

# Practical Strategic Asset Management Planning

Steph Forrest, Jenny Bentley, Winifred Long  
Victoria University of Wellington  
February 2012

# Asset Management @ Victoria





# Asset Management @ Victoria

- \$700m portfolio
- 4 Campuses plus 2 “satellites” – approx. 150 buildings
  - Kelburn – “main” campus
  - Karori - former College, now Faculty of Education
  - Pipitea – commerce, government, law
  - Te Aro – architecture and design
  - Coastal Ecology Lab – Island Bay
  - Wellington Hospital - Newtown
- 210,000 m<sup>2</sup> GFA (20,000 m<sup>2</sup> leased)
- 2,500 “controlled” student accommodation beds
- 7.2 m<sup>2</sup> UFA/EFTS compared to 8.2 m<sup>2</sup> NZ discipline weighted average
- Restricted investment in the past in upgrading services infrastructure or appearance
- Failure risk increasing

# For Victoria:

- Campus Development Framework/Plan (CDF) 2006
- Commenced NAMS model SAMP in 2007
- 1<sup>st</sup> formal SAMP document 2009
- Funding scenario commitment March 2010
- Inter-dependency CDF/SAMP
- Now merged CDF into SAMP and undertaking major campus planning exercise 2012-2032
- Document supports capital investment and opex funding

# Where to Start?

- Frameworks
  - NAMS
  - OGC Guidelines, UK
  - International guidelines/frameworks
  - TEFMA guidelines
  - Recently CAM Standard developed with TEC

# How does SAM Plan fit?

Figure 1: Asset management planning cycle





# NAMS Asset Management Plan Framework

1. Asset description (component level) - “What have we got?”
2. Condition status – “What state is it in, i.e. how long is likely to last, when is it likely fail?”
3. Levels of Service – “What levels of performance are the users and stakeholders expecting from the facilities and management of the facilities?” – qualitative
4. Future Demand – “what are we going to need in the future to meet those levels of service? – quantitative
5. Lifecycle Management – “what’s our plan (and choices) as to how we are going to deliver on those levels of service and meet the demand over the next [20] years?”

# NAMS Asset Management Plan Framework (contd.)

6. Financial Summary – “what’s it going to cost?” – scenarios, choices, trade-offs
7. Asset management practices – how do we go about pulling all of this information together?
8. Monitoring and improvement – “how are we going to ensure we do what we say we do and improve?”



# 1&2 - Asset description/Condition status

What have we got and what state is it in?

- Physical audit undertaken
- How low do you go? Component level data for every building - choices to make as to “cut off”.
- Supported by good software or detailed spreadsheet (SPM)
- Expensive and time-consuming but fundamental
- Need to have continuous or periodic data refresh

# But also needed to know....

- Seismic performance status –EQ prone building policy – internal standard 67%
- Asbestos
- Geotechnical – topography, stability
- Heritage implications – Hunter, Robert Stout (and others)

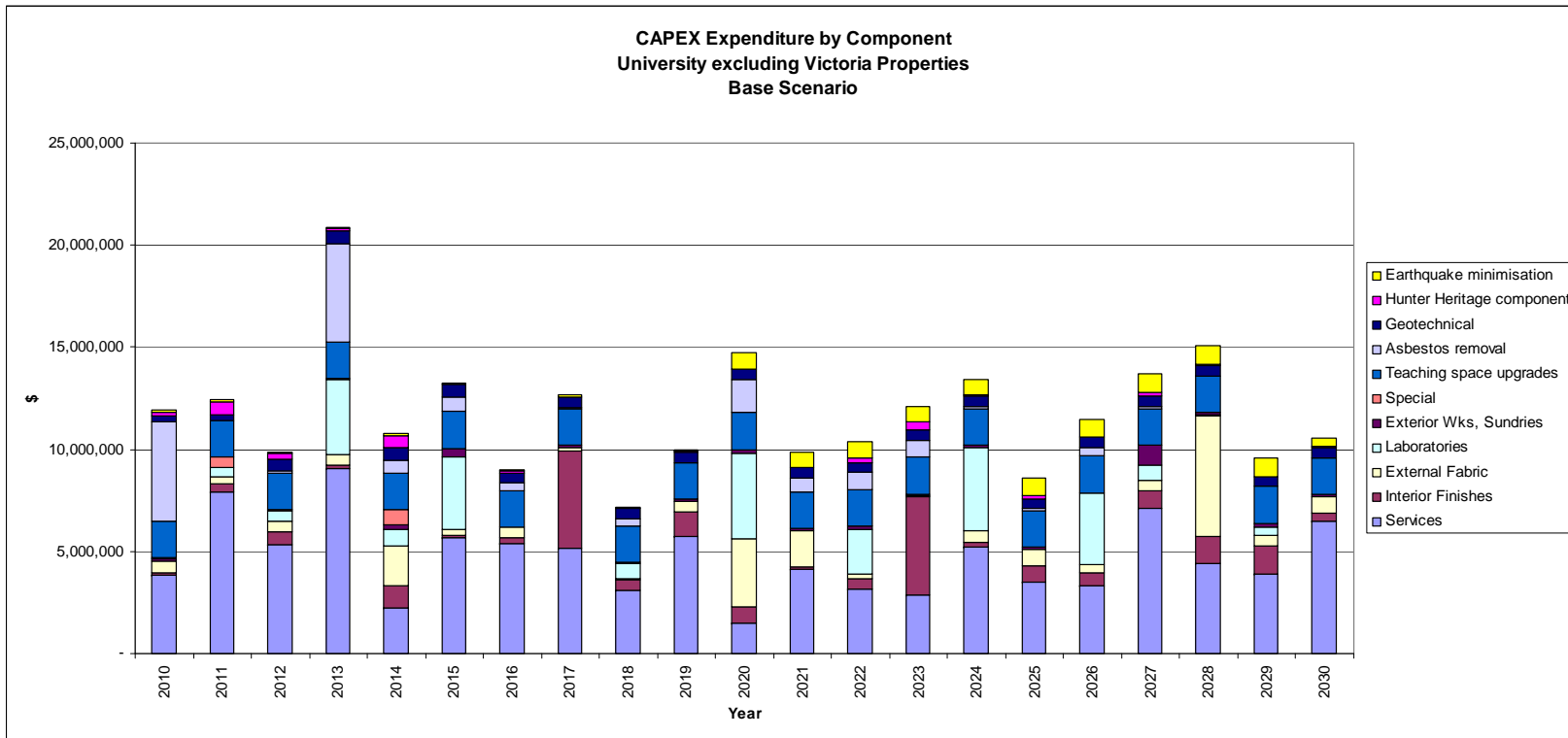
# Key Assumptions

- Demand for the facilities and assets provided will continue;
- The assets will be replaced at the end of their useful life (i.e. Condition Grade 5 – except for a selection of critical assets and/or buildings) – this is essentially a “run to fail” strategy.
- The financial assumptions are based on replacing “like for like” i.e. no increased level of service.

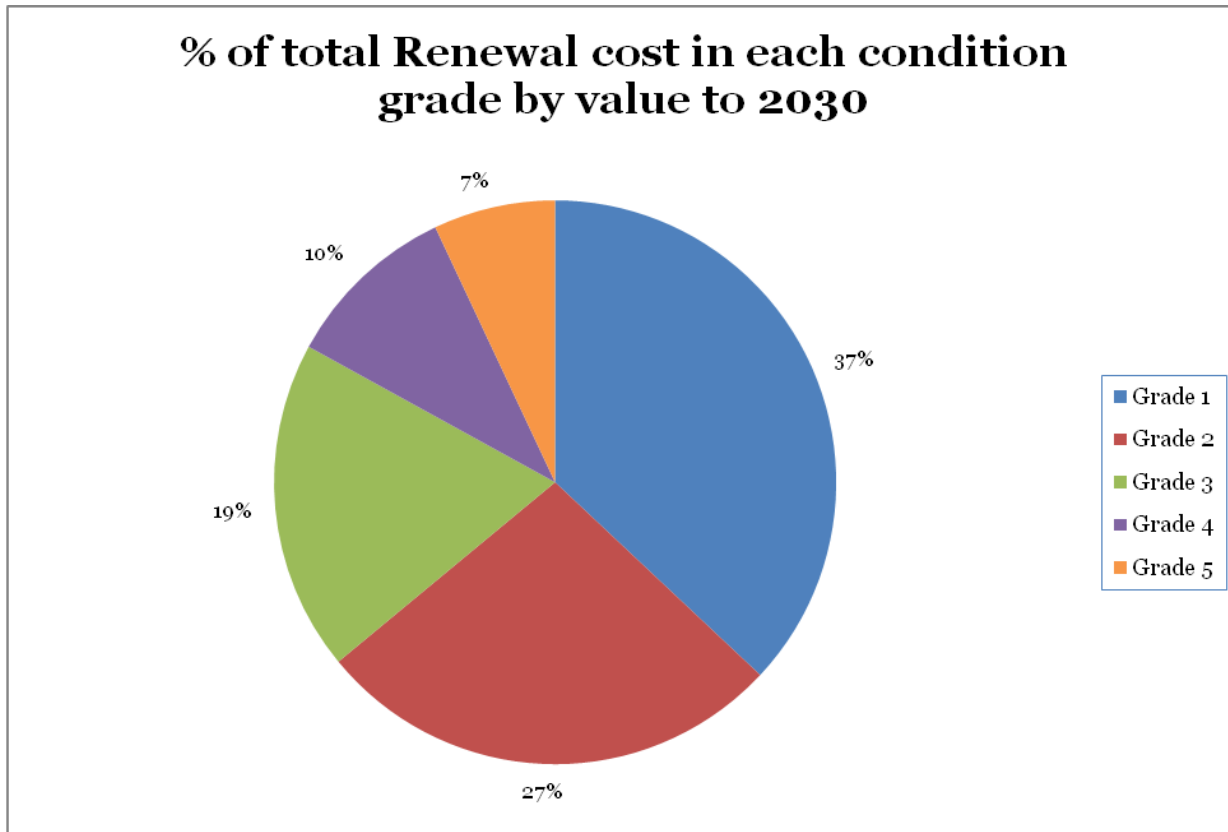
# Data Capture and Analysis

- Separate project to set up component database
- Eyeballed every component and recorded condition (1-5 scale)
- Raw data produced “base” renewal profile based on component level likely failure - desktop exercise
- Residual life and replacement cycle reflects risk level
- Layered in impact of seismic strengthening, asbestos, geotechnical and heritage
- Costs only parts/labour – 20% (arbitrary) for project delivery costs e.g. management, demolition, scaffolding etc.

# Initial “raw data” component renewal spread



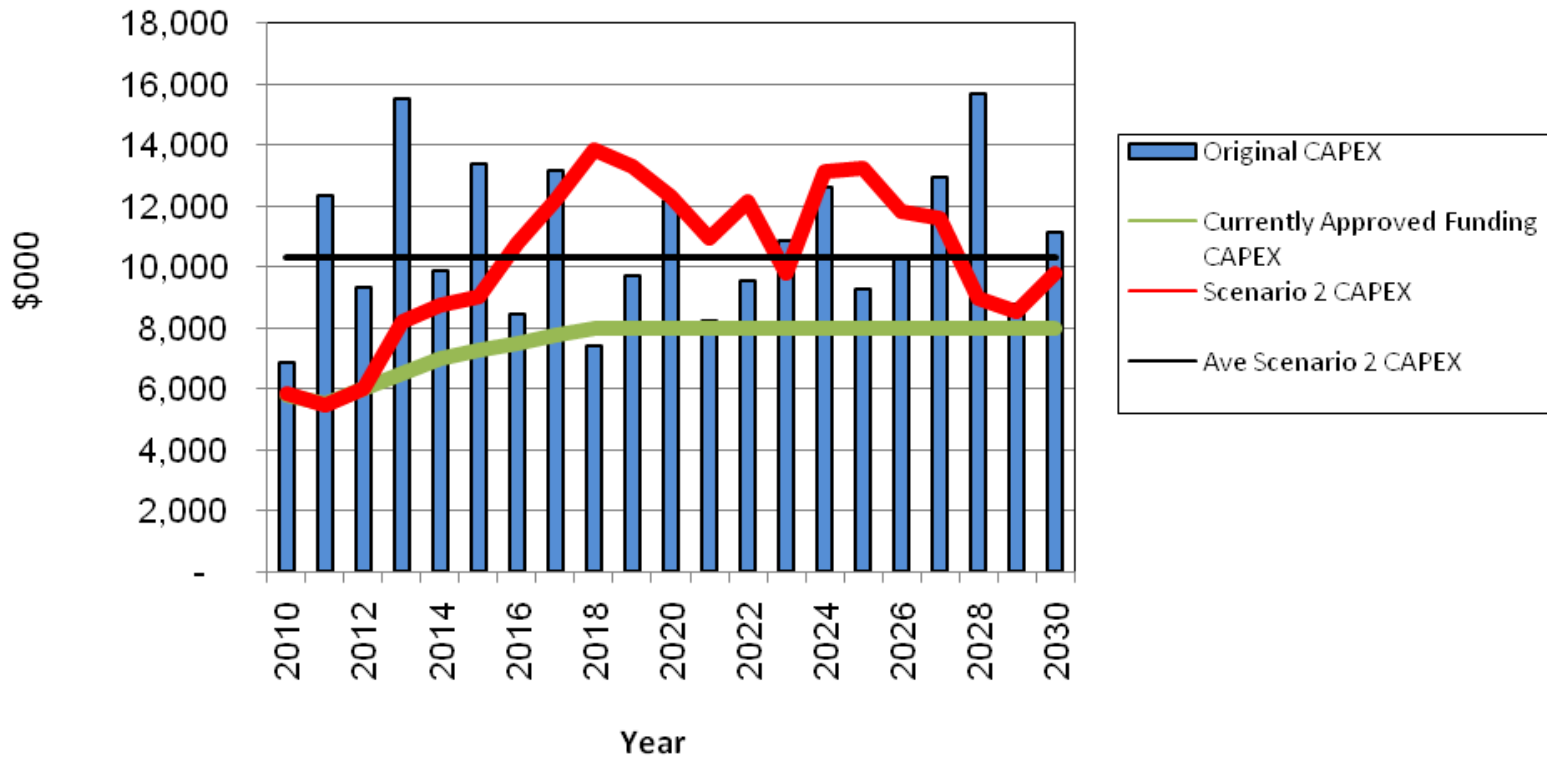
# What did it tell us?



# Analysis

- Enabled in-depth financial analysis
- Extensive manipulation of “raw” data to “projectise”
- Could adjust timing (based on risk) and affordability e.g. \$ value of seismic, asbestos etc.
- Create multiple financial scenarios
- Link to augmentation projects

## Capital Expenditure University excluding Victoria Properties



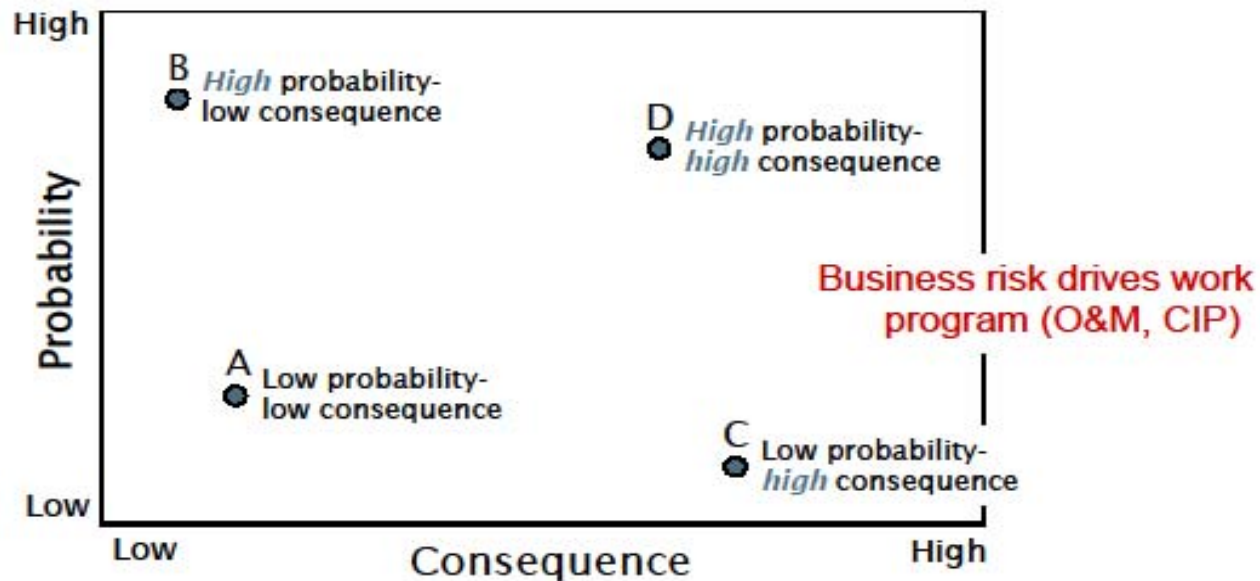


# Words of Caution

- Although data collected at detailed level, analysis is “high level” i.e. desktop exercise
- Needs practical verification/validation, facilities manager reality check
- Create a long term or rolling 3 year renewal and maintenance work programme
- Any strategic reviews may change priorities as well as affect costs
- Need to link renewal to augmentation projects and merge/align funding;
- It’s all about managing risks and benefits.

# Determine Asset Failure Risk

What is probability of failure? What is consequence of failure?



# 3 - Service Levels

- Replacing like with like .... or not
  - Form
  - Function
  - Fit
  - Fashion/Future
- Keeping pace with change and strategy
- Driven by:
  - University's strategic direction, policies
  - Legislative requirements
  - Industry standards,
  - Customer expectations
- Defining service levels is challenging - Work in progress
  - Appropriate technical targets and strategic priorities e.g. for teaching space, laboratories, administration, recreation
  - How to measure - customer satisfaction vs technical measures
  - 'Willingness to pay'
  - TEFMA – capacity, utilisation, condition, functionality, sustainability

# Service Levels - Process

- Strategic level – Ask senior management, council
  - Adequately support strategy
  - Ensure facilities of the right quality and quantity are in place at the right time and cost
- Tactical level - Ask staff and students
  - Meetings with PVCs
  - Independent facilitator – expert on Levels of Service
  - 5 x 2-hour workshops with Senior Management, Heads of School, CSU Heads and other stakeholders e.g. tenants, Consultants, WCC Urban Design
  - On-line survey to all staff - 431 respondents of approximately 2,500 staff
  - On-line survey to students - 4,000 respondents
  - Cover assets and services
- Technical level
  - Measures of utilisation, functionality, utilities consumption, cost
- All feed into gap analysis
  - BUT not a simple 'gap' identification process

# Estate Performance KPIs

Category	Measure	Target
<b>Capacity</b>	Asset Utilisation Index (AUI)	100%
	Average area provided by VUW compared with VUW space demand	7.5m <sup>2</sup>
<b>Teaching Room Utilisation</b>	Theoretical Utilisation (TU) Contact Hours	60%
<b>Functionality</b>	Staff and student satisfaction with facilities and FM services	80%
<b>Condition</b>	Overall Condition Rating (OCR)	90%
<b>Legislative Compliance</b>	Percentage of buildings with current warrant of fitness	100%
<b>Environmental Sustainability</b>	Electricity Consumption	18.7 gWh
	Gas Consumption	13.1 gWh
	Greenhouse gas emissions	35.9 Tonne CO <sub>2</sub> /m <sup>2</sup> GFA
	Water consumption	1.19 kL/GFA
<b>Cost</b>	Percentage of depreciation spent on renewal maintenance & refurbishment	100%
	Total Maintenance & Renewal Index	1.7%
	FM Services costs	Tefma comparisons

# Words of Caution

- Still challenging to **define** levels of service for assets
- Measuring functionality difficult - **Appropriate** targets and priorities e.g. for teaching space, laboratories, administration, recreation
- Measures should drive gap identification, but conclusions are often anecdotal
- Strategic needs can change quickly
- Separating wants from needs
- Balancing need priorities across all parts of the institution – salaries vs capex

# Key Service Level Gaps – Victoria 2011

- Physical condition of facilities
- Reliability of infrastructure
- Facilities not fit for purpose (eg labs) – 20 year view
- Range of venues supporting the student experience
- Quality of support service delivery

# 4 - Demand

- Linkage to strategic plan and investment plan priorities
- Intuitively knew we have capacity/quantity issues – teaching rooms, decant space, office space, research space, meeting rooms
- Challenge to determine a ‘reasonable’ or appropriate level of space provision as target e.g. GFA/EFTS comparison
- EFTS and discipline forecasting – faculty plans?
- How to ‘manage’ demand and minimise need for new space – alternative options
- One-on-one interviews with deans
- Staff workshops and surveys
- Industry research for global trends in tertiary education – pedagogical changes
- Senior management team and council direction



# Demand Scenarios

- EFTS - The following table shows how much extra space could be required for the whole University across a **20 year period** using 3 different growth forecasts.

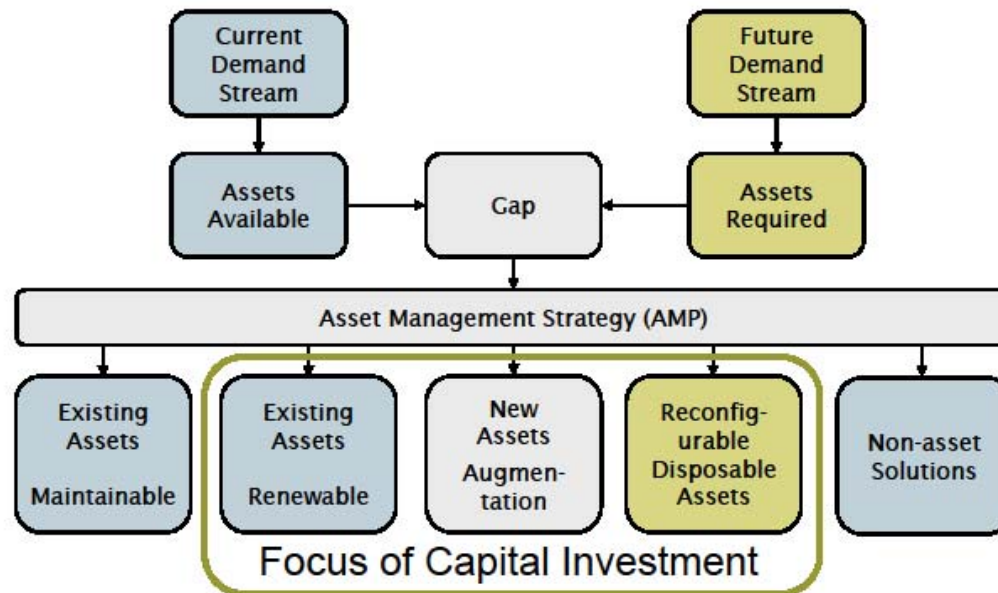
Scenario	Additional space required Gross Floor Area sqm		
	2018	2023	2031
Reduced	1,660	-490	-2,600
Conservative	4,050	4,670	5,170
High	6,750	9,660	12,580

- Changes by discipline over 20 (-50) year period
  - how much space needed for each discipline
  - what type of facilities – changing needs
  - best location
  - delivery method
  - control excess demand vs build new demand
  - institutional planning issues
- Compare with sector norms, quantification of known shortages

# 5 - Bringing it all together – where is the gap?

## Capital Investment Plan

Balancing future demand with current capabilities



# Victoria's Gap Analysis

## ▪ Space for research and teaching

- Current shortfall in PG and office space
- Music/Performing arts
- Large lecture theatre (300 – 500 seats)
- Additional teaching rooms (large flat floor, reconfigurable, high IT specification)
- Facility enhancements Pipitea/Te Aro
- Fairlie Terrace precinct – performing arts, teaching, residential

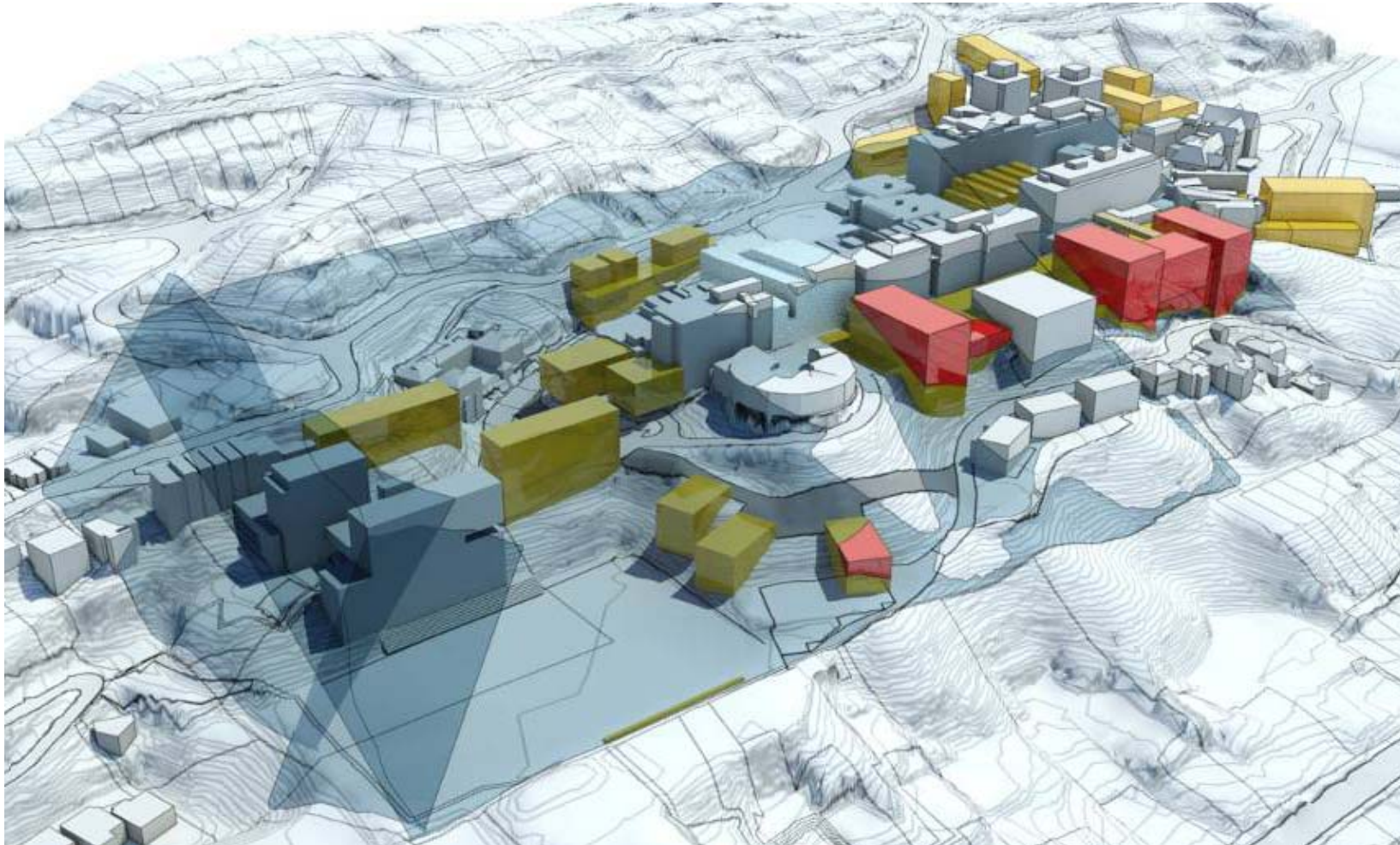
## ▪ Facility enhancements – student experience

- Student service delivery points close to Hub
- Marae Precinct – dining room
- Fale – Pasifika space
- Pipitea Campus - public and student space enhancements

## ▪ Asset Management

- Seismic/asbestos upgrading Easterfield, Rutherford House, Kirk
- Laboratory upgrades - Cotton, Laby, Kirk
- Plant

# Campus Development Plan

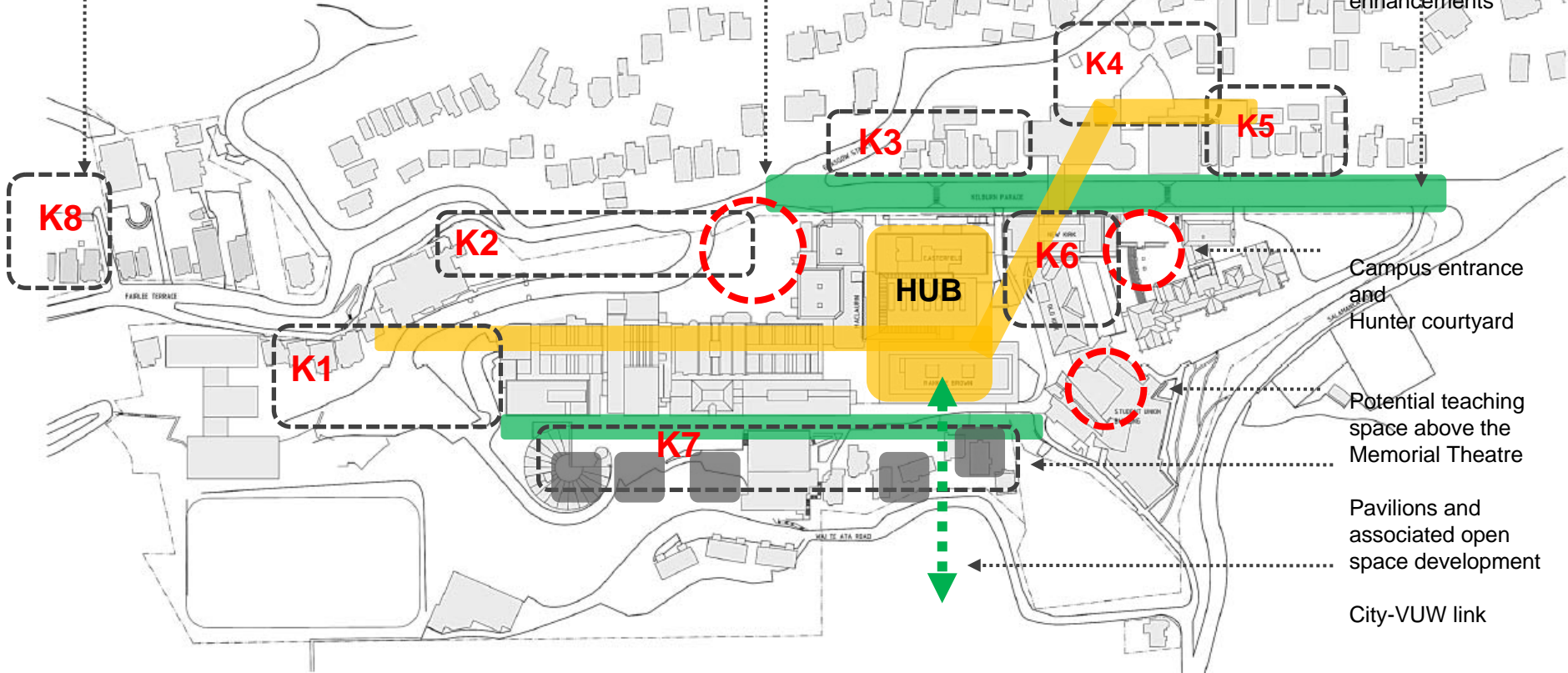




Student housing and creche facility development at south end of campus

Gate 6 and 7 enhancement, and teaching / performance facility

Kelburn Parade streetscape, building edge, gateways and crossing enhancements



## Development Areas and Related Initiatives

# Kelburn Campus

# Strategic Asset Management Planning

## Management Work-streams

Staff and community consultation

### Strategic decision-making

- Faculty location
- Strategic priorities
- Affordability

SAM Plan Updates

District Plan Change

20 yr Services Infrastructure Plan

Laboratory optimisation project

Property Review

## Facility Upgrades

Kelburn interiors, plant & seismic upgrading

Kirk retrofit

Te Aro Enhancements

Pipitea student spaces

Marae precinct

Fale, interim option

Kelburn Parade

Cotton refurbishment

Easterfield & Laby labs

## New Facilities

Music

South-west research and teaching building

400 seat teaching space

Strategic development KP north-west

Fale & entrance space

# 6- What can we afford?

What are the institution's priorities?

- Integrated Strategic Planning
- Institution-wide issue – not just FM or Finance
- Multi-disciplinary working groups – work with Finance
- Top level leadership
- Strategies drive priorities eg Student Experience strategy, Research Strategy
- Need to plan and make decisions to ensure adequate, timely business support

# Achieving sustainable funding

## Affordability Assessment and Financial Modelling

- Need to balance facilities expenditure with other institutional needs
- May require staged increases
- Need to gather and robustly present information on your assets, condition needs and work with others to understand future demand and impacts
- Need to demonstrate risks of deferral
  - examples of failure
  - descriptive reality checks
  - quantify possible impact on business continuity
- Need to balance increased investment in renewal projects with constraints on new capital development



# Key Issues

- Whole of institution approach
- Robust data
- ‘Projectising’ poses a technical challenge – grouping projects and linking to augmentation projects
- Decant space
- Data “loop” – keeping information current and accurate
- Forecasting need and understanding appropriate service levels
- Managing financial constraints and risk (funding and prioritisation)
- Rigorous renewal programme implementation
- Review cycle for SAMP, CDP - within the institution’s planning cycle
- Plan still a work in progress

Information and engagement are the keys

# Donald Rumsfeld

*Reports that say that something hasn't happened are always interesting to me, because as we know, there are **known knowns**; there are things we know we know.*

*We also know there are **known unknowns**; that is to say we know there are some things we do not know.*

*But there are also **unknown unknowns** - the ones we don't know we don't know."*

# 3rd Iteration of SAMP

- Data validation, verification
- Hone in on the “known unknowns”
- Student Accommodation review
- Karori Campus review
- More detailed seismic, asbestos, geotech and heritage investigation
- More work around defining levels of service
- More demand analysis – “appropriate” measure

# 4th Iteration of SAMP

- Data validation, verification
- Hone in on the “known unknowns”
- VUW Strategic Plan review generates SAMP review
- Campus location reviews
- Property portfolio review
- 20 year Infrastructure review
- More detailed seismic, asbestos, geotech and heritage investigation
- More work around defining levels of service
- More demand analysis
- More research on trends

# In reality

- 1<sup>st</sup> Plan reflected what we had and how to renew 'like with like'
  - Renewal Plan
- 2<sup>nd</sup> Plan reflected our understanding of increasing demand and that we needed 'more'
  - 10 year Capital Investment Plan
- 3<sup>rd</sup> Plan reflected knowledge of future supply options and service level changes and what some viable options were for the future
  - Campus Development Plan
  - Integration of all elements
- 2012 Plan
  - More strategic
  - ?