

Baybayin Railway Network

The Next-Gen Regional Mobility Grid: A Breakthrough ESG-Compliant Transport Investment.

Project Proponents: Damselfly & Red Root MPC



The Last-Mile Challenge & Regulatory Bypass

The Problem: Traditional heavy highway and MRT infrastructure faces massive upfront costs, multi-year land acquisition battles, and crippling federal regulatory delays.

The BRN Solution: A dual-tier network deploying high-capacity rail for inter-city worker/goods transit, seamlessly integrated with modular, barangay-scale light rail utilizing underutilized Local Government Unit (LGU) roads.

The Outcome: Communities bypass massive centralized capital requirements, unlocking immediate, high-speed regional mobility and commercial logistics.



Capital Allocation & De-Risked Deployment

Phase 1 Investment: USD 200,000,000

Drastically Redefined Capital Efficiency & Fully De-Risked Deployment.

\$200M

Total Seed Investment (USD)

- **Physical CAPEX (USD 100,000,000):** Fully funds the Talisay-to-Carcar (40 km) and Carcar-to-Moalboal (30 km) corridors. Covers core physical assets including Type 00 EMU mainlines, modular track materials, and EV conversions.
 - **Operational Runway (USD 70,000,000):** A secure capital cushion funding international third-party safety audits, multi-municipality LGU right-of-way (ROW) acquisitions, and localized regulatory compliance structures.
 - **Strategic Contingency (USD 30,000,000):** Locked capital reserve to absorb supply chain volatility, ensure debt service coverage, and guarantee uninterrupted Phase 1 civil works.
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Execution Ecosystem & The SPV Advantage

Strategic Partnerships: A Public-Private Ecosystem

Structured to execute seamless PPP models.

- ▶ **The SPV Core:** Red Root serve as the lead technology and management integrator, leveraging 18 years of expertise in strategic government ICT projects, investor relations, and community mobilization, partnered with Damselfly's spatial design.
- ▶ **The Strategic Hedge:** Cebu Provincial Government and participating LGUs provide direct ROW access and political mediation.
- ▶ **Technical Precision:** Railways & Industrial Applications Corp (RIAC) engineers heavy track systems and localized wheelsets.
- ▶ **Safety Integration:** Pioneer Trucks, Inc. supplies heavy-duty 5th-wheel safety couplings.

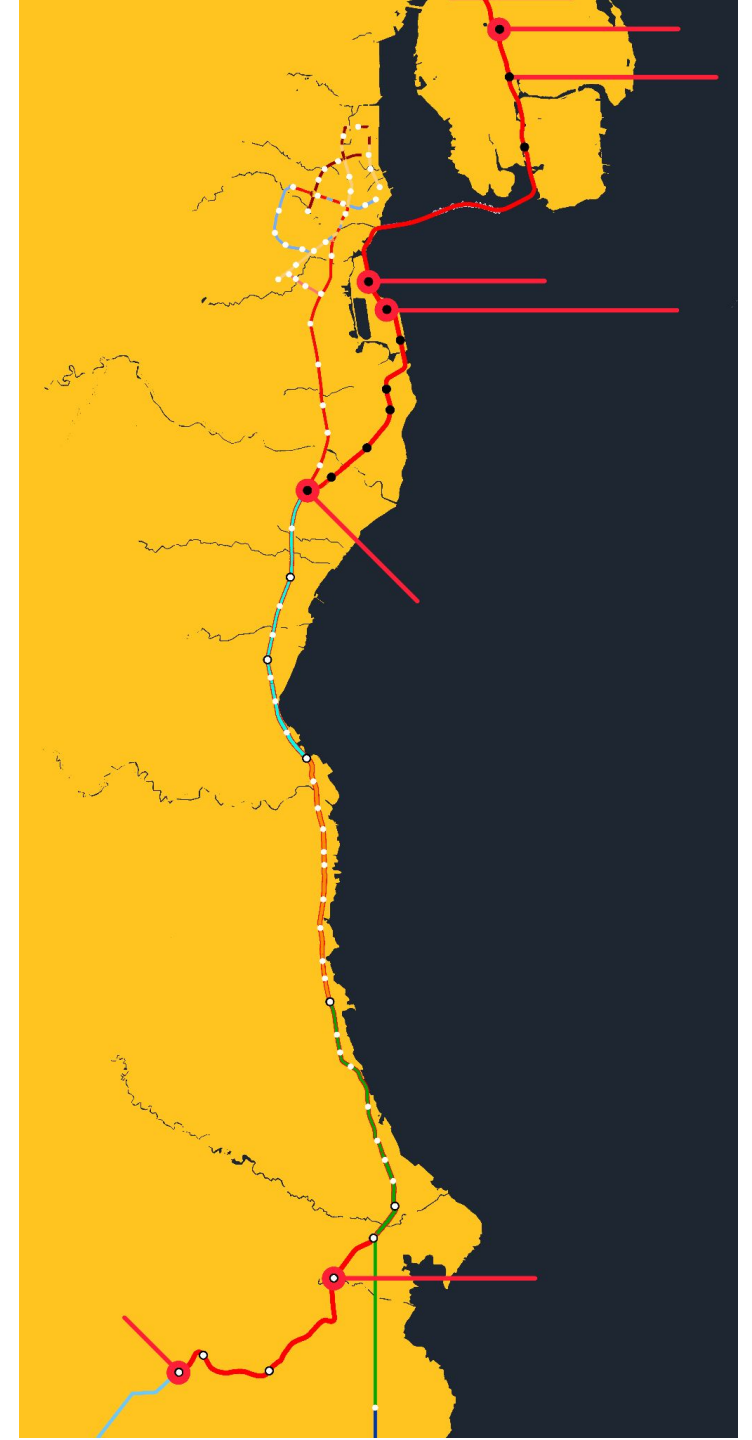


Phase 1: **Moalboal to Carcar Pilot**

The 70km Regional Artery

Located along an economically vital route in Cebu, the Phase 1 pilot provides safe, stable, and high-speed transit.

- **Targeted LGU Framework:** Concentrated Right-of-Way acquisition focused systematically on Talisay to Carcar (Phase 1A) and Carcar to Moalboal (Phase 1B) to immediately integrate international private equity.
- **Value Capture:** Returns generated through high-volume transit and the transformation of stations into commercial logistics hubs.
- **Rapid Deployment:** The ideal asset for investors seeking scalable, fast-moving Transport & Logistics Infrastructure.



Modular & Green Infrastructure

Primary Mainline

Deployment of Type 00 Electric Multiple Units (EMU) running on heavy 65 kg/m tracks for high-speed, high-capacity inter-city transit.

Secondary Feeder Lines

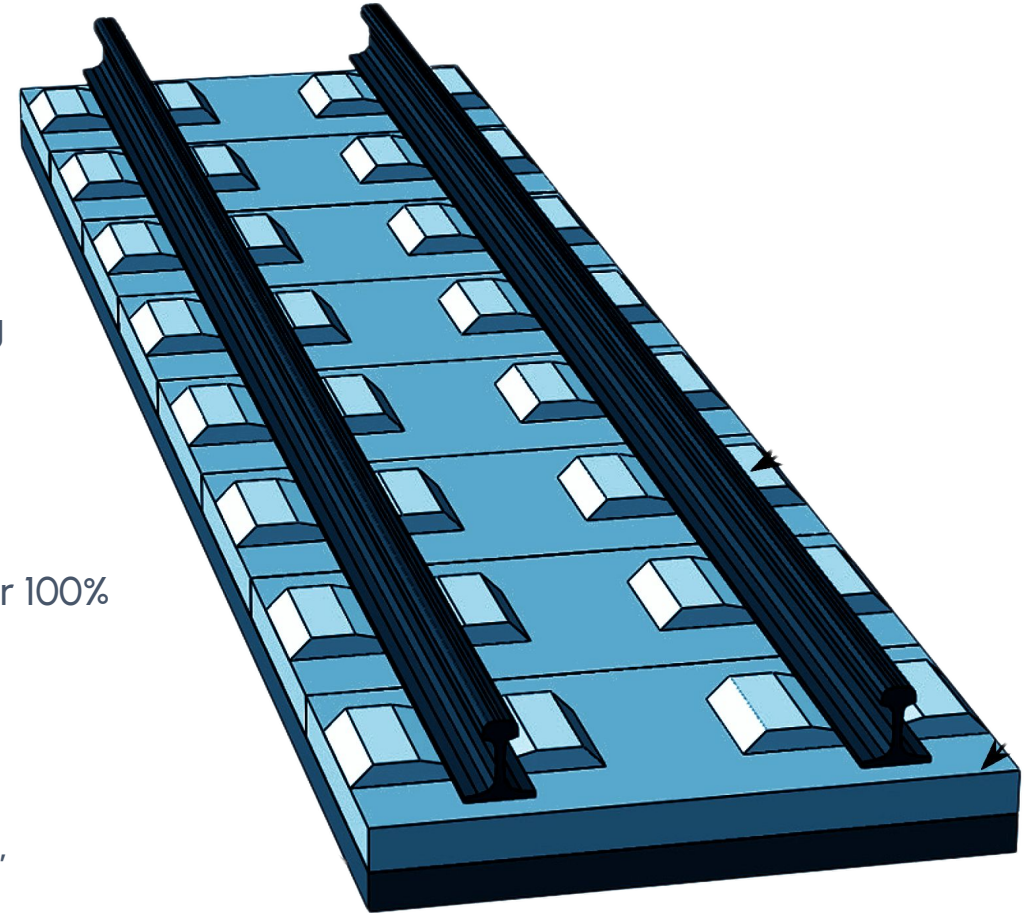
Lightweight 12 to 15 kg/m rails utilizing a proprietary springblade clip fastening system for rapid installation directly onto local LGU roads.

EV-Ready Rolling Stock

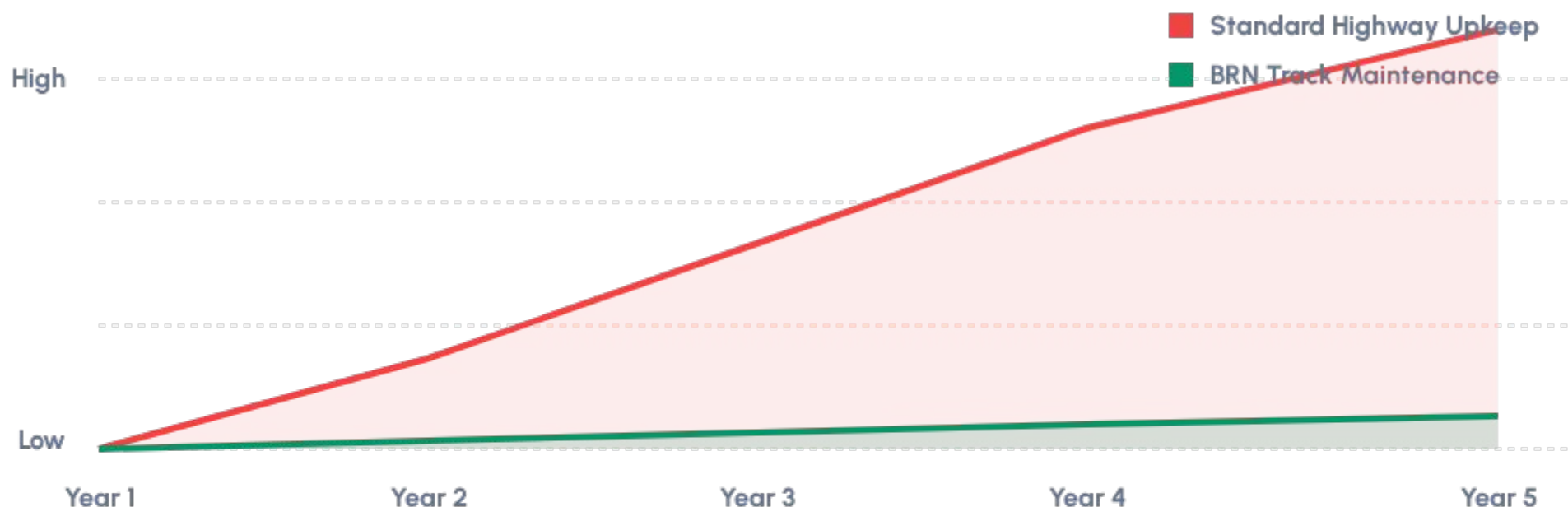
5-ton MPUV conversions featuring dual-propulsion capability (20kW EV kits for 100% emission-free localized operation).

Commercial Hubs

Station platforms built to capture real estate uplift through commercial leases, cold-storage integration, and community markets.

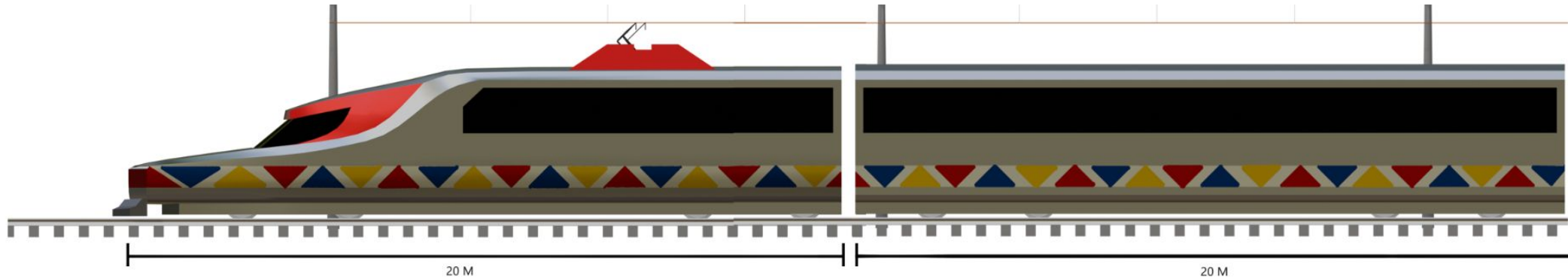


O&M Efficiency & Maintenance Savings



- Heavy commercial truck traffic exponentially degrades local pavement, causing ballooning highway maintenance costs.
- **The BRN Asset:** Shifting freight to our 65 kg/m mainlines and lightweight feeders significantly reduces municipal structural wear, yielding a flat, highly predictable O&M curve.

Market-Calibrated Unit Economics



Estimated Annual Revenue (70km Model) :

- **Passenger Fares (~USD 8,550,000):** Based on a conservative **2,416,666.67** daily passengers. Fares are strictly pegged to the LTFRB ₱17 base matrix to guarantee immediate mass commuter adoption.
- **Station Real Estate (~USD 6,570,000):** Multi-station commercial lease yields across the 70km corridor, capturing retail and community market uplift.
- **Freight (~USD 104,100,000):** Driven by high-yield B2B logistics, specifically agricultural cold-chain transport, post-harvest facility integration, and e-commerce parcel delivery.
- **High Operating Efficiency:** Optimized track dynamics and EV propulsion systems insulate the network from global fossil fuel price shocks, protecting long-term EBITDA margins.

Technical Validation & Safety Roadmap

Institutional Rigor & Execution Strategy

Driven by a leadership team bringing 18 years of executive experience seamlessly integrated with Austrian-trained civil engineering.

→ The Compliance Roadmap (Year 1):

- Q1-Q2: Integration stress-testing for Type 00 EMUs (65 kg/m standard) alongside static/dynamic testing of 5th-wheel couplings and adapted hydraulic brakes for the feeder fleet.
- Q3-Q4: Comprehensive third-party mechanical audits (e.g., TÜV Rheinland) and localized regulatory clearance through the DOTr and LTO.

→ The Power Strategy (Grid-Resilient EV):

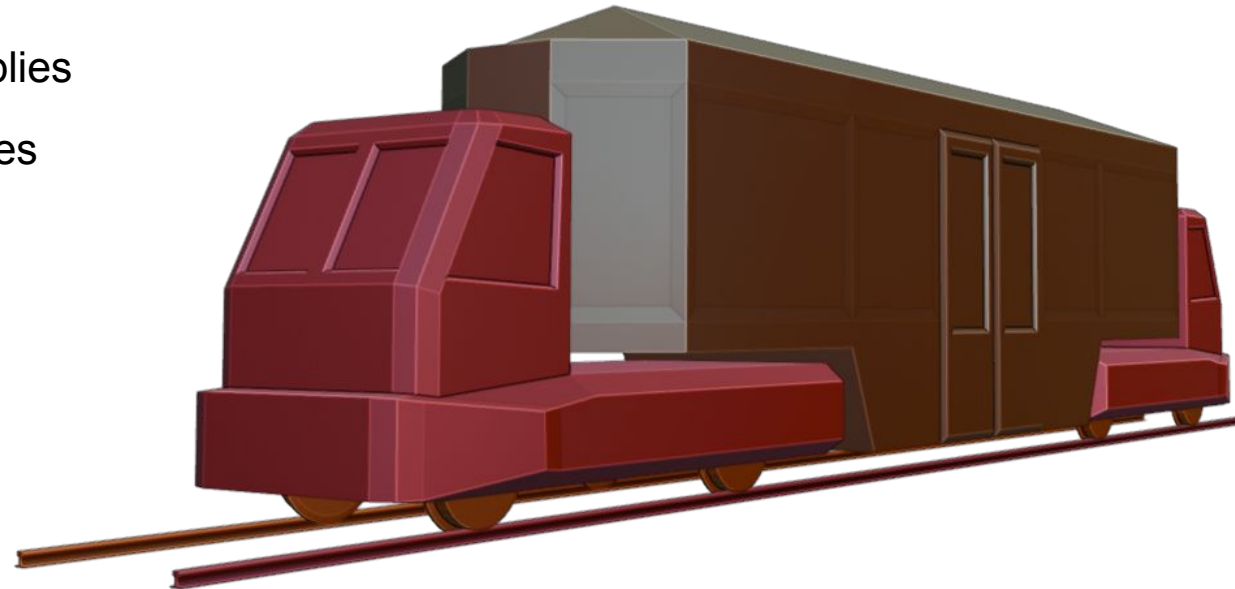
- Deploying 20 kW EV conversion kits, lithium battery arrays, and station-canopy solar microgrids.
- Securing dedicated power purchase agreements with local distribution utilities (e.g., CEBECO).



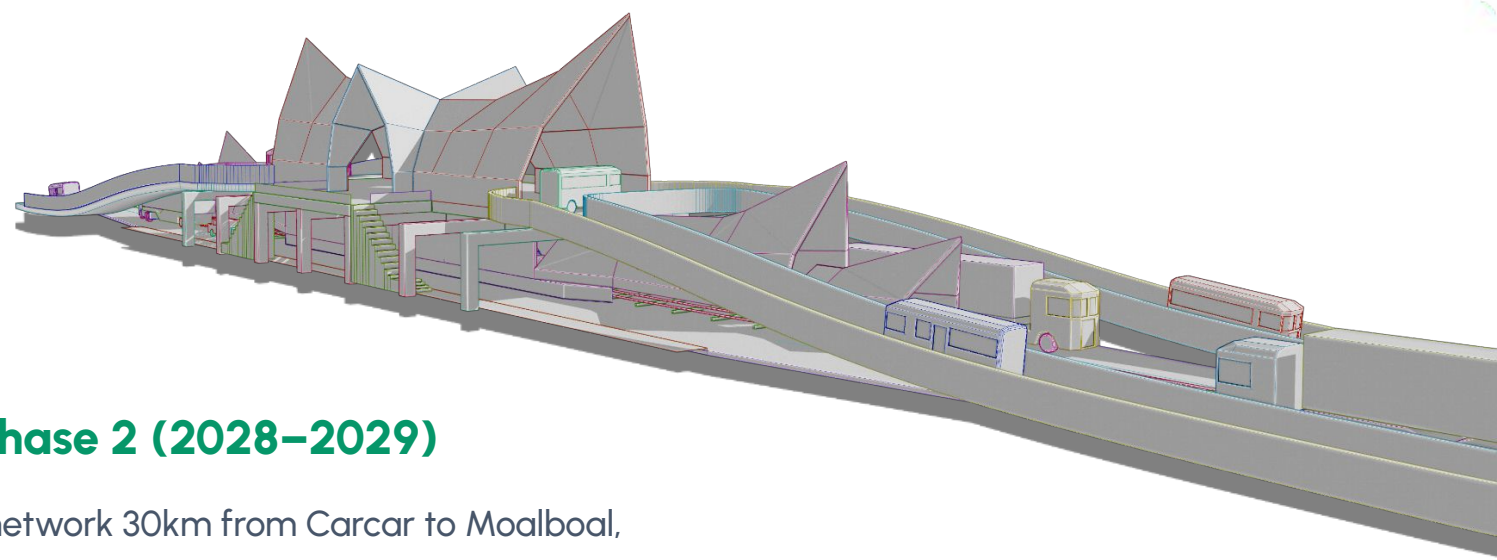
Risk Mitigation & Regulatory Compliance Pathways

Fully Funded Regulatory Insulation

- **DOE EVCS Accreditation (EVIDA Framework):** All Type 00 EMU power systems, 20 kW EV conversion kits, and lithium battery arrays will be fully registered under DOE standards prior to rollout.
- **DOTr Light Rail Clearances:** EMUs and 5-ton MPUV conversions undergo third-party mechanical audits to secure LTO and DOTr type-approvals for safe operational speeds.
- **Accessible Travel Policy (ATP):** Station infrastructure complies seamlessly with the DOTr's newly implemented ATP guidelines for inclusive transit.
- **PRI Occupational Safety Standards:** All workforce and mainline operations adhere strictly to the national OSH standards mandated by the Philippine Railway Institute.



Strategic Deployment Pipeline



Phase 2 (2028–2029)

Expand the network 30km from Carcar to Moalboal, integrating local logistics ports and formalizing the commercial station real estate model.



Phase 1 (2027–2028)

Secure USD 200M funding. Execute the 40km Talisay-to-Carcar mainline, validate DOTr compliance, and lock in contiguous LGU ROW.



Phase 3 (2028–2030)

Develop the Talisay cargo yard with post-harvest cold storage, fully integrate station renewable microgrids, and roll out the Baybayin National Interlink across the Visayas.

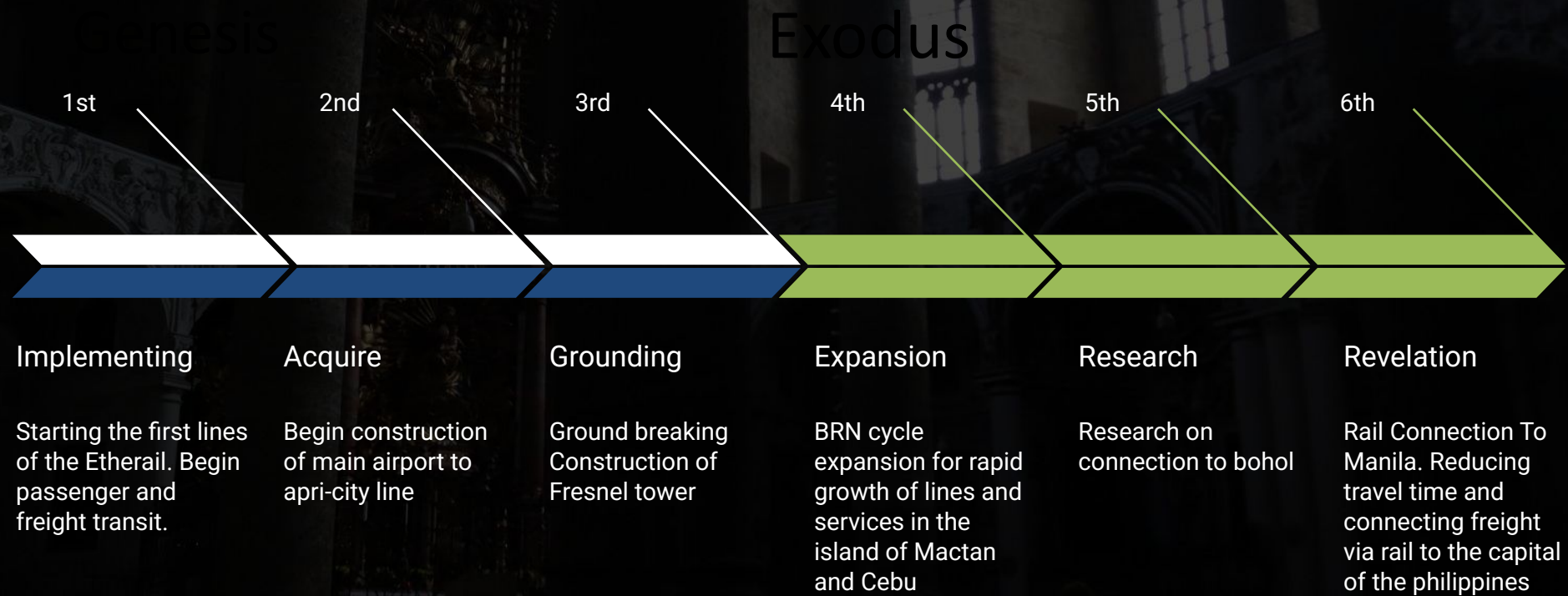




Project timeline

Hex-Stage Plan

Each stage will be expected to be 1 year





BRN Cycle Diagram

The BRN expansion model follows a four-stage cycle:

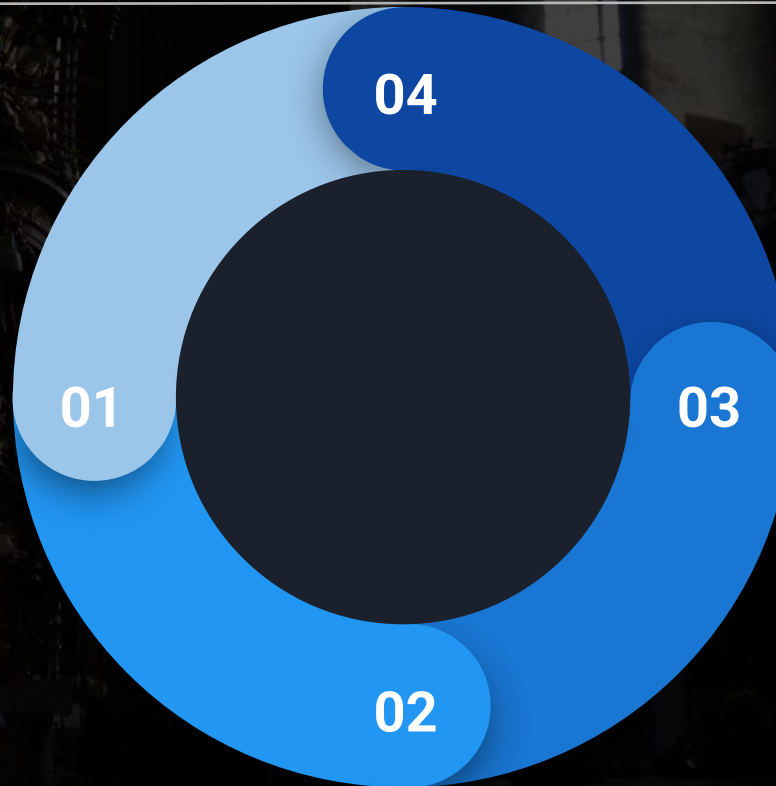
01 Prototype

“Jeepney on rails system”

Prototype lines using ultra lightweight system

02 Line Research/ Data Collection

Line Data Collection and research reporting for profitability studies



03 Line expansion

New Connections are branched out or Additional lines are connected to the network

04 Line Refine / Capacity Upgrade

Hardening and replacement of light rails or infrastructure to strengthened and upgraded as demand and line capacity increases.

A Scalable **Public Transit Revolution**

Ready to be deployed across the Belt and Road footprint. We invite partners to co-capitalize the platform and scale this green transport pipeline.

Questions? Let's build the Green Silk Road.
