TOYOTA mobility FOUNDATION | **SUSTAINABLE CITIES CHALLENGE**

Finalist Announcement

Varanasi

TOYOTA MOBILITY FOUNDATION ANNOUNCES FINALISTS FOR $3 MILLION GLOBAL CHALLENGE TO TRANSFORM CROWD MANAGEMENT IN VARANASI'S OLD CITY

- **Selected finalists include innovators in sustainable design, mobility data, artificial intelligence, urban planning and human-centered design**
- **These finalists aim to advance crowd flow management solutions to make the historic city of Kashi safer and more accessible for residents and tourists**
- **Finalists will receive $130k implementation funding to pilot their solutions in Kashi, with the potential for scalable, citywide impact**

VARANASI, INDIA (August 7, 2025) — The Toyota Mobility Foundation (TMF) today announced five finalists for the $3 million Sustainable Cities Challenge, focused on transforming crowd management solutions in Varanasi's historic city, Kashi.

Developed in collaboration with the City of Varanasi, Challenge Works and the World Resources Institute, the Challenge supports innovative solutions to ease congestion and improve pedestrian and pilgrimage flows through one of India's oldest and most sacred cities, which welcomes millions of visitors each year.

The Challenge attracted entries from innovators worldwide, with ten semi-finalists being invited to further develop their concepts over a six-month period. From that group, five have now been selected as finalists following a rigorous evaluation from a panel of expert judges.

Finalists were chosen based on criteria including innovation in crowd management, effectiveness, supporting data, potential to scale, and team capacity. Judges looked for solutions that could support in managing large crowds, improve the safety, accessibility and navigability of narrow lanes, and meaningfully alter crowd behaviour – all while demonstrating a strong understanding of the needs of locals, tourists and the feasibility of implementation. Each team was required to present a clear demonstration plan with measurable KPIs to support long-term impact and scalability.

A panel of five judges, bringing together expertise in data-driven technology, sustainable mobility, and urban design, alongside deep knowledge of local business and community needs, selected the following finalists:

- **Arcadis –** Arcadis is the world's leading company delivering intelligence-driven sustainable design, engineering, and consultancy solutions for natural and built assets. The team solution is an integrated solution called SANKALP, an ecosystem of interconnected technologies designed to shift from reactive measures to proactive, intelligent crowd management. SANKALP will use real-time data, advanced simulation, mobile technology, and integrated communications platforms to keep people moving safely and efficiently.

- **CITYDATA, Inc. –** CITYDATA.ai is a pioneering big data and AI company that delivers mobility intelligence to foster smarter, safer, more sustainable, and resilient urban environments**.** The team's solution is CityFlow, a cloud-based solution that uses big data, computer vision, and generative AI to measure, analyze, simulate, and manage crowds in real time. Built on the MASI framework, it delivers actionable insights without the need for new hardware.

- **VOGIC AI –** VOGIC AI is at the forefront of Vision AI for public good, transforming video data into real-time intelligence for defense, smart cities, and crowd-sensitive public spaces. VOGIC AI's solution is Behtar-Way, India's first AI powered, hyperlocal community-first pedestrian navigation platform. The team's solution will help guide citizens through safer, alternative routes and equipping city officials with real-time crowd intelligence.

- **Prameya Consulting Private Limited –** Prameya Consulting Pvt. Ltd. is an urban planning and strategy firm that aims to drive urban transformation through collaborative problem-solving and strategic planning. The team's solution is Nayichaal, a phygital AI ecosystem combining a chatbot, navigation app, wayfinding signage, and a mobility dashboard to improve mobility, inclusivity, and safety.

- **The Urbanizer –** The Urbanizer is a pioneering urban design, landscape design, and architecture firm based in India. They specialize in creating vibrant, sustainable urban spaces through a data-driven and human-centric approach. The team's solution is Jan Jatra, a people-first mobility solution blending local insights with color-coded

wayfinding, dynamic digital signage, and other tactical urbanism strategies to improve navigation and safety.

Each finalist team will receive **$130,000 in implementation funding** to demonstrate and test their proposed solutions in Kashi.

"Through the Sustainable Cities Challenge, Varanasi is setting a global example for how historic and pilgrimage cities can embrace innovation without compromising their identity," said **Akshat Verma, IAS, Municipal Commissioner/Chief Executive Officer, Varanasi Municipal Corporation/Varanasi Smart City.** "These five outstanding finalists are not only developing solutions that enhance safety, accessibility and the lived experience for both residents and pilgrims, but also ensuring they safeguard the cultural and spiritual fabric of Kashi for future generations. We hope the world will look to Varanasi as a model for how tradition and technology can co-exist to create more livable, resilient cities."

Pras Ganesh, Executive Program Director, Toyota Mobility Foundation, said: "The Varanasi Sustainable City Challenge journey has been truly inspiring. From a field of global innovators, these finalists stood out for their creative, practical, and contextual approaches to one of the world's most complex mobility environments. As we move into the next phase, we're excited to see how their solutions are implemented on the ground, not only to improve movement with convenient and safe access in Kashi, but to create a benchmark on how other heritage-rich, high-density cities around the world can tackle similar challenges with empathy and innovation."

"Varanasi, one of the world's oldest and most visited cities, is fast emerging as a pioneer in sustainable mobility—setting a global benchmark for historic cities navigating the demands of modern movement. Through the Innovating Crowd Flow Challenge, the city has united global innovation with local insights to tackle the complex challenge of managing the flow of millions of tourists. We are deeply inspired by the creativity, empathy, and innovation demonstrated by the participating teams." said **Avinash Dubedi, Head, Sustainable Cities and Transport at WRII**. "Their solutions go beyond easing congestion—they reimagine how people of all ages and abilities—residents, pilgrims, and those with special needs—can move through the city with dignity, safety, and ease. As these ideas enter the pilot phase, we look forward to witnessing their real-world impact on the experience of every visitor to this holy city."

"Varanasi is showing how to lead globally while solving locally," said **Kathy Nothstine, Director of Cities and Societies at Challenge Works**. "The finalist teams reflect the best of collaborative, interdisciplinary innovation, and their work will help transform how we think about movement, space and sacredness in dense urban areas."

The Sustainable Cities Challenge is funded by the Toyota Mobility Foundation and has been designed in partnership with Challenge Works and the World Resources Institute. It aims to create cleaner, more efficient urban mobility systems worldwide. The innovative approaches emerging from Varanasi's Sustainable City Challenge demonstrate how locally grounded ideas can drive meaningful progress toward global sustainability goals.

In addition, Toyota Mobility Foundation works with Toyota Kirloskar Motor for amplification and on-ground support towards effective implementation of its various initiatives in India. Commenting on the challenge, **Mr. Vikram Gulati, Country Head and Executive Vice President – Corporate Affairs and Governance, Toyota Kirloskar Motor**, said: "We are truly inspired by the commitment and ingenuity of the five finalists, whose solutions offer new and exciting possibilities for managing crowd in Varanasi. Their innovations have the potential to transform historic cities and set new global standards in crowd management and urban mobility. We remain committed to championing ideas that reflect our mission of 'Mobility for All' and help shape a more sustainable and inclusive future for cities around the world."

For more information, visit sustainablecitieschallenge.org.

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Notes to Editors

About the Sustainable Cities Challenge
The Sustainable City Challenge is a two-stage, three-year $9 million global opportunity for cities and innovators. The Sustainable Cities Challenge will be delivered over two stages:

- **Stage 1: Call to cities**
  The Challenge sought cities who wish to host City Challenges in 2024 – 2025. In November 2023, ten shortlisted cities received a range of capacity building support to help them understand the issue they want to solve and attract innovators to provide

solutions. This included participation in a capacity building academy in Dallas, Texas from November 13–15, 2023. By May 2024, three cities were selected to host City Challenges to find solutions for local mobility challenges: Detroit (USA), Varanasi (India), and Venice (Italy).

- **Stage 2: Call to Innovators via 3 City Challenges**
Working with the host cities, the Sustainable Cities Challenge team supported by designing local City Challenges which launched between May and June 2024. Each City Challenge offers up to $3 million in implementation funding to innovators. Host Cities held open calls for entries from innovators via their City Challenge with the support of the Sustainable Cities Challenge team. Together, they selected their finalists to test their solutions in 2024–2025. In 2026, final implementation funding will be given to winners in each host city to continue to implement and grow their solutions.

Timeline of the TMF Sustainable Cities Challenge
- Detroit Challenge: Transforming Freight
- Varanasi Challenge: Innovating Crowd Flow
- Venice Challenge: Embracing Sustainable Mobility

About Toyota Mobility Foundation
The Toyota Mobility Foundation (Chair Akio Toyoda) was established in August 2014 by the Toyota Motor Corporation (Toyota) to support the development of a more mobile society in which everyone can move freely. The Foundation underscores Toyota's ongoing commitment to continuous improvement and respect for people. It utilizes Toyota's expertise and technologies to support strong mobility systems while eliminating disparities in mobility. TMF works in partnership with universities, governments, non-profits, research institutions and other organizations, creating programs that are aligned with the UN Sustainable Development Goals (SDGs) to address mobility issues around the world.

Chair Akio Toyoda commented "TMF aims to create a truly mobile society that will help people live better lives no matter where they are."

In the past, TMF has led a range of Challenges, including the global Mobility Unlimited Challenge, CATCH in Malaysia, InoveMob Challenge in Brazil and STAMP Challenge in India. You can find out more about TMF and how it is governed at toyotamobilityfoundation.org.

About Challenge Works

For a decade, Challenge Works has established itself as a global leader in designing and delivering high-impact challenges to incentivize cutting-edge innovation for social good. Challenge Works is a social enterprise founded by the UK's innovation agency Nesta. Over the past decade, Challenge Works has worked on 101 challenge prizes, engaging more than 16,000 innovators and unlocking over £310 million in funding to tackle some of the world's biggest challenges. Challenge Works believes no challenge is unsolvable, partnering with non-profits, governments, and other organizations around the globe to unearth entrepreneurs and their innovations that can solve the greatest challenges of our time. Find out more at https://challengeworks.org/

About World Resources Institute

World Resources Institute (WRI) works to improve people's lives, protect and restore nature and stabilize the climate. As an independent research organization, we leverage our data, expertise and global reach to influence policy and catalyze change across systems like food, land and water; energy; and cities. Our 2,000+ staff work on the ground in more than a dozen focus countries and with partners in over 50 nations. Learn more: WRI.org and on Twitter @WorldResources.

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