

VIA Rail Quebec City–Toronto Corridor: Capacity, Fleet & Cost Analysis

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Executive summary

Doubling corridor frequencies with reliable on-time performance would take roughly **\$5.53 billion** (range \$4.4–7.4B) and about **3.0× today's ridership (≈13 million trips a year)** for VIA to cover its operating costs, or about **3.8× (≈16.6 million)** to also pay back the capital. This is a planning-level estimate built from public data, not a rail traffic simulation; it is sized to be challenged.

Item	Estimate
New sidings / passing tracks	12 sidings on single-track subdivisions (≈32 track-mi) plus 9 third-main sections on the Kingston Sub (≈45 track-mi) and 10 mi of double track on the Drummondville Sub
Existing sidings to extend	14 locations, ≈20 track-mi in total
Minimum siding length on CN freight lines	15,000 ft (CN trains now run 12,000–14,000 ft)
Track-circuit detection upgrade	≈\$680M (≈\$1.0B with contingency)
Dispatch centres	≈\$113M capital (≈\$170M with contingency) plus ≈\$6M/yr in staff
Land to buy	≈130 acres, ≈\$60M; most work fits in the existing right-of-way
Extra rolling stock	12 new Charger + Venture trainsets and ≈64 extra coaches (all sets to 7 cars)
Infrastructure capital (incl. detection, dispatch, stations, land, 50% contingency)	≈\$4.25B
Fleet, maintenance base, spares and training	≈\$1.3B

Item	Estimate
Added operating cost at full schedule	≈\$366M/yr (train operations, overhead growth, new-infrastructure maintenance, CN agreement, dispatch)
CN on-time performance agreement	≈\$25–35M/yr (range \$13–55M)
Break-even ridership, operations only	≈13.0M trips/yr (2025: 4.4M)
Break-even incl. capital recovery	≈16.6M trips/yr
Return per public dollar (benefit–cost ratio, 7% rate)	≈0.86 central (0.63–1.14); Alto on realistic numbers ≈0.14
Public cost per trip at 7.2M trips (30% of Alto's forecast)	≈\$114, vs ≈\$160–240 for Alto at its own forecast
Jobs	≈44,000 construction job-years; ≈650 permanent direct jobs
Visitor spending in towns along the line	≈\$95M a year by 2040

The single biggest constraint is not steel but control: VIA owns about 3% of the track it runs on and has no legal priority over freight. Track built for VIA on CN property can still be dispatched to CN's advantage, so any capital program needs a binding access-and-performance agreement, or legislated passenger priority, before the money is spent.

Where VIA stands in 2026

VIA enters this discussion with a reliability crisis, not a demand problem: on-time performance fell to 35% in 2025 while ridership held at 4.4 million.

Measure	2024	2025	Source
Riders	≈4.4M	4.4M (flat)	Railway Age
Total revenue	≈\$478M	\$514.8M (+7.7%)	Railway-News
Operating expenses	≈\$865M	\$894M	Progressive Railroading
Operating loss	—	\$375.7M	Railway Age
Cost recovery	—	58%	Progressive Railroading

Measure	2024	2025	Source
Government funding (incl. capital)	—	\$736M	Progressive Railroading
Corridor on-time performance	51%	35% (Q1 2025: 30%)	Railway Age; Auditor General coverage

Why OTP collapsed. In October 2024 CN imposed speed restrictions on the Siemens Venture trainsets at level crossings, citing unreliable track-circuit detection ("loss of shunt") of the short, light trains. VIA calls the restrictions arbitrary and has gone to court; CN says VIA knew the fix and did not apply it. The Auditor General confirmed the restriction had a significant OTP impact and noted that Canadian law gives passenger trains no priority over freight.

Fleet. All 32 Venture trainsets (Charger SC-42DC locomotive + 5 coaches, configurable 3–7 cars) were delivered by end-2025 for about \$989M. Railfan observers reported only about 14–15 sets in daily rotation over the 2025–26 winter, with two sets lengthened to 7 cars to satisfy CN's minimum-length demand. Legacy LRC and HEP equipment still fills gaps.

Corridor route and track inventory

The Québec City–Toronto service runs over five distinct track segments, and each needs a different fix: single-track lines need sidings, the double-track Kingston Sub needs third-main passing sections.

Segment	Owner	Approx. route miles	Configuration	Main conflict
Toronto–Brockville (Kingston Sub west)	CN	≈210	Double track, 3rd/4th track at stations and the 8 locations built 2009–12	Heavy CN intermodal and manifest traffic; GO trains near Toronto
Brockville–Coteau/Dorval (Kingston Sub east)	CN	≈125	Double track with limited passing	CN freight into Montréal

Segment	Owner	Approx. route miles	Configuration	Main conflict
Brockville–Smiths Falls–Ottawa (Brockville / Smiths Falls subs)	VIA (largely)	≈70	Single track with sidings	Passenger meets
Coteau–Ottawa (Alexandria Sub)	VIA	≈56	Single track with sidings	Passenger meets at 100 mph
Montréal–Québec City (via Drummondville, St-Rosalie–Charny)	CN	≈165	Mostly single track, CTC	CN Halifax-bound freight; very long trains

Mileages are rounded from public timetables and railfan references; exact siding mileposts should be pulled from CN and VIA timetables before design. The 2009–12 Kingston Sub program (over \$300M, eight locations) already added third track and siding extensions; the analysis below builds on that base rather than repeating it ([VIA, 2009](#)).

Siding analysis

To run 88 corridor trains a day (up from about 50) at 90%+ on-time, the model calls for 12 new sidings or passing sections, 9 new third-main sections, 10 miles of double track, and extensions at 14 existing sidings — about 107 track-miles in all.

Method. Two rules set the numbers:

1. **Length.** On CN lines a siding is only useful if a freight can clear the main entirely. CN trains now run 12,000–14,000 ft, so new or extended sidings there are set at 15,000 ft (train length + ≈1,000 ft clearance and stopping margin). On VIA-owned lines only passenger trains meet, so a 2.5–3 mile high-speed passing section lets two trains meet without either stopping (a "flying meet").
2. **Spacing.** A siding is needed wherever the gap between meets exceeds the time budget. At doubled frequency (roughly hourly each way), passenger–passenger meets on single track recur about every 30 minutes of running, or every 35–45 miles at track speed; freight meets on the Drummondville Sub need a siding roughly every 10–12 miles so a freight is never more than ≈10 minutes from a refuge.

Results by segment.

Segment	New sidings / passing track	New length	Existing sidings extended	Extension length
Montréal–Québec City (CN Drummondville Sub)	7 new sidings + 2 double-track sections of 5 mi	7 × 15,000 ft (≈20 mi) + 10 mi	6	≈6,000 ft each (≈6.8 mi)
Coteau–Ottawa (VIA Alexandria Sub)	2 high-speed passing sections	2 × 3 mi (6 mi)	2	to 3 mi each (≈3 mi added)
Brockville–Smiths Falls–Ottawa (VIA)	3 new sidings	3 × 10,000 ft (≈5.7 mi)	2	≈5,000 ft each (≈1.9 mi)
Toronto–Brockville (CN Kingston Sub)	6 third-main sections	6 × 5 mi (30 mi)	3	≈2 mi each (6 mi)
Brockville–Coteau (CN Kingston Sub)	3 third-main sections	3 × 5 mi (15 mi)	1	≈2 mi
Total	21 locations + 10 mi double track	≈87 track- mi	14	≈20 track-mi

On the Kingston Sub a conventional siding does little, because CN already has two mains; what VIA needs is a third main where a 100 mph passenger train can overtake a 50 mph freight without either stopping. Five-mile sections are the minimum for an overtake at that speed difference. The sections should be placed between the existing 2009–12 third-track locations so overtake opportunities fall every 25–35 miles.

Also required (not sidings, but OTP depends on them): about 30 high-speed (#20 or larger) universal crossovers with re-spaced signals, and the track-circuit detection upgrade described below so the Venture sets run at full track speed. Without the crossing fix, none of the siding work recovers the time CN's restrictions currently take.

Fleet analysis for an expanded schedule

An hourly-style schedule needs about 23 trainsets in service each day and about 44 owned, so VIA would need 12 more trainsets plus ≈64 extra coaches to lengthen every set to 7 cars.

Assumed schedule (round trips per day).

Route	Today (approx.)	Expanded	Run time (h)
Toronto–Montréal	6	12	5.0
Toronto–Ottawa	8	12	4.3
Montréal–Ottawa	6	10	1.9
Montréal–Québec City	5	10	3.2
Trains per day	50	88	

Sets in service. Daily train-hours (run time + 45 min turnaround) rise from ≈ 221 to ≈ 391 . With each set working about 17 hours a day, that is ≈ 13 sets in service today and ≈ 23 under the expanded schedule.

Sets owned. A well-run fleet keeps about 85% of sets available (Amtrak/European norm). $23 \div 0.85 \approx 27$ sets, plus 2 protect sets at Toronto and Montréal, plus 2 for heavy overhaul cycling = **≈ 31 for base service**. Adding peak-hour extras and holiday surge (Friday/Sunday, Christmas) brings the planning figure to **≈ 44 sets**, so **12 new trainsets** on top of the 32 delivered.

Cars. If market confidence returns and ridership reaches the ≈ 11 M break-even level, average on-board loads would be about 340 passengers per train. A 5-car Venture seats roughly 300; a 7-car set roughly 420. Lengthening all 44 sets to 7 cars keeps the average load factor near 50%, leaving headroom for peaks. That needs **≈ 64 additional coaches** beyond those in the 12 new sets (32 existing sets $\times$ 2 cars). Seven-car sets also resolve CN's minimum-length complaint at crossings.

Locomotives. One Siemens Charger per set: 12 new units, plus 2 spares = **14 locomotives**.

The quick win. Railfan reports put only ≈ 15 of 29–32 sets in daily rotation in winter 2025–26. Simply raising availability to 85% would field ≈ 27 sets from the existing fleet — enough for most of the expanded schedule before a single new set arrives. Maintenance-base capacity (Montréal and Toronto) is therefore the first fleet investment, not the last.

Capital and operating cost projections

The full program costs about **\$5.53 billion** in 2026 dollars — \$4.25B for track, signals, detection, dispatch, stations and land (with a 50% contingency), \$1.3B for fleet, maintenance base, spares and training — and adds roughly \$366M a year to operating costs (train operations ≈\$200M, VIA overhead growth ≈\$80M, maintenance of the new infrastructure ≈\$50M, the CN performance agreement ≈\$30M, dispatch staff ≈\$6M) once the expanded schedule runs.

Unit costs used (Class 5 / order-of-magnitude, ±40%): new siding on CN freight standard with powered turnouts and CTC ≈ \$8–9M per mile; third main on an active double-track railway ≈ \$15M per mile (traffic protection, drainage, bridges, signal re-cut); high-speed crossover with signals ≈ \$4M each; detection and land costed in their own sections. These sit above U.S. benchmarks (≈\$3–8M per mile) to reflect Canadian winter construction, work under live traffic, and recent bid inflation such as California's Marengo siding overrun.

Item	Quantity	Cost (\$M, 2026)
Drummondville Sub: new 15,000-ft sidings	7	175
Drummondville Sub: siding extensions	6	72
Drummondville Sub: 5-mi double-track sections	2	120
Alexandria Sub: new 3-mi passing sections	2	60
Alexandria Sub: siding extensions	2	24
Smiths Falls / Brockville: new 10,000-ft sidings	3	60
Smiths Falls / Brockville: siding extensions	2	20
Kingston Sub: new 5-mi third-main sections	9	675
Kingston Sub: third-main extensions	4	100
High-speed crossovers and signal re-spacing	30	120
Detection: crossing approach re-signalling	≈600	450
Detection: main-line axle-counter overlay	≈1,100 track-mi	220
Detection: on-board shunt enhancement	44 sets	13

Item	Quantity	Cost (\$M, 2026)
Dispatch: planning software, VIA centre, backup, data link, simulation	—	113
Terminal approaches, Montréal Central and Toronto Union	—	400
Stations: longer platforms, waiting areas, accessibility for 7-car trains	≈10 stations	150
Land acquisition and easements	≈130 acres	60
Infrastructure subtotal		2,832
Contingency (50%, raised from 30% after the precedents review)		1,416
Infrastructure total		≈4,248
New Charger + 5-car Venture trainsets (≈\$40M each)	12	480
Additional Venture coaches (≈\$6.5M each)	64	416
Spare locomotives	2	18
Initial spare parts for the new trainsets	—	50
Maintenance-centre expansion (Montréal, Toronto)	—	300
Hiring and training ≈260 new crew, maintenance and station staff	—	15
Fleet, maintenance and staffing total		≈1,280
Program total		≈5,530

The Venture price is escalated from the 2018 contract (\$989M for 32 sets, ≈\$31M each) to ≈\$40M for a small follow-on order. A follow-on order is the cheapest fleet path because the design, training and parts are already in place.

Operating cost impact. Corridor train-miles rise about 77% (≈11,500 to ≈20,400 per day). Assuming roughly 45% of VIA's \$894M is driven by train-miles (crew, fuel, maintenance, CN access fees) and the corridor is about two-thirds of that, the added train-operating cost is ≈\$200M a year (including ≈225 more engineers and on-board staff). A larger

railway also carries more overhead: management, IT, customer service, call centres and insurance growing 20–25% adds ≈\$80M. Inspecting and maintaining the ≈107 new track-miles, 30 crossovers, switch heaters and detection equipment at ≈600 crossings adds ≈\$50M (about 2% of construction cost a year, billed by CN on its lines). With the CN agreement (≈\$30M) and dispatch staff (≈\$6M), the total is ≈\$366M **a year**. Paying back the \$5.53B over 30 years at 4% adds ≈\$320M **a year** if it is charged to VIA rather than funded as public infrastructure.

Schedule. Siding and third-track work on CN property typically runs 5–7 years from agreement to service, given design, environmental review and CN's construction windows.

Ridership needed for profitability

At today's average revenue per trip, VIA would need about **13 million trips a year** to cover operating costs under the expanded schedule, and about **16.6 million** to also repay the capital — 3.0 to 3.8 times 2025 ridership.

Model. 2025 revenue of \$514.8M over 4.4M trips gives ≈\$117 per trip (all revenue sources). VIA's \$894M in costs is split as: ≈40% fixed overhead (\$358M), ≈45% train-mile driven (\$402M), ≈15% passenger driven (≈\$30 per trip). Each extra rider therefore contributes ≈\$87 toward fixed and train costs. Under the expanded schedule, fixed, train, overhead growth (≈\$80M), new-infrastructure maintenance (≈\$50M), performance-agreement (≈\$30M) and dispatch-staff (≈\$6M) costs total ≈\$1,127M; with capital recovery, ≈\$1,447M.

Average revenue per trip	Break-even, operations only	Break-even incl. capital	Multiple of 2025 ridership
\$100 (discounted fares to rebuild market)	16.1M	20.7M	3.7–4.7×
\$117 (2025 actual)	13.0M	16.6M	3.0–3.8×
\$135 (premium for reliable, frequent service)	10.7M	13.8M	2.4–3.1×

For comparison, the same model says the current schedule would break even at ≈8.7M trips. Expansion raises the bar from ≈8.7M to ≈13M, because a larger railway carries more overhead and maintenance, while roughly doubling the capacity to reach it. Frequency and reliability, not fare cuts, are the levers.

Is 13 million plausible? The corridor serves about half of Canada's population, and VIA carried about 5M riders as recently as 2019 under far better on-time performance. Corridors that moved from a few daily trains to hourly reliable service (Amtrak's Northeast Regional, Brightline, European conventional intercity lines) have typically seen ridership grow 50–150% over 5–10 years, not 150–200%. A realistic outcome by the mid-2030s is **7–9M trips**, which would cut the annual operating loss sharply but not eliminate it.

Corridor versus network. These figures cover all of VIA. Long-distance and remote services (The Canadian, The Ocean, mandatory remote routes) carry a disproportionate share of the loss and will never break even. A corridor-only P&L would break even at a lower ridership than shown; VIA's published reports do not split costs cleanly enough to calculate it from outside.

Track-circuit detection upgrade

A complete fix for the loss-of-shunt dispute costs about **\$680M**, replacing the \$200M crossing-only allowance used earlier and adding ≈\$480M to the program before contingency.

The problem is physical: conventional track circuits detect a train when its wheels short the two rails. Light, short trainsets with disc brakes leave the railhead filmed with rust, leaf residue or salt, so the circuit can momentarily "lose" the train. CN's response was to slow the Venture sets at crossings and demand longer consists. A durable fix works on both the train and the track, so neither party depends on the other's goodwill.

Layer	What it does	Quantity	Unit cost	Cost (\$M)
Crossing approach re-signalling	Constant-warning-time predictors with a second, independent detection method (axle counters or overlay circuits) on each approach	≈600 active crossings on the Québec–Toronto VIA route	≈\$0.75M	450

Layer	What it does	Quantity	Unit cost	Cost (\$M)
Main-line axle-counter overlay	Redundant block detection, so a lost shunt cannot clear a signal behind a train	≈1,100 track-miles	≈\$0.2M per track-mile	220
On-board shunt enhancement	Tread-conditioning shoes or shunt-enhancer devices on every Venture set	44 sets	≈\$0.3M	13
Total				≈683

The crossing count and unit costs are estimates: Transport Canada's grade-crossing inventory would give the exact number of active crossings by subdivision, and CN's signal standards would set the design. Axle counters are now standard on European resignalling projects, which is a reasonable precedent for the overlay. The 7-car consists recommended in the fleet section add axles and weight, which also improves shunting, so the two measures reinforce each other.

Land availability and acquisition

Most of the proposed track should fit inside the existing railway right-of-way, so land purchase is a small line item, about **\$60M** (range \$40–150M). I could not verify ownership parcel by parcel; that needs a title search, and the figures below are a screening estimate.

Why most of it fits. The Grand Trunk lines (now CN's Kingston and Drummondville subs) were generally laid out on a right-of-way of about 99–100 ft (1.5 chains). Two tracks at standard 15-ft centres, plus ditches, occupy roughly 50–60 ft, leaving room for a third track or a siding on most open stretches. A single-track line such as the Drummondville Sub has even more room for sidings and short double-track sections. The VIA-owned Alexandria and Smiths Falls lines are also single track on their original rights-of-way.

Where it may not fit.

- Through towns where buildings, roads or the 401 crowd the line (Belleville, Kingston, Brockville, Cornwall, Drummondville).
- At bridges, rock cuts and embankments built for two tracks only.

- Where a high-speed passenger track must sit 20–25 ft from a freight track for safety, rather than 15 ft.
- Where parcels were sold off or leased over the decades.

Ownership. Nearly all the land on the route is owned by CN or VIA. CPKC does not own any of the main corridor segments used here; it owns only crossing points and junctions. Metrolinx owns the Kingston Sub west of Pickering, where no new work is proposed. One important consequence: track VIA pays to build on CN land becomes CN's asset, as happened with the 2009–12 program. Any new grant should secure dedicated use or an ownership share for VIA.

Cost estimate. Assume a quarter of the ≈107 new track-miles needs an extra 40-ft strip.

Land type	Area	Basis	Cost (\$M)
Rural farmland strips	≈110 acres	≈\$15,000/acre (FCC 2025: Central East Ontario \$13,100; Québec similar) × 4 for severance, injurious affection, appraisal and legal costs	≈7
Urban and industrial parcels	≈20 acres	≈\$1M/acre	≈20
Construction easements and utility relocation	—	allowance	≈30
Total	≈130 acres		≈60

This is a fraction of what a new corridor needs. Because the plan widens existing rail lines rather than cutting new ones, it avoids the farmland severance and expropriation that Alto's new alignment would require.

Federal financing case

Federal funding of the full \$5.53B upgrade will not be repaid in cash, but it returns about **86 cents of public benefit per dollar in the central case at the Treasury Board's 7% rate, and \$1.23 at the 3.5% rate allowed for long-lived assets. It pays for itself at about 9M trips a year (7% rate) or 7M (3.5% rate). Full figures are in the companion return-on-investment analysis.**

Why Ottawa, not VIA. VIA cannot borrow against fares it does not yet earn, and its corridor track belongs mostly to CN. Funding the capital the way roads and airports are funded (a federal grant, repaid through lower operating subsidies and public benefits) is the only realistic structure. Ottawa borrows at roughly 3.5–4%, so \$5.53B over 30 years costs about \$320M a year. For scale, VIA's 2025 government funding was \$736M.

What Ottawa gets back. Three streams:

1. **Lower operating subsidy.** The total operating loss stays near today's level ($\approx$ \$430M at 8M trips, against \$376M in 2025), but the subsidy per trip falls from $\approx$ \$85 to $\approx$ \$54.
2. **Benefits to riders.** Restoring on-time service saves roughly half an hour of delay per trip, valued at $\approx$ \$12.50 per trip at \$25 an hour.
3. **Benefits from diverted trips.** Each car or air trip moved to rail saves roughly \$40 in congestion, collisions, emissions and road wear (a rough figure consistent with Transport Canada and European appraisal ranges).

Case	Benefit-cost ratio, 7% rate	Benefit-cost ratio, 3.5% rate	Net federal cost after federal tax recovered (present value, 7%)
VIA upgrade, high (10M trips)	1.14	1.60	\$2.1B
VIA upgrade, central (8M)	0.86	1.23	\$3.6B
VIA upgrade, low (6.5M)	0.63	0.91	\$4.8B
Alto at its own forecast (24M, \$75B)	0.39	0.79	\$32.1B
Alto, realistic central (10M, \$94B)	0.14	0.33	\$46.0B

The benefit values are conservative: wider economic effects are capped at 15–20% of rider benefits, far below the GDP effects Alto's own case claims.

Recommended structure. Fund it in two stages, with the second released only when the first shows results:

1. **Stage 1 (≈\$1.9B, years 1-3):** detection upgrade, dispatch desks and planning tools, maintenance-base expansion so the 32 existing Venture sets reach 85% availability, lengthening sets to 7 cars, and a signed CN performance agreement. This recovers most lost on-time performance and should lift ridership back above 5M quickly.
2. **Stage 2 (≈\$3.6B, years 3-8):** sidings, third main, crossovers, terminals and the 12 new trainsets, released when Stage 1 holds on-time performance above 85% for a year.

VIA upgrade vs Alto

Yes: at 30% of Alto's ridership forecast, the VIA upgrade costs the public about **\$114 per trip**, against roughly **\$160–240 per trip** in capital charges alone for Alto at its full forecast. It is the better value per trip, but it is a slower product, not a like-for-like replacement.

Alto forecasts [24 million trips a year by 2055](#). Thirty percent of that is **7.2 million**, about 1.6 times VIA's 2025 ridership. The [Coalition for Better Rail](#) argues, using reference-class forecasting, that Alto itself may draw only 6–7 million.

Measure	VIA upgrade at 7.2M trips	Alto at 24M trips (its forecast)	Alto at 7M trips (critics' forecast)
Capital cost	≈\$5.53B	\$60–90B (Alto); \$75–113B (PBO)	same
Annual capital charge (4%; 30 yr VIA, 40 yr Alto)	≈\$320M	≈\$3.8–5.7B	≈\$3.8–5.7B
Annual operating result	≈\$500M loss (incl. CN agreement, dispatch, overhead growth and new maintenance)	likely covers operations (typical of HSR at that volume)	likely a loss
Public cost per trip	≈\$114	≈\$160–240	≈\$540–815 plus operating loss
Montréal-Toronto time	≈4h30–5h (reliable)	≈3h	≈3h
Earliest service	Stage 1 by ≈2029; full by ≈2033	Montréal-Ottawa 2036–38; full line 2041–44	same

Measure	VIA upgrade at 7.2M trips	Alto at 24M trips (its forecast)	Alto at 7M trips (critics' forecast)
New land required	≈130 acres, mostly strips beside existing track	a new ≈1,000 km corridor	same
Intermediate towns served	All current VIA stops	Few stops	Few stops

What this means.

- On public cost per trip, the VIA upgrade wins at any plausible ridership. Even if the upgrade reached only 30% of Alto's forecast, it would cost about half to two-thirds as much per trip as Alto meeting its own forecast.
- Alto's case rests on speed: a 3-hour Montréal–Toronto trip competes with air in a way a 4h30 VIA trip cannot. Its wider economic benefits (Alto claims ≈1.1% of GDP) depend on that speed and are not captured here.
- The two are not truly either/or. Alto serves few stations, so towns like Cobourg, Belleville, Brockville, Cornwall, Alexandria and Drummondville would still rely on VIA. The upgrade is needed in either case, and it delivers results a decade earlier.
- The strongest position is therefore sequencing: fund the VIA upgrade now, measure the ridership response to reliable, frequent service, and use that real data to test Alto's 24M forecast before committing \$60–113B.

Return on investment, jobs and local spending

On a full 60-year cost-benefit appraisal, the VIA upgrade returns about **86 cents of public benefit per dollar** (central case, 7% rate), against about **14 cents** for Alto on realistic numbers. The detailed model is in the companion [Return on Investment: VIA Corridor Upgrade vs Alto](#).

Measure (central case)	VIA corridor upgrade	Alto, realistic (10M trips, \$94B)
Benefit–cost ratio, 7% / 3.5% rate	0.86 / 1.23	0.14 / 0.33

Measure (central case)	VIA corridor upgrade	Alto, realistic (10M trips, \$94B)
Net federal cost after federal tax recovered (present value, 7%)	≈\$3.6B	≈\$46B
Net federal cost per added trip	≈\$98	≈\$1,100
Tax recovered on construction and operating spending, all governments (present value, 7%)	≈\$2.8B	≈\$17.6B
Construction jobs	≈44,000 job-years (≈6,300 a year, 2027–33)	≈750,000 job-years (≈50,000 a year, 2029–43)
Permanent operating jobs	≈650 direct, spread along the corridor	≈3,000 direct
Visitor spending in towns along the line	≈\$95M a year by 2040, ≈15 towns	≈\$90M a year by 2055, a few station towns

- **Jobs and tax recovered scale with spending.** Both projects create about 8 construction job-years and return about 15% to Ottawa (30% to all governments) per dollar spent, so these favour neither project per dollar. The VIA jobs arrive about seven years sooner.
- **Towns.** Roughly 1.3M added trips a year would start or end at intermediate stations such as Cobourg, Belleville, Kingston, Brockville, Cornwall, Alexandria, Casselman, Smiths Falls and Drummondville, averaging ≈\$6M a year of visitor spending per town. Under Alto, lakeshore and St. Lawrence towns risk losing part of today's service if VIA cuts back.
- **Alto's case rests on its GDP claim.** Alto's claimed ≈\$24B a year of GDP growth is about 13 times the benefits measured here; Alto would need about half of it, independently validated, to break even.

Precedents: upgrades of existing lines elsewhere

No upgrade of a conventional passenger service on freight-owned track has made that service profitable. The best ones roughly tripled ridership and cut unit costs. The only intercity rail operation in North America with an operating profit, Amtrak's Northeast

Corridor, owns its track and still does not cover its capital costs.

Program	Host track	Investment	Promised vs delivered	Ridership result	Profitable?
Capitol Corridor , California (1997-2006)	Union Pacific	Incremental: crossovers, movable-point frogs, added trains	Daily round trips raised from 4 to 16; on-time 93-95% by 2009-12 under a UP incentive contract	≈0.5M (1998) to ≈1.7M (2008), about 3.4×; cost per passenger-mile fell from 33¢ to 25¢	No; state-supported
Piedmont , North Carolina (2010-17)	NC Railroad / Norfolk Southern	\$520M federal grant: 27 mi second main, 5 mi sidings, 12 grade separations, 39 crossings closed	Raleigh-Charlotte round trips raised from 2 to 3, then 5 by 2023	Records every month of 2024; first half up ≈20% on 2023 (WBTB)	No; state-supported
Amtrak Cascades, Washington (2010-17)	BNSF	≈\$800M federal stimulus	On-time goal 88%; actual 47-62% in 2019-23, with freight interference a top cause (WSDOT); a new bypass derailed on its first day in 2017	Did not reach projections	No
Chicago-St. Louis , Illinois (2010-23)	Union Pacific	≈\$1.5B+ for 110 mph running	Promised a 90-minute saving; 34 minutes delivered after 13 years, delayed by train-control certification; Chicago-Joliet bottleneck unfunded	FY2025: 593k, still 5.6% below FY2019	No

Program	Host track	Investment	Promised vs delivered	Ridership result	Profitable?
Keystone , Pennsylvania (2006)	Amtrak-owned	\$145M for track, signals, 110 mph	90-min Harrisburg–Philadelphia express, more trains, delivered	Strong growth	No; in FY2025 it had the largest per-passenger-mile loss of Amtrak's state routes (Eno)
West Coast Main Line , UK (1998–2009)	Network Rail	Estimate rose from £2.5B to £14.5B; ≈£9B final	140 mph dropped to 125 mph; London–Manchester 36 min faster; Railtrack collapsed partly over overruns	London–Manchester rail +77% (2009–17), air on the route –27% (summary)	Ridership success; the operator still needed £590M extra subsidy in 2002–06
Regional Fast Rail , Victoria, Australia (2000–06)	State-owned	Public share expected ≈A\$80M; ≈A\$750M final	Headline travel times met by only a few trains; single-tracking part of the Bendigo line hurt reliability	Patronage grew at an unprecedented rate; fleet grew from 76 to 423 carriages	No; but growth justified the A\$4B Regional Rail Link
VIA Rail corridor program, Canada (2007–12)	CN / VIA	≈\$1B, incl. >\$300M on the Kingston Sub	Track work completed; 28 weekly departures added in Dec 2012	2012 network ridership 3.9M, down 5%; the added corridor trips rose 10.4% (VIA)	No
Amtrak Northeast Corridor, U.S. (benchmark)	Amtrak-owned, electrified	Decades of federal capital	Frequent, fast, reliable service	FY2025 ridership +8%; load factor 67.5%	Operating profit \$352.5M in FY2025 (Eno); does not cover capital

Common problems.

- 1. Cost overruns are the norm.** WCML grew well over threefold from its first estimate; Victoria's public cost grew about ninefold. This is why the plan now carries a 50% contingency on infrastructure rather than 30%.

2. **Host-railroad control decides outcomes.** Capitol Corridor paid Union Pacific bonuses for on-time trains and reached 93–95%; Cascades spent more on track without that structure and sits near 50%. The money bought the same steel; the contract made the difference.
3. **Promised speed gains shrink.** Chicago–St. Louis, Regional Fast Rail and WCML all delivered less time saving than promised, usually because of signalling and train-control certification, the same issue now behind CN's Venture restrictions.
4. **Ridership follows frequency and reliability more than speed.** Capitol Corridor, Piedmont and Victoria grew strongly from more, dependable trains; Chicago–St. Louis grew little from a modest speed gain.

What this means for this plan. The precedents support the strategy (frequency plus reliability, secured by a host contract) but not the profitability target. A realistic goal is the Capitol Corridor result: ridership roughly doubling to tripling over 10 years and a sharply lower subsidy per trip. That matches the 7–9M trip range estimated above, rather than the 13–17M needed to break even.

On-time performance agreement with CN

A performance agreement on the Capitol Corridor model would cost VIA about **\$13M a year** in incentive payments at the expanded schedule, and realistically **\$25–55M a year** once CN's likely demands for a premium and higher maintenance standards are included. That is roughly 3–7% of VIA's 2025 government funding, and it should pay for itself through recovered ridership.

How other railways do it.

Arrangement	Host	Structure	Size	Result
Capitol Corridor , California	Union Pacific	Stand-alone bonus: UP earns 50–75% of the maximum at 92% on-time, 100% at 96%+; plus access fees, a dedicated maintenance gang and ≈\$10M/yr capital	Max incentive ≈US\$2.4M/yr (≈US\$8,570 per track-mile); total ≈US\$22,230 per track-mile without capital	Nearly 100% of the incentive paid since 2008; on-time 93–95%
Amtrak-CN agreement , Illinois/Michigan (2025–2033)	CN	Performance payments tied to the 80% federal on-time standard; Amtrak must fit on-board shunt enhancers; recurring schedule reviews; dispute-resolution process	Not disclosed	Settled a decade-long Surface Transportation Board dispute over CN delays
Amtrak host incentives , U.S. network	All freight hosts	Per-contract bonuses invoiced by hosts from Amtrak delay data	US\$24M (2015); US\$34M+ in the first nine months of 2016	Host performance mixed; Amtrak's report card averages a C
UK Schedule 8	Network Rail	Two-way: whoever causes delay pays the other, against regulator-set benchmarks, every four weeks	Set by the regulator; no money moves at benchmark performance	Keeps operators whole for lost fares; avoids case-by-case disputes

Arrangement	Host	Structure	Size	Result
VIA–CN today	CN	Contract expired in 2018; extended 8 times; CN says it contains no speed provisions; VIA asked the Canadian Transportation Agency in 2023 to impose terms (BNN Bloomberg)	Not public	Corridor on-time fell from 84% (2011) to 35% (2025)

The 2025 Amtrak–CN deal matters most here. CN has already accepted performance payments in exchange for on-board shunt enhancers on another operator's trains, which is the same issue behind its Venture restrictions. A VIA agreement can be modelled directly on it.

Calculation. Two methods, applied to the CN-owned parts of the expanded schedule (≈ 500 route-miles, ≈ 850 track-miles; $\approx 16,900$ VIA train-miles a day on CN track, or 6.2M a year):

Method	Capitol Corridor rate (2018 US\$)	Applied to VIA on CN	2026 C\$ ($\times 1.30$ inflation, $\times 1.37$ exchange)
Per track-mile	\$8,570	850 track-mi $\rightarrow$ US\$7.3M	$\approx \$13.0\text{M}$
Per train-mile	$\approx \$1.21$ (US\$2.4M $\div$ 2.0M train-mi)	6.2M train-mi $\rightarrow$ US\$7.5M	$\approx \$13.4\text{M}$

Both methods give about **\$13M a year** as the base incentive. Three adjustments take it higher:

- **CN's bargaining position:** CN runs far more freight than UP did on the Capitol Corridor, and has no legal duty to prioritize VIA, so a premium of 1.5–2 $\times$ is likely: **\$20–27M**.
- **Higher maintenance standard:** Capitol Corridor also pays for a dedicated maintenance gang ($\approx$ US\$13,660 per track-mile). If CN charges extra to keep track at passenger standard beyond what VIA's access fees already cover, add **\$5–20M**.

- **Two-way penalties:** A Schedule 8-style clause, where CN pays VIA for delays it causes, would offset part of this. It is the clause CN is least likely to accept without legislation.

Scenario	Annual cost (C\$)
Capitol Corridor terms applied directly	≈\$13M
Realistic negotiated agreement	≈\$25–35M
High case (premium plus maintenance surcharge)	≈\$55M

Does it pay? Roughly. On-time performance falling from 72% to 30% coincided with a 2.7% ridership drop in Q1 2025, and business travellers were hit hardest. Recovering about 10% of corridor ridership (≈0.44M trips at ≈\$117) is worth ≈\$51M a year in revenue, plus savings on crew overtime and fuel from fewer delays. A \$25–35M agreement is covered by that alone, before any growth from the expanded schedule. It is also small next to the ≈\$320M a year capital charge for the infrastructure, which it protects.

The weak point is enforcement. Without a regulator like the U.S. Surface Transportation Board or the UK's Office of Rail and Road, VIA cannot compel CN to sign. The Canadian Transportation Agency application VIA filed in 2023 is the test case.

Dispatch capacity

The signalling can carry 88 passenger trains a day; the people and planning tools that dispatch them are the constraint. Adding desks, planning software and a shared CN–VIA data link costs about **\$113M in capital (≈\$170M with contingency)** and **≈\$6M a year** in staff.

Without a rail traffic simulation using CN's freight schedules, nobody outside CN can say exactly how much dispatch capacity is needed. The figures below size it from desk workload and comparable control-centre projects, and should be confirmed by the simulation recommended in Stage 2.

What changes.

- **More desks, smaller territories.** Split the Toronto–Brockville and Brockville–Coteau Kingston Sub territories, split the Drummondville Sub desk, and add a dedicated passenger-flow coordinator at CN who protects VIA's timetable in real time.

- **Territory-wide planning software.** Movement-planning tools plan meets and overtakes across a whole territory hours ahead, instead of one decision at a time. This is what makes the new sidings and third-main sections actually get used as designed.
- **One shared picture.** A live data link between CN's and VIA's control centres, with joint delay coding, so handoffs at Coteau and Brockville are planned rather than negotiated, and both sides see the same on-time figures the performance agreement pays on.
- **VIA's own centre.** Upgrade VIA's control system for the Alexandria, Smiths Falls and Brockville lines to handle the higher frequency and high-speed passing sections.

Capital cost.

Item	Cost (\$M, 2026)
Movement-planning software, licensing and integration (CN corridor territories)	50
VIA control-centre system and console upgrade	30
Backup and redundancy for both centres	15
CN–VIA live data link and shared on-time dashboard	10
Rail traffic simulation study and dispatcher training	8
Subtotal	113
Contingency (50%)	57
Total	≈170

Staff cost. Each desk staffed around the clock needs about 5.5 full-time dispatchers to cover shifts, vacations and training. Five new desks (two CN Kingston Sub splits, one Drummondville split, one CN passenger coordinator, one VIA) need about 28 dispatchers, plus about 6 planners and support staff. At ≈\$180,000 a year loaded cost each, that is **≈\$6M a year**. Dispatchers take 6–12 months to qualify, so hiring has to start 1–2 years before the expanded schedule.

Who pays: the federal program funds the capital. The staff cost is built into the performance agreement, so CN is reimbursed for the desks that protect VIA's trains.

Path to agreement

CN will sign only if the deal is worth more to it than the status quo, so the federal offer should give CN free freight capacity, lower liability and long-term certainty, while making "no deal" more costly than it is today.

What each side gets.

Lever	What CN gets	What VIA gets
Federally funded track sized for freight (15,000-ft sidings, third-main overtakes)	Freight capacity on its busiest lines at no capital cost	Guaranteed passenger slots and room to recover from delays
Shunt enhancers on Venture sets, as in the 2025 Amtrak-CN deal	Its stated safety concern resolved	Speed restrictions lifted
Litigation paused during talks	No court risk or precedent	No court risk or precedent
\$680M crossing and detection upgrade on CN's network	Lower crossing-accident exposure for its own freight trains	Full track speed through crossings
Two-way performance payments	Paid for on-time passenger trains, and compensated when VIA breakdowns delay freight	Paid when CN causes delays
15–20 year contract with defined freight windows and volume-based access fees	Predictable revenue that rises as VIA grows; freight schedules protected	Stable access instead of short extensions
Dispatch desks and planning tools funded by the program	Better dispatching for freight as well	Real-time protection of the timetable
Canada Infrastructure Bank financing; accelerated tax write-offs on CN's share	Cheaper capital, better after-tax return	Lower call on the federal budget

Making "no deal" costlier. The credible alternative is regulation: legislated passenger priority (as U.S. law provides), Canadian Transportation Agency powers to set performance terms, or a ruling on VIA's 2023 application. The aim is not to use these

powers but to make a negotiated deal look better to CN than an imposed one.

Alto cuts the other way. Alto would take passenger trains off CN's line entirely, which CN may prefer. The VIA offer therefore has to win on its merits for CN (free capacity, less liability, steady revenue), not on goodwill.

Political weight. The communities between the big cities, such as Cobourg, Belleville, Brockville, Cornwall, Alexandria and Drummondville, gain under this plan and lose stops under Alto. A coalition of corridor municipalities and their MPs asking Transport Canada to broker talks adds pressure that neither railway can easily ignore.

Sequence.

1. **Confidence-building (months 0–6):** VIA commits to shunt enhancers; CN agrees to lift restrictions once verified; both pause litigation; Transport Canada appoints a facilitator.
2. **Performance agreement (months 6–18):** two-way payments, freight windows, joint scheduling committee, shared delay data, 15–20 year term.
3. **Capital released (from month 18):** Stage 1 money flows on signing; Stage 2 follows once on-time performance holds above 85% for a year and the joint simulation confirms siding locations.

Risks, Alto, and caveats

The largest risk is spending on CN-owned track without a guarantee of priority; the second is building for a 15-year window that Alto may partly close.

- **Access, not capacity.** Without legislated passenger priority or a contract with OTP penalties and incentives, new sidings on CN lines can be used for CN's benefit. Make any capital grant conditional on a signed performance agreement, as Amtrak's federal right of preference does in the U.S.
- **Fix the crossing dispute first.** The ≈\$680M detection upgrade and 7-car consists address CN's stated reason for the speed restrictions and could recover much of the lost OTP within 2–3 years, well before any siding is built.
- **Alto overlap.** Alto's preferred route is due this fall; Montréal–Ottawa service is targeted for 2036–38 and the full line for 2041–44. The [Parliamentary Budget Officer](#) put construction at \$75–113B against Alto's \$60–90B working figure. Once Alto opens, express end-to-end demand leaves VIA, but intermediate towns (Cobourg, Belleville, Brockville, Alexandria, Drummondville) still depend on conventional service, so the sidings keep their value for a smaller, more regional schedule.

- **Cost accuracy.** All costs are Class 5 (order of magnitude, –30% / +50%). Siding counts come from a frequency-and-spacing rule, not a rail traffic controller (RTC) simulation; a real study would model CN's actual freight schedule and grades.
- **Data gaps.** Exact siding locations and lengths, CN freight volumes by subdivision, and VIA's corridor-only costs are not public. Figures marked "approx." come from public timetables, railfan sources, or my own estimates.

Sources

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Return on Investment: VIA Corridor Upgrade vs Alto

Oct 16, 2026 · @Daniel Journeaux

Bottom line

Neither project pays the government back in cash. Measured by economic return, the VIA upgrade returns about **86 cents for every public dollar** in the central case (up to \$1.60 at the lower discount rate), while Alto, on realistic ridership and the Parliamentary Budget Officer's costs, returns about **14 cents**.

Measure (central case, 60 years, 7% discount rate)	VIA corridor upgrade	Alto, realistic	Alto, its own forecast
Capital cost	\$5.5B	\$94B (PBO midpoint)	\$75B
Ridership at maturity	8M trips (VIA total)	10M trips	24M trips
Benefit-cost ratio	0.86 (range 0.63–1.14)	0.14 (range 0.08–0.23)	0.39
Benefit-cost ratio at 3.5% discount rate	1.23 (range 0.91–1.60)	0.33 (range 0.22–0.50)	0.79
Net cost to federal government, after federal tax recovered (present value)	≈\$3.6B	≈\$46B	≈\$32B
Net federal cost per added trip	≈\$98	≈\$1,100	≈\$320
Construction jobs	≈44,000 job-years	≈750,000 job-years	—
Visitor spending in towns along the line (present value)	≈\$1.0B	≈\$0.4B	≈\$1.0B

A benefit–cost ratio of 1.0 means society gets back exactly what it spends. The VIA upgrade sits close to that line and crosses it if ridership reaches about 9–10M or if the government uses the lower discount rate its policy allows for long-lived assets. Alto stays far below 1.0 under every realistic assumption, and even at its own 24M forecast it does not reach 1.0.

Two cautions apply. This analysis leaves out Alto's claimed GDP effect (about \$24B a year), which no independent review has validated and which would change the result if it were real. And the VIA upgrade does not deliver a 3-hour Montréal–Toronto trip; the two projects buy different products.

How return is measured

Both projects are measured two ways, over the same 60 years (2027–2086), against a baseline where VIA continues as it is today at 4.4M trips a year.

1. **Fiscal return** is the government's own cash: fares and operating savings in, capital and operating costs out, then net of the federal tax recovered on the wages and purchases the spending generates. This answers "what does it cost the treasury?"
2. **Economic return** (the benefit–cost ratio) is what Canadian cost-benefit analysis uses. It counts every dollar of resource cost (capital, operations, maintenance) against everything society gains:
 - fares paid by riders (which reflect what the trip is worth to them);
 - time saved, valued at \$25–30 an hour;
 - reliability and frequency gains for existing riders;
 - reduced congestion, collisions and emissions on roads and in the air, ≈\$40 per trip moved to rail;
 - wider economic benefits from better-connected labour markets, 15–20% of user benefits;
 - the remaining value of the assets at the end of 60 years.

Discount rate. Money spent today is worth more than benefits received decades from now. The Treasury Board's cost-benefit guidance uses an opportunity-cost-of-capital rate of about 7% real, and its [policy](#) allows a lower social discount rate when impacts last 50 years or more. Both are shown: 7% as the base, 3.5% as the long-lived-asset view. The lower rate favours projects with distant benefits, which helps Alto more than VIA.

What is deliberately excluded. Jobs and town spending are reported separately, not added to the benefit–cost ratio. Construction jobs are a real local gain, but standard appraisal treats them as a cost, since the workers and materials would otherwise be used elsewhere in the economy. Likewise, most visitor spending in a town on the line is spending moved from somewhere else in Canada.

Realistic Alto inputs

The Alto case uses the Parliamentary Budget Officer's cost range and a ridership forecast about 40–60% below Alto's own, in line with independent critiques and the track record of rail forecasts worldwide.

Input	Alto's figure	Used here (low / central / high)	Basis
Construction cost	\$60–90B working estimate	\$113B / \$94B / \$75B	PBO, Oct 2026 : \$75–113B
Ridership at maturity (2055)	24M trips	7M / 10M / 14M	Coalition for Better Rail reference-class estimate of 6–7M; Flyvbjerg's research finds rail costs average ≈45% over estimate, and rail ridership is typically overestimated
Opening	Montréal–Ottawa 2036–38, full line 2041–44	Montréal–Ottawa 2037 (20% of mature ridership), full line 2043, maturity 2055	Alto's own schedule
Construction period	—	2029–2043, spread evenly	Alto's schedule
Average fare	—	\$120 per trip	Alto's draft figures imply ≈\$105B of revenue over 40 years at its forecast

Input	Alto's figure	Used here (low / central / high)	Basis
Operating cost	—	\$650M/yr fixed (track and stations) + \$45 per trip	Alto's 2023 life-cycle estimate implies ≈\$1.5B a year at full forecast (The Logic)
Rolling-stock renewal	—	\$6B in 2073	30-year fleet life
Trips taken from VIA	—	2M a year; VIA saves 60% of the lost revenue by cutting service	Montréal–Ottawa–Toronto end-to-end travellers shift to Alto
Time saved per trip	3h Montréal–Toronto	1.5 hours average, valued at \$30/hour	Saves ≈2h vs VIA, ≈2.5h vs car, little vs air door-to-door

At central values Alto roughly breaks even on operations by 2055 (fares ≈\$966M against operating costs ≈\$960M, net of VIA effects). The problem is entirely the capital: \$94B produces about \$1.8B a year in measured benefits once mature.

VIA upgrade inputs

The VIA case uses the full cost from the corridor analysis, including the staff, maintenance, overhead and ramp-up costs added after the first draft.

Input	Low / central / high	Basis
Capital	\$5.53B (all cases)	Corridor analysis: track, detection, dispatch, land, 50% contingency, fleet, plus ≈\$290M for stations, spares and hiring
Capital timing	Stage 1 ≈\$1.9B in 2027–29; Stage 2 2030–33	Staged plan
Fleet renewal	\$1.2B in 2058	30-year fleet life

Input	Low / central / high	Basis
Ridership at maturity (2040)	6.5M / 8M / 10M trips	Capitol Corridor-type growth from 4.4M; Stage 1 lifts ridership to ≈5.2M by 2033
Added operating cost at full schedule	≈\$366M/yr + \$30 per added trip	Train operations ≈\$200M, overhead growth ≈\$80M, new-infrastructure maintenance ≈\$50M, CN performance agreement ≈\$30M, dispatch staff ≈\$6M
Average fare	\$117 per trip	VIA 2025 actual
Reliability gain	30 minutes per trip for every rider, at \$25/hour (≈\$12.50)	On-time performance from 35% to 85%+
Frequency gain	≈\$5 per trip	Shorter waits with roughly hourly service

At central values in 2040, the added 3.6M trips bring in ≈\$421M in fares against ≈\$474M in added operating cost, so VIA's operating subsidy rises slightly (≈\$53M a year). The case rests on what riders and the public gain, not on VIA's books.

Results

The VIA upgrade ranges from a modest loss to a solid gain for society depending on ridership and discount rate; Alto loses between \$16B and \$76B in present value in every case, including its own forecast.

At the Treasury Board base rate (7% real). Present values in 2027 dollars.

Case	Benefit-cost ratio	Net present value	Net federal cost after federal tax recovered	Net federal cost per added trip
VIA high (10M trips)	1.14	+\$1.3B	\$2.1B	\$38
VIA central (8M)	0.86	−\$1.3B	\$3.6B	\$98
VIA low (6.5M)	0.63	−\$3.3B	\$4.8B	\$197

Case	Benefit-cost ratio	Net present value	Net federal cost after federal tax recovered	Net federal cost per added trip
Alto at its own forecast (24M, \$75B)	0.39	–\$30.9B	\$32.1B	\$324
Alto high (14M, \$75B)	0.23	–\$37.5B	\$35.5B	\$613
Alto central (10M, \$94B)	0.14	–\$50.7B	\$46.0B	\$1,113
Alto low (7M, \$113B)	0.08	–\$63.3B	\$56.2B	\$1,942

At the long-lived-asset rate (3.5% real).

Case	Benefit-cost ratio	Net present value	Net federal cost after federal tax recovered	Net federal cost per added trip
VIA high (10M)	1.60	+\$9.9B	gain of \$1.0B	gain of \$8
VIA central (8M)	1.23	+\$3.5B	\$2.7B	\$30
VIA low (6.5M)	0.91	–\$1.3B	\$5.4B	\$92
Alto at its own forecast (24M, \$75B)	0.79	–\$16.5B	\$33.8B	\$114
Alto high (14M, \$75B)	0.50	–\$36.1B	\$43.9B	\$254
Alto central (10M, \$94B)	0.33	–\$56.8B	\$59.9B	\$485
Alto low (7M, \$113B)	0.22	–\$75.5B	\$74.9B	\$867

Reading the tables.

- **Per public dollar**, the VIA upgrade's central case returns 3–6 times as much as Alto's central case, depending on the discount rate.
- **The VIA upgrade's best case is the only scenario that pays the treasury back in cash**, and only at the lower discount rate.
- **Alto's ratio improves most at the lower rate** because its benefits arrive late and last long, but it never reaches 1.0, even with its own ridership forecast and the low end of the PBO's cost range.
- **Scale matters as much as ratio.** The VIA upgrade puts at most about \$5B at risk; Alto's realistic shortfall is \$35–76B, roughly 50–100 years of VIA's entire 2025 government funding.

Jobs, tax recovered and small-town spending

These gains are real for workers, governments and the towns on the line, but they grow with the amount spent, so they argue for spending in general rather than for one project over the other. The exception is small-town spending, where the VIA upgrade delivers more, sooner.

Employment. Canadian input-output multipliers for non-residential construction run about 8 job-years (direct and supplier) per \$1M spent.

	VIA corridor upgrade	Alto (central)
Construction job-years	≈44,000	≈750,000
Average construction jobs per year	≈6,300 over 7 years (2027–33)	≈50,000 over 15 years (2029–43), matching Alto's own claim
Permanent operating jobs	≈650 direct (≈260 train crew and on-board, ≈300 VIA stations and support, ≈60 CN track and signal maintenance, ≈34 dispatch); ≈1,000 including suppliers	≈3,000 direct
Public capital per construction job-year	≈\$125,000	≈\$125,000

Per dollar, the two create the same number of construction jobs. Alto creates more jobs only because it spends 17 times as much. The VIA jobs start about seven years sooner, and many of the permanent ones (track maintenance, station and on-board staff) are spread along the corridor rather than concentrated in the big cities.

Tax recovered on construction and operating spending. Roughly 15% of project spending comes back to Ottawa as income tax, GST/HST and corporate tax on the wages and purchases it generates, and roughly 30% to all levels of government combined. The federal 15% is already netted out of the results tables.

Present value, central case	VIA, 7%	VIA, 3.5%	Alto, 7%	Alto, 3.5%
Federal tax recovered	\$1.4B	\$2.3B	\$8.8B	\$12.7B
All governments	\$2.8B	\$4.6B	\$17.6B	\$25.3B
Net cost to all governments after tax recovered	\$2.2B	\$0.35B	\$37.2B	\$47.2B

At the lower discount rate, the VIA upgrade's central case almost pays for itself across all levels of government once tax recovery is counted. Treat these tax figures as a ceiling: if the same money were spent on another project, or left with taxpayers, much of this tax would be collected anyway.

Spending in the towns along the line. The model assumes 35% of added VIA trips start or end at an intermediate station, half of those are visitors arriving, and each visitor spends about \$150 (meals, lodging, shopping, events).

- **VIA upgrade:** ≈1.3M added trips a year at intermediate stations by 2040, bringing ≈\$95M a year in visitor spending to towns such as Cobourg, Port Hope, Belleville, Napanee, Kingston, Gananoque, Brockville, Cornwall, Alexandria, Casselman, Smiths Falls, Saint-Hyacinthe and Drummondville. Spread over about 15 towns that averages ≈\$6M a year each, more in Kingston and Belleville. Present value ≈\$1.0B at 7% (≈\$2.3B at 3.5%).
- **Alto:** only a few intermediate stations (Peterborough and Trois-Rivières have been proposed). Visitor spending reaches a similar ≈\$90M a year, but only by 2055, about 15 years later, and concentrated in those few towns. Present value ≈\$0.4B at 7%. If VIA reduces corridor service once Alto opens, the lakeshore and St. Lawrence towns could lose part of the spending they have today.

- **Beyond visitors:** reliable, frequent trains also let residents of these towns commute to city jobs, reach specialist hospitals and universities, and attract remote workers and new residents, which supports property values and municipal tax bases near stations. These effects are real but are not quantified here.

As with construction jobs, much visitor spending is moved from elsewhere in Canada rather than newly created, so it is a regional gain rather than a national one. For the towns on the line, though, it is new money.

What drives the answer, and the risks

The gap between the two comes from scale, not efficiency: Alto spends about 17 times as much to carry, realistically, a similar number of trips by the mid-2050s.

What would change the VIA result.

- **Ridership** is the swing factor. Each additional million trips at maturity adds roughly 0.14–0.19 to the benefit–cost ratio. It crosses 1.0 at about 9M trips (7% rate) or 6.5–7M (3.5% rate).
- **CN cooperation.** Without a performance agreement the reliability benefit (about 15% of all measured benefits) disappears, cutting the ratio by about 0.13, and more in practice, since the ridership growth depends on reliable trains.
- **Costs.** A 50% contingency is already included; a further 25% overrun lowers the central ratio from 0.86 to about 0.75.

What would change the Alto result.

- **Wider economic effects.** Alto's claimed $\approx 1.1\%$ of GDP ($\approx \$24\text{B}$ a year) is roughly 13 times the benefits measured here. Alto would need about half of that, independently validated, to reach 1.0 at the 7% rate; the full claim would put it near 2.0. This is the strongest argument in Alto's favour and the one most in need of independent scrutiny.
- **Ridership above 14M** with costs at the PBO's low end; the analysis shows even 24M at \$75B stays below 1.0 at 7%.
- **Cost overruns** beyond the PBO's \$113B high case push it further down; the PBO itself rates institutional and project-management risk above engineering risk.

Limits of this analysis. It is a planning-level appraisal built from public figures. The benefit values (time at \$25–30 an hour, \$40 per diverted trip, 15–20% wider benefits) are conventional but not drawn from a Canadian corridor study, and both projects use the

same values so the comparison is fair. Neither project's full business case is public. A Parliamentary Budget Officer costing of the VIA upgrade, requested through an MP, would be the natural way to test these numbers against the PBO's own Alto work.

Sources

- [PBO estimate of Alto costs — CP24](#)
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- [Rail forecast accuracy, citing Flyvbjerg — AgEcon Search](#)
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- [VIA Rail 2025 results — Railway Age](#)
- VIA corridor capacity, fleet and cost analysis (companion document)