states. However, these effects were not even close to being statistically significant. They may reflect patterns of travel within the destination rather than effects from traveling to or from the destination.



Emotional experience



Conclusion - Information channel experiment

The findings largely replicated the Overijssel study; namely, tourists go where someone tells them to. In this experiment, we had the opportunity to tell people to go either to must-sees or to hidden gems. These two types of attractions were portrayed exactly the same way: as the places to be. And, while our participants generally made most of their movements in the already-crowded parts of each city, they also undertook visits to the attractions we sent them to. So, if we told them about places that were already crowded, they contributed to increasing crowding in these already dense cities. If we told them about less-visited places, the opposite occurred. How exactly this played out differed by city:

- In urban contexts, visitors respond to directional cues embedded in the information they receive.
- In Amsterdam, no tested intervention increased visitation to hidden gems; however, Zoey successfully decreased visitation to must-sees.
- In Copenhagen, interventions failed to divert tourists from must-sees, but both Zoey and the website were spectacularly effective at increasing visits to hidden gems.
- There was no measurable risk to the tourist experience when marketing hidden gems exclusively.

On July 2, 2025, the findings were presented to the DMOs at a workshop in Amsterdam. The session fostered collaboration, creativity, and practical thinking, and marked an exciting step forward in more balanced destination management.

We began with a discussion of the findings and what they meant for destination information provision. Then we reviewed the ongoing communication efforts of Amsterdam and Copenhagen. This helped us identify potential gaps or overlaps between the project insights and current practices. We then continued with co-creating/refining interventions using information and communication channels to help distribute tourists more evenly. The strategic pathways identified during the workshop are presented in the next chapter.

Co-creation workshop: Strategic pathways

Idea Sprint: Insight pathways

The workshop began with an idea sprint designed to generate creative approaches for implementing policy-driven communication to help manage tourist flows. We focused on the guiding question: How might we use various information channels to direct visitors to lesser-known destinations? Using idea mapping as a tool, participants generated a wide range of potential solutions, which were later assessed and grouped into five strategic pathways.

Pathway 1: Communication, Campaign & Narrative Tools

This pathway focuses on shaping how visitors perceive and engage with cities through strategic pre-travel storytelling, a shared tone of voice, and localized messaging. By leveraging branding, narrative campaigns, influencer collaborations, and emotionally resonant communication, the aim is to influence traveler intentions and expectations even before arrival.

Emerging ideas

- Hidden-gem attractions and pre-travel inspiration in all communications
- Sharing "best time to visit" information and inspiration (pre-stay)
- Shared tone of voice across destinations
- Local and international influencer partnerships as spokespeople (including collaborations)
- Local influencers for different city districts
- Day tourist (NL) campaigns with hyper-local storytelling
- Neighbourhood storytelling themes, coordinated across cities
- Cities offer diverse experiences (branding concept)
- PR campaigns based on shared values and emotional engagement
- Pre-arrival SMS with information on responsible behaviour and local laws

Thematic overview: Shaping the Visitor Mindset through Meaningful Stories

This pathway presents an approach to visitor interaction which begins at pre-arrival and continues throughout their stay. Cities create meaningful narratives through powerful storytelling, smart communication and influencer partnerships that highlight local diversity and neighbourhoods while defining visitor expectations. A unified brand narrative aligns digital platforms with PR channels and word-of-mouth to showcase essential landmarks alongside unique local experiences. Personalised campaigns deliver seasonally relevant emotional content through trusted local and international influencer partnerships. Furthermore, this pathway enables visitors to develop respectful awareness through storytelling that functions as emotional framing. The purpose therefore is to create rewarding experiences for responsible travel.

Pathway 2: Incentives & Behaviour Change

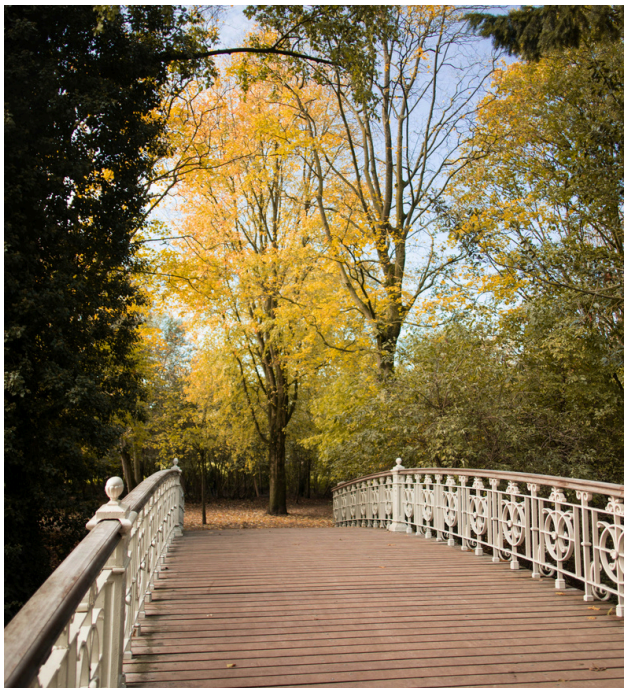
Pathway 2 focuses on shaping tourist behaviour through incentive-driven strategies such as nudging, gamification, rewards, and tax levers. By encouraging sustainable, dispersed, and responsible travel practices, the aim is to guide visitors toward more conscious and balanced tourism choices.

Emerging ideas

- Gamification (e.g.: treasure hunts for hidden gems)
- Reward tourists for traveling to less-visited areas (non-app-based loyalty tools)
- CSR incentives embedded in booking flows (e.g.: donation, offset, volunteer options)
- Encourage ethical tourism purchases and donations
- Free bikes tied to sustainability pledges
- Co-create and promote local attractions with loyalty tools
- Dynamic city tax based on impact (e.g.: location, length of stay)
- Pricing models reflecting social value, not just profit
- Experiment with location-based city tax to encourage longer stays in under-visited areas
- Opt-in behavioural commitments during booking stages
- Connect web cookie permissions with user behaviour intentions, encouraging positive engagement at checkout

Thematic overview: Rewarding Responsible Travel

This pathway uses playful and persuasive systems to modify visitor city exploration methods. Achieving deeper and more respectful visitor engagement through the integration of nudging and gamification which provide tangible rewards. Visitors can receive rewards for exploring lesser-known local attractions and receive e.g.: free bike access after taking a sustainability pledge. The behavioural design approach creates responsible travel experiences that deliver positive emotions to visitors while redistributing visitor numbers. This approach focuses on inspiring people instead of controlling their behaviour.



Pathway 3: Services & Access Integration (Mobility + Digital)

Pathway 3 focuses on enhancing the tourist experience through holistic service integration, combining mobility, access, digital tools, and physical amenities. With an emphasis on simplicity, scalability, and practical impact, it explores low-tech and accessible solutions that make navigating destinations more seamless and inclusive.

Emerging ideas

- Integrated experiences linked to dispersed areas
- Combined products: mobility, apps, access
- Expanded city cards tailored for broader geographic use
- Audio tours for walking, architecture, and neighbourhoods
- Free or tax-funded public transport
- Journey planning tools linking interest areas with distance and accessibility
- Hotel and attraction partnerships promoting hidden gems
- Low-tech, high-impact wayfinding (leveraging existing resources)

Thematic overview: Seamless Travel, Richer Experiences

The pathway provides a better visitor experience by uniting different services while streamlining access points. The approach combines physical contact points with digital ones through city cards that encourage exploration beyond central areas and bundle transportation services with audio guides and pre-made routes connecting points of interest to their geographical locations. Low-tech solutions that deliver high impact form the core of this pathway because they provide scalable and replicable solutions. Public transport, walking and biking serve as key components while strategic partnerships reveal unknown destinations to all travellers. The system guides tourists through their explorations without requiring them to plan everything in advance.

Pathway 4: Co-creation & Stakeholder Partnerships

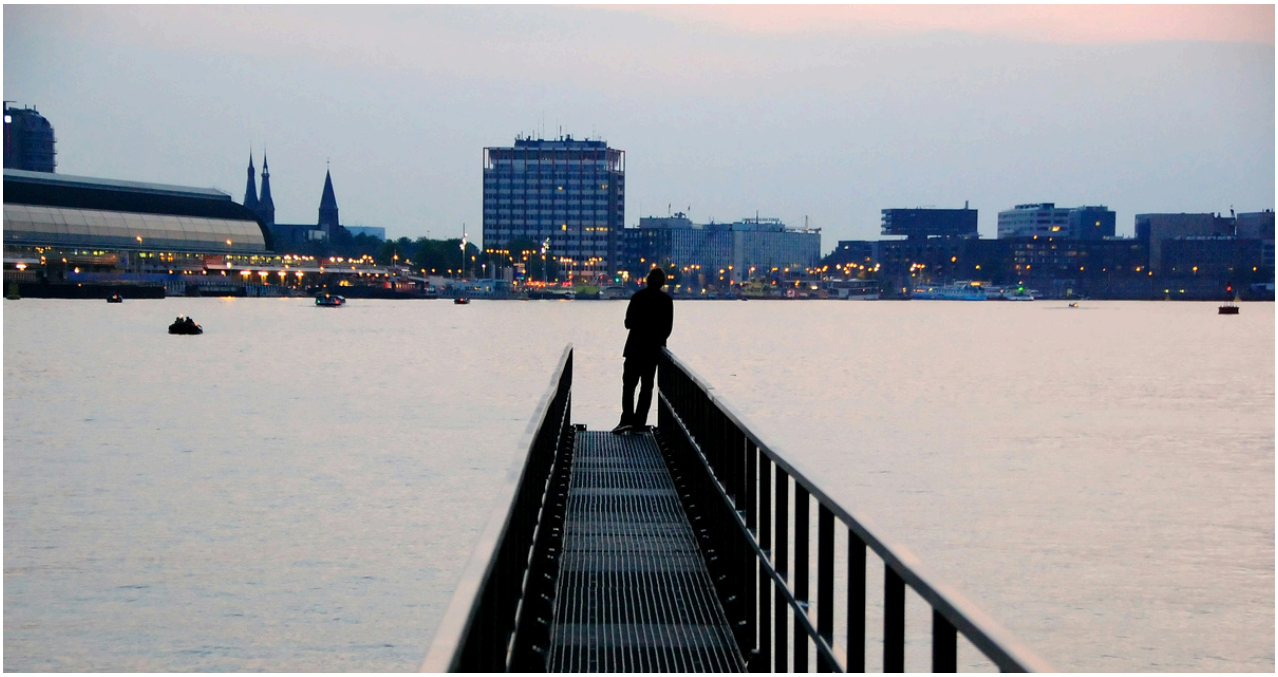
Pathway 4 focuses on fostering shared responsibility through collaborative development and funding. By building joint strategies, campaigns, and tools via co-investment and inclusive partnerships across public, private, and civil sectors, the aim is to create more resilient and collectively owned tourism solutions.

Emerging ideas

- Co-creation value proposition sessions with partners
- Engage with new institutional partnerships (e.g.: cultural, educational)
- Collaboration between hotels and hidden gem attractions
- Stronger engagement in EU funding opportunities
- Co-funded or subsidised content and campaign tools
- Locally anchored content creation and storytelling
- Build portfolios of attractions that reflect community identity

Thematic overview: Building Tourism Together

Tourism development requires the active participation of the city population together with the city itself. This pathway establishes partnerships with stakeholders who include local institutions together with hotels and entrepreneurs to create shared value. The combination of workshops and experimental partnerships with collaborative content development enables the alignment of both perspectives and incentives. The visibility of institutions increases while residents obtain agency, and visitors gain more authentic and richer experiences. The combination of EU-funded initiatives with public-private ventures enables large-scale collaborative efforts that lead to diverse attraction portfolios showcasing multiple community perspectives. Shared tourism development brings about equal value creation.



Pathway 5: Data, Research & Personalization

Pathway 5 focuses on evidence-driven decision-making and hyper-personalised visitor engagement. By leveraging data, behavioural research, and local feedback loops, it aims to inform tailored tourism experiences and enable more responsive, context-aware policy development.

Emerging ideas

- Hyper-personalised push notifications and alerts
- Research into dispersal effectiveness and local satisfaction
- Use of transaction data to promote local businesses
- Promote "citizen ambassadors" through inclusive storytelling
- Build datasets to measure social, environmental, and cultural impact
- Support evidence-building for policy and experience design

Thematic overview: Smarter Insights, Sharper Impact

This pathway uses data as a force to drive tourism planning and experience personalisation while assessing visitor impact. The approach delivers appropriate messages to suitable tourists at suitable times through personalised push notifications and behaviourally based alerts. The city's long-term strategies receive support from data which delivers evidence to policymakers while identifying visitor behavioural patterns. The measurement of essential factors through the combination of qualitative research with quantitative data analysis including local effects, risk areas and citizen satisfaction levels is proposed. The city becomes more intelligent while tourists gain a sense of recognition.

Additional Point of Attention: Policy, Governance & Long-Term Regulation

While communication-based solutions can be both time and resource-efficient as well as effective, fundamental challenges that lie beyond the authority of Destination Management Organizations (DMOs) may impede their implementation. The framework discussed below serves to promote equal access together with enduring sustainability and public value in tourism. The framework illustrates the role of governance, policy, and regulation to manage the broad impacts of tourism, particularly in addressing challenges that go beyond the scope of marketing and communication solutions.

Key Areas of Focus:

- Accommodation licenses granted or renewed exclusively to locally held cooperatives, comprising neighborhood residents with exclusive investment rights
- Clear enforcement measures where needed ("hard stick" policies)
- Transparent use of tourist taxes to e.g.: reinvest in cleaning, safety, and infrastructure
- Discourage short-term exploitation (e.g.: speculative practices)
- Support cooldowns and soft limits rather than outright bans

While this is not part of the core cluster of ideas, it serves as a reminder of the systemic and structural frameworks necessary to ensure the balanced and sustainable growth of tourism. Policymakers and stakeholders must collaborate across sectors to create these frameworks, ensuring that tourism can thrive without overexploiting its resources.

Sprint Highlights: Top Ideas

The purpose of the prototype lab was to transform the most promising ideas into improved or entirely new communication solutions. We began by evaluating the ideas generated in the previous session through a voting process, selected two for further development, and then sketched out initial concepts along with a corresponding action plan.

This chapter presents the two top ideas:

1. **Personalised & dynamic digital visitor navigation**
2. **Collaborative partnership model centred on data sharing**

Pathway 2 & 3: Personalised & Dynamic Digital Visitor Navigation

This initiative presents a method to access a digital platform through QR codes which generates GPS-based map directions that customise the visitor experience based on time and place and personal interests. The concept presents a different approach than traditional itineraries since it delivers immediate recommendations that adjust to real conditions which include weather, crowds, time of day and user-specific choices. The goal is to make exploration spontaneous but purposeful guided by gentle nudges, personalisation, and predictive logic ("if you liked this, you'll like that"). The system creates a network of choices that guide users through their exploration by integrating site visitation guidance with transportation information and alerting them about surrounding points of interest. Lastly, the platform functions as a tool to distribute benefits while guiding users toward specific destinations so multiple people and locations gain value and support.

Concept Development

Goal: Real-time, technology-enabled visitor support using interactive maps and nudging tools to create flexible, personalized visitor journeys

In brief: The concept details a digital visitor support system which leads tourists toward sustainable exploration by providing real-time information and behavioural prompts and carefully selected content. This map is not about navigation, but about narrative shaping: using emotionally resonant content to influence travellers' intentions and decisions. The digital map evolves into a flexible companion that modifies itself according to visitor location as well as their interests and current environmental conditions. The concept enables adaptive discovery by using data to support better travel decisions without overwhelming users with too many choices. The system adapts to both time and emotional state by providing garden exploration during sunny days and peaceful moments near busy landmarks. Real-time conditions unite with personal filters to convert the map into a tool that enables more adaptive tourism experiences.

Key considerations:

- City-branded digital maps for exploration and nudging
- AI-based prompts for dispersal and dynamic suggestions
- Use of TripAdvisor/Google trends to surface less-visited spots
- Equitable model: no pay-to-play partner visibility
- Real-time tips, notifications, and route suggestions
- Base maps built on public data and local contributions
- Existing content from local partners can feed the tool
- QR code access (Android/iOS)
- GPS-based interface with real-time positioning
- Personalisation filters (interests, accessibility, pace)
- Consent-based tracking to enable prompts and suggestions
- Weather-dependent tips and alerts
- Real-time "what's on" and "best time to visit" nudges
- Predictive logic (e.g.: "If you liked this...")
- Public transport integration
- Surprise and serendipity design: spontaneous nearby options

Focus area: Guiding Visitors the Smart Way

The foundation of this concept rests on technology acting as a supplementary system for local storytelling and smart visitor management instead of taking its place. White-label digital maps provide cities with brandable tools that combine real-time guidance with content equity and maintain local nuances. The tool functions as directions but simultaneously create sustainable visitor exploration patterns. The combination of behavioural nudging with data-driven recommendations and digital access infrastructure results in improved visitor experiences while reducing tourism impacts on local communities. The application represents an ecosystem which enables better sustainable and equitable visitor engagement in tourism activities.

Action Plan

During the workshop, several factors essential for rapid prototyping and agile design approaches were discussed. Developing digital tools that promote smarter visitor engagement and meaningful experiences requires testing concepts and gathering feedback from users and partners to support iterative development. Real-world testing acts as the foundation for experimentation, validating key aspects such as the tone, format, and interactivity of the digital map. Furthermore, the prototyping discussions focused on developing a selection of excellent content which both adds cultural value and delivers practical benefits. The map and supporting tools function as storytelling platforms instead of basic navigation systems to show hidden locations and unknown neighbourhoods through authentic place-based voices. The approach focuses on selecting relevant content through partnerships instead of outsourcing to create meaningful experiences.

Key considerations:

- Test and use clear criteria for building the digital map: tone, function, interactivity
- Run pilot rollouts with real visitors and partners
- Embed feedback into short iteration cycles
- Co-create and co-test across city teams
- Blending DMO-generated and partner-contributed content
- Highlight curated "need-to-knows" and community-sourced gems
- Treat content as part of the destination's value proposition
- Replace ad slots with meaningful, mission-aligned stories
- Ensure consistency in voice, quality, and local relevance
- Story-based navigation and layered content on the map
- "TomTom" audio narratives as-you-go
- Immersive formats: VR overlays, soundscapes
- Surprise elements and experiential prompts
- Portfolio layout for browsing different story types (e.g.: food, history, art, activity)

Implementation notes: Powering Digital Maps with Local Voices

Every intelligent visitor tool contains content layers which determine what to observe, where to travel and how to understand destinations. The concept demonstrates the importance of developing content together to produce material that is meaningful and respectful while reflecting real-life experiences. The digital map transcends its guide function when DMO teams unite with local partners and cultural contributors because it transforms into a cultural interface. These ideas emerged as guiding principles from the workshop discussion which emphasized that content functions as essential bonding material between travellers and their destinations rather than mere filler content.

Pathway 4 & 5: Collaborative partnership model centered on data sharing

The initiative focuses on building a data-driven communication framework between tourism industry stakeholders, which includes booking systems, accommodation providers and travel companies together with destination managers. Trade partners can create enhanced value propositions by sharing insights and co-creating communication strategies which lead to improved targeted visitor experiences. This prototype demonstrates operational procedures for creating these partnerships along with data communication procedures and message coordination. By leveraging shared insights and visitor data, stakeholders can better align their efforts and deliver more cohesive and compelling tourism experiences.

Concept Development

Goal: Build strategic alliances to improve message targeting and communication

In brief: This prototype concentrates on developing partnerships with major industry stakeholders for better tourism messaging through the collaborative use of local visitor data. This concept relies on working with existing content management platforms to use visitor information for creating targeted marketing messages. The data ownership issue prevents DMOs from gaining full control, but they can reach agreements to obtain specific data which they use for creating customized campaigns. The intervention stands apart from conventional marketing tools and regulatory policies because it functions as a strategic method to develop joint messaging with data-driven insights which spreads through trusted industry channels.

Key considerations:

- Explore partnerships with trade and umbrella organizations
- Engage large platforms (e.g., TUI, Google, Booking.com) in data-sharing dialogues
- Use trade events as coordination anchors
- Promote the principle that "no one owns the traveler" by encouraging shared messaging over territorial claims
- Clarify roles: DMOs as curators of contextually relevant narratives
- Address data governance: differentiate between data ownership and access rights
- Funding should align with purpose: potential for co-investment or public-private subsidies to support content creation and campaign delivery

Focus area: Collaborative Messaging through Strategic Data Access

The focus of this concept shifts away from independent promotion towards united communication efforts. DMOs form established partnerships with major tourism platforms to develop relevant place-based messages without requiring visitor data ownership. The approach centres on trusted access, alignment, and co-distribution. Trade organizations together with similar networks operate as meeting facilitators to help public and private organizations develop joint storytelling initiatives which express their common objectives and beliefs. The result of collaborative tourism messaging efforts becomes better and fairer because it develops through collective work.

Action Plan

During the workshop, the importance of aligning implementation with organizational structure, control, and long-term accountability was emphasized. Additionally, developing governance structures and operational plans to support collaborative platforms and messaging tools was explored, as these elements are crucial for the successful realization of the concept. As new partnerships form and shared systems are established, foundational questions naturally arise:

- Who should lead or coordinate the platform the city, a DMO, or another entity?
- Who owns the visitor relationship, and how is it managed across partners?
- What level of access or control over data and content is required for consistency?

These questions remain open and under discussion but raising them now is essential to ensure that the platforms and systems being prototyped have the structural backbone to persist beyond short-term campaigns.

Key considerations:

- Build timelines and implementation roadmaps from the outset
- Consider who should take the lead in platform coordination e.g.: DMO
- Define the profile or role of the "right person" or entity to manage alignment
- Clarify content governance to avoid fragmentation or duplication
- Explore models for data access and oversight without assuming full ownership
- Design structures that are resilient and built for long-term stewardship

Implementation notes: Structuring for Impact and Longevity

Great ideas only succeed if they are supported by clear, durable structures. The focus is on developing strong systems for data access and platform leadership together with operational roles which match the strength of the proposed solutions. Great visitor tools require proper governance to determine who should take leadership. How is content managed and aligned? Who controls the data? Operational planning ensures that platforms do not fragment over time or get lost after campaign cycles. The system behind this solution should achieve the same level of robustness as the solution itself through its emphasis on continuous operation with clear responsibilities and straightforward design.

Conclusion

This project investigated the influence of different information channels on tourist behavior and experiences in Amsterdam and Copenhagen. While overall visitor satisfaction and likelihood to recommend did not vary significantly across groups, regardless of the channel or content type, the experiment revealed notable differences in movement patterns. In Copenhagen, participants using maps highlighting hidden gems were 11.88 times more likely to explore lesser-known areas compared to those using maps featuring must-see attractions. Similarly, users of the Zoey interactive assistant featuring hidden gems were 3.58 times more likely to venture off the beaten path. Although similar patterns were observed in Amsterdam, these were not statistically significant. Notably, exposure to hidden gem content, particularly via Zoey, was linked to reduced movement around high-traffic tourist spots, though effects varied between the two cities.

On July 2, 2025, a co-creation workshop brought together stakeholders from both cities to reflect on these findings and co-design future interventions. The idea sprint that followed produced a wide range of proposals, which were organized into five strategic pathways, along with a sixth pathway:

- Communication, campaign & narrative tools
- Incentives & behaviour change
- Service & access integration
- Co-creation & stakeholder partnerships
- Data, research & personalisation
- Policy, governance & long-term regulation

After careful review, two pathways were selected for further development in a prototype lab, resulting in two well-defined initiatives and actionable next steps to create a:

- Personalised & dynamic digital visitor navigation tool
- Collaborative partnership model centered on data sharing

Overall, the project demonstrates that in urban settings, tourists are responsive to subtle directional cues embedded in the information they receive. Importantly, promoting hidden gems exclusively did not negatively impact the visitor experience, suggesting strong potential for sustainable destination management through targeted communication strategies.

Bibliography

Bastiaansen, M., Lub, X. D., Mitas, O., Jung, T. H., Ascenção, M. P., Han, D. I., ... & Strijbosch, W. (2019). Emotions as core building blocks of an experience. International Journal of Contemporary Hospitality Management, 31(2), 651-668.

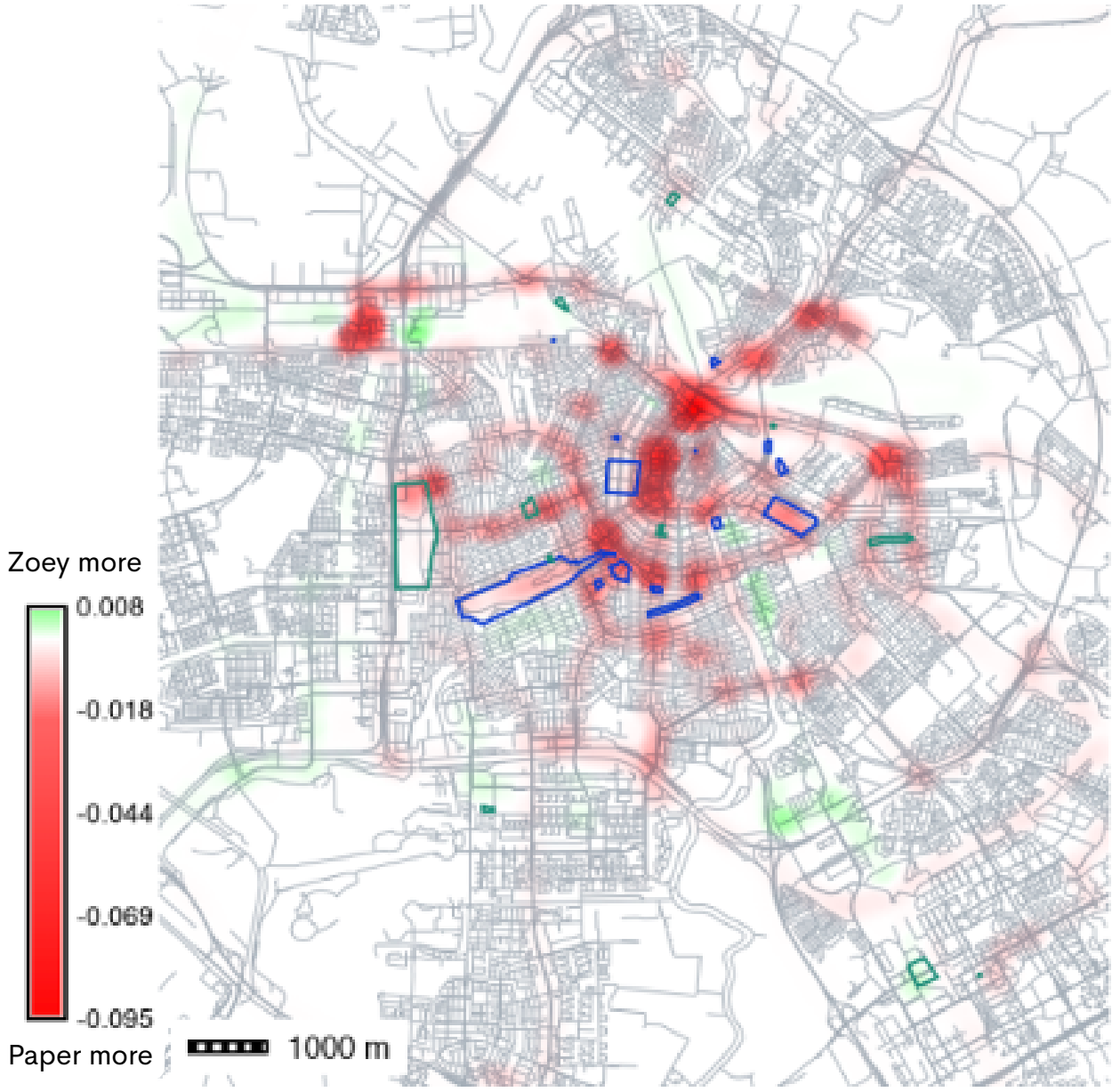
Mitas, O., Badal, R., Verhoeven, M., Verstraten, K., de Graaf, L., Mitasova, H., ... & Klijs, J. (2023). Tell me where to go: An experiment in spreading visitor flows in The Netherlands. International Journal of Environmental Research and Public Health, 20(8), 5441. LINK: https://www.mdpi.com/1660-4601/20/8/5441

Mitas, O., Niemeyer, O., & Kurtz, J. (2024). The best experiences cannot be planned: The effect of maximizing vacation planning on consumer satisfaction and well-being. Journal of Hospitality & Tourism Research, 48(8), 1507-1524.

Weiler, B., Gstaettner, A. M., & Scherrer, P. (2021). Selfies to die for: A review of research on self-photography associated with injury/death in tourism and recreation. Tourism Management Perspectives, 37, 100778.

Appendix

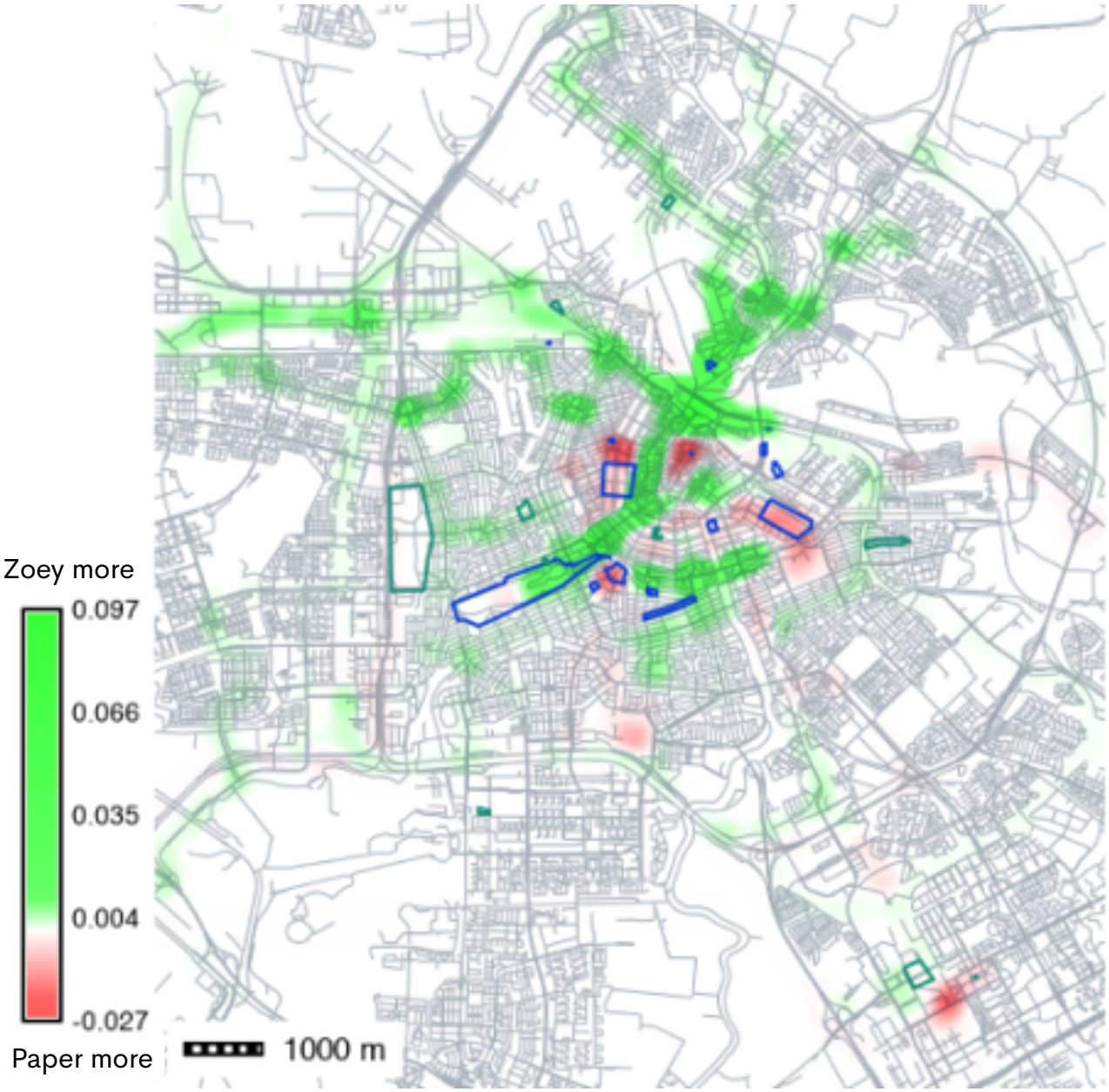
Additional maps: differences between recommender type
Amsterdam must-see attractions



Green means there were more movements of tourists who saw the must-see information via **Zoey**

Red means there were more movements of tourists who saw the must-see information via **Paper map**

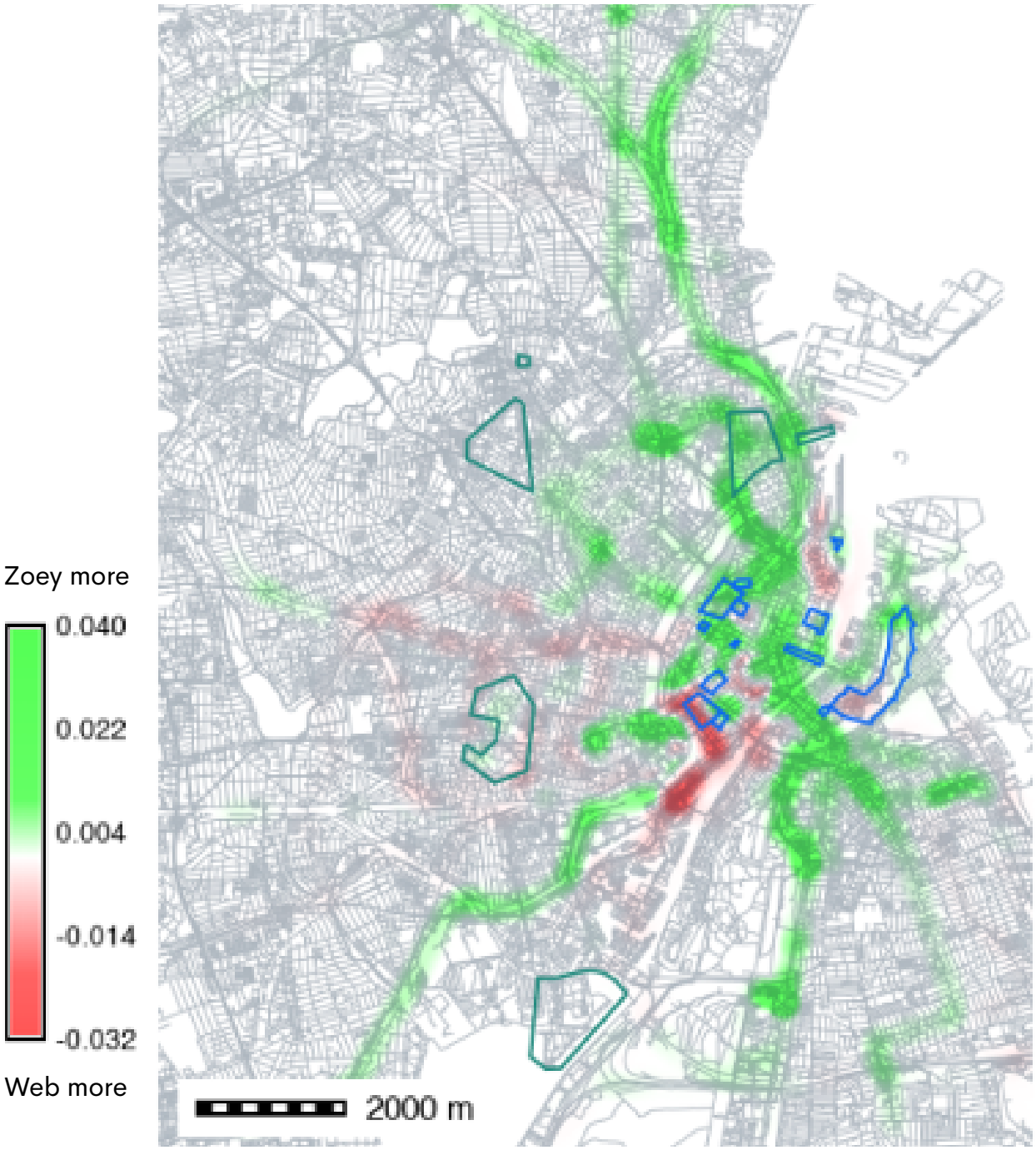
Additional maps: differences between recommender type
Amsterdam hidden-gem attractions



Green means there were more movements of tourists who saw the hidden-gem information via **Zoey**

Red means there were more movements of tourists who saw the hidden-gem information via **Paper map**

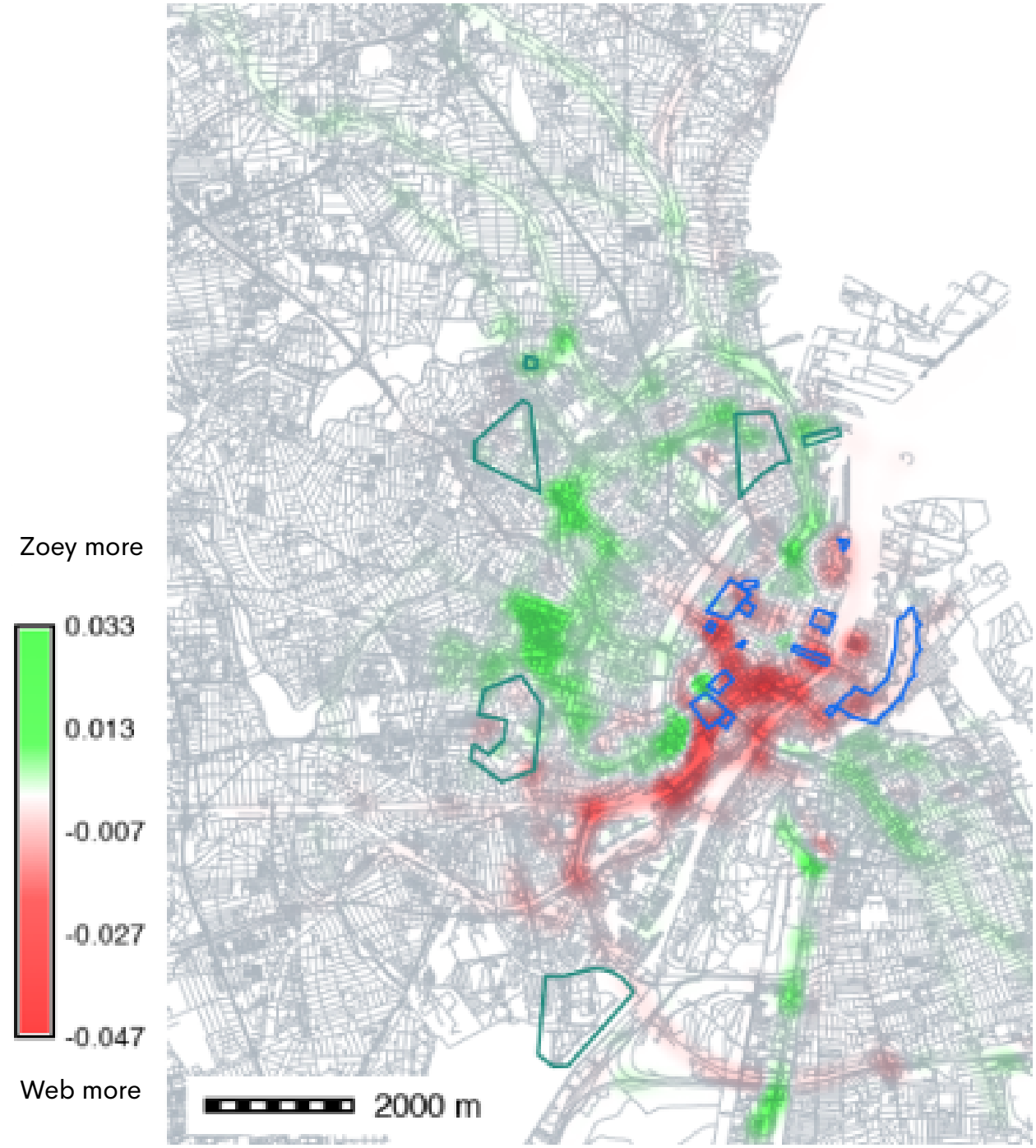
Additional maps: differences between recommender type
Copenhagen must-see attractions



Green means there were more movements of tourists who saw the must-see information via **Zoey**

Red means there were more movements of tourists who saw the must-see information via **Web page**

Additional maps: differences between recommender type
Copenhagen hidden-gem attractions



Green means there were more movements of tourists who saw the hidden-gem information via **Zoey**

Red means there were more movements of tourists who saw the hidden-gem information via **Web page**