

Joint CPWA / IFME Board Meeting

A focus on infrastructure

Chris Champion

Secretary General, IFME

Director International, IPWEA

chris.champion@ipwea.org



IPWEA is a community of public works professionals



Institute of Public Works Engineering Australasia (IPWEA)

- 4,000+ members (engineers, finance & technical)
- 20,000+ in network
- International reputation in IAM
 - National rollout of AM & FP
 - International Infrastructure Management Manual (IIMM 2015)
 - Advising to US Highways
 - NAMS.AU, NAMS Canada



- Not for profit incorporated in Canada
- Training arm of IPWEA in Canada
 - Access IPWEA tools, training & resources
- Seek to work collaboratively with other associations
 - AMBC AMSK IAMA CPWA



Globally our community infrastructure
is under strain



We have responsibility to manage
our nation's roads & highways



Insufficient resources are provided to sustainably manage infrastructure



What are the risks of extreme weather events on our infrastructure & communities?



Resilient communities & quality infrastructure are critical for our economies



Economic development



Public health & safety



Social & Recreation Needs



Highly interdependent



How can we expect long lived
infrastructure to be sustainable

- if we don't plan & invest for the
long term?

3 pillars for sustainable
management
in community infrastructure



Stewardship

Understanding
our
stewardship
responsibilities

Asset
Management

Managing
existing as
well as new

Financial
Planning

An essential
part of business



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Stewardship.

Understanding our stewardship
responsibilities.



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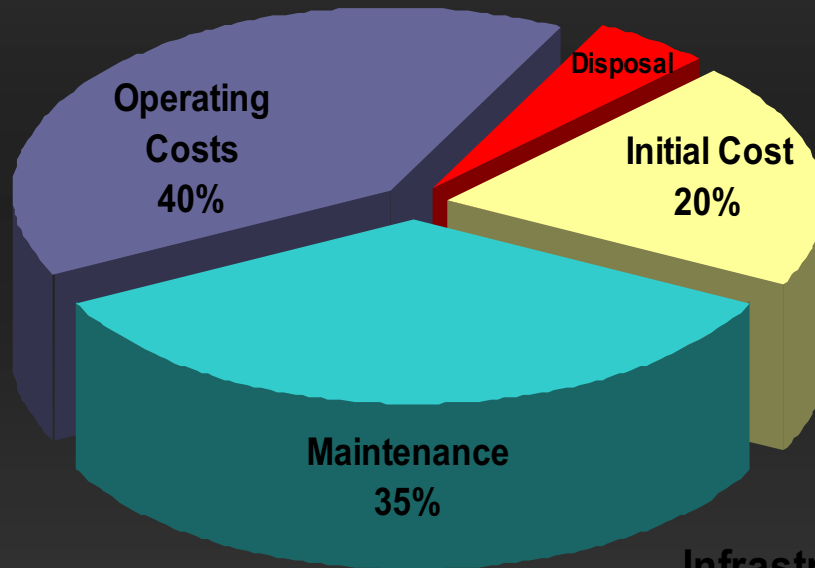


Decaying
infrastructure
leaves a
liability for
future
generations



Infrastructure is long lived & needs to
be managed accordingly

Provide decision makers with full costs,
options & priorities



Infrastructure Assets
Typical Life Costs

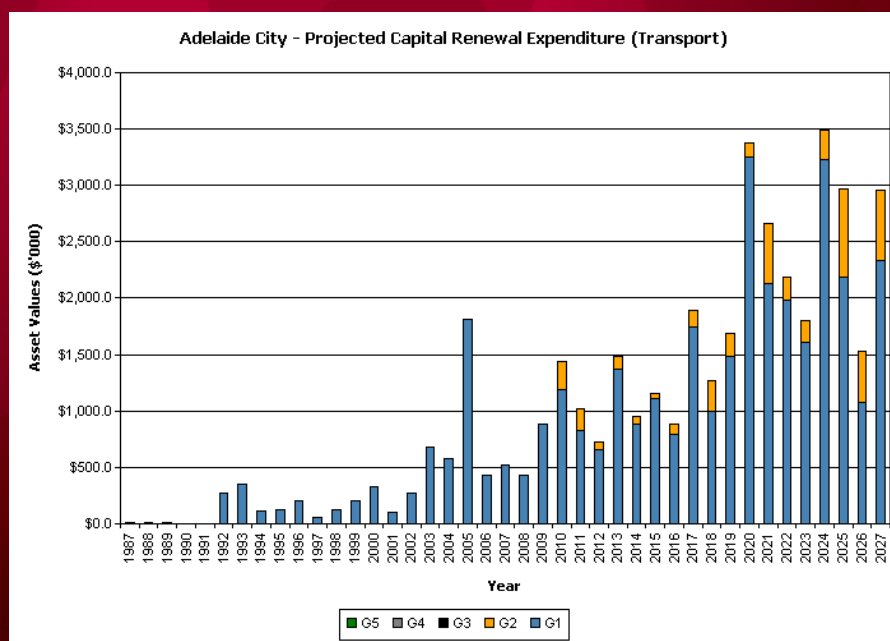
Infrastructure is
long lived & needs
to be managed
accordingly

\$1 spent early
saves \$5 if
deferred to later

Infrastructure is
long lived & needs
to be managed
accordingly

Be aware if the
wall of
expenditure
ahead

Project future capital renewal requirements



Stewardship needs to be fully comprehended by decision makers



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Asset Management. Managing existing as well as new.



Asset Management.

*To meet a required level of service,
in most cost effective manner, for
present & future generations*

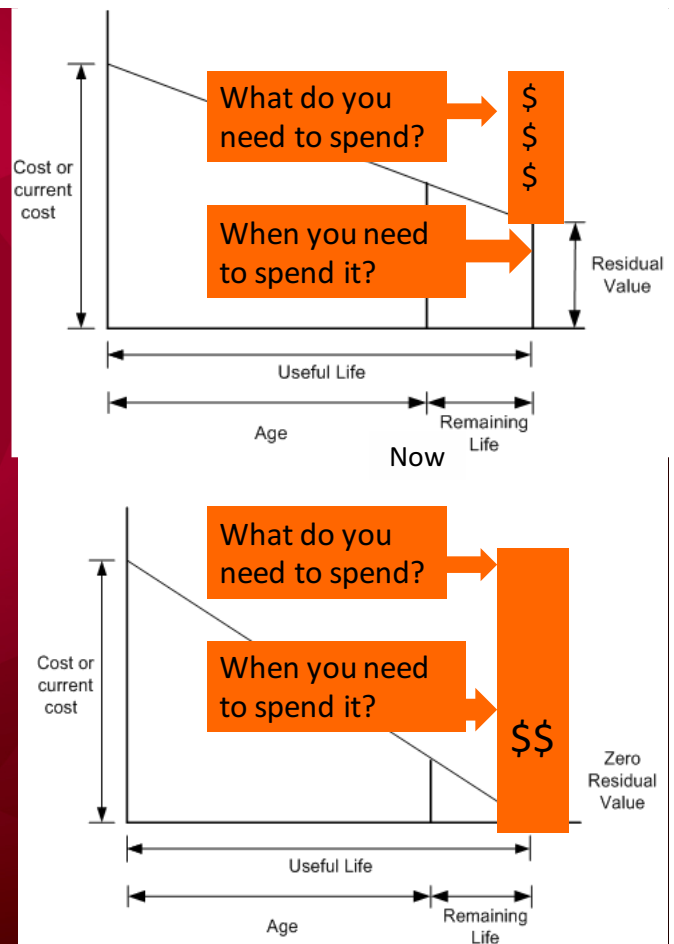
What can we learn from Asset Management?



What can we learn
from Asset
Management?

Investment
required for
sustainable
levels of service

Use the data for asset renewal planning



What can we learn from Asset Management?

Allow for future
demand &
extreme weather
events

Optimise
investment
priorities to best
meet community
needs

A particular level of
service has a
particular cost

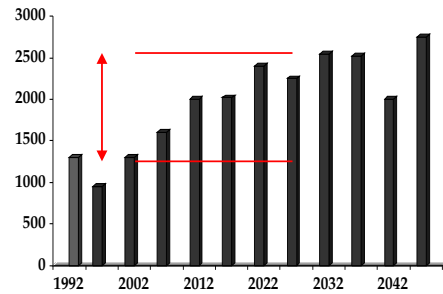
Make the link between
levels of service and price



Manage the gap

(not just funding the gap)

- Understanding impact new assets
- Better asset information
- Timely maintenance
- Improved work practices
- Disposal of assets
- Alternative service delivery
- Lower levels of service
- Innovative solutions



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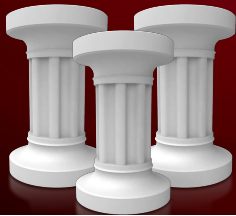
An essential
part of business



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Financial Planning.

Moving from annual budgeting to long term financial planning.



Sustainability is maintaining financial & infrastructure capital for long term



+





Sustainability is
maintaining
financial &
infrastructure
capital for long
term

Account for
infrastructure in
our financial
statements

information about investment
in assets



Sustainability is
maintaining
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infrastructure
capital for long
term

Prepare 10 yr
financial plans
based on 20 yr AM
plans

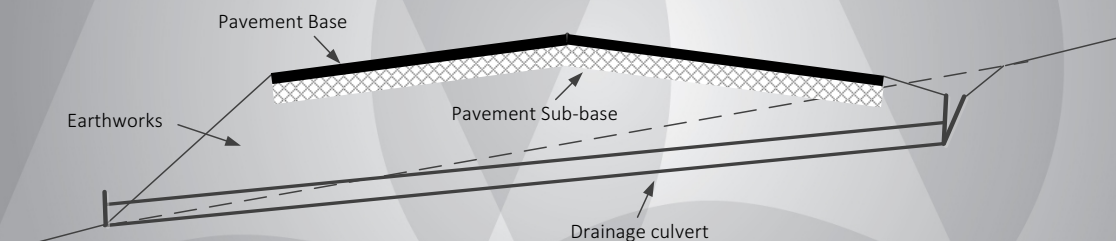
Account for infrastructure to reflect how managed



Engineers view of Highway

Engineer's view

- Pavement base – rehab after 10 years

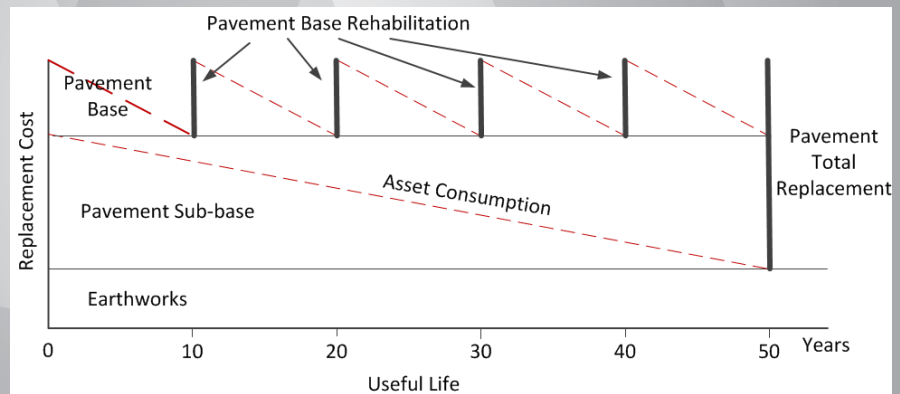


- Pavement sub-base – replaced ~ 50 yrs
- Earthworks – indefinite life for alignment

Accountant's view of a Highway

Accountant's view - 3 components

- Base
- Sub-base
- Earthworks



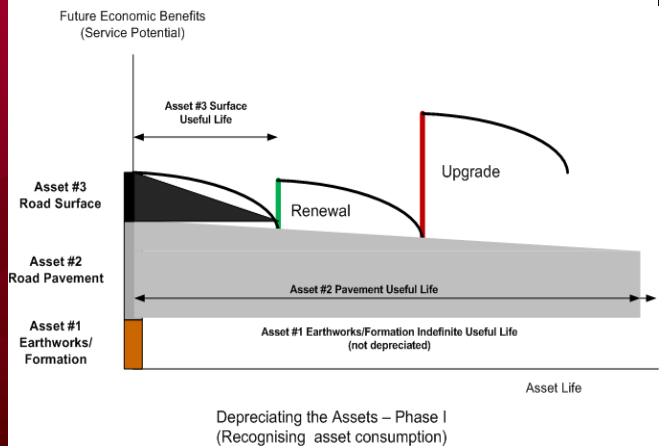
Annual average asset consumption = Replacement cost / Useful life

Account for
infrastructure to
reflect how
managed

Componentisation
& segments
simplifies the task

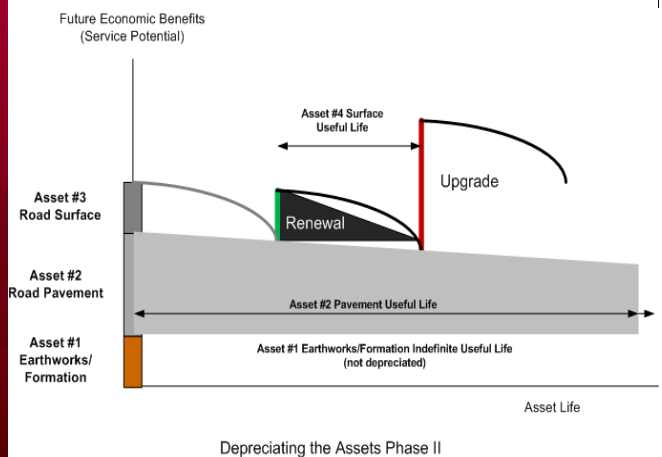
Assets recognised at component level

Consumption Phase 1



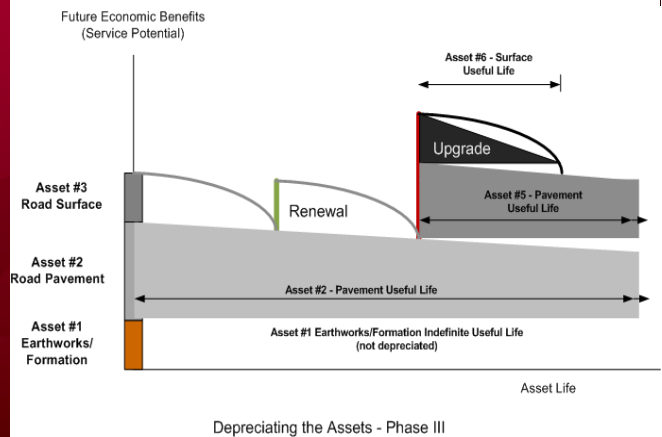
Assets recognised at component level

Consumption Phase 2



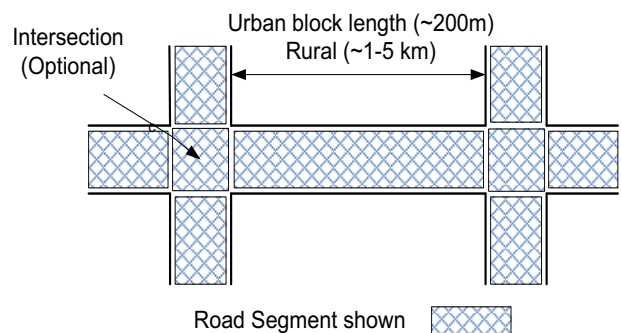
Assets recognised
at component level

Consumption Phase 3

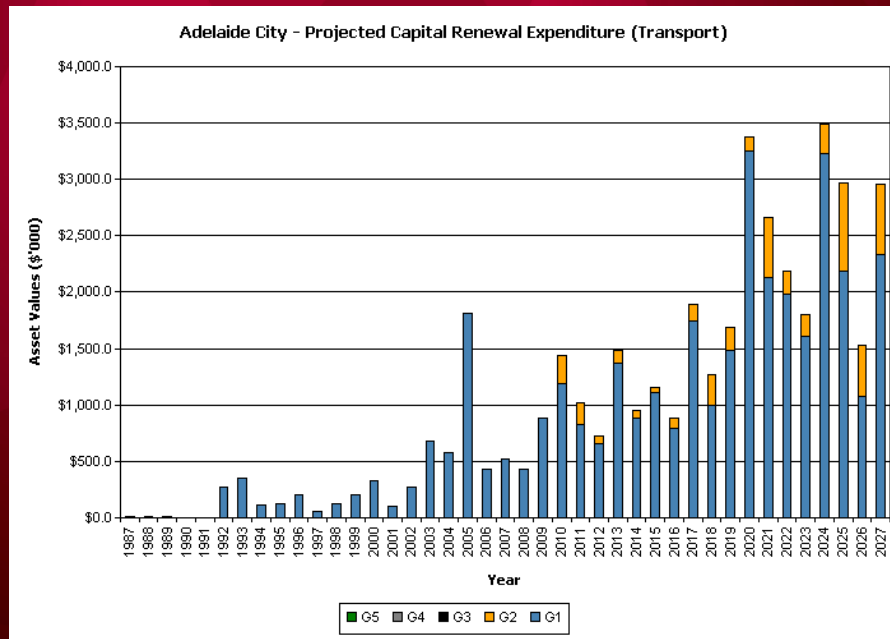


Assets recognised
at component level

Segmentation



Project future capital renewal requirements

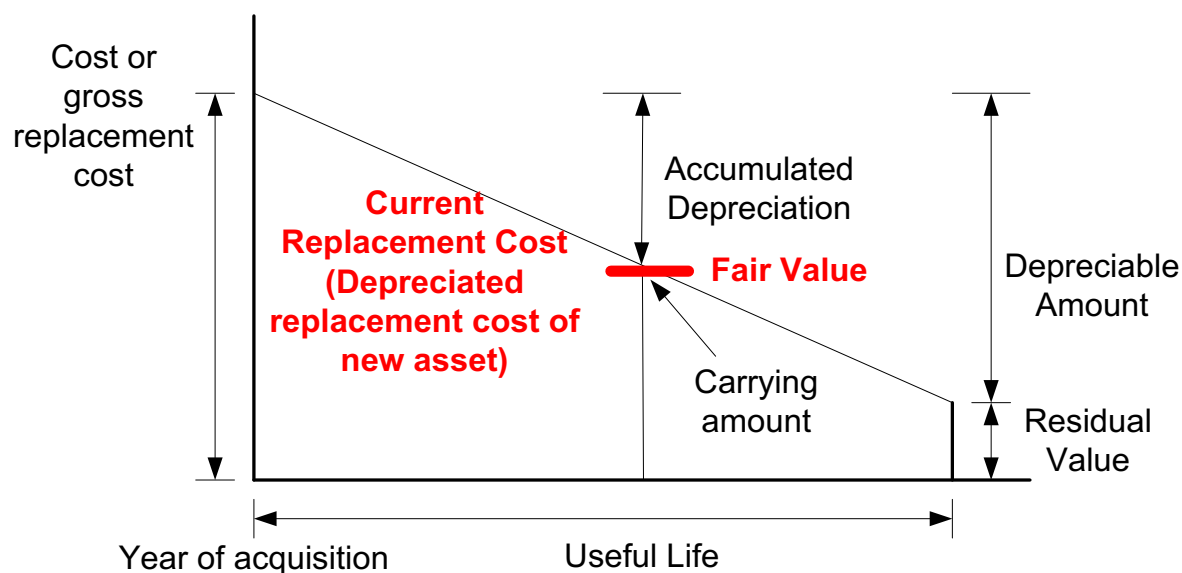


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Account for
infrastructure to
reflect how
managed

Value based on
Depreciated
Replacement Cost

Infrastructure Valuation



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Ref: AIFMM Sec 12.1.2, p 12|5.

Illustrative Balance Sheet

\$'000

Assets

Cash, Inventories & Receivables

X

Infrastructure, Property, Plant & Equipment

X

Total Assets

X_t

Liabilities

Payables

Y

Borrowings

Y

Provisions

Y

Total Liabilities

Y_t

Equity

$X_t - Y_t$

48

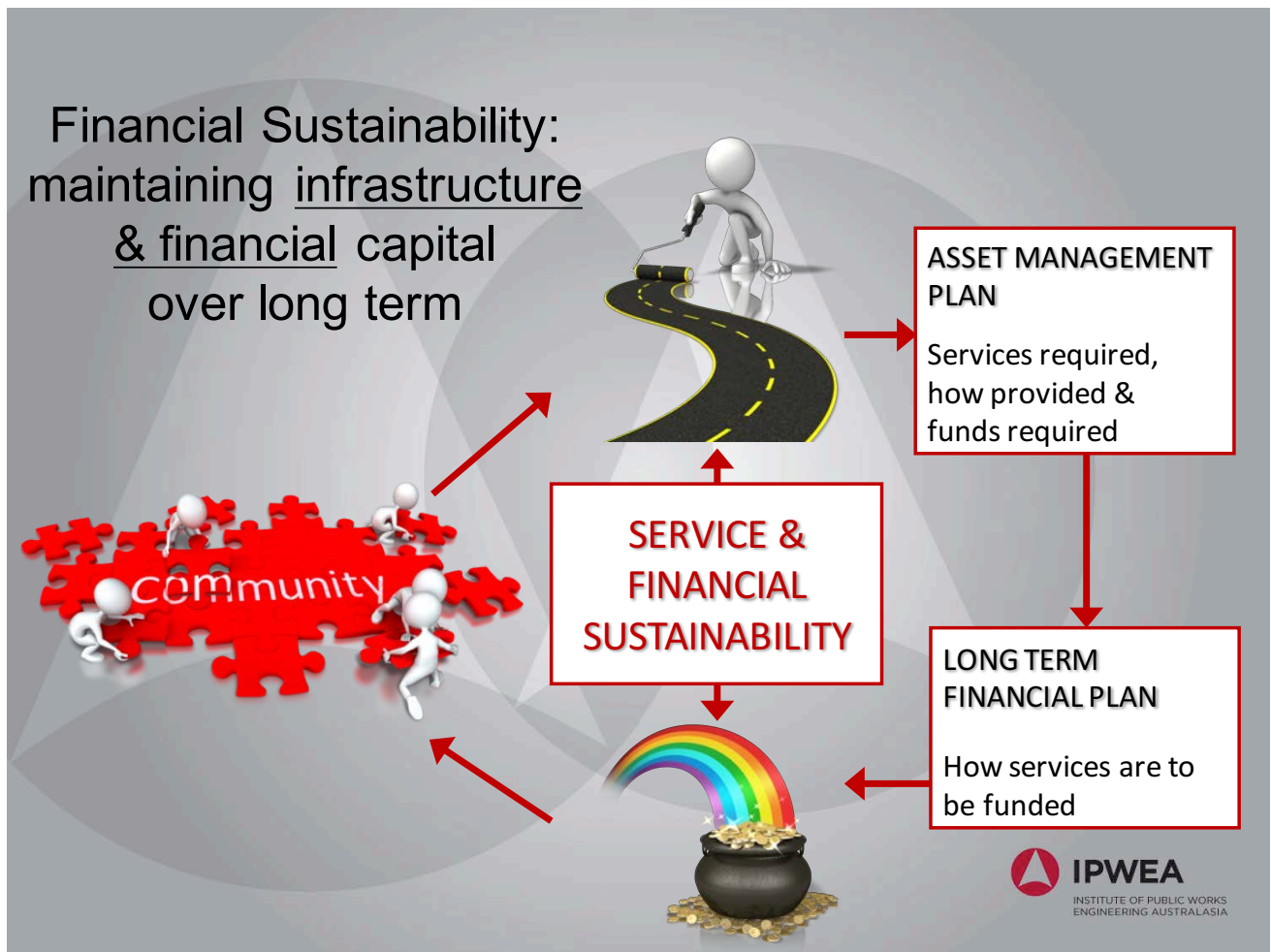
Ref: AIFMM, Table 2.6.1.1, p 2|9.

Illustrative Income Statement

	\$'000
Operating Income	
Rates, Taxes	X
Other Income	X
Total Operating Income	X
Operating Expenses	
Other	X
Depreciation	X
Total Operating Expenses	X
Operating Result	X
Other items (e.g. cap revenues) to get net surplus	X
Other items to get total comprehensive income	X

Know the long
term impact of
your decisions

Making the trade
offs between
service levels &
funding



Know the long
term impact of
our decisions

Make informed
prioritised
decisions

Implement 3 pillars to sustainably manage your community



Stewardship

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IPWEA provides
national
frameworks,
tools & resources

not software
strategic approach



Work within
a national
framework



Provide the
tools



Add some
drivers!



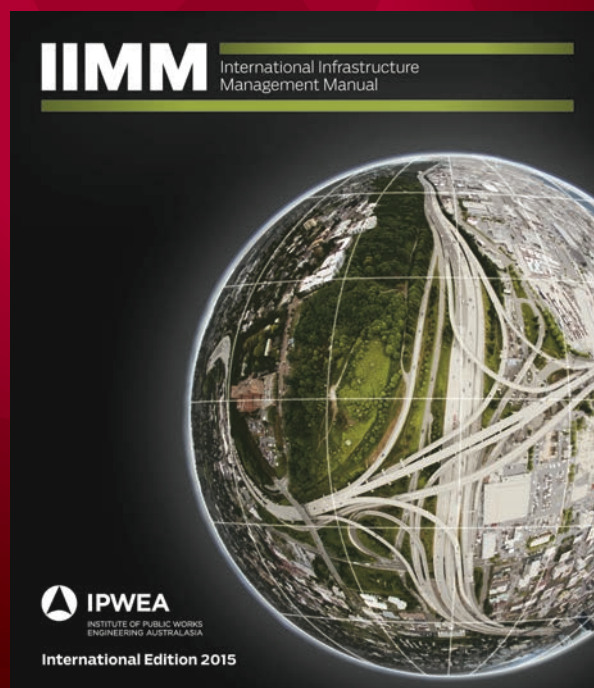
Implement 3 Actions
for Sustainability



Provide Framework Tools & Drivers	Framework	Tools	Drivers
Stewardship	Government Requirements Agreed	AM DVD: The Movie!	 
Asset Management Planning	International Infrastructure Management Manual	 NAMS.PLUS	Legislation & Incentives
Long Term Financial Planning	Australian Infrastructure Financial Management Guidelines	Long Term Financial Planning Tools	National Assessment Model




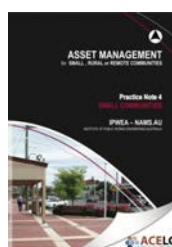
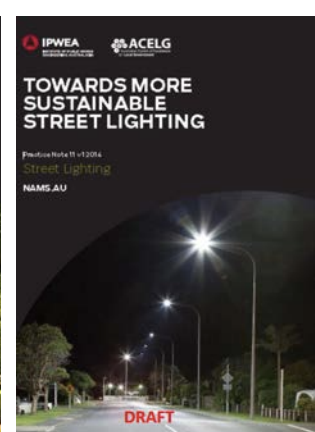
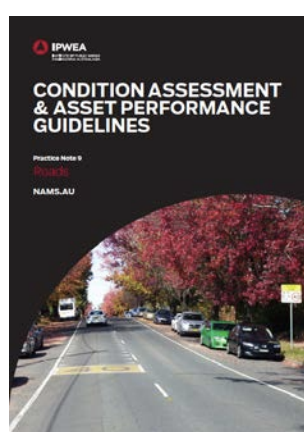
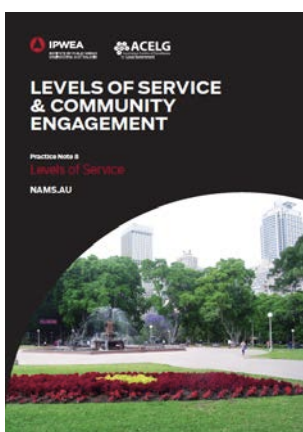
International Infrastructure Management Manual




Infrastructure Financial Management Manual



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


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Leveraging from International Partnerships?

Capacity Building & Tools

Focus on practical implementation
of writing AM plans

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NAMS.PLUS Tools & Guidelines

Suite of resources

- tools, templates
- online modeling & portal
- not just templates
- transfer skills & experience
 - 3-day workshops, forums
 - Online Professional Certificate

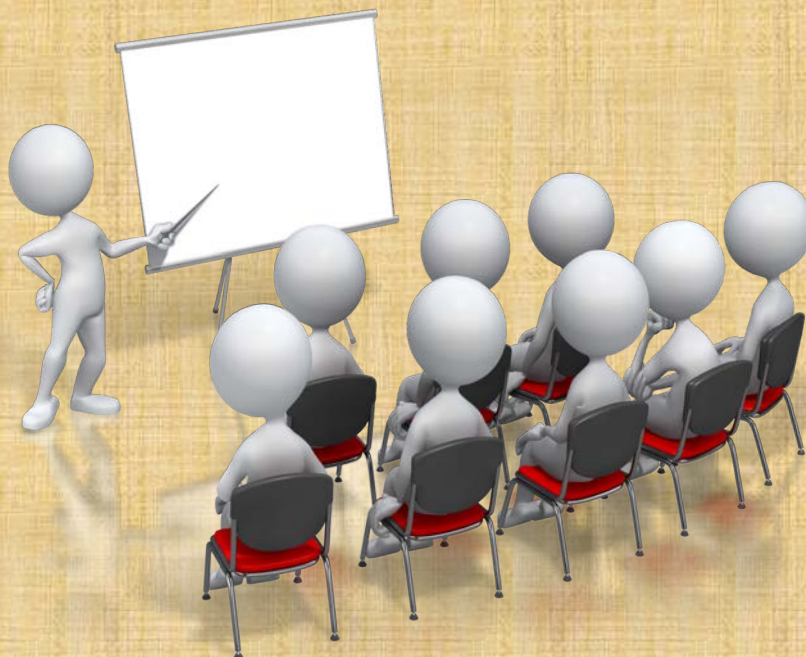
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NAMS.PLUS Tools & Guidelines

- Output: Write first cut AM Plan
- How to develop
 - risk mgmt plan
 - AM strategy; AM policy
 - Improvement plan
- Covers LOS; Risk Mgmt; Future Demand
- Lifecycle planning; LTFP

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Face to face workshops have been an essential part of our program



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Online Professional Certificate in Asset Management Planning



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**400+ who have undertaken our
international online course**

Australia, Canada, Malaysia, New
Zealand, Philippines, South Africa
United States

3 key features of the online course:

1. Highly interactive
2. Access to NAMS.PLUS tools
3. Draft AM Plan is the output

8 modules over 3 months

explain the concepts, show the tools
share experience, practice hands-on

to tell your infrastructure story

Organisation gets a draft AM plan

You get a Professional Certificate in
Asset Management Planning

Lessons we have learnt 1

- 3 Essential Elements / 3 Pillars
 - Stewardship, AM, FP/FR
- Capacity building an essential
 - Workshops
 - Professional Certificate in AM
 - transfer of skills & experience
- Deadlines: *frameworks, tools, drivers*
 - AMP; then LTFP; maturity model

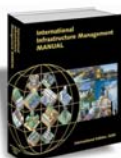
Lessons we have learnt 2

- Consistency in approach
 - national/provincial framework
 - not reinventing wheels
- Connecting asset management & financial reporting: dollar speaks
- IPWEA 20 years experience & programs

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for Sustainability



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