

**smart**  
infrastructure facility

University of Wollongong



Smarter Cities and Infrastructures  
The Australian Landscape

Prof. Pascal Perez

The National Centre for Infrastructure Solutions

# SMART initiatives in Australia

## International Partners

ITRC-UK, FuturIST,  
ANL, ASU

## AURIN

Australian Urban Research  
Infrastructure Research Network

## SMART Infrastructure Facility

University of Wollongong

## NICTA

National ICT Australia Ltd

## Consulting Firms

AECOM, ARUP,  
Worley Parsons,  
KPMG, SKM, IBM  
and more...

## Research Laboratories

CSIRO  
QUT, Uni SA, Monash Uni,  
Uni of Melbourne, Uni of  
Sydney, UNSW, Uni of  
Wollongong  
and many more...

## Cooperative Research Centres

Infrastructure Asset Management  
Rail Innovation  
Spatial Information  
e-Water  
Smart Services

**A \$700 billion backlog in Australian Infrastructures  
(KPMG, 2010)**

# National Infrastructure Research Summit

smart

First time Researchers, Federal  
Politicians, State Politicians,  
Consultants, Utility Representatives  
meet at the Australian Parliament  
House in Canberra  
(March 27<sup>th</sup> 2011)

National SMART Infrastructure Research Summit  
Workshop Positioning Papers

## National Infrastructure Data Requirements

**“How can we overcome jurisdictional  
boundaries and commercial interests for  
national benefits**

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Contact:

Prof Pascal Perez  
Professor of Simulation  
SMART Infrastructure Facility  
University of Wollongong NSW 2522  
P: +61 2 4252 8238  
M: +61 432 435 192  
E: [pascal\\_perez@uow.edu.au](mailto:pascal_perez@uow.edu.au)  
W: <http://smart.uow.edu.au/>

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This document was prepared by:

Pascal Perez

In collaboration with:

Matthew J. Berryman, Edward Chung, Theresa Hoynes,  
Marc Miska and Craig Napier

# SMART Infrastructure Facility



(partner: Dept of Transport NSW)

The SMART Infrastructure Facility is the national centre for infrastructure solutions. SMART stands for 'Simulation, Modelling, Analysis, Research and Teaching'.

The SMART Infrastructure Facility's mandate is to provide the data and analytical capability to successfully create and execute a national integrated infrastructure plan for Australia.



## Funding

\$61.8 million investment

\$35 million from the Federal Government

\$10 million from the NSW Government

## The SMART Infrastructure Facility

Four-storey, 12,000 m<sup>2</sup> floor space

30 state-of-the-art laboratories, HPC centre

Up to 150 research staff

200 higher degree research students





# Shaping the Future of Sydney

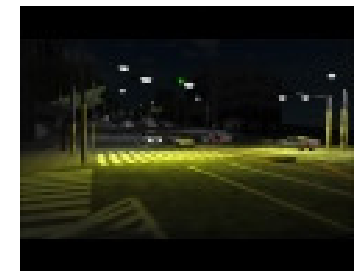
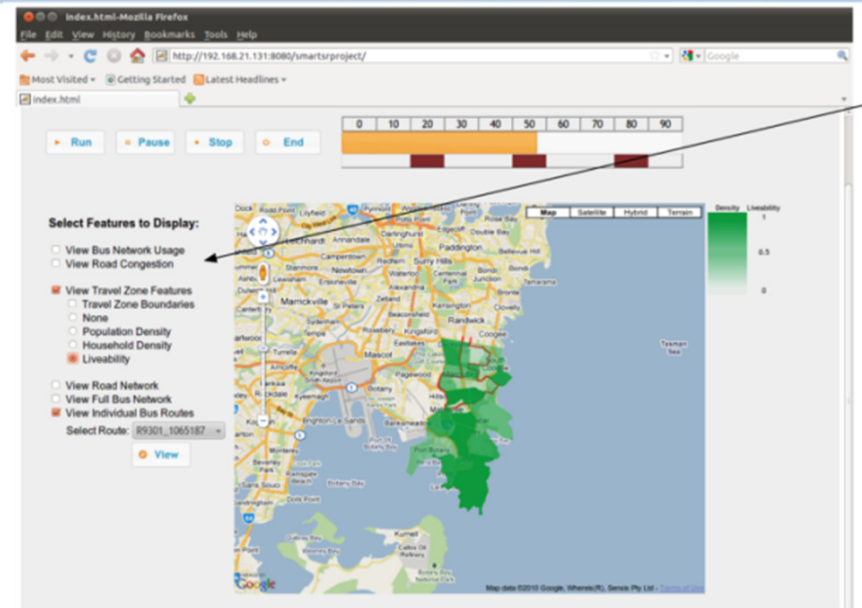
(partner: Dept of Transport NSW)

**Objective:** simulating the interplay between transportation (and other liveability factors) and land use changes in Randwick, Sydney.

The model allows users to explore complex interactions between assumed mixes of (perceived) **liveability factors** and population structures with future transportation options.

The demographics rely upon a synthetic population of Sydney (on-going work) and feed into an activity-based model. The latter couples RePAST and TranSims platforms while the visualisation is rendered through Google-Map (and UC-WinRoad for the interactive version aiming at validating the model)

Project Leader: Prof Peter Campbell



# Multi-Utility Dashboard (i-change)

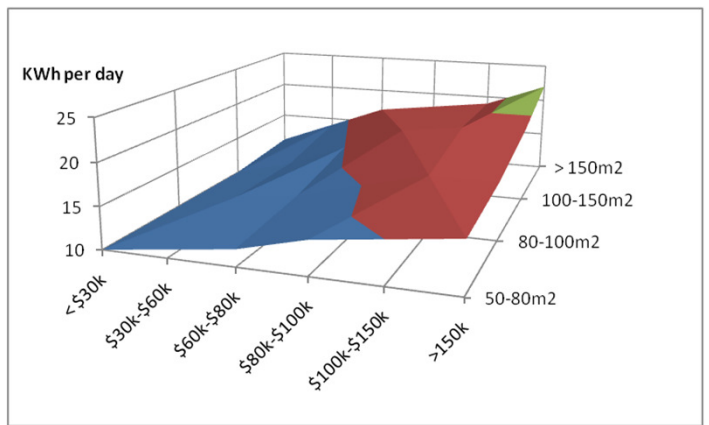
(partner: ANDS)



The **multi-utility dashboard** will act as ‘one-stop-shop’ portal accessing, formatting, analysing and making publicly available information on water, energy, waste, communication and transport distribution or management networks in a given area.

This information, crossed with relevant figures from demographics and economics will constitute a robust foundation for powerful **infrastructure analytics**. The multi-utility dashboard will offer a flexible collaborative platform to researchers, business analysts, infrastructure planners and citizens. Our case-based approach will start with a demonstrator for the **Illawarra region**. Then, we will extend and adapt the concept to the whole NSW.

Leader: Prof Pascal Perez



# Contact Information

## Pascal Perez

Professor of Infrastructure Modelling  
SMART Infrastructure Facility

**P:** +61 2 4252 8238

**M:** +61 0432 435 192

**E:** [pascal@uow.edu.au](mailto:pascal@uow.edu.au)

**W:** <http://smart.uow.edu.au/>

## News:

5 PhD scholarships in 2011/2012

3 PostDoc positions in 2011/2012

International Conference on Advanced Infrastructure Research (Feb. 2013)

