CODE RED SRI LANKA CLIMATE SUMMIT '24

The Ceylon Chamber of Commerce

TRANSITIONING SRI LANKA TO e-MOBILITY

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Structure

- Problems
- Solutions
- Who will Pay
- The Future
- Policy

Problems of Mobility - Government Perspective

- Congestion - Average travel speed in Colombo at peak approx 10 km/hr (M)
- Pollution - 51% of carbon emission from road transport
- Expenditure on import of fuel for Transportation - US$ 3 billion

Problems of Mobility
- Commuters Perspective

- Congestion - Long travel time is unproductive & stressful **(Average travel time of people living in suburbs and working in Colombo)**
- Cost of Private Vehicle Ownership **(2W/3W/4W)**
- Quality of Public Transport, including last mile delivery, requiring private mobility solutions
- Pollution – Health and Quality of Life impact

Solutions

- ICE to EV
  - Resolves pollution
  - expenditure on fuel
- Private to Public
  - Resolves Congestion
  - Make transport cheaper and more inclusive

Implementing the Solution

- Bulk of transport is intracity, so solve this first
- Stop Intercity transport at City Entry Point
- Create a shift from Private to Public and ICE to EV using multiple policy levers

Implementing Solution - Congestion

Private to Public

Promoting Public

- Have Multimodal Transport Hubs at City Entry Point
- Upgrade intracity busses to E Bus (City commute, AC)
- Encourage shared ridehailing eTaxi services (2W/3W/4W)

Discouraging Private

- Increase revenue license fee of private vehicles
- Decommission parking within the city
- Disallow parking on the street/High parking cost
- Eliminate building regulations for mandatory parking

Implementing Solution - Congestion

Better Traffic Management

- Digitised Traffic Management
- Digitised Incident Management
- Congestion charge

E-bus

E-Bus vs Diesel Bus

Carbon Saved per e-bus

46 tonnes per year, per bus (and 23kg of Nox per year)

Carbon Saved for 1,000 buses

46,000 tonnes per year

E-Bus Who will Pay?

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ICE Bus

$ 40,000

Rs. 100/km (3-4 km/litre)

Daily cost = Rs. 30,000 (300 km/day)

Yearly Cost = Rs. 10 Million

= $ 33,000

BEV Bus

$ 100,000

Rs. 30/km (night-time charging Time of Use(TOU)/renewables)

Yearly Cost = Rs. 4 Million

= $ 14,000

Annual Saving = $ 21,000

Simple Pay Back Period is 3 Years!

E Bus - Who Will Pay?

- Cost of Purchasing 1000 Electric Buses = $ 100 Million
- Yearly Saving on Fuel = $ 21 Million
- ROI – 5 years

E Bus - Who Will Pay?

Developing Countries Assisted by Multilateral Funding Agencies to Invest in Bus Electrification

Country	Multilateral Agency	Investment
Kenya	World Bank	$ 100 Million
India	Asian Development Bank	$ 500 Million
Brazil	Inter-American Development Bank	$ 200 Million
Nigera	African Development Bank	$ 150 Million
Vietnam	World Bank	$ 300 Million

E Bus - Who Will Pay?

- Private Sector Contribution Opportunities - Advertising
- Static Hoardings – Bus Stands
- Mobile Hoardings – Buses

E Bus - Who Will Pay?

Mixed Models

- Leasing the battery and paying per km
- Buses owned by cooperative societies made up of private operators
- Large Groups buying buses and running the operation
- Also using advertising revenue as an added revenue stream
- MAAS – create multi modal transport apps that gives customers mobility solutions across transport platforms

Other BEV's – 2W/3W/4W

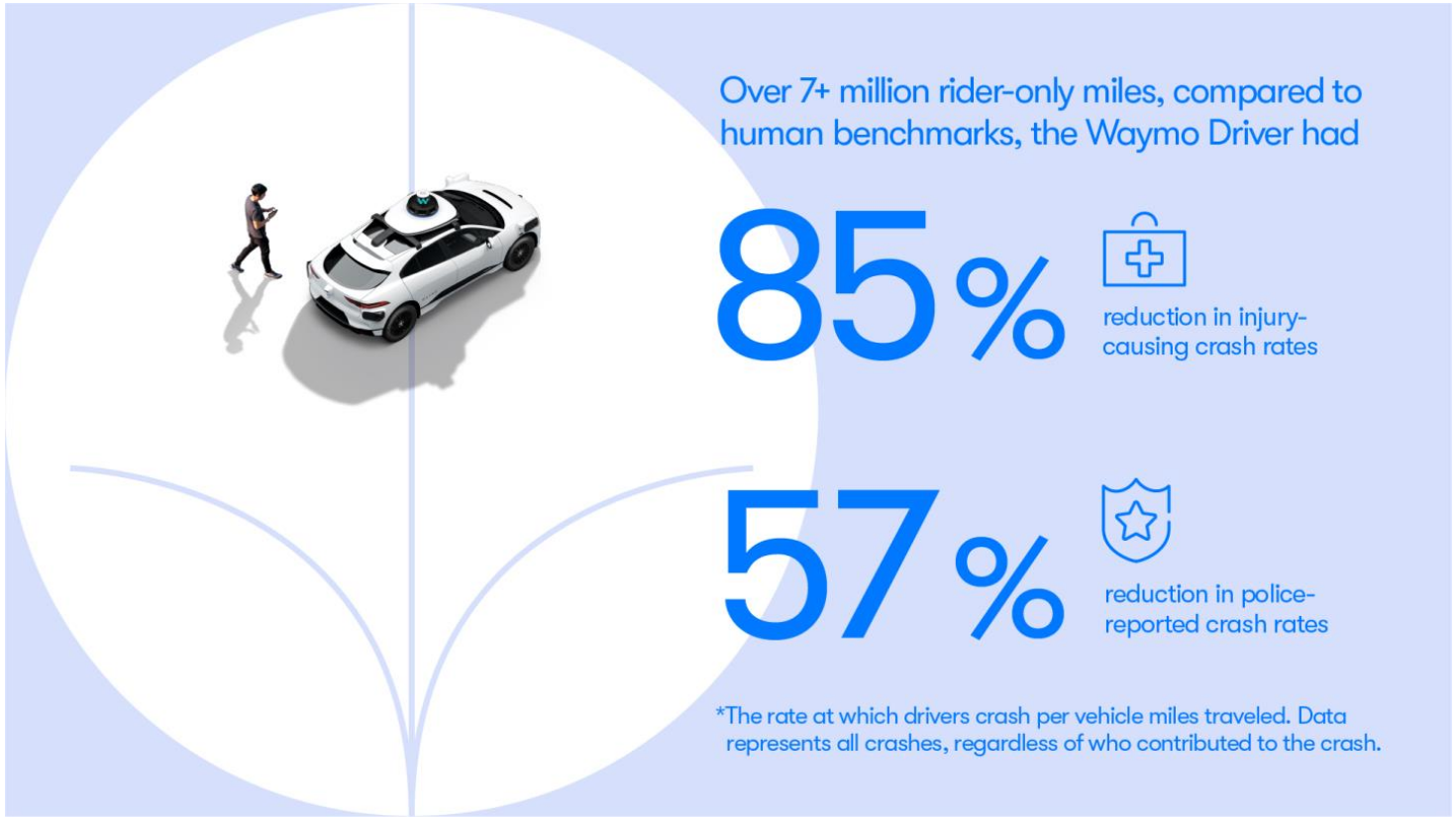
- 2W can be competitive
- 3W have range issues
- 4W are already selling and will continue to

Who Will Pay – The Owner

The Future
- An Opportunity to Leapfrog

- Leapfrog to new technology - modular pod-based transport systems
- ACES – Autonomous, Connected, Electric, Shared

The Future - Autonomous Driving – safer than human drivers



Waymo Team. (2023, December 20). Waymo significantly outperforms comparable human benchmarks over 7 million miles. Waymo Blog. Retrieved from https://waymo.com/blog/2023/12/waymo-significantly-outperforms-comparable-human-benchmarks-over-7-million/

The Future - ACES Economic Benefit

Statistical Impacts on GDP:

- Autonomous vehicles could **free up as much as 50 minutes a day** for users, which translates into billions of dollars in productivity increases (McKinsey & Company. (2021). Ten ways autonomous driving could redefine the automotive world).
- Research estimated the costs of a pooled self-driving taxi could be 30 – 60% less than the cost of operating a private vehicle(Harvard Business School. (2018). Case Study 9-118-008: The Economics of Self-Driving Taxis. Boston, MA: Harvard Business School Publishing)
- The global economic impact of electric vehicles could reach **$2 trillion annually by 2025 through reduced oil consumption** and lower emissions (Bloomberg New Energy Finance. (2022). New Energy Outlook 2022.).

The Future –
Sri Lanka Economic Benefit Economic Impact

- BEV + ACES = 70% reduction in transport costs
- Approximately a million people back into the workforce
- Address the source of 50% of carbon emission
- Platform for Green Growth

Policy Recommendations

- No more import of ICE for 2W/3W/4W
- Encourage eBus and eTaxi – upgrade public transport
- Discourage Private Vehicles within city, specially ICE
- Urgently digitise traffic management and incident management
- Manufacture 2W's locally
- Encourage ACES manufacture locally