



Takutu International Airport Green Gateway · 1,000 Acres · Rail- Linked · Net- Negative Carbon

A world-class greenfield airport 40 km south of Georgetown — Guyana's bold leap into sustainable aviation leadership.

LCDS 2030 PROJECT

APPENDICES 7.3-8D

5-Minute Pitch: The Vision



The Problem

Cheddi Jagan is at capacity — Passenger numbers will **double in seven years** due to the oil and gas boom.

The Solution

Takutu International: 1,000-acre greenfield site, **two parallel runways**, 7M passengers/year, **carbon-negative from day one**. Architecture blends Maharaja Bir Bikram's timber design with JFK Terminal 4's scale.

Key Stats at a Glance

7M

Passengers/Year

2

Runways × 12,000 ft

60MW

Solar + 120 MWh Battery

42

Min to Georgetown

Electric rail

150

Acres Forest Preserve

8M

Gallons Rainwater/Year

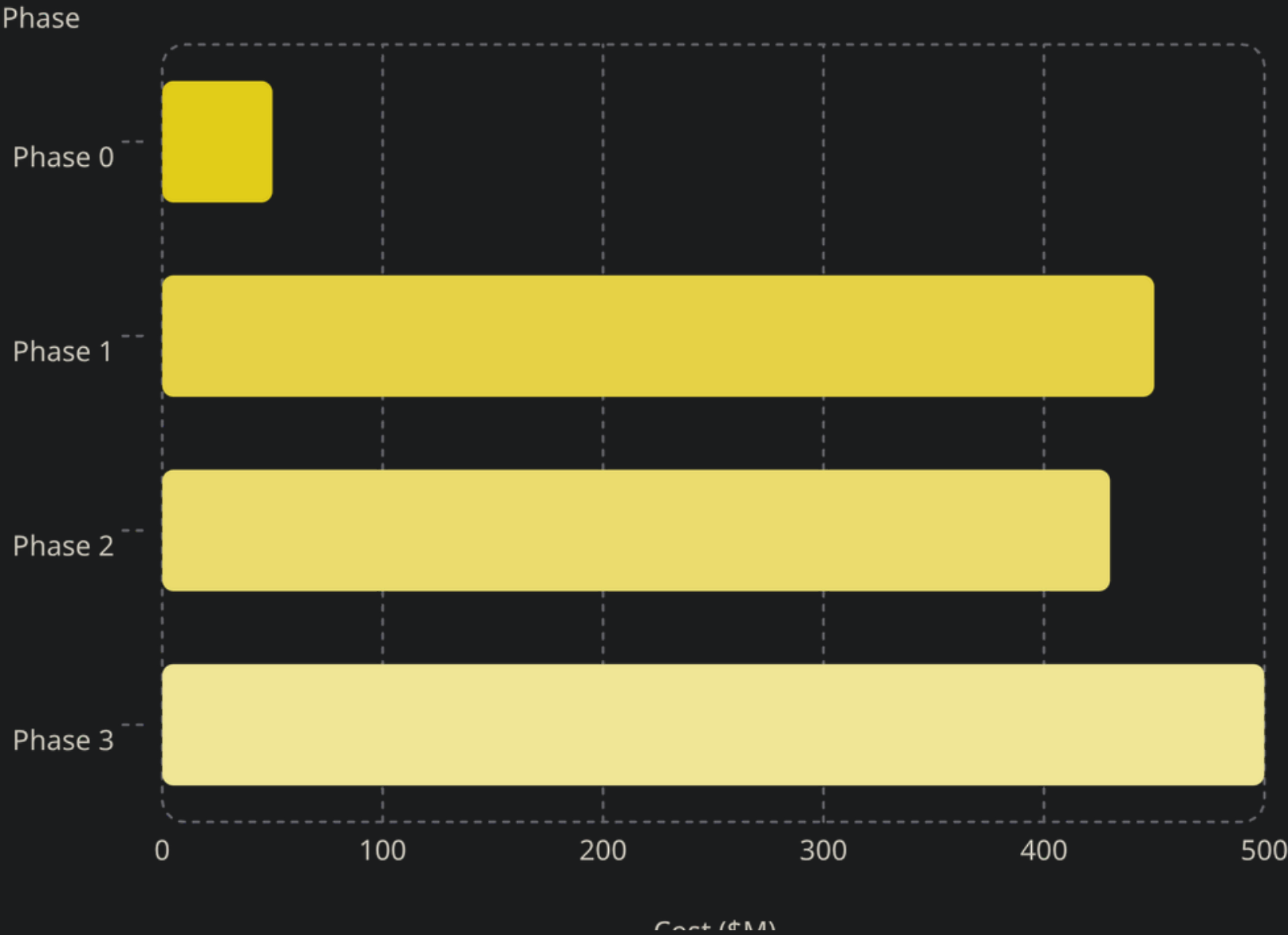
\$1.43B

Est. Construction Cost



Why This Works: 65% fewer cars · 90% less cooling energy · Zero fossil fuel energy · Near-zero bird strikes · Flood-resilient (raised 6 ft)

Cost Breakdown & Phasing



Total: \$1.43 Billion Over 10 Years

Phased investment minimizes upfront risk. Phase 1 opens in **Year 4 for \$450M**. The 19% premium over a conventional airport is recovered in **8 years** through energy and water savings — then pure profit for Guyana.

✔ After payback: a global tourism brand as the greenest airport on the continent.



CONSTRUCTION TIMELINE

10-Year Build Plan

1

Phase 0 · Year 1

Site studies, EIA, MOU

2

Phase 1 · Years 2–4

Runway 1, terminal core, solar farm

3

Phase 2 · Years 5–6

Runway 2, rail link operational

4

Phase 3 · Years 7–10

Full capacity, forest preserve complete

Letter of Intent Template

What We're Requesting

A **90-day feasibility window** to conduct site suitability studies, engage Conservation International, and prepare an environmental impact assessment.

- Site access along East Bank Demerara corridor
- Environmental review initiation
- MOU with Ministry of Public Works

CC: GCAA, Guyana Lands & Surveys Commission, Ministry of Natural Resources

Key Project Identifiers

Project: Sibilawasi International Airport

Scale: 1,000 acres, net-negative-carbon

Location: ~40 km south of Georgetown

Corridor: East Bank Demerara

"We are not asking for money today. We are asking for a 90-day feasibility agreement."

The Pitch: What We Need

1

Site Access

Permission to conduct feasibility and environmental studies on the proposed 1,000-acre site.

2

Environmental Review

Formal initiation of the EIA process in coordination with Conservation International.

3

Memorandum of Understanding

A signed MOU with the Ministry of Public Works to proceed through the feasibility phase.

Q&A: Anticipated Questions

1

Why not expand Cheddi Jagan?

An additional international airport is needed to accommodate the number of visitors Guyana receives currently. Guyana is also projected to see twice as many travelers within the next 3 years.

2

Is \$1.43 billion realistic for Guyana?

Phased over 10 years; premium recovered in 8 years through energy and water savings.

3

Will the rail link actually be used?

42 minutes to Georgetown — faster than driving, with 65% modal shift from cars.

4

What about bird strikes?

Near-zero — forest preserve design and raised taxiways minimize wildlife conflict.

5

How will you build during rainy season?

Porous runways and flood-resilient design (raised 6 ft) handle wet-season conditions.

6

Where will skilled labor come from?

Local concessions supply glulam bamboo; phased timeline allows workforce development.

7

What if World Bank/IDB says no?

Energy and water savings create a self-sustaining model independent of external financing.

8

How does this align with LCDS 2030?

Takutu is a flagship LCDS 2030 project — net-negative carbon, rail-linked, forest-integrated.

9

When can you break ground?

Following the 90-day feasibility agreement: site access, EIA, and MOU with Ministry of Public Works.

Takutu International Airport

Complete Project Dossier — Prepared for the Ministry of Public Works, Guyana

Total Investment

US \$1.43B over 10 years

Phase I Request

US \$450M (World Bank / IDB)

Project Type

Greenfield, net-negative-carbon airport + electric rail link



Executive Summary

The Problem

Cheddi Jagan International Airport is at capacity. Oil-driven growth will **double passenger numbers by 2032**.

The Solution

A 1,000-acre eco-airport 40 km south of Georgetown: **7M passengers/year**, two runways, 42-minute electric rail to the capital.

Phase 1 Capacity

1.5M passengers/year by Year 4

Solar Farm

30 MW + battery storage

Carbon Impact

-12,000 CO₂e/year at full build

ROI

\$11M/year savings from Year 4; payback in 8 years

✔ Recommendation: Approve \$5M feasibility funding for detailed EIA, soils study, and rail alignment.

Visual Design Concept & Architecture

Inspired by Maharaja Bir Bikram Airport's organic charm and JFK's multi-terminal scale — adapted for a 1,000-acre Guyanese rainforest site.



Master Plan

50 ac terminal · 250 ac runways · 200 ac solar farm · 150 ac forest preserve · 80 ac stormwater wetlands



Visual Character

Low timber-and-glass wave roofline, zig-zag solar shingles, four sky-reflecting ponds, remote tower on a hill 2 miles away

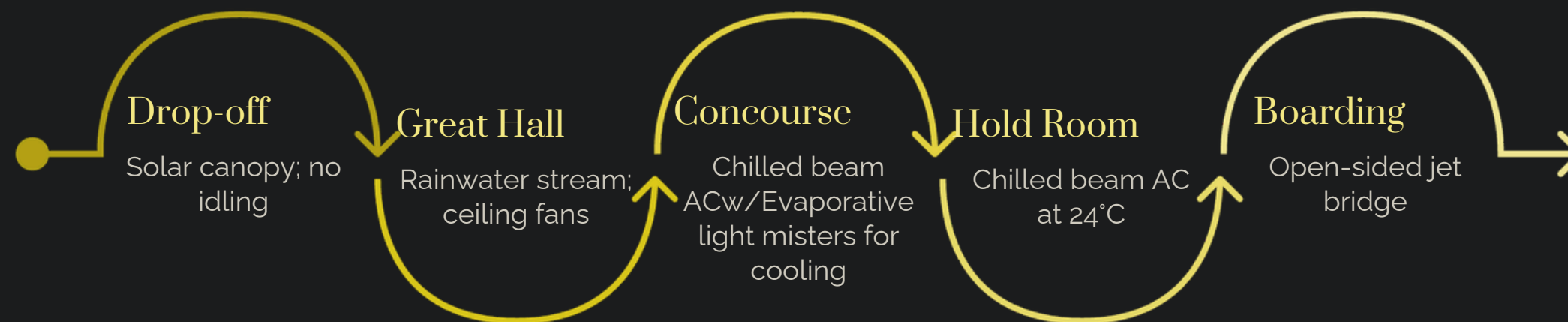


Great Hall

80-ft bamboo like arches, living bromeliad walls, 40-ft ceiling fans, indoor granite stream



Eco-Friendly Systems & Sustainability



Every step of the passenger journey integrates a passive or low-energy eco feature.

Key Eco Features

Rainwater Harvesting

5M-gallon cistern covers all non-potable use

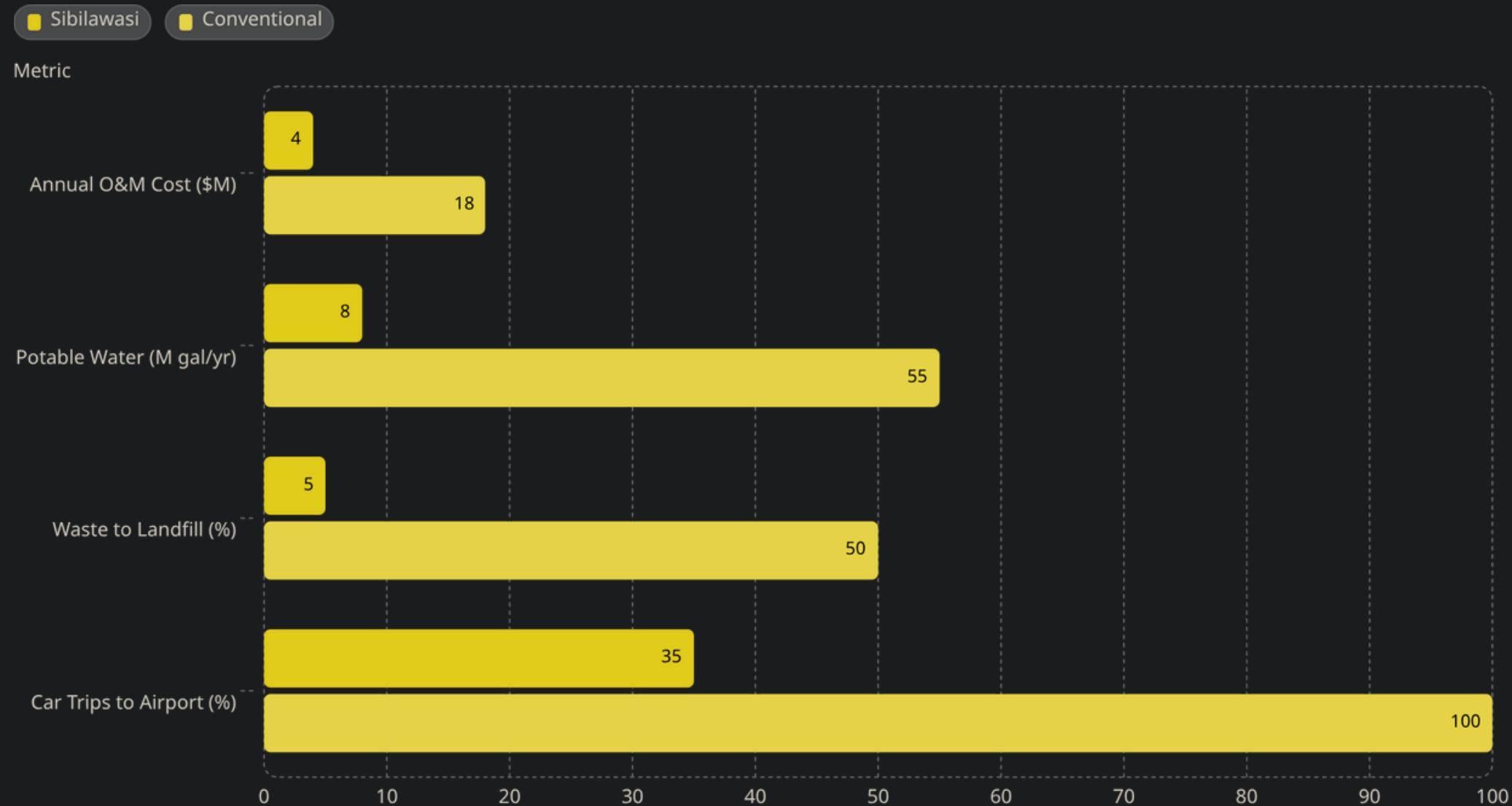
Wildlife Corridors

Taxiways raised 25 ft over continuous forest strip

Porous Runways

Vertical drainage — zero surface flooding

Sustainability Metrics vs. Conventional Airport



-12K

CO₂e/year

Net carbon at full build vs. +95,000 conventional

0%

Fossil Fuel Energy

100% renewable at full build

65%

Rail Modal Share

Reduction in airport car trips

\$15M

Annual Savings

After 8-year payback period, for 30+ years



Aligned with IDB Climate Action and Guyana's LCDS 2030 — preserving jaguar, harpy eagle, and tapir habitats via wildlife corridors.

Rail Link to Georgetown

Why Rail

- Georgetown roads are congested, with one major bridge.
- 42 minutes by train versus 90–120 minutes by car.
- Reduces airport-related road traffic by 65%.

Route & Stations

- Underground platform below the terminal.
- 1 km tunnel under the wooded preserve.
- 38 km at-grade rail along the East Bank Demerara corridor.
- Georgetown terminus adjacent to Stabroek Market.
- 3 intermediate stops: Providence, Eccles, and Diamond park-and-ride.

Rolling Stock

- 8 electric multiple unit (EMU) trains.
- 4 cars per train.
- 400 passengers per train: 200 seated and 200 standing.
- Service every 20 minutes at peak and every 60 minutes at night.
- 42-minute travel time.

Power & Carbon

- 10 MW dedicated airport solar farm.
- Regenerative braking feeds power back to the grid.
- 12,000 tonnes of CO₂ saved annually versus car trips.

42 min

Train Time

Georgetown in 42 minutes

65%

Traffic Reduced

Airport-related road traffic removed

400

Passengers / Train

200 seated and 200 standing

12K

CO₂ Saved

Tonnes annually vs car trips

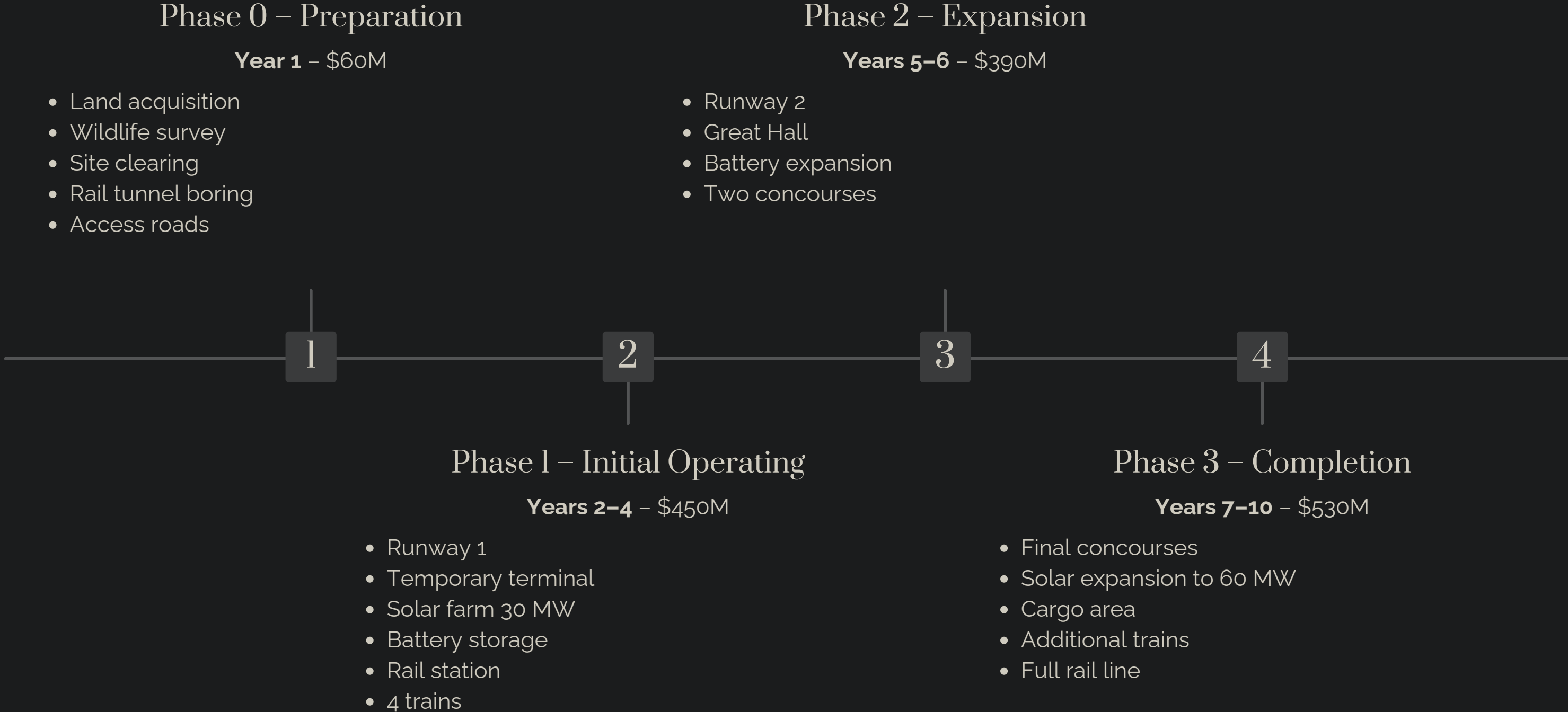


Service pattern: 8 EMU trains, 20-minute peak headways, and 60-minute night service keep the link frequent and reliable.



Cost Breakdown & Phasing

The Takutu International Airport project will unfold over four distinct phases, with a total investment of \$1.43 billion over a decade.



Phase 1 opening occurs at Month 48, with an initial capacity of 1.5 million passengers per year.

Risk Register & Mitigation

Identifying potential challenges and proactive strategies to ensure project continuity and success.

1	Rainy Season Delays (May–July, Nov–Jan) Probability: High, Impact: High Mitigation: Schedule earthworks in dry months; 20% time contingency
2	Skilled Labor Shortage (glulam, welding) Probability: High, Impact: High Mitigation: Partner with Guyana Technical Training College; import 50 Filipino supervisors
3	Cost Overrun (Phase 1) Probability: High, Impact: High Mitigation: Fixed-price contracts for runway; monthly independent cost audits
4	Flooding During Construction Probability: High, Impact: High Mitigation: Raise terminal site 6 ft before building; porous pavement on access roads
5	World Bank/IDB Funding Delay Probability: Medium, Impact: High Mitigation: Prepare parallel private finance (green bonds, carbon credits)



A \$50M risk response budget is set aside in Phase 1 contingency.

Construction Timeline & Critical Path

Phase 0: Preparation

Months 1–12

- Land acquisition
- Wildlife corridors
- Tunnel boring
- Access roads

Phase 2: Expansion

Months 49–72

- Runway 2
- Great Hall
- Battery expansion (+60 MWh)
- Two concourses

Opens at Month 72: 4M passengers/year

1

2

3

4

Phase 1: Initial Operating

Months 13–48

- Runway 1
- Solar 30 MW
- Temporary terminal
- Rail station (partial)
- 4 trains

Opens at Month 48: 1.5M passengers/year

Phase 3: Completion

Months 73–120

- Final two concourses
- Solar to 60 MW
- Cargo area
- Full rail line
- 4 more trains

Opens at Month 120: 7M passengers/year

Key milestones mark the progression towards full operational capacity.

Critical Path Dependencies

- Rail tunnel must finish before Great Hall construction (tunnel passes below it).
- Wildlife corridors must be completed before any runway paving.
- Solar farm must be online 6 months before Phase 1 opening.

90-Day Action Plan

1 — Days 1–30

Submit dossier to Ministry of Public Works; request site access. Identify and secure local partners (engineering, environmental). — **Project Lead**

2 — Days 31–60

Engage Conservation International for wildlife corridor design. Begin EIA scoping with Environmental Protection Agency. — **Environmental Lead**

3 — Days 61–90

Submit \$5M feasibility funding request to World Bank/IDB. Sign MOU with Ministry of Public Works. — **Finance & Legal Leads**

4 — Day 90+

Begin Phase 0 site preparation upon funding approval. — **All Teams**



Key Definitions & Terms

BIPV

Building-Integrated Photovoltaics — solar panels built into roof structure

EMU

Electric Multiple Unit — self-propelled train car

GSE

Ground Support Equipment — tugs, belt loaders, stairs at airport

Glulam

Glued laminated timber — strong engineered wood

Greenheart

Dense, durable Guyanese hardwood

LCDS

Low Carbon Development Strategy — Guyana's climate plan

MBB

Maharaja Bir Bikram Airport — Tripura, India (design reference)

Net-negative

Removing more CO₂ than emitted (via carbon credits or sequestration)

Vanadium Flow Battery

Long-life battery suitable for tropical heat