Lifecycle costs tool – Frequently asked questions

Q: How will the Lifecycle Cost tool estimate the cost implications of maintenance levels and asset failures?

A: Estimating maintenance levels and correlating with any asset failure is best undertaken through a separate asset condition auding process. The Lifecycle Clost tool will allow users to input relevant time and cost-based information to then estimate the cost implications of maintenance levels and asset failures.

Q: Will cost assumptions for individual components be a general guide or be refined to various regions/ states? e.g. Sydney might have higher rates than Brisbane.

A: Initially, cost data and corresponding assumptions or estimates will be location specific but as we gather more data the intention will be to make them applicable to other regions through a 'cost transfer approach'. This approach will depend on having adequate spatial and temporal data.

Q: Do you intend to include stormwater harvesting in the Lifecycle Cost tool? Do we break it down to specific assets included as part of the stormwater harvesting project and then come up with the full lifecycle cost?

A: The Lifecycle Cost tool will focus on 3 assets initially – biofiltration, street trees and permeable pavement. The range of assets will likely be expanded to cover additional assets in future. Stormwater harvesting is an important intervention but can also be quite complex. For this reason, it will be considered for future stages, and will include a break down of component assets to quantify the maintenance and operational costs of advanced treatments required for some stormwater harvesting systems.

Q: Will the Lifecycle Costs tool consider the increasing costs of trunk infrastructure over future time horizons?

A: The Lifecycle Cost tool focuses on small scale water sensitive urban design (WSUD) type assets which are generally not recognised as trunk infrastructure in most Australian jurisdictions. However, jurisdictions can include these asset types in their trunk infrastructure planning and delivery processes; when this is the case, we envisage the tool will provide useful insights into the cost implications of those decisions. Importantly, this should be combined with a rigorous assessment of the value of the many benefits that are derived from these assets as well. For more information see: https://watersensitivecities.org.au/economics-and-business-cases/

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Q: Does the output include a temporal distribution of costs? This is necessary for operating expenditure (OpEx) and capital expenditure (CapEx) budget planning.

A: Yes, the Lifecycle Cost tool will output a temporal distribution of costs to improve decision making at all stages of the asset lifecycle, including for initial investment and ongoing budgeting purposes.

Q: What is the definition of discount rate?

A: The discount rate is defined as the percentage rate used to reduce future values to their present value. This rate is crucial in economic assessments where costs and benefits occur over several years, allowing for comparison over time. The discount rate helps determine the net present value of investments, ensuring that future costs and benefits are evaluated on a consistent basis with today's values.

Q: Will the Lifecycle Cost tool consider the costs of embedded carbon in supply and construction?

A: Embedded carbon could be included as a cost element in the tool in the future, however this is not currently within scope.

Q: Will the Lifecycle Costs tool integrate with other industry tools like MUSIC and INFFEWS?

A: The Lifecycle Cost tool is being designed to complement existing industry tools such as MUSIC, INFFEWS, asset management systems and other business management systems (BMSs). It is intended that LCC output data can be used to input into these systems and vice versa. If the tool is further developed with web service interface, the intention is to develop application programming interfaces (APIs) to share data using a consistent format.

Q: Are there guidelines for using the Lifecycle Costs tool?

A: Yes, we are developing guidelines that will accompany the tool. Our aim is to make the tool as easy to use as possible. The consistent message from industry consultations is that the tool must be simple to use for broad adoption.

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Q: What's the incentive for industry (apart from funding partners) to invest their time and resources into this tool, apart from wanting to see it succeed?

A: The Lifecycle Cost tool efficacy will depend on the quality of cost inputs from industry stakeholders including local government, water utilities and others. As the tool grows with more spatial and temporal data, the more useful the cost estimation functions will be, both at local/regional scales and across the asset lifecycle. Contributors will benefit through improved estimates for their own projects as well as benefiting others.

Q: What's next in the Lifecycle Cost tool development?

A: In 2024, the team will develop the cost collection protocols and processes and then work with industry stakeholders from Western Australia, Victoria and South Australia to collect data to populate the tool. Once populated with available data, we will develop the cost estimates and calculations. We will then user test the tool internally and with the participating industry stakeholders. Finally, we will consult with relevant industry and expert stakeholders to consider factors such as tool governance and sustainability, integration with other industry tools, appropriate cost transfer protocols and other matters.

Q: How can organisations be involved in 2025 and beyond?

A: We will be looking for new partners to contribute funding and relevant data and information in 2025. Please register your interest at: info@wscaustralia.org.au