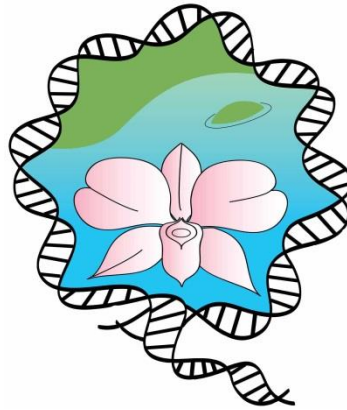


Community Infrastructure: Not Just Concrete and Cranes

By Geoff Edwards

President

Royal Society of Queensland



24 June 2015

Origin of this Event

- Seminar June 2014 to launch a new Research Fund (to fund scientific projects in the natural sciences).
- In preparing, we investigated the economic value of scientific research.
- Results so noteworthy that Members pressed the Society to explore further, with specialist speakers.
- Delighted to join with Engineers Australia (Qld) and QUT Institute for Future Environments.
- Special thanks to speakers - not one of those invited to speak declined.

Three Forms of Infrastructure

- “hard” or “economic” infrastructure such as roads and ports – mostly entrenching consumption of fossil fuels;
- “soft” infrastructure such as **scientific research, information systems** and education;
- “green” infrastructure such as the **natural resources** and **open space** on which all economic activity ultimately depends.

Current public commentary tends to confine the term to hard infrastructure.

PM Announcements

Around budget time 2014:

- Brisbane Gateway Motorway upgrade \$1 bn – BCR 4.9
- Duplicate Pacific Highway NSW \$5.6 bn – BCR 1.2

- * West Connex Sydney \$1.5 bn – BCR 1.5
- * Package of other roads in western Sydney – \$3.5 bn
- * East West Link in Melbourne – \$3 bn – BCR alleged 1.4

- * Not on Infrastructure Australia's 2013 list in top two levels of priority. Infrastructure Australia's role was to advise the government on prioritising hard infrastructure !

East West Link

The economic benefits of East West Link estimated to outweigh costs by a factor of only **0.45**.

Cost - ***\$6.8 billion***.

Success fee - \$1.1 billion.

Previous Victorian Treasurer M. O'Brien:

“The reason I ran surpluses as treasurer is so ... the government could afford to invest in major projects, including an East West Link.”

Infrastructure Australia's 2013 List

Brisbane Cross-River Tunnel \$4.4 bn – BCR 1.34

Pacific Highway upgrade NSW \$6.4 bn – BCR 1.2

Melbourne Metro \$9-11 bn – BCR 1.2

Oakajee Port WA, mainly for iron ore \$5.4 bn – BCR 1.2

More than \$26 bn of projects in the two highest priority categories have a BCR lower than 2.0.

BCR of Soft Infrastructure

- Publicly funded research and development grants – **average BCR 40** (Productivity Commission 2007).
- Health libraries – **BCR 9**.
- Coordinated land mapping **BCR at least 50**, up to **150** (saves engineers the cost of site-by-site assessment) (DNRM 2005).

Opportunity cost

- **One per cent** of the cost of the Brisbane Cross River Tunnel would allow the government to re-engage 400 scientists, to improve policy in mining, energy, health and environment – and low-carbon transport;
- A life-changing week-long science camp for every Year 12 student (49,000) in Queensland could be funded by delaying the tunnel by **one week**.

False theory of prosperity

- GDP counts value added by private sector but not value added by public service (outputs don't appear in commercial markets);
- Scientific research by companies adds to GDP but public good science appears as cost without downstream benefit.

The Royal Society of Queensland

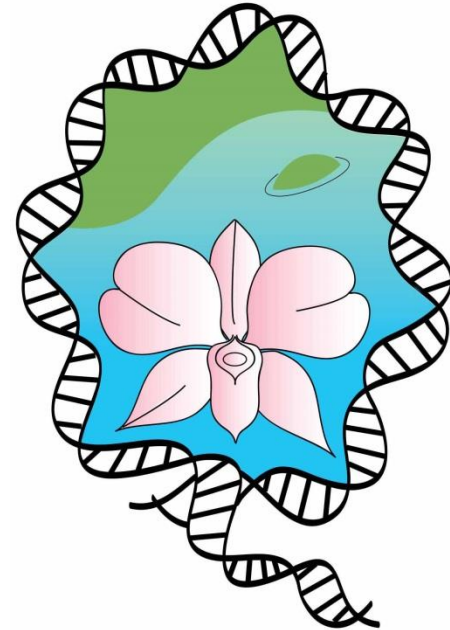
Established 1884.

Proceedings published ~annually since 1884. Articles invited!

Scope – science, application of science (technology, can include engineering), science-related policy, philosophy, education.

Supports science + scientists; *advocates* but is not *activist*; non-partisan; not an environmental campaigner.

New members welcome: membership legitimises the work of the Society on behalf of scientists.



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