

2013 IPWEA International Public Works Conference



Infrastructure Backlog

August 2013

❖ Backlog



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Infrastructure Backlog

Definitions



- ❖ **Backlog** generally refers to an accumulation over time of work waiting to be done or orders to be fulfilled. Wikipedia
- ❖ The term **Infrastructure Backlog** refers the total amount or value of renewal works that need to be undertaken to bring a Council's (or other entity's) asset stock up to an acceptable standard (The Local Government & Municipal Knowledge base).



Road in Death Valley National Park
National Park Service Photo

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Is the backlog important?



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Infrastructure

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Potholes lead to a much bigger problem

By Isabell Petrinic July 23, 2013, midnight

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Western Advocate

Friday August 9, 2013

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Not so Great Western Highway

By Louise Eddy July 31, 2013, 4 a.m.



FINANCIAL REVIEW

We're creating energy out of thin air.

The truth about Australia's infrastructure challenge

UPDATED: 02 AUG 2013 09:32:59

TV Guide What's on the box this morning?

* Colonel Nathan Jessup barked when cross-examined in the film. A few dramatic statements could equally apply to the frustrating challenges of infrastructure development in Australia today. We are ignoring basic truths and in doing so...

... infrastructure backlog and potential productivity benefits and get to the crux of it - ...

... ng models should be simple, not complex. The two basic ways to pay for their end of the funding spectrum, are taxes or user charges. There is mans built their vast empire, including more than 400,000km of roads, on tiges, or tolls, trace back well beyond the Romans to the Saba-Babylon

portnews

Friday August 9, 2013

News | Local News

Council guarantees an independent review of roads

By Lisa Tredell Aug 5, 2013, 4 a.m.

WHYALLA NEWS

Friday August 9, 2013

News | Local News

Road sealing part of bigger picture

By Daniela Dean July 30, 2013, 9 a.m.

PATIENCE: The Whyalla City Council asks for patience as it looks to address the road infrastructure backlog with group manager, engineering and infrastructure A&I Janel supporting the crack sealing method.

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How big is the problem?



- ❖ ABC's The Business screened a segment examining how to tackle Australia's infrastructure backlog, which is estimated to be around **\$700 billion currently** – almost half of Australia's annual GDP.
- ❖ NSW Infrastructure Audit (June 2013): **\$7.4 billion**, of which **\$4.5 billion** relates to roads.
- ❖ A national study of local government financial sustainability by PricewaterhouseCoopers (commissioned by ALGA in 2006) found a national backlog of infrastructure investment in the order of **\$14.5 billion** (being the mid-range estimate identified).

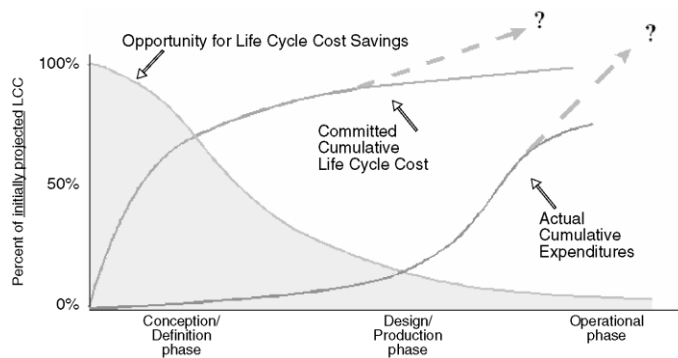
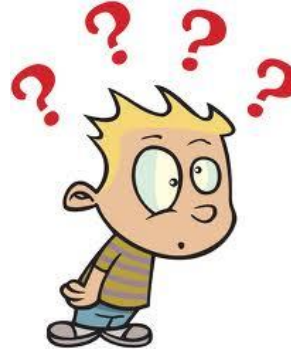
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Infrastructure Backlog

How is it calculated



- ❖ Guessing
- ❖ Cost to renew or failed assets
- ❖ Pavement Management Systems
- ❖ Analysis using life cycle costing models



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What we have found



- ❖ Generally an inconsistent approach around the country
- ❖ Inconsistent approach across asset classes
- ❖ Backlog not reported on all assets



Must consider



- ❖ Look at existing assets only
 - Lack of function or capacity should be considered on an economic basis and don't form part of the backlog

- ❖ Must know the condition of the assets
 - How can you know what the backlog is unless you know the condition of your assets

- ❖ Must know an acceptable service level or condition level.
 - Must know what condition is acceptable to your community

What should not be included?



- ❖ Upgrading of assets
- ❖ Underperforming assets
- ❖ Lack of functionality and capacity
- ❖ Assets required to meet future demand

Why is service level important?



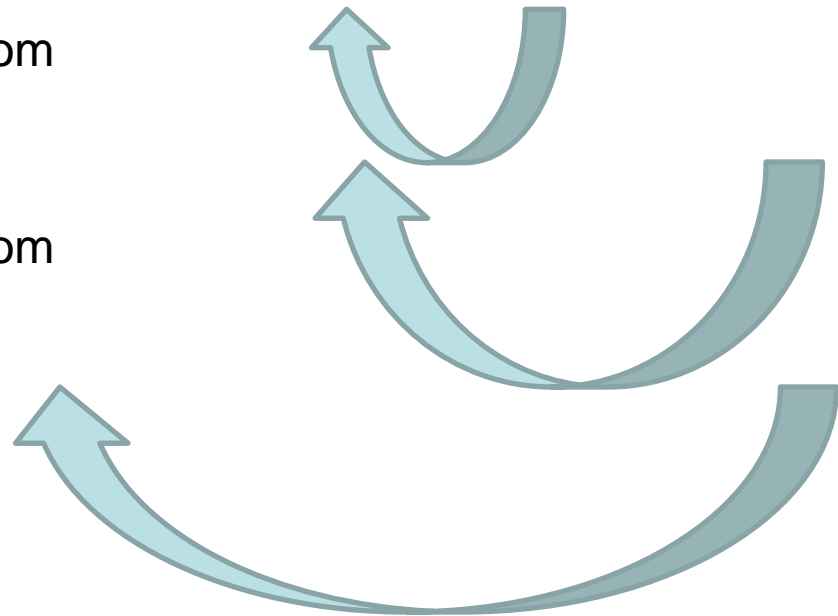
My effort at University to get rid of study backlog

Grade	HD	D	Credit	Pass	Fail
Effort required%	100%	80%	60%	50%	<50%

Effort required to get from Pass to Credit

Effort required to get from Fail to Credit

Effort required to get from Fail to Distinction



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Why is service level important?



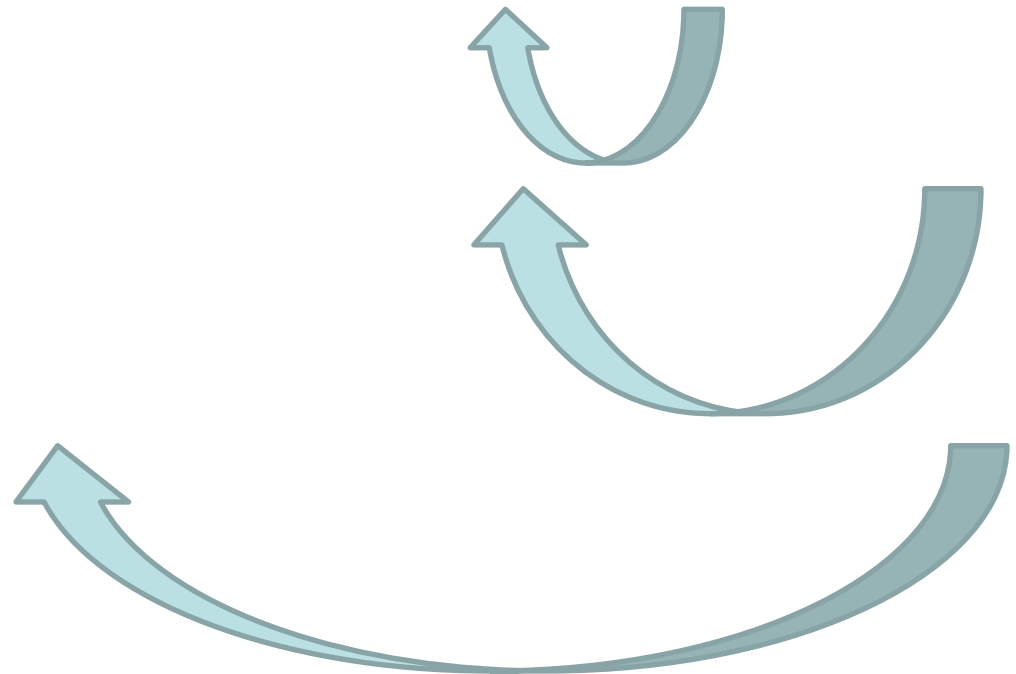
Relate this back to an infrastructure asset

Condition Score	Excellent	Good	Satisfactory	Worn	Poor
Defect %	0%	0 - 5%	5 - 20%	20 - 40%	40 - 100%

\$

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General points.



- ❖ Adopt a network approach for determining the infrastructure backlog
- ❖ The acceptable level of condition / service level will have a significant influence on the extent of the backlog
- ❖ Adopt a consistent approach across all asset classes
- ❖ Develop strategies to reduce or maintain your backlog to an acceptable level

Community Engagement



- ❖ The acceptable level of condition / service level will have a significant influence on the extent of the backlog
- ❖ We must communicate with our community to get an understanding of an acceptable condition level
- ❖ Engage with your community (different from consultation)
 - Two way conversation
 - Creating informed processes
 - Invited conversations
 - Focus on listening



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Community Engagement Spectrum



IAP2 PUBLIC PARTICIPATION SPECTRUM

INCREASING LEVEL OF PUBLIC IMPACT				
INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
Public Participation Goal:	Public Participation Goal:	Public Participation Goal:	Public Participation Goal:	Public Participation Goal:
To provide the public with balanced and objective information to assist them in understanding the problems, alternatives and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision, including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the public.
Promise to the Public:	Promise to the Public:	Promise to the Public:	Promise to the Public:	Promise to the Public:
We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for direct advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.
Example Tools:	Example Tools:	Example Tools:	Example Tools:	Example Tools:
<ul style="list-style-type: none"> • fact sheets • web sites • open houses. 	<ul style="list-style-type: none"> • public comment • focus groups • surveys • public meetings. 	<ul style="list-style-type: none"> • workshops • deliberate polling. 	<ul style="list-style-type: none"> • citizen advisory committees • consensus-building • participatory decision-making. 	<ul style="list-style-type: none"> • citizen juries • ballots • delegated decisions.

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Understanding your asset condition



- ❖ The data on your assets should tell me a consistent story
 - Asset Condition data
 - Valuation data
 - Asset Ratios

- ❖ Condition data generally good

- ❖ Valuation data – poor to fair
 - Current replacement cost - Good
 - Depreciable value – Poor
 - Useful lives – Poor



Conclusions



- ❖ Adopt a consistent methodology for calculating the infrastructure backlog
- ❖ Engage with your community on an acceptable standard/condition
- ❖ Understand asset condition and valuation data
- ❖ Make sure that the asset ratios tell you the right story about your assets.

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asset management
waste management
governance
financial/feasibility modeling
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sustainability