

# Baybayin Railway Network (BRN) Investment Overview

Partnership of Damselfly and Red Root MPC  
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## Executive Summary

Aligned with the Belt and Road Summit's vision of Advancing High-Quality Development, the Baybayin Railway Network (BRN) represents a breakthrough, ESG-compliant transport investment designed to permanently solve severe regional mobility challenges. The project introduces a highly scalable, hybrid dual-tier rail system that merges high-capacity Type 00 Electric Multiple Units (EMU) for mainline transit with modular, barangay-scale light rail utilizing converted utility vehicles for last-mile feeder logistics.

With a Phase 1 funding requirement of USD 200,000,000.00, the BRN will execute a 70 km consolidated regional artery connecting Talisay, Carcar, and Moalboal in Cebu. By deploying heavy rail for inter-city transit and targeting underutilized local secondary roads for local light rail integration, the BRN bypasses traditional national highway regulatory bottlenecks. This establishes a highly scalable, "Green Silk Road" transit model ready for export across the ASEAN region.

### Investment Highlight Summary & Capital Allocation

The BRN delivers unprecedented capital efficiency compared to conventional public transit megaprojects. Seeking USD 200,000,000 to launch its 70 km Phase 1 and 2 corridors, the SPV offers a highly compelling and fully de-risked value proposition for infrastructure funds:

- **Physical CAPEX (USD 100,000,000):** Fully funds the 70 km mainline and feeder network, covering core physical assets including Type 00 EMUs, modular track materials, and EV conversions.
  - USD 50,000,000 - median highway rail construction
  - USD 37,000,000 - development and acquisition of EMU and BMU units.
  - USD 13,000,000 - railyards and rapid station construction
- **Operational Runway (USD 70,000,000):** A secure capital cushion funding international third-party safety audits, massive 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, guarantee debt service coverage, and ensure uninterrupted civil works.

Shifting regional freight and passenger transit onto the BRN's steel tracks completely eliminates exponential road wear, producing a flat, predictable O&M curve and massive cumulative pavement maintenance savings for partner municipal LGUs.

### Consortium Overview & Execution Ecosystem

Spearheaded under a Public-Private Partnership (PPP) framework, the BRN is driven by a unique consortium structured to execute seamless infrastructure integration:

- **Red Root & Damsel Design Studio:** Lead consortium proponents serving as the primary Special Purpose Vehicle (SPV) to secure foreign equity and establish clear legal pathways for dividend repatriation. Red Root acts as the lead technology and management integrator, leveraging 18 years of executive experience in strategic government ICT projects, investor relations, and community mobilization, while Damselfly directs spatial planning.
- **Cebu Provincial Government & Local LGUs:** Providing direct right-of-way access, permitting, and acting as the strategic political hedge for regional road integration.
- **Railways & Industrial Applications Corp (RIAC):** Technical partner delivering custom rolling wheelsets and mainline track engineering specifications.

- **Pioneer Trucks, Inc.:** Supplying the heavy-duty 5th-wheel safety coupling mechanisms for the modular transit fleet.

## Track Record & Major Projects

The consortium leadership leverages nearly two decades of executing complex spatial projects and large-scale national initiatives. The flagship pilot is the Cebu South-West Corridor, strategically designed to trace the western seaboard through key economic municipalities (Talisay, Carcar, Moalboal, Alcantara, Ronda, Dumanjug).

Beyond the initial pilot, scalable developmental plans have been structured for key heritage sites in Iloilo City, university towns like UP Diliman, and eco-tourism circuits in Marinduque, Zamboanga Sibugay, and Camiguin. These targeted pilot areas demonstrate the consortium's capacity for rigorous local planning and strict adherence to green urban development initiatives.

## The Investible Project: The 70km Regional Artery

Operating under an LGU-led framework, the project is structured to seamlessly integrate international private equity and multilateral bank financing. Returns are generated not only through direct transport services but by transforming stations into B2B commercial logistics hubs, specifically integrating agricultural cold-chain transport, post-harvest facilities, and real estate uplift via formal LGU land-lease agreements.

## Technical Specifications & Grid Resilience

The BRN incorporates a hybrid transit ecosystem to ensure reliable operation, high safety margins, and seamless compliance:

- **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 paved local road corridors.
- **Grid Resilience Power Strategy:** To mitigate regional power grid instability, BRN integrates solar canopy microgrids at main stations. The consortium secures long-term Power Purchase Agreements (PPAs) with local distribution utilities (e.g., CEBECO) to ensure dispatchable, 100% emission-free charging.
- **EV-Ready Rolling Stock & Active Braking:** 5-ton MPUV conversions featuring dual-propulsion capability and 20kW EV kits, combined with customized hydraulic brakes and heavy-duty mechanical emergency clamps.

## Market-Calibrated Unit Economics

Key financial estimates demonstrate the project's scalability and high yield across the 70 km consolidated model:

- **Estimated Annual Passenger Revenue: ~USD 8,550,000.** Fares are strictly pegged to the LTFRB ₱17 base matrix to guarantee immediate mass commuter adoption based on a ridership data of 2,416,666.67 daily riders.
- **Estimated Annual Station Real Estate Revenue: ~USD 6,570,000.**
- **Freight: ~USD 104,100,000.** Driven by B2B logistics and cold-chain transport.
- **High Operating Efficiency:** Optimized track dynamics and EV propulsion systems severely drop overhead, insulating the network from global fossil fuel price shocks and protecting long-term EBITDA margins.

## Regulatory, Safety & Compliance Pathways

The consortium has defined a strict compliance roadmap backed by the USD 70,000,000 operational runway:

- **DOE EVCS Accreditation (EVIDA Framework):** All Type 00 EMU power systems and 20 kW EV conversion kits will be fully registered under the DOE's EVIDA framework prior to commercial launch.
- **DOTr and LTO Vehicle Type-Approvals:** The customized EMUs, 5-ton MPUVs, and Pioneer 5th-wheel safety couplings will undergo rigorous third-party mechanical audits (e.g., TÜV Rheinland) to secure technical clearances.
- **DOTr Accessible Travel Policy (ATP):** All station platform infrastructure will be fully compliant with newly implemented ATP guidelines for inclusive transit.
- **PRI Occupational Safety Standards:** All workforce operations and track maintenance procedures will adhere to national OSH standards mandated by the Philippine Railway Institute.

### Phased Strategic Deployment Timeline

The development pathway is systematically structured to validate the technology and scale commercial operations:

- **Phase 1 (2027–2028):** Secure the USD 200,000,000 funding round. Execute engineering blueprints, launch the Public Acceptance Campaign, and secure LGU ROW agreements by Q3 2027. Deploy the 40 km Talisay to Carcar mainline corridor.
- **Phase 2 (2028–2029):** Expand the network contiguous connection 30 km from Carcar to Moalboal.
- **Phase 3 (2028–2030):** Full commercial and logistics integration, specifically encompassing the development of the Talisay railroad and cargo yard with post-harvest cold storage, the rollout of station renewable microgrids, and the real estate execution for each transit hub.

The Baybayin Railway Network stands as a strategically positioned, future-ready transit asset that reimagines rail as local, affordable, and modular. It delivers immense economic value by cutting down ballooning road maintenance costs, fostering environmental sustainability through reduced emissions, and enhancing community connectivity. With strong potential for international investor integration, BRN offers a highly scalable public transit revolution ready to be deployed across the Belt and Road footprint.