INTRODUCTION

What is *HPR*?

An alternative built around the journey people actually take — not the top speed on the brochure.

High-Performance Rail (HPR) is an integrated framework for modernising passenger and freight rail along an existing transportation corridor. Rather than a single greenfield high-speed line, HPR treats the corridor as one system to be optimised as a whole: a new-build passenger spine where new track earns its place, upgrades to existing infrastructure where they deliver more per dollar, and freight capacity improvements that let passenger and freight services each run to their own business model. It is designed to compete on total door-to-door travel time, to reach city centres and the communities in between, and to be delivered in affordable, demonstrable stages.

THE FRAMEWORK IN THREE PARTS

HPR	High-Performance Rail — the framework The whole-system approach. HPR combines the passenger spine and the freight dimension into one corridor strategy, appraised together and delivered incrementally.
HPPR	High-Performance Passenger Rail — the spine The physical passenger railway: new-build and grade-separated where the corridor requires it, engineered for reliable operation at speeds up to 240 km/h (150 mph), serving downtowns and the communities along the route.
HPFR	High-Performance Freight Rail — the freight dimension The capacity that untangles freight from passenger obligations. Freed from passenger scheduling, freight can run to a more flexible timetable and operate longer trains — the levers that drive a lower operating ratio — so each mode grows without subordinating the other on shared track.

What HPR is built on

01 **Holistic optimization**

Treat the rail network as a single system to be optimised as a whole, respecting the disparate business models of freight and passenger operations rather than forcing one onto the other's infrastructure. Avoid projects that monopolize funding, starving the many smaller improvements that would together deliver more.

02 **A community railway**

Build a railway that benefits the communities along the route, with the potential to deliver genuine, long-term prosperity to the places it passes — integrating them rather than alienating them, and so reducing community friction, political risk and ultimately cost.

03 **Untangle freight from passenger**

Build the capacity to separate freight from passenger obligations, so each can run to its own service pattern without one subordinating the other.

04 **Fast enough**

Target typical speeds in the 180–240 km/h band — fast enough to compete door-to-door without the greenfield-only alignments that higher speeds demand. A 240 km/h maximum is also the safer option in extreme temperatures (±30 °C).

05 **Safe, comfortable and productive**

Deliver a journey a car or plane cannot: grade separation and modern rolling stock make rail among the safest ways to travel, while generous space lets passengers work, rest or connect en route. Time on the train is usable time — a decisive advantage over driving.

06 **Frequent and punctual**

Compete on turn-up-and-go frequency and dependable punctuality — an on-time performance (OTP) above 90%, sustained through Canadian winters. Reliability, not peak speed, is what earns a traveller's trust.

07 **Downtown access and corridor communities**

Prioritise city-centre access and serve the communities along the route, not only the endpoint city-pairs.

08 **New-build plus upgrades**

Combine new construction with upgrades to existing rail infrastructure, using each where it delivers the most value.

09 **Mixed service on shared track**

Allow regional, commuter and intercity services to operate over the same tracks, with freed freight capacity as a deliberate co-benefit.

10 **Incremental investment strategy**

Deliver in stages and invest where benefits are demonstrable — phasing improvements so each tranche earns its place, and avoiding the cost and risk concentration of a single megaproject.

A North American Solution

The defining difference is what the railway is optimised for. A design that chases 300-plus km/h commits, almost by necessity, to a new greenfield alignment — long straight sections, wide curve radii and bypasses that route around the very communities and city centres a passenger service exists to reach, with speed on the open track bought back in access time, capital and carbon. HPR inverts that priority: by accepting typical speeds in the 180–240 km/h range it can follow the existing corridor, upgrade what already works where prudent, reach downtowns directly, all while liberating capacity for freight — competitive door-to-door at a fraction of the capital exposure, in stages that can be re-scoped as evidence matures.

It is also a difference of provenance. A greenfield high-speed line is essentially an imported experiment — the French passenger-rail model, built for a temperate, densely settled geography and a network that carries no freight. Established North American railroading is the opposite: freight-dominated, shared-track, and tested by hard winters and long distances. HPR is engineered for that reality — made in Canada, for Canadian conditions. It fosters domestic technology transferable to subsequent Canadian projects rather than transplanted from France, and is best understood not as a slower high-speed railway but as a different answer for a distinctly different continent: how to move the most people and freight, to the most useful places, at car competitive prices, for the most defensible investment with the lowest possible risk.

TRAVEL TIME, NOT SPEED

The clock, not the speedometer

A journey is not a single dash between two stations; it is a chain — reaching the station, waiting for the departure, the run itself, and getting to the final destination at the far end. Top speed touches only one link in that chain. Once access, waiting and egress are counted, the line-haul run is a fraction of the door-to-door total, and shaving it delivers steeply diminishing returns: the gap between 240 and 300 km/h saves minutes on the segment that is already the smallest part of the trip.

Worse, the alignments that permit the highest speeds tend to push stations out of city centres, adding access and egress time that can outweigh whatever the faster run saved — so a train that is quicker on paper can be slower in practice. Frequency compounds the point: a train leaving soon beats a faster one you must wait an hour to board. Measured the way travellers actually experience it — and against the car, which over a corridor drive of some 540 kilometres is the real competitor — the figure that matters is the reliable door-to-door clock, not the number on the fastest stretch of track.

Pricing for a car-centric market

In a car-centric culture, the railway's real competitor is not the airplane or the existing train but the private car — and against a car already owned, a trip is judged on its perceived marginal cost. That makes price the most direct lever on whether people switch. A line built at megaproject cost must recover that capital somewhere, and fares set to service debt price discretionary travellers straight back into their cars, hollowing out the very ridership the business case assumed. HPR's lower capital cost is therefore not only a fiscal virtue but a demand strategy: a railway that costs less to build can price to fill trains rather than to service debt. Frequency, downtown access and reliable door-to-door times create the conditions for mode shift; price is what converts them into boardings — and where most trips default to the car, that fare is often the difference between a full train and an empty one.

WHAT HPR IS NOT

Neither political, nor all at once

HPR is not a political project. Its route, its staging and its scope follow the evidence — engineering, economics and demographics — not political convenience or partisan preference. Where a claim cannot be grounded in that evidence, it is not made.

Nor is it everything at once. Stage 1 — the scope of the current report — is deliberately bounded: it does not detour via Peterborough, it reaches Ottawa over upgraded existing lines rather than costly new-build, and it defers Québec City to a later stage. Each further stage is added only when the evidence and the need justify it.

A case built to be checked

HPR does not ask to be believed; it asks to be checked. Every figure in its case is meant to be traced to a source, tested against what comparable projects actually cost and carried, and stated with its uncertainty rather than its best case. Where a promotional business case leads with a single confident number, HPR leads with a range and the reference class behind it — because the honest way to forecast a railway is from the record of railways already built, not from the hopes, ambitions and bias of the proponents hoping to build it.

The result is a stronger case, not a softer one. HPR delivers a passenger spine that beats the car on door-to-door time at a fraction of the capital a greenfield high-speed line demands; freight capacity that lifts the operating ratio instead of fighting passengers for slots; benefits that arrive in stages, each proven before the next is committed; and an environmental and cost profile that improves, rather than worsens, once the whole life of the asset is counted. It needs no optimistic ridership and no heroic cost control, and no slick advertorials to stand up. That is the pitch: not the fastest railway that can be drawn, but the one that will be built, used, and pay its way — the case that survives the scrutiny the alternative cannot.

Coalition for Better Rail — independent, non-partisan research on Canada's proposed Toronto–Québec City corridor. This brief describes the HPR framework; companion research covers corridor geometry, capital cost, ridership, operating economics, environmental impact and benefit–cost analysis.