

Infrastructure Equity KPI Library (proposed)

Based on Fraser Tripartite Model and Cross-Cutting Themes

This library brings together two complementary sets of Infrastructure Equity Key Performance Indicators developed for Objective 2 (Indicator Development): the Fraser tripartite model KPIs; organized around Redistribution, Recognition, and Representation; and six cross-cutting theme KPIs; Indigenous Equity, Climate Vulnerability & Equity, Procurement-Embedded Equity, Quantifiable Equity Outcomes, Engagement Quality, and Workforce Representation; drawn from an environmental scan of Canadian equity, procurement, and infrastructure-planning sources. Both sets use the same schema: lifecycle phase, calculation method, variables/units, and data source, plus a mapping back to the closest existing Envision credit, so the gap between current qualitative language and a measurable indicator is explicit throughout.

Part I presents the Fraser tripartite model KPIs. Part II presents the six cross-cutting theme KPIs, which operationalize themes identified across the source scan and are designed to complement; and in several cases directly reuse the calculation methods of; the Fraser tripartite indicators.

Part I: Fraser Tripartite Model Infrastructure Equity KPIs

Translating Fraser's tripartite model into Infrastructure Equity measurable KPIs, using the following schema: lifecycle phase, calculation method, variables/units, and data source; plus a mapping back to the closest existing Envision QL3.1 criterion.

1. Redistribution: Fair Distribution of Costs and Benefits

Redistribution corresponds to the economic dimension of Nancy Fraser's tripartite model of justice: the claim that a just outcome requires the material costs and benefits of a project; investment dollars, service access, jobs, pollution burden, displacement; to be shared fairly rather than concentrated on or extracted from groups who are already economically disadvantaged. In an infrastructure context, redistribution failures are often the most visible and the most litigated form of inequity, since they can be tied directly to dollars, service-hours, or emissions and are therefore the dimension most amenable to quantifiable, audit-ready metrics.

Treating redistribution as its own KPI category, distinct from recognition or representation, reflects the reality that a project can distribute material benefits and burdens equitably while still failing to respect community identity or give affected residents a meaningful voice in decisions; and vice versa. Each of the five KPIs below therefore targets a different point in the redistribution chain: benefit allocation (Red1), burden allocation (Red2), economic reinvestment (Red3), affordability of the resulting service (Red4), and access to construction-phase employment (Red5), so that a project cannot score well on redistribution simply by performing well on one of these dimensions while neglecting the others.

#	KPI	Description	Lifecycle Phase	Calculation	Variables / Units	Data Source	Envision Link
Red1	Benefit Distribution Equity Index	Compares the share of project benefits (service access, investment \$) received by vulnerable/underserved subgroups against their share of the affected population	Planning, Operation	Benefit share ratio = (% benefit to subgroup) / (% population by subgroup); ratio $\approx$ 1.0 = parity	Benefit units (\$, service-hours, coverage %); population % by subgroup	Census/demographic data, project benefit-allocation records	(E) Non-disproportionate distribution
Red2	Burden Distribution Ratio	Same logic applied to negative impacts (pollution, land take, service disruption, displacement)	Design, Construction	Burden ratio = (% burden borne by subgroup) / (% population subgroup)	Impact units (t emissions, ha land, # displaced); population %	EIA/ESIA reports, GIS overlay	(E) Non-disproportionate distribution
Red3	Local/Underserved Economic Reinvestment Rate	Share of total project spend directed to businesses owned by, or located in, historically underserved communities	Construction, Operation	% = (Spend with local/underserved suppliers) / (Total project spend) $\times$ 100	CAD \$; supplier registry with ownership/location flags	Procurement records	(C) Institutional commitments
Red4	Affordability Index	Whether the cost of using the resulting infrastructure service stays within an affordability threshold for lower-income users	Operation	% household income = (Annual service cost) / (Median household income, affected area), flag if > threshold (e.g., 4–6%)	\$ service cost; \$ household income	Utility billing data, StatCan income data	Not currently covered, gap
Red5	Construction Employment Equity Rate	Share of construction jobs/apprenticeships filled by residents of affected or underserved communities	Construction	% = (Local/underserved hires) / (Total construction workforce) $\times$ 100	Headcount; residency/community flag	HR/contractor records	(C) Institutional commitments

2. Recognition: Respect for Identity, Culture, and Historical Context

Recognition is the second pillar of Fraser's model and addresses the cultural and status-based dimension of justice: whether a project acknowledges, respects, and responds to the identity, history, and lived experience of the communities it affects, independent of how costs and benefits are distributed. Infrastructure has a documented history of disproportionately routing through, displacing, or disregarding the heritage of historically marginalized and Indigenous communities, often without material compensation ever being at issue; recognition-based KPIs exist precisely to capture that dimension of harm, which a purely distributive lens would miss entirely.

Because recognition concerns dignity, identity, and historical context rather than a countable resource, several of the KPIs in this section (Rec2, Rec3, Rec5) are deliberately structured as scored rubrics or survey instruments rather than simple ratios; consistent with the two-tier quantifiable/structured-qualitative design used throughout this library, so that recognition is measured as rigorously as redistribution without forcing subjective, identity-based harms into a false numerical precision they cannot honestly bear

#	KPI	Description	Lifecycle Phase	Calculation	Variables / Units	Data Source	Envision Link
Rec1	Cultural/Heritage Site Preservation Rate	Share of identified culturally or historically significant sites protected vs. impacted by the project	Planning, Design	$\% = (\text{Sites preserved}) / (\text{Sites identified}) \times 100$	Count of sites	Heritage impact assessment, cultural resource survey	(A) Historic context
Rec2	Historic-Context Documentation Completeness	Composite score assessing whether stakeholder engagement formally documented the historic equity/social-justice context before design decisions	Planning	Scored rubric 0–100% against a checklist (historic land use, prior infrastructure harms, demographic history)	Rubric score	Stakeholder engagement records, historic archives	(A) Stakeholder engagement informed by historic context
Rec3	Indigenous/Traditional Knowledge Integration Level	Extent to which Indigenous or local traditional knowledge shaped design decisions, not just consultation	Design	Ordinal scale: 0 = not consulted, 1 = consulted, 2 = knowledge incorporated, 3 = co-designed, 4 = community-led	Ordinal score (0–4)	Design meeting minutes, MOUs with Indigenous partners	(A) Relationship of respect and mutual understanding
Rec4	Non-Discrimination & Pay-Equity Policy Coverage	Share of project entities (owner, contractors, subcontractors) with active, verifiable non-discrimination and pay-equity policies	All phases	$\% = (\text{Entities with policy on file}) / (\text{Total project entities}) \times 100$	Count of entities	Corporate policy audit, contract compliance records	(C) Nondiscrimination, diversity & inclusion, pay equity
Rec5	Community Identity Respect Score	Survey-based index of how respected/represented affected communities feel their identity and history were treated during the process	Planning, Operation	Mean score on a validated survey instrument (e.g., 5-point Likert, aggregated)	Survey score	Post-engagement community survey	Not currently covered, gap (qualitative by design)

3. Representation: Voice and Standing in Decision-Making

Representation is the third and most explicitly political pillar of Fraser's model: the claim that justice requires affected communities to have genuine standing and voice in the decisions that shape a project, not merely to receive a fair share of its costs and benefits or have their identity respected after the fact. Fraser's own later work on this dimension emphasizes "mis-framing"; the exclusion of affected parties from the decision-making arena altogether; which is why the KPIs below measure not just whether engagement occurred, but whether it reached the right population (Rep1, Rep2), whether it actually changed outcomes (Rep3), whether grievances raised through it were resolved (Rep4), and whether affected communities hold real seats in project governance (Rep5).

Representation KPIs are intentionally the most process-oriented of the three pillars, since a project can distribute resources fairly and respect community identity while still making decisions entirely without community input; measuring representation separately ensures that procedural voice is scored on its own terms rather than assumed as a byproduct of good outcomes elsewhere in the library

#	KPI	Description	Lifecycle Phase	Calculation	Variables / Units	Data Source	Envision Link
Rep1	Stakeholder Participation Rate	Share of the identified affected population that actively participated in engagement activities	Planning, Design	$\% = (\text{Participants}) / (\text{Estimated affected population}) \times 100$	Headcount	Attendance logs, survey response counts	(A)/(B) Stakeholder engagement
Rep2	Underrepresented Group Engagement Parity	Participation rate of historically marginalized subgroups relative to their population share (parity ratio ≈ 1.0 = equitable)	Planning, Design	Parity ratio = $(\% \text{ participants from demographic subgroup}) / (\% \text{ population subgroup})$	Headcount, % records + census cross-tab	Engagement records	(F) Empowerment, targeted engagement of underrepresented groups
Rep3	Decision Influence Rate	Share of substantive community concerns raised that resulted in a documented, traceable change to project design or decisions	Design, Construction	$\% = (\text{Concerns leading to documented change}) / (\text{Total substantive concerns raised}) \times 100$	Count of concerns, change log	Engagement tracking log, design change register	(F) Community empowerment in the development process
Rep4	Grievance Resolution Rate & Time	Share of formal grievances resolved, and average time to resolution	Construction, Operation	$\% \text{ resolved} = (\text{Grievances closed}) / (\text{Grievances filed}) \times 100$; Avg. time = $\Sigma(\text{days to resolution}) / n$	Count, days	Grievance mechanism log	(F) Transparent grievance mechanisms
Rep5	Governance Seat Equity	Share of seats on project steering committees / advisory boards held by representatives of affected or underserved communities	Planning, Operation	$\% = (\text{Community-held seats}) / (\text{Total seats}) \times 100$	Headcount	Governance charter, meeting minutes	(B) Assessing social impacts / mapping stakeholders

Notes

- Red4 (affordability) and Rec5 (community identity respect) are flagged as genuine gaps: Envision's current QL3.1 language doesn't reach affordability or subjective dignity/respect at all. These are strong candidates for genuinely novel contributions rather than reformulations of existing criteria.
- Quantifiable vs. structured-qualitative split: Red1-Red3, Red5, Rec1, Rec4, Rep1-Rep2, Rep4-Rep5 are genuinely Target-type (Envision's own quantifiable category). Rec2, Rec3, Rec5, and Rep3 resist full quantification and are better framed as structured rubrics with defined scoring bands, consistent with the two-tier design, so equity isn't force-fit into false precision.
- Parity-ratio KPIs (Red1, Red2, Rep2) share the same underlying parity-ratio formula (subgroup share of $X \div$ subgroup share of population), worth standardizing as one reusable "Equity Parity Ratio" calculation method across multiple KPIs rather than treating each as bespoke, which would simplify both the metrics library and the practitioner guide.

Part II: Cross-Cutting Theme Infrastructure Equity KPIs

This companion library operationalizes six cross-cutting themes identified from an environmental scan of Canadian equity, procurement, and infrastructure-planning sources; including the Diversity Institute at Toronto Metropolitan University (in partnership with the Digital Governance Council and with the support of the Standards Council of Canada) and its Guide on Applying Inclusion, Diversity, Equity and Accessibility Within Climate-Resilient Infrastructure; the Canadian Association of Women in Construction; the Afro Canadian Contractors Association; the Canadian Council for Indigenous Business; Public Services and Procurement Canada's Supplier Diversity and Social Procurement initiative; Buy Social Canada and the British Columbia Social Procurement Initiative; the Ontario Society of Professional Engineers' work on sustainable procurement; and the Industry Council for Small Business Development; into measurable KPIs, using the same schema as the Fraser tripartite library: lifecycle phase, calculation method, variables/units, data source, and a mapping back to the closest existing Envision version 3 credit, flagging genuine gaps as candidates for new version 4 credit content.

1. Indigenous Equity

Indigenous equity is treated as a distinct pillar in this library rather than folded into general "equity-deserving groups" language, consistent with the four-pillar sustainable procurement model advanced by the Ontario Society of Professional Engineers (Environmental, Social, Indigenous, and Ethical) and with the Partnership Accreditation in Indigenous Relations framework administered by the Canadian Council for Indigenous Business.

This separation is a deliberate, legally grounded choice rather than a stylistic one, particularly in the Canadian context. Indigenous peoples in Canada hold constitutionally protected and treaty-based rights that other equity-deserving groups do not, which places Indigenous equity on a different legal footing from diversity, equity and inclusion considerations generally. Section 35 of the Constitution Act, 1982 recognizes and affirms existing Aboriginal and treaty rights, and Supreme Court of Canada decisions such as *Haida Nation v. British Columbia* and *Delgamuukw v. British Columbia* have established a Crown duty to consult, and where appropriate accommodate, Indigenous communities whenever a decision or project may adversely affect asserted or established Aboriginal or treaty rights; a duty that applies directly to infrastructure planning, siting, and permitting decisions. At the federal level, the United Nations Declaration on the Rights of Indigenous Peoples Act, passed in 2021, commits Canada to aligning its laws with the UN Declaration on the Rights of Indigenous Peoples, including the principle of free, prior and informed consent for decisions affecting Indigenous lands, territories, and resources. The Truth and Reconciliation Commission of Canada's Calls to Action further direct governments, institutions, and the private sector to advance reconciliation through concrete, measurable commitments, including in infrastructure, procurement, and economic development. Because these obligations are rooted in constitutional law, treaty relationships, and a distinctions-based government-to-government relationship with First Nations, Inuit, and Métis peoples; rather than in voluntary EDI policy, as is generally the case for other underrepresented groups; Indigenous equity carries legal risk, procedural requirements, and rights-based obligations that a generic "equity-deserving groups" credit cannot adequately capture. Separating Indigenous Equity into its own pillar allows Envision to measure legal and relational obligations (consent, consultation, PAIR certification, treaty and land considerations) as distinct from, and in addition to, the demographic representation and access-oriented metrics appropriate for other equity-deserving groups.

#	KPI	Description	Lifecycle Phase	Calculation	Variables / Units	Data Source	Envision Link
Ind1	Indigenous Procurement Spend Share	Share of total project contract value awarded to Certified Indigenous Businesses (CCIB) or equivalent Indigenous-owned/controlled firms	Procurement, Construction, Operation	% = (spend with certified Indigenous businesses) / (total project spend) × 100	CAD \$; supplier certification flag	Procurement records; CCIB Supply Change registry	New v4 credit, Indigenous Relations & Economic Reconciliation
Ind2	Indigenous Relations Certification Level of Project Partners	Level of Partnership Accreditation in Indigenous Relations (PAIR) held by the prime contractor and major subcontractors/asset owner	Procurement, Design	Ordinal: 0 = none, 1 = Committed, 2 = Progressive, 3 = Relationship, 4 = Leadership	Count of entities by PAIR level	CCIB PAIR public registry; corporate disclosure	New v4 credit, Indigenous Relations & Economic Reconciliation

#	KPI	Description	Lifecycle Phase	Calculation	Variables / Units	Data Source	Envision Link
Ind3	FPIC / Consent Documentation Rate	Share of project decisions affecting Indigenous lands, rights, or interests with a documented free, prior and informed consent (FPIC) or equivalent consent process completed before design lock	Planning, Design	$\% = (\text{decisions with documented FPIC}) / (\text{total decisions requiring FPIC}) \times 100$	Count of decisions	Consultation records; MOUs/agreements with Indigenous partners	QL3.1 (A), relationship of respect; gap, not currently measurable
Ind4	Indigenous Employment & Training Rate	Share of construction and O&M jobs, and apprenticeship/training hours, filled by Indigenous workers	Construction, Operation	$\% = (\text{Indigenous hires}) / (\text{total workforce}) \times 100$; plus total training hours	Headcount; hours	HR/contractor records	LD3.2; parallels Fraser Red5 methodology

2. Climate Vulnerability-Equity Intersection

This theme operationalizes the core premise of the Guide on Applying Inclusion, Diversity, Equity and Accessibility Within Climate-Resilient Infrastructure, published by the Diversity Institute at Toronto Metropolitan University in partnership with the Digital Governance Council and with the support of the Standards Council of Canada: that climate impacts and infrastructure failure do not affect all populations equally, but instead compound existing social inequity, so that the people already most disadvantaged are also the most exposed to climate hazards and the least resilient once a hazard event occurs.

Treating this intersection as its own cross-cutting theme, rather than addressing climate risk and social equity as two separate credits, reflects both documented evidence and an emerging Canadian policy and legal context. The Guide itself points to the 2021 British Columbia heat dome as evidence of this compounding effect: the resulting coroner's report found that the majority of the more than six hundred deaths occurred indoors, disproportionately among elderly and socially isolated residents, illustrating how a climate hazard becomes lethal specifically where it intersects with pre-existing social vulnerability and inadequate infrastructure, such as a lack of home cooling. At the federal level, Canada's National Adaptation Strategy, released in 2023 by Environment and Climate Change Canada, explicitly names equity-deserving and disproportionately affected populations; including Indigenous peoples, low-income households, older adults, and persons with disabilities; as priority groups for climate resilience investment, and ties federal infrastructure funding, including the Disaster Mitigation and Adaptation Fund, to demonstrated consideration of these populations. In addition, the National Strategy Respecting Environmental Racism and Environmental Justice Act, passed by the federal government in 2024, requires the government to study and address the link between race, socio-economic status, and exposure to environmental hazards, reinforcing that climate and environmental risk in Canada tracks existing lines of social and economic disadvantage rather than being distributed randomly. Together, this evidence base and emerging policy direction support measuring climate vulnerability and equity as a single, intersecting theme within Envision, rather than assuming that a strong climate risk credit and a strong social equity credit, scored independently, will adequately capture the populations who are simultaneously the most exposed and the least protected.

#	KPI	Description	Lifecycle Phase	Calculation	Variables / Units	Data Source	Envision Link
Clim1	Social Vulnerability–Hazard Overlap Index	Share of the project-affected population living in areas with both high climate-hazard exposure and high social vulnerability	Planning, Design	$\% = (\text{population in overlapping high-hazard / high-SVI zones}) / (\text{total affected population}) \times 100$	GIS overlay %; population count	Climate hazard maps; social vulnerability index (e.g., StatCan, ORNL SVI)	CR1.2 Assess Vulnerability & Risk
Clim2	Resilience Investment Equity Ratio	Share of climate-adaptation/resilience capital investment directed to high-vulnerability areas, relative to their population share	Design, Construction	$\text{Ratio} = (\% \text{ resilience \$ to vulnerable areas}) / (\% \text{ population in vulnerable areas})$; ≈ 1.0 = parity	\$ investment; population %	Capital budget records; GIS demographic overlay	CR1.1 Assess Climate Threat; QL1.2

#	KPI	Description	Lifecycle Phase	Calculation	Variables / Units	Data Source	Envision Link
Clim3	Post-Event Service Restoration Equity Gap	Difference in average time to restore infrastructure service after a climate event between high-vulnerability and other areas/subgroups	Operation	Gap = (avg. restoration days, vulnerable areas) – (avg. restoration days, other areas)	Days	Outage/incident response logs	New, no current v3 equivalent (O&M phase gap)

3. Procurement-Embedded Equity Mechanisms

This theme captures the mechanisms described by Public Services and Procurement Canada in its Supplier Diversity and Social Procurement initiative, published under the Government of Canada's Better Buying program; by Buy Social Canada and the British Columbia Social Procurement Initiative; by the Ontario Society of Professional Engineers in its advocacy work on sustainable procurement; and by the Canadian Council for Indigenous Business through its Supply Change program; including Community Benefit Agreements, Qualifications-Based Selection weighted with EDI criteria, and mandatory disclosure of equity policies at the bid stage. Of the six cross-cutting themes reviewed, procurement is the most convergent: it is the mechanism every source addresses, whether the lens is Indigenous business development, women in construction, poverty reduction, or engineering practice.

Procurement is treated as its own theme, rather than as a subset of general economic development credits, because public procurement is one of the largest and most direct levers governments and asset owners have to influence equity outcomes, and because Canada has increasingly encoded equity requirements directly into procurement law and policy rather than leaving them voluntary. The Government of Canada's Policy on Social Procurement, in effect since May 2021, requires federal departments to incorporate socio-economic considerations into procurement decisions, and the federal Directive on the Mandatory Procurement of Goods and Services for Indigenous Peoples, in effect since January 2022, sets a mandatory minimum target of five percent of the total value of federal contracts to be awarded to Indigenous businesses; making Indigenous procurement a binding requirement rather than an aspirational goal for federal infrastructure spending. Provincial and municipal governments across Canada, including Ontario and British Columbia, have layered on their own social and sustainable procurement policies and community benefit frameworks. Because procurement decisions are made early, are contractually enforceable, and directly determine who is hired, trained, and paid on a project, embedding equity mechanisms at the procurement stage is one of the few equity interventions in infrastructure delivery that is both measurable and legally reinforceable, which is why this theme is treated as structurally distinct from broader community and workforce development credits.

#	KPI	Description	Lifecycle Phase	Calculation	Variables / Units	Data Source	Envision Link
Proc1	EDI-Weighted QBS Adoption Rate	Share of procurements using Qualifications-Based Selection (QBS) that include an explicit, scored EDI criterion in prequalification	Procurement	% = (procurements with EDI-weighted QBS) / (total qualifying procurements) × 100	Count of procurements	Procurement policy files; tender documentation	LD3.1; based on OSPE QBS model
Proc2	Community Benefit Agreement (CBA) Coverage	Share of total project capital value covered by a signed Community Benefit Agreement containing measurable equity targets	Procurement, Construction	% = (\$ value under active CBA) / (total project capital \$) × 100	CAD \$	Signed CBA documents; contract register	LD3.1 / LD3.2
Proc3	Mandatory EDI Bid-Disclosure Compliance	Share of bidders required to submit EDI policies/programs with their bid who did so completely	Procurement	% = (compliant bid submissions) / (total bids requiring disclosure) × 100	Count of bids	Bid evaluation records	New, OSPE recommended practice
Proc4	Equity-Certified Supplier Share	Share of the active supplier base holding a recognized equity certification (e.g., CIB, WBE, MBE, disability-owned, 2SLGBTQI+-owned)	Procurement, Construction, Operation	% = (certified equity-deserving suppliers) / (total active suppliers) × 100	Count of suppliers, by category	Supplier registry; third-party certification records (CCIB, WBE Canada, CGLCC, etc.)	LD3.1

4. Quantifiable Equity Outcome Metrics

This theme is modeled on the reporting structure used by Public Services and Procurement Canada in its Supplier Diversity Action Plan pilot project, conducted between 2018 and 2020, which tracked and publicly reported contract dollar value, jobs created, and training hours delivered to underrepresented groups across forty-six test procurements. It gives Envision a benchmarked, disaggregated outcome-tracking model rather than a single aggregate equity score.

Outcome metrics are treated as their own theme, separate from the procurement and workforce mechanisms that produce them, because mechanism-level credit; rewarding a project for having a Community Benefit Agreement, an Indigenous procurement target, or a stated workforce goal; does not by itself confirm that equity-deserving communities actually received a benefit. The federal pilot's own results illustrate why this distinction matters: it found that outcomes varied considerably depending on how a procurement was structured and concluded that there is no one-size-fits-all approach, meaning the presence of a policy or target is not a reliable proxy for the result it was meant to produce. This is consistent with the Government of Canada's broader Policy on Results, which requires federal programs to report against measurable outcomes rather than activities alone. For Envision, separating outcome metrics from mechanism metrics allows a project to be scored on what it delivered; dollars awarded, jobs filled, hours of training completed, and whether those results are publicly and transparently reported; rather than only on what it committed to deliver.

#	KPI	Description	Lifecycle Phase	Calculation	Variables / Units	Data Source	Envision Link
Out1	Equity-Deserving Contract Value Share	Share of total contract value awarded to businesses owned/led by women, Indigenous peoples, visible minorities, persons with disabilities, and 2SLGBTQI+ people, tracked in aggregate and by subgroup	Procurement, Operation	$\% = (\$ \text{ awarded to equity-deserving suppliers, by subgroup}) / (\text{total contract } \$) \times 100$	CAD \$, disaggregated by subgroup	Procurement records (modeled on PSPC Supplier Diversity pilot reporting)	LD3.1; adds subgroup-level granularity not in v3
Out2	Equity-Deserving Training Hours Delivered	Total training/upskilling hours delivered to underrepresented workers on the project	Construction, Operation	Sum of hours = Σ (training hours per underrepresented participant)	Hours	HR/training logs	LD3.2
Out3	Net New Jobs for Underrepresented Groups	Count of net new jobs created and filled by individuals from underrepresented/equity-deserving groups	Construction, Operation	Count = (new hires from underrepresented groups)	Headcount	HR/contractor records	LD3.2
Out4	Equity Outcomes Public Reporting Completeness	Whether the project publicly reports equity outcome metrics (spend, jobs, training, representation) on a recurring basis	Operation, Closeout	Scored rubric 0–100% against a defined disclosure checklist	Rubric score	Public/annual reports; sustainability disclosures	LD1.2 Establish a Sustainability Management Program

5. Engagement Quality Standards

This theme moves beyond participation counts to measure the quality, timing, and framing of community engagement. It draws on the relational request-for-proposal and strengths-based measurement practices described by Buy Social Canada and the British Columbia Social Procurement Initiative in their Purchasing Power series, and on the Guide on Applying Inclusion, Diversity, Equity and Accessibility Within Climate-Resilient Infrastructure, published by the Diversity Institute at Toronto Metropolitan University in partnership with the Digital Governance Council and with the support of the Standards Council of Canada, which calls on asset owners to move beyond traditional town halls to reach diverse populations effectively.

Engagement quality is treated as its own theme, rather than measured only by attendance or consultation frequency, because Canadian practice and policy increasingly recognize that who is consulted, how early, and how much influence that consultation actually has on a final decision, matters as much as whether consultation happened at all. This principle is reflected in the duty to consult that applies to Indigenous communities under Section 35 of the Constitution Act, 1982, in

the federal Impact Assessment Act's requirement for early and meaningful public participation in infrastructure and major project reviews, and in the Accessible Canada Act's guiding principle that persons with disabilities must be involved in the development and design of policies, programs, and services that affect them. A count of engagement events cannot distinguish between a single, late-stage information session and an early, iterative, accessible process that genuinely shapes project design, so this theme measures engagement channel diversity, the weight given to relationship-building in procurement evaluation, whether engagement is framed around community strengths rather than deficits, and how early engagement begins relative to design finalization.

#	KPI	Description	Lifecycle Phase	Calculation	Variables / Units	Data Source	Envision Link
Eng1	Non-Traditional Engagement Channel Ratio	Share of engagement activities delivered through accessible/creative formats (pop-ups, community events, informal conversations) rather than standard town halls	Planning, Design	$\% = (\text{non-traditional engagement events}) / (\text{total engagement events}) \times 100$	Count of events	Engagement activity log	LD1.4 Provide for Stakeholder Involvement
Eng2	Relational Weighting in Procurement Evaluation	Whether RFP/RFQ evaluation criteria weight relationship-building or interview components at least as heavily as the written proposal, for procurements with equity objectives	Procurement	Weighting ratio = (interview/relational score weight) : (written proposal score weight)	% weighting	RFP evaluation matrix	New, modeled on Buy Social Canada / BCSPi practice
Eng3	Strengths-Based Engagement Framing Score	Rubric assessment of whether community engagement and needs profiling are framed around community assets/strengths rather than deficits	Planning	Scored rubric 0–100% against a defined checklist	Rubric score	Engagement plan review; facilitator notes	LD1.4; qualitative/structured-rubric type
Eng4	Early-Engagement Lead Time	Time between the first substantive community engagement activity and finalization (freeze) of project design/scope	Planning, Design	Lead time = (design-freeze date) – (first engagement date)	Days / months	Project schedule; engagement log	LD1.4

6. Workforce Representation Targets

This theme adds explicit numeric target-setting and retention tracking, modeled on the Canadian Association of Women in Construction's Vision 2035 campaign, which calls for thirty-five percent women's representation in the Canadian construction industry by 2035, and informed by the training and capacity-building work of the Afro Canadian Contractors Association and the workforce advocacy of the Ontario Society of Professional Engineers. It reuses the parity-ratio calculation method already established for the Redistribution and Representation indicators in the Fraser tripartite library.

Workforce representation is treated as a measurable target rather than a general aspiration because Canada already has a legal and regulatory foundation for treating workforce equity this way. The federal Employment Equity Act designates four groups; women, Indigenous peoples, persons with disabilities, and members of visible minorities; for whom federally regulated employers and federal contractors above a specified contract value must set numeric goals, track representation, and report progress under the associated Federal Contractors Program. Sector-led targets such as Vision 2035 extend this same logic voluntarily to the construction industry, where women and other equity-deserving groups remain significantly underrepresented in both trades and leadership roles despite persistent skilled-labour shortages. Framing workforce representation as a target with a defined attainment rate, rather than as a static demographic snapshot, also allows Envision to distinguish between projects that are making measurable progress toward a stated goal and projects that report representation without any benchmark to assess whether that representation is improving, and the addition of a retention metric ensures the credit rewards durable, inclusive employment conditions rather than one-time hiring alone.

#	KPI	Description	Lifecycle Phase	Calculation	Variables / Units	Data Source	Envision Link
Wf1	Workforce Representation Parity Ratio	Representation of women, BIPOC, Indigenous, disability, and 2SLGBTQI+ workers in the project workforce relative to their share of the regional labour force	Construction, Operation	Parity ratio = (% project workforce, subgroup) / (% regional labour force, subgroup); ≈ 1.0 = parity	Headcount % by subgroup	HR records; StatCan Labour Force Survey	LD3.2; reuses Fraser Red1/Rep2 parity-ratio method
Wf2	Target Attainment Rate	Progress toward a published, numeric workforce representation target for a specific equity-deserving group (e.g., a sector target such as 35% women by a stated year)	Construction, Operation	$\% = (\text{current representation}) / (\text{published target representation}) \times 100$	%	HR records; publicly stated sector/organizational targets	New, modeled on CAWIC Vision 2035
Wf3	Leadership & Supervisory Role Representation	Share of on-site supervisory and management roles held by individuals from equity-deserving groups	Construction, Operation	$\% = (\text{equity-deserving supervisors/managers}) / (\text{total supervisors/managers}) \times 100$	Headcount	HR records; organizational chart	LD3.2
Wf4	12-Month Retention Rate of Equity-Deserving Hires	Share of equity-deserving hires still employed on the project 12 months after hire, as an indicator of inclusive workplace conditions rather than one-time hiring	Construction, Operation	$\% = (\text{equity-deserving hires retained at 12 months}) / (\text{equity-deserving hires made}) \times 100$	Headcount	HR records	New, addresses pipeline/retention gap not covered by hiring-rate KPIs alone

Notes

- Genuine gaps (no current v3 equivalent): Ind3 (FPIC documentation), Clim3 (post-event restoration equity), Proc3 (mandatory EDI bid disclosure), Wf2 (published target attainment), Wf4 (retention). These are strong candidates for wholly new v4 credit language rather than reformulated existing criteria.
- Parity-ratio KPIs (Ind4 workforce component, Clim2, Wf1) reuse the same "Equity Parity Ratio" calculation method already standardized for Red1/Red2/Rep2 in the Fraser tripartite library, worth keeping as one reusable method across both libraries rather than bespoke formulas.
- Quantifiable vs. structured-qualitative split, consistent with the two-tier design used in the Fraser library: Ind1, Ind2, Ind4, Clim1, Clim2, Proc1-Proc4, Out1-Out3, Wf1-Wf4 are Target-type (fully quantifiable). Ind3, Clim3, Eng2-Eng4, Out4 resist full quantification and are better scored as structured rubrics with defined bands.
- Procurement (Theme 3) is the most convergent theme across the source scan and currently has the thinnest dedicated coverage in Envision v3 (spread thinly across LD3.1/LD3.2); the strongest single candidate for a standalone new v4 credit.
- Lifecycle coverage remains front-loaded into Planning/Design/Procurement across all six themes; Operation and Decommissioning/Closeout have the fewest KPIs (Clim3, Out4), an area for further development if v4 aims to extend equity measurement across the full asset lifecycle.

Infrastructure Equity KPI Library (Master Table)

All 38 KPIs based on Fraser Tripartite Model + Six Cross-Cutting Themes

This master table consolidates every KPI from the Infrastructure Equity KPI Library, based on the Fraser tripartite model indicators (Redistribution, Recognition, Representation) and the six cross-cutting theme indicators (Indigenous Equity, Climate Vulnerability & Equity, Procurement-Embedded Equity, Quantifiable Equity Outcomes, Engagement Quality, Workforce Representation), in one place for quick reference and cross-comparison.

#	Theme / Pillar	KPI	Description	Lifecycle Phase	Calculation	Variables / Units	Data Source	Envision Link
Red1	Redistribution (Fraser)	Benefit Distribution Equity Index	Compares the share of project benefits (service access, investment \$) received by vulnerable/underserved subgroups against their share of the affected population	Planning, Operation	Benefit share ratio = (% benefit to subgroup) / (% population by subgroup); ratio $\approx$ 1.0 = parity	Benefit units (\$, service-hours, coverage %); population % by subgroup	Census/demographic data, project benefit-allocation records	(E) Non-disproportionate distribution
Red2	Redistribution (Fraser)	Burden Distribution Ratio	Same logic applied to negative impacts (pollution, land take, service disruption, displacement)	Design, Construction	Burden ratio = (% burden borne by subgroup) / (% population subgroup)	Impact units (t emissions, ha land, # displaced); population %	EIA/ESIA reports, GIS overlay	(E) Non-disproportionate distribution
Red3	Redistribution (Fraser)	Local/Underserved Economic Reinvestment Rate	Share of total project spend directed to businesses owned by, or located in, historically underserved communities	Construction, Operation	% = (Spend with local/underserved suppliers) / (Total project spend) $\times$ 100	CAD \$; supplier registry with ownership/location flags	Procurement records	(C) Institutional commitments
Red4	Redistribution (Fraser)	Affordability Index	Whether the cost of using the resulting infrastructure service stays within an affordability threshold for lower-income users	Operation	% household income = (Annual service cost) / (Median household income, affected area), flag if > threshold (e.g., 4–6%)	\$ service cost; \$ household income	Utility billing data, StatCan income data	Not currently covered, gap
Red5	Redistribution (Fraser)	Construction Employment Equity Rate	Share of construction jobs/apprenticeships filled by residents of affected or underserved communities	Construction	% = (Local/underserved hires) / (Total construction workforce) $\times$ 100	Headcount; residency/community flag	HR/contractor records	(C) Institutional commitments
Rec1	Recognition (Fraser)	Cultural/Heritage Site Preservation Rate	Share of identified culturally or historically significant sites protected vs. impacted by the project	Planning, Design	% = (Sites preserved) / (Sites identified) $\times$ 100	Count of sites	Heritage impact assessment, cultural resource survey	(A) Historic context
Rec2	Recognition (Fraser)	Historic-Context Documentation Completeness	Composite score assessing whether stakeholder engagement formally documented the historic equity/social-justice context before design decisions	Planning	Scored rubric 0–100% against a checklist (historic land use, prior infrastructure harms, demographic history)	Rubric score	Stakeholder engagement records, historic archives	(A) Stakeholder engagement informed by historic context
Rec3	Recognition (Fraser)	Indigenous/Traditional Knowledge Integration Level	Extent to which Indigenous or local traditional knowledge shaped design decisions, not just consultation	Design	Ordinal scale: 0 = not consulted, 1 = consulted, 2 = knowledge incorporated, 3 = co-designed, 4 = community-led	Ordinal score (0–4)	Design meeting minutes, MOUs with Indigenous partners	(A) Relationship of respect and mutual understanding
Rec4	Recognition (Fraser)	Non-Discrimination & Pay-Equity	Share of project entities (owner, contractors, subcontractors) with	All phases	% = (Entities with policy on file) /	Count of entities	Corporate policy audit, contract	(C) Nondiscrimination, diversity &

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		Policy Coverage	active, verifiable non-discrimination and pay-equity policies		(Total project entities) × 100		compliance records	inclusion, pay equity
Rec5	Recognition (Fraser)	Community Identity Respect Score	Survey-based index of how respected/represented affected communities feel their identity and history were treated during the process	Planning, Operation	Mean score on a validated survey instrument (e.g., 5-point Likert, aggregated)	Survey score	Post-engagement community survey	Not currently covered, gap (qualitative by design)
Rep1	Representation (Fraser)	Stakeholder Participation Rate	Share of the identified affected population that actively participated in engagement activities	Planning, Design	% = (Participants) / (Estimated affected population) × 100	Headcount	Attendance logs, survey response counts	(A)/(B) Stakeholder engagement
Rep2	Representation (Fraser)	Underrepresentation Group Engagement Parity	Participation rate of historically marginalized subgroups relative to their population share (parity ratio ≈ 1.0 = equitable)	Planning, Design	Parity ratio = (% participants from demographic subgroup) / (% population subgroup)	Headcount, % records + census cross-tab	Engagement records	(F) Empowerment, targeted engagement of underrepresented groups
Rep3	Representation (Fraser)	Decision Influence Rate	Share of substantive community concerns raised that resulted in a documented, traceable change to project design or decisions	Design, Construction	% = (Concerns leading to documented change) / (Total substantive concerns raised) × 100	Count of concerns, change log	Engagement tracking log, design change register	(F) Community empowerment in the development process
Rep4	Representation (Fraser)	Grievance Resolution Rate & Time	Share of formal grievances resolved, and average time to resolution	Construction, Operation	% resolved = (Grievances closed) / (Grievances filed) × 100; Avg. time = Σ(days to resolution) / n	Count, days	Grievance mechanism log	(F) Transparent grievance mechanisms
Rep5	Representation (Fraser)	Governance Seat Equity	Share of seats on project steering committees / advisory boards held by representatives of affected or underserved communities	Planning, Operation	% = (Community-held seats) / (Total seats) × 100	Headcount	Governance charter, meeting minutes	(B) Assessing social impacts / mapping stakeholders
Ind1	Indigenous Equity	Indigenous Procurement Spend Share	Share of total project contract value awarded to Certified Indigenous Businesses (CCIB) or equivalent Indigenous-owned/controlled firms	Procurement, Construction, Operation	% = (spend with certified Indigenous businesses) / (total project spend) × 100	CAD \$; supplier certification flag	Procurement records; CCIB Supply Change registry	New v4 credit, Indigenous Relations & Economic Reconciliation
Ind2	Indigenous Equity	Indigenous Relations Certification Level of Project Partners	Level of Partnership Accreditation in Indigenous Relations (PAIR) held by the prime contractor and major subcontractors/asset owner	Procurement, Design	Ordinal: 0 = none, 1 = Committed, 2 = Progressive, 3 = Relationship, 4 = Leadership	Count of entities by PAIR level	CCIB PAIR public registry; corporate disclosure	New v4 credit, Indigenous Relations & Economic Reconciliation
Ind3	Indigenous Equity	FPIC / Consent Documentation Rate	Share of project decisions affecting Indigenous lands, rights, or interests with a documented free, prior and informed consent (FPIC) or equivalent consent process completed before design lock	Planning, Design	% = (decisions with documented FPIC) / (total decisions requiring FPIC) × 100	Count of decisions	Consultation records; MOUs/agreements with Indigenous partners	QL3.1 (A), relationship of respect; gap, not currently measurable
Ind4	Indigenous Equity	Indigenous Employment & Training Rate	Share of construction and O&M jobs, and apprenticeship/training hours, filled by Indigenous workers	Construction, Operation	% = (Indigenous hires) / (total workforce) × 100; plus total training hours	Headcount; hours	HR/contractor records	LD3.2; parallels Fraser Red5 methodology

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Clim1	Climate Vulnerability & Equity	Social Vulnerability–Hazard Overlap Index	Share of the project-affected population living in areas with both high climate-hazard exposure and high social vulnerability	Planning, Design	$\% = (\text{population in overlapping high-hazard / high-SVI zones}) / (\text{total affected population}) \times 100$	GIS overlay %; population count	Climate hazard maps; social vulnerability index (e.g., StatCan, ORNL SVI)	CR1.2 Assess Vulnerability & Risk
Clim2	Climate Vulnerability & Equity	Resilience Investment Equity Ratio	Share of climate-adaptation/resilience capital investment directed to high-vulnerability areas, relative to their population share	Design, Construction	Ratio = (% resilience \$ to vulnerable areas) / (% population in vulnerable areas); ≈ 1.0 = parity	\$ investment; population %	Capital budget records; GIS demographic overlay	CR1.1 Assess Climate Threat; QL1.2
Clim3	Climate Vulnerability & Equity	Post-Event Service Restoration Equity Gap	Difference in average time to restore infrastructure service after a climate event between high-vulnerability and other areas/subgroups	Operation	Gap = (avg. restoration days, vulnerable areas) – (avg. restoration days, other areas)	Days	Outage/incident response logs	New, no current v3 equivalent (O&M phase gap)
Proc1	Procurement-Embedded Equity	EDI-Weighted QBS Adoption Rate	Share of procurements using Qualifications-Based Selection (QBS) that include an explicit, scored EDI criterion in prequalification	Procurement	$\% = (\text{procurements with EDI-weighted QBS}) / (\text{total qualifying procurements}) \times 100$	Count of procurements	Procurement policy files; tender documentation	LD3.1; based on OSPE QBS model
Proc2	Procurement-Embedded Equity	Community Benefit Agreement (CBA) Coverage	Share of total project capital value covered by a signed Community Benefit Agreement containing measurable equity targets	Procurement, Construction	$\% = (\$ \text{ value under active CBA}) / (\text{total project capital } \$) \times 100$	CAD \$	Signed CBA documents; contract register	LD3.1 / LD3.2
Proc3	Procurement-Embedded Equity	Mandatory EDI Bid-Disclosure Compliance	Share of bidders required to submit EDI policies/programs with their bid who did so completely	Procurement	$\% = (\text{compliant bid submissions}) / (\text{total bids requiring disclosure}) \times 100$	Count of bids	Bid evaluation records	New, OSPE recommended practice
Proc4	Procurement-Embedded Equity	Equity-Certified Supplier Share	Share of the active supplier base holding a recognized equity certification (e.g., CIB, WBE, MBE, disability-owned, 2SLGBTQI+-owned)	Procurement, Construction, Operation	$\% = (\text{certified equity-deserving suppliers}) / (\text{total active suppliers}) \times 100$	Count of suppliers, by category	Supplier registry; third-party certification records (CCIB, WBE Canada, CGLCC, etc.)	LD3.1
Out1	Quantifiable Equity Outcomes	Equity-Deserving Contract Value Share	Share of total contract value awarded to businesses owned/led by women, Indigenous peoples, visible minorities, persons with disabilities, and 2SLGBTQI+ people, tracked in aggregate and by subgroup	Procurement, Operation	$\% = (\$ \text{ awarded to equity-deserving suppliers, by subgroup}) / (\text{total contract } \$) \times 100$	CAD \$, disaggregated by subgroup	Procurement records (modeled on PSPC Supplier Diversity pilot reporting)	LD3.1; adds subgroup-level granularity not in v3
Out2	Quantifiable Equity Outcomes	Equity-Deserving Training Hours Delivered	Total training/upskilling hours delivered to underrepresented workers on the project	Construction, Operation	Sum of hours = Σ (training hours per underrepresented participant)	Hours	HR/training logs	LD3.2
Out3	Quantifiable Equity Outcomes	Net New Jobs for Underrepresented Groups	Count of net new jobs created and filled by individuals from underrepresented/equity-deserving groups	Construction, Operation	Count = (new hires from underrepresented groups)	Headcount	HR/contractor records	LD3.2

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Out4	Quantifiable Equity Outcomes	Equity Outcomes Public Reporting Completeness	Whether the project publicly reports equity outcome metrics (spend, jobs, training, representation) on a recurring basis	Operation, Closeout	Scored rubric 0–100% against a defined disclosure checklist	Rubric score	Public/annual reports; sustainability disclosures	LD1.2 Establish a Sustainability Management Program
Eng1	Engagement Quality	Non-Traditional Engagement Channel Ratio	Share of engagement activities delivered through accessible/creative formats (pop-ups, community events, informal conversations) rather than standard town halls	Planning, Design	$\% = (\text{non-traditional engagement events}) / (\text{total engagement events}) \times 100$	Count of events	Engagement activity log	LD1.4 Provide for Stakeholder Involvement
Eng2	Engagement Quality	Relational Weighting in Procurement Evaluation	Whether RFP/RFQ evaluation criteria weight relationship-building or interview components at least as heavily as the written proposal, for procurements with equity objectives	Procurement	Weighting ratio = (interview/relational score weight) : (written proposal score weight)	% weighting	RFP evaluation matrix	New, modeled on Buy Social Canada / BCSPi practice
Eng3	Engagement Quality	Strengths-Based Engagement Framing Score	Rubric assessment of whether community engagement and needs profiling are framed around community assets/strengths rather than deficits	Planning	Scored rubric 0–100% against a defined checklist	Rubric score	Engagement plan review; facilitator notes	LD1.4; qualitative/structured-rubric type
Eng4	Engagement Quality	Early-Engagement Lead Time	Time between the first substantive community engagement activity and finalization (freeze) of project design/scope	Planning, Design	Lead time = (design-freeze date) – (first engagement date)	Days / months	Project schedule; engagement log	LD1.4
Wf1	Workforce Representation	Workforce Representation Parity Ratio	Representation of women, BIPOC, Indigenous, disability, and 2SLGBTQI+ workers in the project workforce relative to their share of the regional labour force	Construction, Operation	Parity ratio = (% project workforce, subgroup) / (% regional labour force, subgroup); ≈ 1.0 = parity	Headcount % by subgroup	HR records; StatCan Labour Force Survey	LD3.2; reuses Fraser Red1/Rep2 parity-ratio method
Wf2	Workforce Representation	Target Attainment Rate	Progress toward a published, numeric workforce representation target for a specific equity-deserving group (e.g., a sector target such as 35% women by a stated year)	Construction, Operation	$\% = (\text{current representation}) / (\text{published target representation}) \times 100$	%	HR records; publicly stated sector/organizational targets	New, modeled on CAWIC Vision 2035
Wf3	Workforce Representation	Leadership & Supervisory Role Representation	Share of on-site supervisory and management roles held by individuals from equity-deserving groups	Construction, Operation	$\% = (\text{equity-deserving supervisors/managers}) / (\text{total supervisors/managers}) \times 100$	Headcount	HR records; organizational chart	LD3.2
Wf4	Workforce Representation	12-Month Retention Rate of Equity-Deserving Hires	Share of equity-deserving hires still employed on the project 12 months after hire, as an indicator of inclusive workplace conditions rather than one-time hiring	Construction, Operation	$\% = (\text{equity-deserving hires retained at 12 months}) / (\text{equity-deserving hires made}) \times 100$	Headcount	HR records	New, addresses pipeline/retention gap not covered by hiring-rate KPIs alone