

2023 OECD SURVEY ON THE GOVERNANCE OF INFRASTRUCTURE

Glossary

It is possible that the terminology applied in this survey may not exactly match- or may not be applicable- to the particular context in your country. In such cases, please use the comments section (or other space provided) to specify the terminology used in your country and clarify your choice of response. This additional clarification will enhance comparability and data quality.

Accrual basis: Countries are classified in this category when i) transactions are budgeted or recognised in the financial reports at the time at which the underlying economic event occurs, regardless of when the related cash is received or paid, and ii) assets and liabilities are budgeted or reported in a balance sheet, irrespective of exceptions regarding the reporting or measurement method of some specific assets and liabilities. On the other hand, **cash basis** is when transactions are budgeted or recognised in the financial reports only when the associated cash is received or paid, irrespective of their reporting of commitments. **Cash transitioning to accrual** is when some transactions are budgeted or recognised in the financial reports using the cash basis, and some transactions are budgeted or recognised under accrual basis. Countries that recognise all transactions on accrual basis except for tax revenue should be classified under the accrual basis category.

Asset lifespan: For the purposes of this survey, asset lifespan is the economic, physical or operational life of an asset expressed in years. This differs from the asset life cycle which depicts the different stages of an asset across its life (e.g., planning, construction, operations, maintenance, decommissioning).

Asset management plan: is a long-term tactical plan for managing an organization's infrastructure asset portfolio so as to achieve the organization's strategic goals. It provides a mechanism for integrating an organisation's long-term strategic planning processes with its operations and capital budgeting activities. Asset management plans are typically prepared for a specific infrastructure service or activity provided by an organisation (e.g., water supply, sewage disposal or roads). An asset management plan would usually include: (i) Strategic goals; (ii) Levels of service and performance standards; (iii) Growth and demand projections; (iv) Asset management strategies; (v) Asset management tactics; (vi) Financial projections including cash-flow forecasts; (vii) Monitoring, control and review mechanisms; (viii) An asset management improvement plan (World Bank).

Building Information Models (BIM): are an intelligent type of 3D model that is used to digitally represent the physical and functional characteristics of an asset. BIM can be used as a resource to share knowledge about the asset between stakeholders and can form the basis of decision-making during the asset's lifecycle, from conception through to demolition. In the model, granular information like materials, water pressure in pipes, wind forces etc. is collected to enable stakeholders to understand the impacts of their decisions on the asset and environment, as well as their constraints and opportunities. BIM enables the integration of architecture, engineering, and construction to more efficiently plan, design, construct, manage and operate infrastructure assets (Global Infrastructure Hub).

Consolidation: For the purposes of this survey, consolidation means presenting the assets, liabilities, net assets/equity, revenue, expenses, and/or cash flows of public sector entities as if they were a single entity. Consolidation also implies elimination of all transactions and balances between entities that are being consolidated.

Digital twin (DT): is a virtual replica of an asset including real-time data acquired during the operation of that asset (Coleman, 2020). A DT consists of three parts: the physical product, virtual product and the communication between them. By drawing on the best available data, the DT provides an integrated, multi-scale simulation of its real-world infrastructure counterpart, allowing operators to predict and test probabilities, including maintenance needs (Glaessgen and Stargel, 2012; Arrizabalaga S. Beltran S. Errandonea I., 2020).

Financial Report: For the purposes of this survey, the financial report is government's key year-end accountability document. It typically comprises the financial statements and/or a budget execution statement.

Financial statements: are the accounts drawn up by the government to report its financial affairs. They present the government's financial position providing information on assets and liabilities, revenue and expenses, and cash flows.

InfraTech: is any emerging technology (material, machine, or digital technology) applied at any point in the infrastructure lifecycle with the view to achieve one or more of the following impacts: i) improving the efficiency of infrastructure investment and reducing cost overruns; ii) enabling infrastructure to decarbonise and transition to net zero; iii) bridging the infrastructure investment gap; and iv) creating social value through infrastructure. Other terms that may be used to describe InfraTech include 'smart infrastructure', 'digitalisation', 'digital engineering', 'modern methods of construction', and 'cyber physical systems'. Sometimes, InfraTech is recognised by the names of specific InfraTech solutions like IoT (internet of things), digital twins, AI (artificial intelligence), and BIM (building information modelling). The solutions enabled by InfraTech are often part of 'smart cities' or 'cyber-physical systems'. In the realm of infrastructure financing, some use the term 'Infrafinance'. All these terms are related to each other and connected to InfraTech as an umbrella term. InfraTech is the term adopted by the G20 in its Riyadh InfraTech Agenda and is increasingly used by the public and private sectors to describe the wide array of technologies available for application to all stages of the infrastructure lifecycle (Global Infrastructure Hub).

Life cycle costs: are the estimated cost of a project alternative during its lifetime, reaching beyond the initial price tag and taking into account other relevant costs incurred, such as installation, operation and maintenance including replacement, renewal of components, financing and disposal. A comprehensive life cycle cost analysis also takes into consideration the costs of mitigating or reducing (external) environmental impacts, meaning that the best alternative is identified based on both economic and environmental aspects.

Life cycle of public infrastructure: means the series of stages during the lifetime of a public infrastructure asset, starting from planning, prioritisation and funding, to the design, project preparation, procurement, construction, operation, maintenance and possible decommissioning.

Predictive maintenance: (or knowledge-based maintenance) aims at optimising maintenance based on predictions. It leverages available data and new computing methods to send warnings in case of near failure. It defines the optimal timing for the maintenance of an asset, where early action leads to undue extra cost, and late activity represents a safety risk (Bukhsh Z., Stipanovic I., 2020). The use of sensors allows continuous monitoring and reporting of remote assets and machine learning techniques alert of current conditions while predicting future interventions. By providing tools to better identify and target maintenance, predictive maintenance of infrastructure implies a more efficient allocation of the available budget.

Public-Private Partnerships (PPPs): For the purposes of this survey, the PPP concept includes both 'pure PPP', i.e., projects where the main source of revenue for the private partners is government (in

the form of regular payments or a unit charge), as well as concessions (where the main source of revenue are user charges levied by the private partners on the beneficiaries of the services). (PPPs) are long term agreements between the government and a private partner whereby the private partner delivers and finances public services using a capital asset, sharing the associated risks with the public sector. The private partner will receive either a stream of payments from the government or user charges levied directly on the end users, or both. The stream of payments for services delivered may depend on the private partner's compliance with government specifications for quality and quantity. PPPs may deliver public services both with regards to infrastructure assets (such as bridges, roads) and social assets (such as hospitals, utilities, prisons).

Resilience: means the capacity of systems to absorb a disturbance, recover from disruptions and adapt to changing conditions while retaining essentially the same function as prior to the disruptive shock at an acceptable service level (e.g., climate and geological hazards, industrial accidents, terrorist or cyberattacks). For the purposes of this survey, **climate-resilient infrastructure** is planned, designed, built and operated in a way that anticipates, prepares for, and adapts to changing climate conditions. It can also withstand, respond to, and recover rapidly from disruptions caused by these climate conditions. Ensuring climate resilience is a continual process throughout the life of the asset. Efforts to achieve climate resilience can be mutually reinforcing with efforts to increase resilience to natural hazards. The climate resilience of individual infrastructure assets should be viewed in the context of the system as a whole. Efforts to ensure resilience at the project level should be embedded within a strategic approach to infrastructure network planning that accounts for the direct and indirect effects of climate change and climate variability.