

City of Swan Council 11 March 2026
Statement
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6. Statement

Governing is planning and acting for the future

The City of Swan prides itself to adhere to the UN's Sustainable Development Goals and claims to take many measures to achieve them.

The building and construction industry's global greenhouse gas emissions are a staggering 37% of the total.

If the City of Swan wishes to improve on their actions regarding the environment and **longterm budgets**, they need to implement Life Cycle Assessment methodology for all their projects.

A definition of "*Life-Cycle Assessment or LCA is a methodology that allows determining the environmental and social impact of products and services, based on the consumption of resources (materials, energy, waste) and emissions.*" a definition by Binet (2018)

LCA does not just report about this point in time but what impact will the activity have over the lifetime of that project and put a dollar value on it. To illustrate this with an example, we ask "**what is the impact of constructing a concrete footpath**". In the planning stage construction costs are calculated. This is the initial cost. Then there are maintenance costs over the life of the footpath.

So, now ask “*what is the real cost to the community of this footpath over its lifetime*”? That cost includes the initial cost, maintenance costs by City of Swan or by third parties and environmental costs. After adding these projected costs up the question needs to be asked “*What would the footpath cost be over the same period if pavers or other materials were used?*”

After years concrete footpaths look like a random patchwork, or to say is more graphically “a dog’s breakfast”, while one constructed from pavers can look like new.

In addition, by definition concrete can only be **downcycled**, i.e. the value of subsequent products will always have a lower value than the original, i.e. a monetary loss. While most pavers can be reused on site for many years when repairing the footpath. There will be no need to dispose of concrete waste and trucks carting in fresh concrete for every repair.

Comparing all these costs is what LCA is all about. It puts an environmental lens on assessing the short and long term financial costs of construction projects. It incorporates where materials originate from or where the contractors travel from.

Getting the best LCA outcome saves money in the long term which means reducing the budgetary pressure in times to come.

As next step it is important for Staff and Councillors to get informed about LCA by independent researchers and software vendors. e-Tools is a world leading LCA software and was founded in Perth. They have been doing work for local councils here and overseas. There are in WA also academics that use LCA and will be useful to use as a sounding board.

It is important to know that LCA is a **transparent and auditable accounting reporting** tool. This will benefit the City of Swan's operations and its ratepayers. It will lead to data-driven optimised decision making.

The written form of this statement contains references to LCA providers and documentaries about paved instead concrete footpaths. Also attached a case study report "*Renovation of a Public Square in Berlin*" using LCA.

Bibliography

Binet, S. (2018). *Renovation of the Max-Joseph-Metzger Platz in Berlin From a LCA perspective*. GreenDelta, Berlin.

e-Tools by Cerclos <https://cerclos.com/products/etool/> .

Grace, Bill *Sustainability consultant and Adjunct Professor at UWA's Australian Urban Design Research Centre using LCA.*
<https://sustainableplaces.com.au/contact/> .

openLCA (opensource) <https://www.openlca.org/about/> .

Observational videos about street paving and design

Not Just Bikes (2025) *Natural Handcrafted Artisanal Streets?!*

https://www.youtube.com/watch?v=Cq1kV6V_jvI&t=13s .

Build the Lanes *How I Became a Dutch Transportation Engineer (Lecture)*

<https://www.youtube.com/watch?v=PLPOl5QpV4g&t=1331s> .

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