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e-Micro mobility: it starts in Rosebank, Johannesburg

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The world is fast moving into an era of sustainability that spans renewable power generation, e-mobility, green buildings, and sustainable consumption habits, among much more. As other countries lead the charge in transitioning to electric vehicles (EVs) and renewable energy, South Africa is battling a power crisis which makes the thought of EVs on a mass scale seem like a pipe dream.

Pipe dream or not, the revolution is coming and South Africa will have no choice but to keep up – to maintain its own competitiveness and for the health of our environment. The ideal would be a country, and cities, that are built around sustainability and e-mobility, and, we would strongly argue, e-micro mobility. The question is how do we get there?

We believe fervently in the power of policy to impact positively on society. CityConsolidator Africa is rooted in influencing good policy that is implemented well. This is how the Rosebank e-micro mobility Pilot Project was born. It is a small-scale public-private partnership that reaches down to the most granular level.

The project involves 15 electric delivery bikes working within the Rosebank Management District precinct in Johannesburg, sharing the same solar-powered charging kiosk that doubles as a battery-swapping centre to ensure continuity.

Answering key questions

The pilot project is designed to answer a number of questions: Why e-bikes? Why e-micro mobility? How does an electric bike ecosystem in a small part of a city work? Which elements could be replicated?

South Africa's roads are built for cars and trucks. It would be no exaggeration to state that they are unsafe for e-bikes – despite the proliferation of delivery bikes in our suburbs. However, this is where we are, not where we want to be. It should not be that one 75 kg person starts up a two-ton internal combustion vehicle to travel three kilometres to buy a litre of milk. Two-wheelers take up less space, they are more environmentally friendly, more manoeuvrable, more cost-effective – and quicker because of their convenience. Importantly, they can be seen as stepping-stones in mobility – they are more inclusive in bringing more people into mobility generally. Introduced sustainably, an e-micro mobility ecosystem could make for friendlier streets.

The e-Micro Mobility Pilot Project is a public-private partnership involving 15 electric delivery bikes working in Rosebank Management District.

Delivery bikes present a solid anchor point from which to enter the e-micro mobility discussion. Since the Covid pandemic, e-commerce has increased exponentially and is expected to grow by 40% by 2025. This is one of the only growing segments in the South African economy now, yet there is policy silence around the use of delivery e-bikes in cities. Where should they park? What are the rules for training drivers? What are the standards and regulations required? None of these questions can be answered, yet these e-bikes could be integral to our suburban and inner-city lives. There needs to be rigorous thinking and planning to guide and influence policy for the sector so we can shape it to grow – and to deliver convenience to other parts of the city as well as the townships. The pilot project talks directly to this need.

If we can build a viable and safe e-micro mobility ecosystem for delivery bikes, the next step is to add commuter and personal recreational mobility to the same ecosystem.

A project like this cannot exist without massive buy-in. The private sector-led project already has the support of the Rosebank Management District, Transport Authority Gauteng, City of Johannesburg represented by Transport, Development and Planning, the JRA and the Smart Cities office. The Gauteng Department of Economic Development is interested in providing riders from Alexandra. The private sector has been equally welcoming with environmentally sound, second life, battery energy storage business REVOV participating, as well as SeeSayDo, SolidGreen, and Mzansi Aerospace Technologies as an accelerator; Evo Motors will be providing e-bikes and Green Riders will be providing e-bikes and training. The list of stakeholders grows daily.

The outcome will be an applied research case study that looks into the metrics of every aspect of the ecosystem and develops concept notes to influence policy. The performance of the pilot will generate insights into e-bike and rider performance, delivery metrics, carbon savings, and other factors. The concept notes will include a submission to support the Transport Authority Gauteng's 2030 Smart Mobility strategy, a concept note on a green mobility credentials ecosystem, another around a universal standard for a swappable battery ecosystem and a fourth specifically aimed at precinct infrastructure and management protocols for e-micro mobility.

The future is green. This we know. e-micro mobility provides South Africa with an opportunity to catapult its cities into the new world, where they are more sustainable, economically viable and more responsive to people's needs. Building a world-class African city remains the goal, and this can be achieved with a bottom-up approach that lays the foundation for scale, responsive policy and mass buy-in over time. This bottom-up approach might start small but can grow to make 'rands and sense', changing the face of our cities.

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