Equity, Safety, and Sustainability Pillars of Smart Mobility: Alfredo Del Mazo Maza

HOUSTON, TX, UNITED STATES, September 23, 2025 /EINPresswire.com/ -- In African cities, where urbanization is accelerating at a staggering pace and infrastructure gaps run deep, governments face a dual challenge: how to ensure urban mobility for millions of people, and how to do so in an equitable, safe, and sustainable way. Increasingly, the answer points toward the digitalization of transportation systems. And while the challenges differ, the parallels with Latin America—and especially Mexico—are striking.

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> *Alfredo Del Mazo Maza*

Urban mobility is shaped not only by the availability of transportation options but also by their safety, accessibility, and reliability—factors determined by urban planning, public investment, and technological choices. In many African cities, the lack of integration and modernization in transport networks has left millions without viable options, particularly women, youth, people with disabilities, and marginalized communities.

Cape Town, South Africa, offers an illustrative example. Through its Integrated Public Transport Network (IPTN) and MyCiTi app, users can plan routes, purchase tickets, and track vehicles in real time. It is a demonstration of how technology can significantly improve the user experience and system efficiency, even in budget-constrained contexts.

Intelligent Infrastructure: Beyond Pavement

Today, transportation infrastructure is no longer limited to roads and vehicles. The integration of technologies such as the Internet of Things (IoT), artificial intelligence, and data analytics is transforming how road systems operate.

According to the World Bank, digital solutions can improve public transport efficiency by up to 20%, reduce operating costs, and help cut greenhouse gas emissions by 15% to 25%.

In countries like Mexico, where nearly 80% of the population lives in urban areas, the pressure on road systems is immense. The National Commission for the Efficient Use of Energy (CONUEE) estimates that over 40% of the transportation sector’s energy consumption occurs in cities, much of it driven by private car use.

“Urban mobility can no longer operate as a collection of disconnected parts. Digital infrastructure is what enables us to understand, coordinate, and improve the entire ecosystem. Only when data flows continuously between vehicles, users, and authorities can we aspire to truly efficient and equitable systems,” says Alfredo Del Mazo Maza, public policy specialist.

One of the central aspects of transportation’s digital transformation is its potential to close historic access gaps. Traditional road infrastructure has often acted as a barrier for vulnerable populations. In Latin America, for example, the Economic Commission for Latin America and the Caribbean (ECLAC) notes that lower-income groups face longer, less safe, and more expensive commutes.

On this point, Del Mazo Maza explains that digitalization makes it possible to pinpoint these critical areas and reconfigure routes and frequencies in real time.

“The use of open data and sensors, for instance, allows planners to detect congestion points, accidents, or underserved areas and respond more quickly,” he said.

Despite the benefits, the shift toward a digital transportation model faces significant barriers. In Africa—and Mexico as well—fiscal constraints, high material costs, and inflation have hampered the expansion of physical infrastructure, and even more so of digital infrastructure.

Still, countries like the United Kingdom have shown that with a long-term strategy, digitalization can be a powerful tool for redesigning road networks. The National Highways “Digital Roads” program, for example, set out a 30-year roadmap to digitize road infrastructure, with targets including zero emissions and zero road fatalities.

“What we learn from these experiences is that it’s not enough to modernize isolated parts. We need a system-wide vision, where transportation stops being just physical movement and becomes a flow of data, decisions, and innovation,” Del Mazo emphasized.

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