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ABSTRACT

From Data to Decisions: Advancing Road Network Fauna Signs and Signals in the City of Moreton Bay

Across rapidly urbanising regions like the City of Moreton Bay, local governments play a pivotal role in transport planning, wildlife-vehicle strike mitigation, and the implementation of early warning systems. This co-presentation between the City of Moreton Bay and Principal Ecologist Mary Timms explores how transport network data is advancing warning sign technologies and fostering a results-driven approach to managing more than 3,000 kilometres of road network within the region. Transport infrastructure poses significant challenges for fauna conservation, particularly in dynamic peri-urban environments with a growing population with increasing transport infrastructure requirements. The City of Moreton Bay initiative illustrates how multidisciplinary planning, technological innovation, and behavioural science can converge. An innovative data interface was established to capture driver responses to signage. This data has enabled adaptive, evidence-based future planning including dynamic signage, variable message displays, and pavement-stencil trials designed to assess driver reactions. The project highlights both the opportunity and complexity of integrating ecological data streams into operational traffic-management systems, with implications for safety, maintenance, and long-term driver behaviour change.

KEY TAKEAWAYS

1. Plan first – Innovative data interface is established from the start, enabling evidence-based decision-making.
2. Less static, more variable message signs – Adaptive signage improves driver responsiveness and fauna protection.
3. Pavement stencils and driver response – Comparative insights into the effectiveness of text versus imagery.

SPEAKER BIOGRAPHY

Mary Timms is the Director and Principal Ecologist at Raptor Environmental. She previously held the role of Senior Green Infrastructure Planner with the City of Moreton Bay's Green Infrastructure Team, where she specialised in fauna monitoring, transport ecology integration, and the application of ecological data to inform infrastructure planning. With more than 17 years of experience across local and state government and environmental consultancy, Mary has developed extensive experience in biodiversity assessment, ecological planning, and the delivery of nature-positive outcomes within complex transport and infrastructure projects. Mary advises local governments and infrastructure providers on the planning, design, and implementation of wildlife-vehicle strike mitigation measures, including innovative approaches to fauna signage, dynamic messaging systems, and behavioural-change interventions for drivers.

David Barreto is a Civil Engineer and Urban Planner currently working as a Senior Environmental Planner – Green Infrastructure and Active Transport at the City of Moreton Bay - Integrated Transport Planning and Design. His experience spans Australia and Latin America, focusing on sustainable infrastructure, green network design, planning, and delivery. David applies GIS and spatial analysis to assess land-use, transport, and ecological connectivity, integrating data-driven approaches to support urban resilience and biodiversity outcomes.