

Love In Traffic: Physical and Digital Design Against Consensual Sexual Activity Inside Public and Shared Automated Vehicles

Alexandros Rouchitsas*
KTG Research & Innovation Ltd.
Famagusta, Cyprus
a.rouchitsas@ktg-innovation.eu

Ignacio Alvarez
Computer Science
Technische Hochschule Ingolstadt
Ingolstadt, Bavaria, Germany
ignacio.alvarez@thi.de

Soyeon Kim
WMG
University of Warwick
Coventry, United Kingdom
soyeonkim@warwick.ac.uk

Chen Peng
Transport Safety Research Centre
Loughborough University
Loughborough, United Kingdom
c.peng@lboro.ac.uk

Pavlo Bazilinskyy
Eindhoven University of Technology
Eindhoven, Netherlands
p.bazilinskyy@tue.nl

Abstract

Research on sexual behavior and transport has either focused on fear of sexual harassment and perceived safety inside public transport or on consensual sexual activity inside private transport framed as distracted driving. Meanwhile, evidence from adult content platforms suggests that consensual sexual activity inside public transport is trending. This is particularly concerning in relation to public and shared automated vehicles (AVs), where enclosure, shared use, and the absence of an authority figure can warp perceptions of accountability and intervention potential, with important consequences for passenger comfort and perceived safety and for public acceptance of the technology. Our workshop aims to address this concern by approaching consensual sexual activity as a design stress test for how AVs are perceived and used as collective spaces. We aim to synthesize design principles, identify open research questions, and establish a research agenda for designing public and shared AVs as comfortable and respectful collective spaces.

CCS Concepts

• Human-centered computing → Interaction design.

Keywords

Sexual activity, Automated vehicles, Interior design, Interface design, Passenger comfort, Perceived safety

ACM Reference Format:

Alexandros Rouchitsas, Ignacio Alvarez, Soyeon Kim, Chen Peng, and Pavlo Bazilinskyy. 2026. Love In Traffic: Physical and Digital Design Against Consensual Sexual Activity Inside Public and Shared Automated Vehicles. In *18th International Conference on Automotive User Interfaces and Interactive Vehicular Applications (AutomotiveUI Adjunct '26)*, September 20–23, 2026, Gothenburg, Sweden. ACM, New York, NY, USA, 4 pages. <https://doi.org/10.1145/3828158.3834785>



This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

AutomotiveUI Adjunct '26, Gothenburg, Sweden

© 2026 Copyright held by the owner/author(s).

ACM ISBN 979-8-4007-2815-0/26/09

<https://doi.org/10.1145/3828158.3834785>

1 Introduction

Research on sexual behavior and transport has so far been fragmented across distinct strands. A substantial body of work has examined fear of sexual harassment and unwanted sexual behavior inside public transport, showing how perceptions of risk, bystander presence, and transport density shape mobility choices, safety strategies, and passenger behavior [2, 5]. Further work shows that these experiences are shaped by intersecting social factors and expectations of bystander and community support, which play a role in passengers' perceived security and self-efficacy in public transport environments [9, 18]. In parallel, a growing literature documents sexual activity inside private vehicles, primarily framed as a form of distracted driving. This work draws on media reports and content analyses of naturalistic sexually explicit recordings to reveal the prevalence, diversity, and safety implications of sexual activity inside moving vehicles [11–13]. This work shows that sexual activity inside vehicles is neither rare nor hypothetical, and that drivers and occupants actively adapt their behavior to vehicle affordances, visibility, and the presence of others.

Beyond private vehicles, evidence from the adult content platform Pornhub suggests that sexual activity in public transport environments is increasingly normalized: a search for amateur content referencing “public transport” (29 January 2026) returned 297 results. These videos appear to be produced for personal sexual gratification and/or financial incentives associated with online monetization mechanisms offered by adult content platforms. The circulation of such content may contribute to the normalization of sexual activity in public transport settings and encourage imitation, as has been observed for other forms of sexually explicit media [8]. This trend resonates with cultural references to consensual sexual activity in air travel, most notably the “Mile High Club”, reflecting the recurrent appropriation of enclosed mobility spaces for intimate acts [3]. Comparable depictions in popular cinema, including the lovemaking scene aboard a Chicago L train in the 1983 film *Risky Business*, aptly soundtracked by Tangerine Dream's “Love on a Real Train”, portray sexual encounters in transport settings as transgressive yet culturally recognizable acts, contributing to the persistence of such associations in the public imagination [1]. Similarly, prominent traditions involving limousine travel have been culturally

associated with intimacy and sexual experimentation, reinforcing how enclosed mobility spaces become symbolically linked to status, transitional rites of adulthood, and consensual sexual expression [4]. From a human factors (HF) and user experience (UX) perspective, this raises questions about how physical design, spatial affordances, and the presence of bystanders shape the interpretation and use of transport spaces—questions that become particularly salient as similar conditions are replicated in public (e.g., buses and shuttles) and shared (e.g., robotaxis) automated vehicles (AVs).

At the same time, emerging research on shared AVs highlights how the absence of a human authority figure and the presence of multiple passengers reshape responsibility, intervention, and bystander dynamics, with consequences for passenger comfort and perceived safety—two psychological states critical for user acceptance and human-centred design in automated mobility [7, 10, 14]. By contrast, occupants of private vehicles retain latitude over their conduct, as the car has long been theorised as a mobile private space that affords enclosure and intimacy away from public scrutiny [16], while passing observers bear no formal obligation to intervene. In public- and shared-use contexts, however, co-passengers cannot simply leave, and the enclosed multi-occupant setting creates unavoidable proximity and heightened social accountability. Moreover, what constitutes sexual or intimate behavior is not universally defined: cultural norms vary in how public displays of affection—from hand-holding to kissing—are perceived and tolerated, with thresholds differing across Westernized, Middle Eastern, and Asian cultural contexts [17]. As shared mobility brings together passengers from diverse cultural and religious backgrounds, particularly in multicultural urban environments, the threshold at which behavior is perceived as inappropriate or uncomfortable becomes increasingly contested [6].

As public and shared AVs combine enclosure, simultaneous use, and autonomy, they raise design challenges that remain insufficiently addressed by existing safety and policy frameworks, particularly regarding how the physical and digital design of these environments (covering SAE Levels 3–5 [15]) shapes affordances, norm interpretation, and bystander experience when sexual activity occurs. Our workshop responds to this concern by treating sexual activity as a design stress test for how AVs are perceived and used as collective spaces. Participants will explore design concepts that discourage sexual activity while enabling effective but proportionate interventions that preserve passenger comfort and dignity.

2 Related Work

Research on sexual behavior and transport has addressed several related but separate problem spaces. Work on public transport has predominantly focused on sexual harassment and unwanted sexual behavior, examining how such experiences shape passengers' safety perceptions, fear, and travel behavior. This literature documents the influence of contextual factors such as passenger density, time of travel, and bystander presence on perceived seriousness, responsibility attribution, and likelihood of reporting or intervening, with outcomes framed in terms of avoidance strategies and mobility constraints [2, 5]. Qualitative research further shows that experiences of sexual harassment in public transport are structured by intersecting social and cultural factors, with gender interacting with age,

appearance, education, religion, and disability to shape how harassment is experienced and understood in everyday bus travel [9]. Complementary survey-based work demonstrates that women's perceived security and self-efficacy are positively correlated with bystander intervention and community support potential, alongside perceived responsibility of transport authorities, highlighting the role of social context and co-presence in shaping safety perceptions [18].

At the same time, a distinct body of research has examined consensual sexual activity inside private vehicles, typically conceptualized as a form of distracted driving. Drawing on media reports and content analyses of naturalistic sexually explicit recordings, these studies document the prevalence, forms, and safety implications of sexual activity while driving, showing that drivers and passengers adapt their behavior in response to visibility, concealment opportunities, and the presence of others [11–13]. However, this work primarily focuses on driver attention, vehicle control, and crash risk, rather than on shared-space experience or the comfort of unrelated co-passengers. Complementary research on sexually explicit media has examined how exposure to sexual content can shape sexual attitudes, expectations, and behavioral scripts, emphasizing the roles of visibility, repetition, and contextual framing without assuming deterministic effects [8]. While not focused on transport systems, this literature provides background for understanding how sexual behavior recorded in vehicles or public environments may become normalized and imitated in settings characterized by enclosure, visibility, and bystander presence.

Finally, research on shared AVs has explored how automation and shared use affect social interaction, responsibility, and passenger experience. Studies of critical situations in shared AVs report uncertainty about intervention and diffusion of responsibility associated with co-presence, while complementary work highlights passenger comfort and perceived safety as key psychological states for user acceptance and human-centred design in automated mobility, as well as challenges in measuring and supporting these experiences through system design [7, 10, 14]. Together, these strands delineate the existing empirical and conceptual foundations without directly addressing how consensual sexual behavior inside shared vehicles may interact with bystander dynamics or how physical and digital design could mediate such situations.

3 Schedule and Activities

3.1 Welcome, Scope, and Framing (15')

The workshop begins with a brief introduction by the organizers and a clear framing of its scope. We focus on consensual sexual behavior inside public and shared AVs, explicitly excluding harassment, violence, and other forms of criminal activity. We focus on consensual sexual behavior because it presents a distinct human factors and design challenge, whereas nonconsensual sexual behavior constitutes criminal conduct requiring different prevention strategies, expertise, and policy frameworks beyond the scope of this workshop. The workshop also foregrounds the protection, comfort, and agency of co-present passengers. Sexual behavior is framed as a HF and UX stress test for automated mobility, emphasizing affordances, norm signaling, passenger comfort, and bystander experience rather than moral, legal, or policy considerations.

3.2 Scene-Setting Lightning Talks (45')

A set of 2–3 lightning talks, each followed by Q&A, establishes a common conceptual and empirical grounding. The talks address sexual behavior and perceived safety in public transport, sexual activity in private vehicles as space appropriation shaped by affordances, relevant media representations and content production, and shifting responsibility and bystander dynamics in public and shared AVs. Where possible, the talks will bring together complementary academic, practitioner, and lived-experience perspectives to inform the subsequent design activities. A short clarification segment allows participants to align perspectives.

3.3 Group Activity 1: Mapping the Design Problem (45')

Participants work in small groups to map the design problem from a HF and UX perspective. Groups identify relevant user roles, including passengers engaging in sexual behavior (e.g., nonchalant or intoxicated party-goers or opportunistic content creators) and co-present passengers who may be unwilling bystanders (e.g., parents accompanying minors, elderly people, or first-time passengers unfamiliar with the system). They examine breakdowns in comfort, perceived safety, civility, and agency, and discuss how current public and shared AV interiors and interfaces fail to support a positive shared-space experience.

3.4 Group Activity 2: Designing Against Sexual Behavior (45')

Groups develop preliminary design concepts that discourage sexual behavior while protecting bystanders. The first part focuses on physical design, exploring how layout, materials, transparency, and visibility shape affordances and signal public use without relying on surveillance. The second part focuses on digital design, examining how system interactions can interrupt or de-escalate situations in a proportionate and non-intrusive manner, while giving co-present passengers agency without forcing them to end their journey.

3.5 Group Activity 3: AI-Assisted Physical and Digital Visualization (30')

Groups use AI-based image generation tools to rapidly visualize selected physical and digital concepts. Participants will use their own laptops and AI image-generation tools of their choice during this activity. Participants collaboratively define prompts specifying public or shared AV contexts, physical constraints, and intended affordance signals. Generated images are used as discussion artifacts to reflect on how design choices discourage sexual behavior, protect passenger dignity, and sometimes introduce unintended enabling affordances. AI is used strictly as a rapid ideation and reflection tool, with human interpretation remaining central.

3.6 Synthesis and Wrap-Up (15')

The workshop concludes with a discussion synthesizing physical and digital design principles, recurring trade-offs, cross-scenario insights, and open HF and UX research questions. The session will also define post-workshop outcomes, including a shared design framework or position paper.

4 Attendance

We are planning a half-day workshop with approximately 25 participants (excluding the organizers). The workshop is aimed at researchers and practitioners working in HF, UX, and interior design for automated mobility. We particularly welcome participants interested in vehicle interiors, digital design, and shared mobility, including contributors from both academia and industry. The workshop explicitly invites participants seeking to engage with emerging and underexplored design challenges in automated mobility.

5 Expected Outcome

We aim to catalyze a new line of inquiry within the AutoUI community by positioning sexual behavior in public and shared AVs as a critical HF and UX challenge. Our workshop will surface how physical and digital design shape affordances, norm interpretation, bystander experience, and passenger agency in AV spaces. The outcomes will be consolidated into a publicly available summary or position paper, identifying open research questions and establishing a shared agenda for future HF/UX research and design in automated mobility.

6 Biographies

Dr Alexandros Rouchitsas is a HF/UX professional and certified ergonomist (Eur.Erg.). His research interests include human–AI symbiosis, human–robot collaboration, automated driving, and eye tracking. He received his PhD from Luleå University of Technology in human factors of automated driving.

Dr Ignacio Alvarez holds the Bavarian Top Professorship for Human-Centered Intelligent Systems at Technische Hochschule Ingolstadt. His research interests are at the intersection of agentic AI, systems engineering and human-computer interaction. He received his PhD at Basque Country University and Clemson University in developing in-cabin assistant systems.

Dr Soyeon Kim is an assistant professor at University of Warwick. Her research focuses on understanding human behaviour and designing human-machine interaction in automated vehicles. She holds a PhD at TU Delft in designing in-vehicle HMI for trustworthy automated vehicles.

Dr Chen Peng is a Lecturer (Assistant Professor) at Loughborough University, UK. Her research focuses on human factors in future mobility. She received her PhD from University of Leeds, UK, as a Marie Skłodowska-Curie Fellow.

Dr Pavlo Bazilinskyy is an assistant professor at TU Eindhoven focusing on AI-driven interaction between automated vehicles and other road users. He finished his PhD at TU Delft in auditory feedback for automated driving as a Marie Curie Fellow, where he also worked as a postdoc.

References

- [1] Cassandra Alexopoulos and Laramie D Taylor. 2020. Risky Business: Sexual Risk and Responsibility Messages in Teen Sex Romps. C. Alexopoulos, LD Taylor. *Sexuality & Culture* 24, 6 (2020), 2161–2182.
- [2] Krista S Ball and Caroline J Wesson. 2017. Perceptions of unwanted sexual behaviour on public transport: exploring transport density and behaviour severity. *Crime prevention and community safety* 19, 3 (2017), 199–210.
- [3] John Baxter. 2009. *Carnal Knowledge: Baxter's Concise Encyclopedia of Modern Sex*. Harper Collins.
- [4] Amy L Best. 2013. *Prom night: Youth, schools and popular culture*. Routledge.

- [5] Vania Ceccato and Anastasia Loukaitou-Sideris. 2022. Fear of sexual harassment and its impact on safety perceptions in transit environments: a global perspective. *Violence against women* 28, 1 (2022), 26–48.
- [6] Tim Cresswell. 2006. *On the Move: Mobility in the modern western world*. Routledge.
- [7] Bengt Escher, Jakob Peintner, and Andreas Riener. 2024. The Significance of the Bystander Effect on Personal Responsibility in Critical Situations in Shared Automated Vehicles. In *Proceedings of the 16th International Conference on Automotive User Interfaces and Interactive Vehicular Applications*. 384–394.
- [8] Stacy Gorman. 2014. *Porn sex vs. real sex: Exploring pornography's impact on sexual behaviors, attitudes, and relationships*. Georgia State University.
- [9] Tania Haque and Tasnim Nowshin Fariha. 2024. “No one is safe in a public bus”: Debunking the Gender Myths of Sexual Harassment in Public Transports of Bangladesh. *INTERNATIONAL JOURNAL* 11, 2 (2024).
- [10] Nikolas Martelaro, Debargha Dey, Gary Burnett, Helena K Strömberg, Jonas Andersson, and Andreas Löcken. 2022. How to Manage Social Order in Shared Automated Vehicles. In *Adjunct Proceedings of the 14th International Conference on Automotive User Interfaces and Interactive Vehicular Applications*. 201–203.
- [11] James David Albert Newton, Daniel Demant, James G Phillips, Cindy Struckman-Johnson, and Oscar Oviedo-Trespalcacios. 2022. Sexual behaviours among dyadic vehicle occupants. *Transportation research part F: traffic psychology and behaviour* 85 (2022), 119–132.
- [12] Oscar Oviedo-Trespalcacios, James David Albert Newton, Daniel Demant, James G Phillips, and Cindy Struckman-Johnson. 2022. Understanding sexual activity while driving as a form of distracted driving. *Accident Analysis & Prevention* 169 (2022), 106621.
- [13] Oscar Oviedo-Trespalcacios and James G Phillips. 2021. Sexual activity while driving: A content analysis of media reports. *Transportation research part F: traffic psychology and behaviour* 80 (2021), 141–149.
- [14] Chen Peng, Stefanie Carlowitz, Ruth Madigan, Claus Marberger, John D Lee, Josef Krems, Matthias Beggiato, Richard Romano, Chongfeng Wei, Ellie Wooldridge, et al. 2024. Conceptualising user comfort in automated driving: Findings from an expert group workshop. *Transportation research interdisciplinary perspectives* 24 (2024), 101070.
- [15] SAE International. 2021. *Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles*. Technical Report J3016_202104. SAE International. doi:10.4271/J3016_202104
- [16] Mimi Sheller and John Urry. 2000. The City and the Car. *International Journal of Urban and Regional Research* 24, 4 (2000), 737–757. doi:10.1111/1468-2427.00276
- [17] Vas Taras, Julie Rowney, and Piers Steel. 2009. Half a century of measuring culture: Review of approaches, challenges, and limitations based on the analysis of 121 instruments for quantifying culture. *Journal of International Management* 15, 4 (2009), 357–373. doi:10.1016/j.intman.2008.08.005
- [18] Kirsten J Tilleman and Subeh Chowdhury. 2025. Role of bystanders on women's perception of personal security when using public transport. *Transportation Research Record* 2679, 1 (2025), 1723–1739.