



# Delivering 3D Land and Property Management:

## A Consideration of the Institutional Issues in an Australian context

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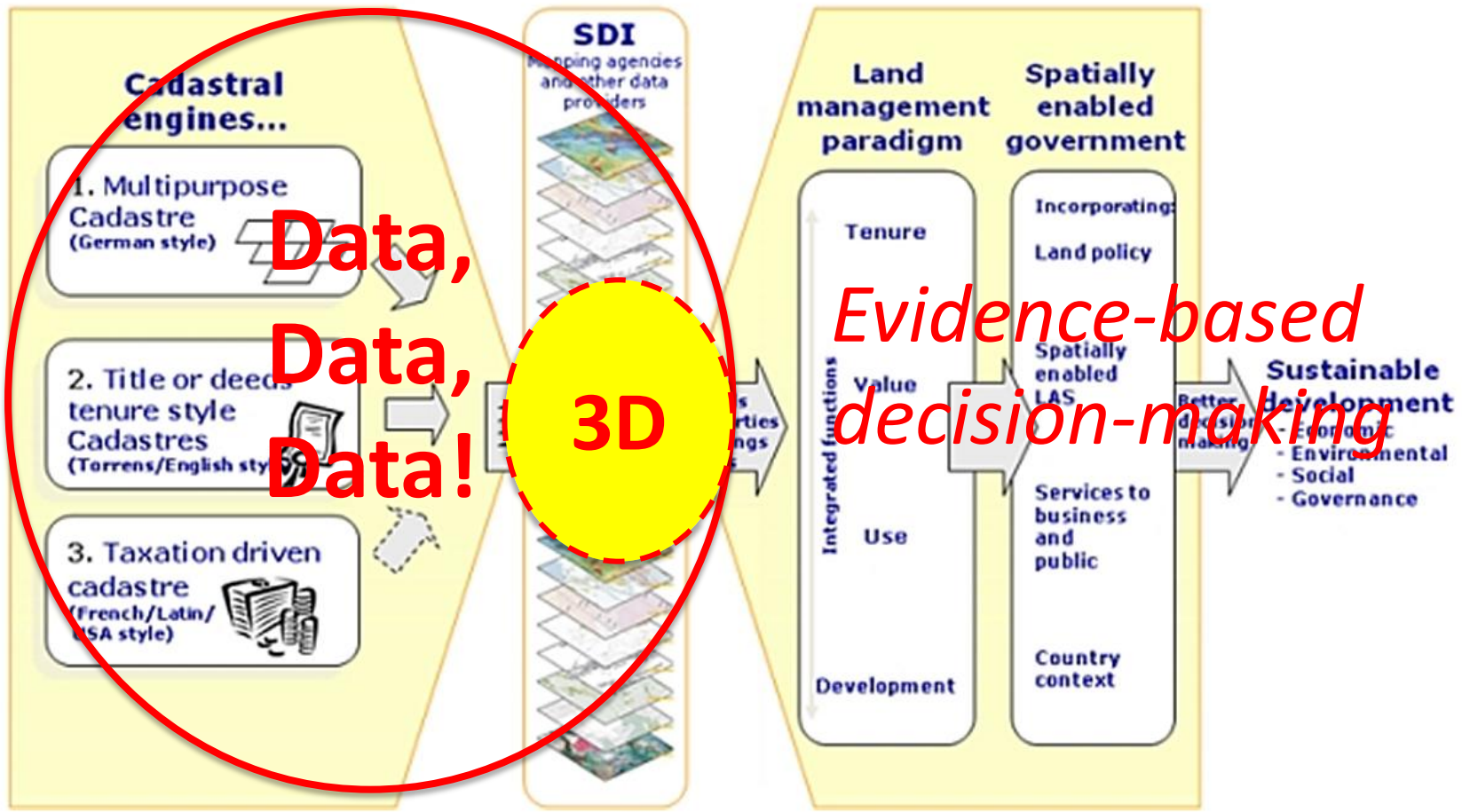


**“But, we *have*  
a 3D  
cadastre...”**



*So...what's the problem?*

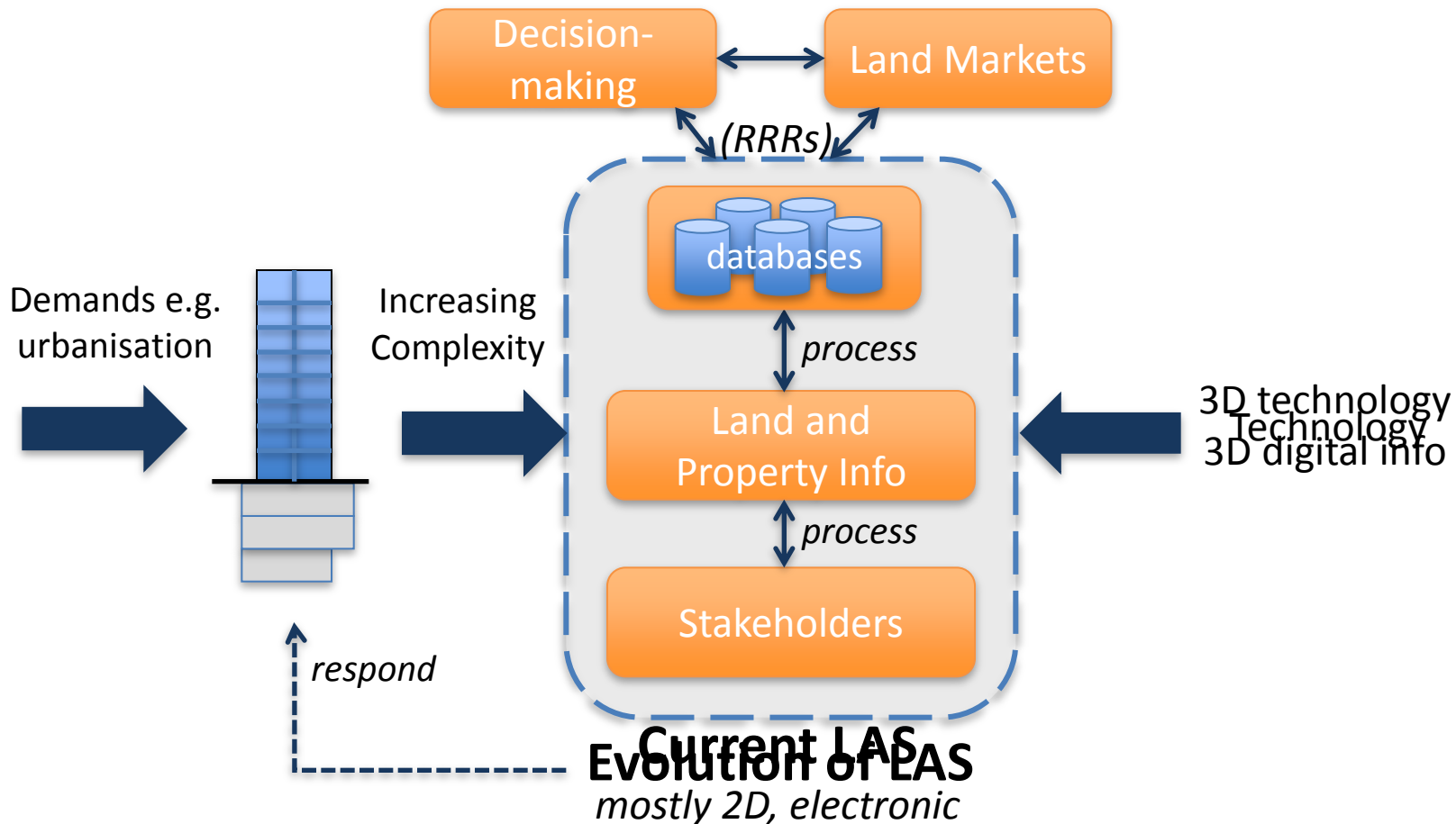
# Effective Land Administration = Effective Data



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# 3D Data: Demand Pull or Tech Push?



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# 3D Data: Demand Pull



# 3D Data: Technology Push

## Melbourne mapped in 3D for new sat-nav technology

Greg Thom | Herald Sun | October 16, 2009 11:24AM

0 tweet

f Re

MELBOURNE'S b  
motorists.

Developed using aeri  
the art digital mapping  
realistic 3D represent  
advanced recreation

Dubbed 3D City Mode  
Melbourne's streets to  
nav technology.

Sensis digital mapping subsidiary Whereis, will  
launch the feature on Monday.

Whereis spokesman Adrian Trout said the maps  
would be fully rendered and textured, allowing

*Technology use and  
diffusion are  
contextualised by  
existing institutional  
arrangements*

A+ A- Print

nav loving



A 3D IMAGE OF MELBOURNE CBD IS ABOUT TO BE AVAILABLE ON IN CAR SAT-NAV SYSTEMS.

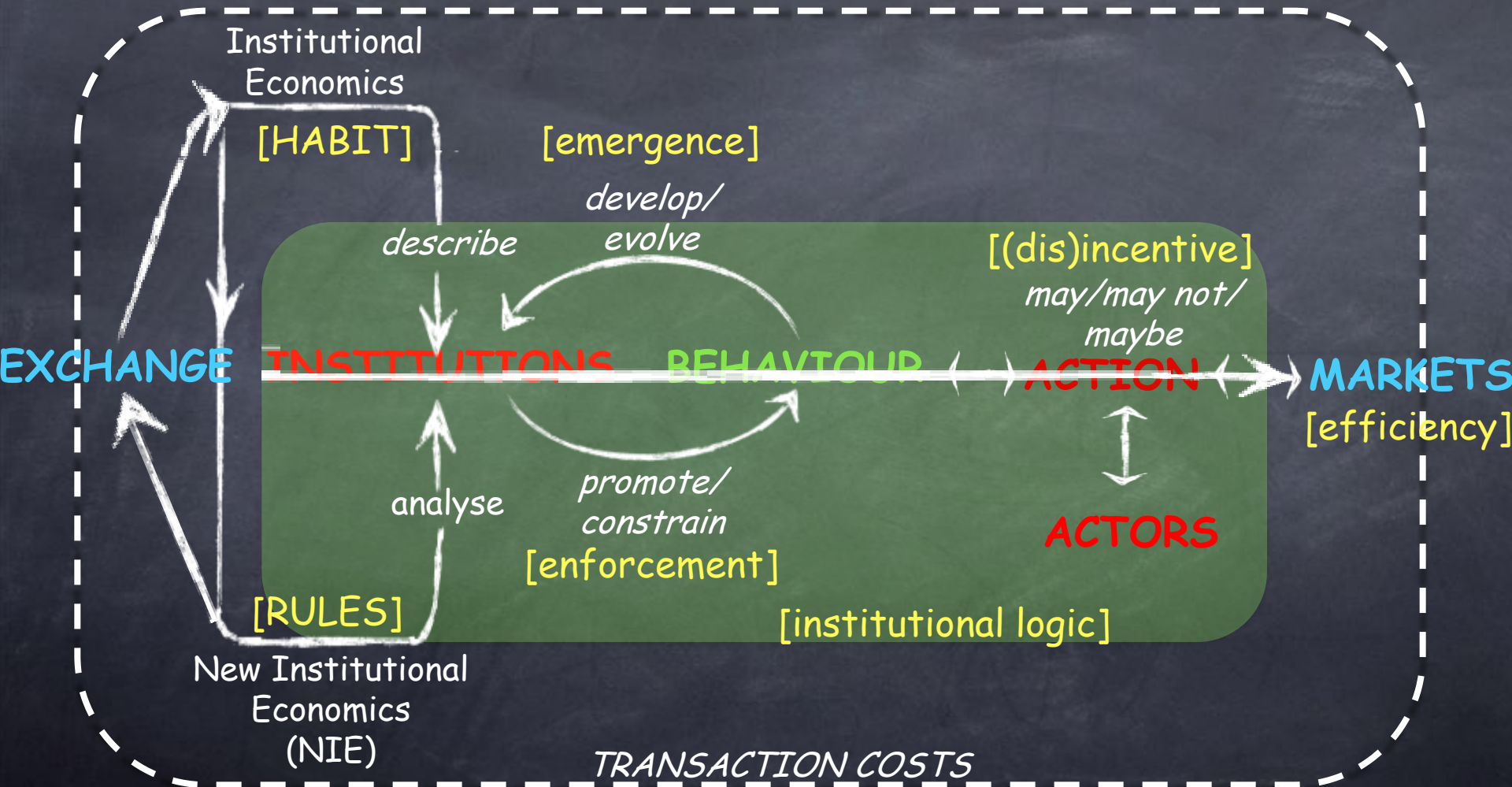


# What are Institutions?

WHY we do things  
the way we do

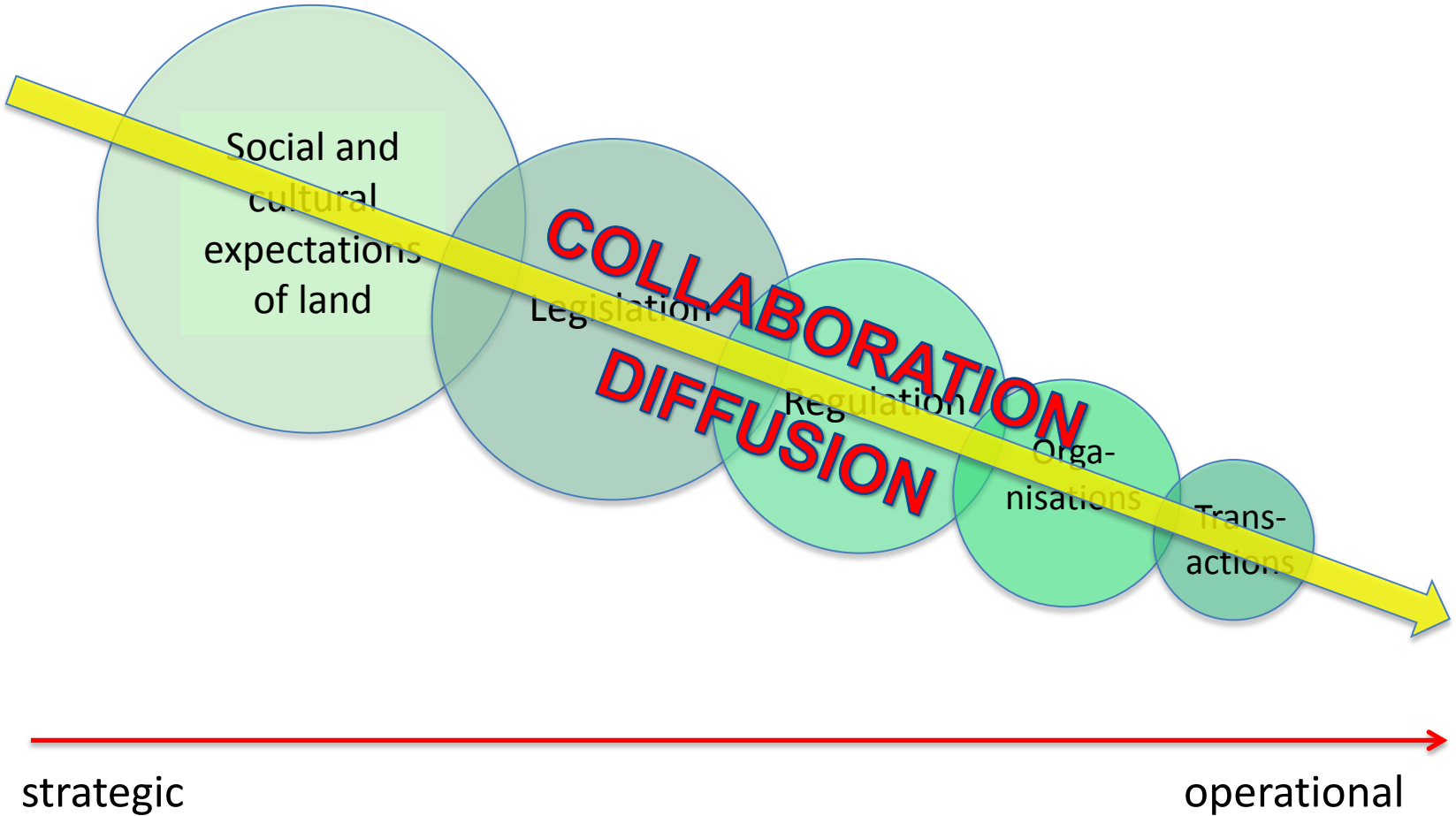


# Why Institutions Matter: An Economic View





# What is the 'Institutional Environment'?



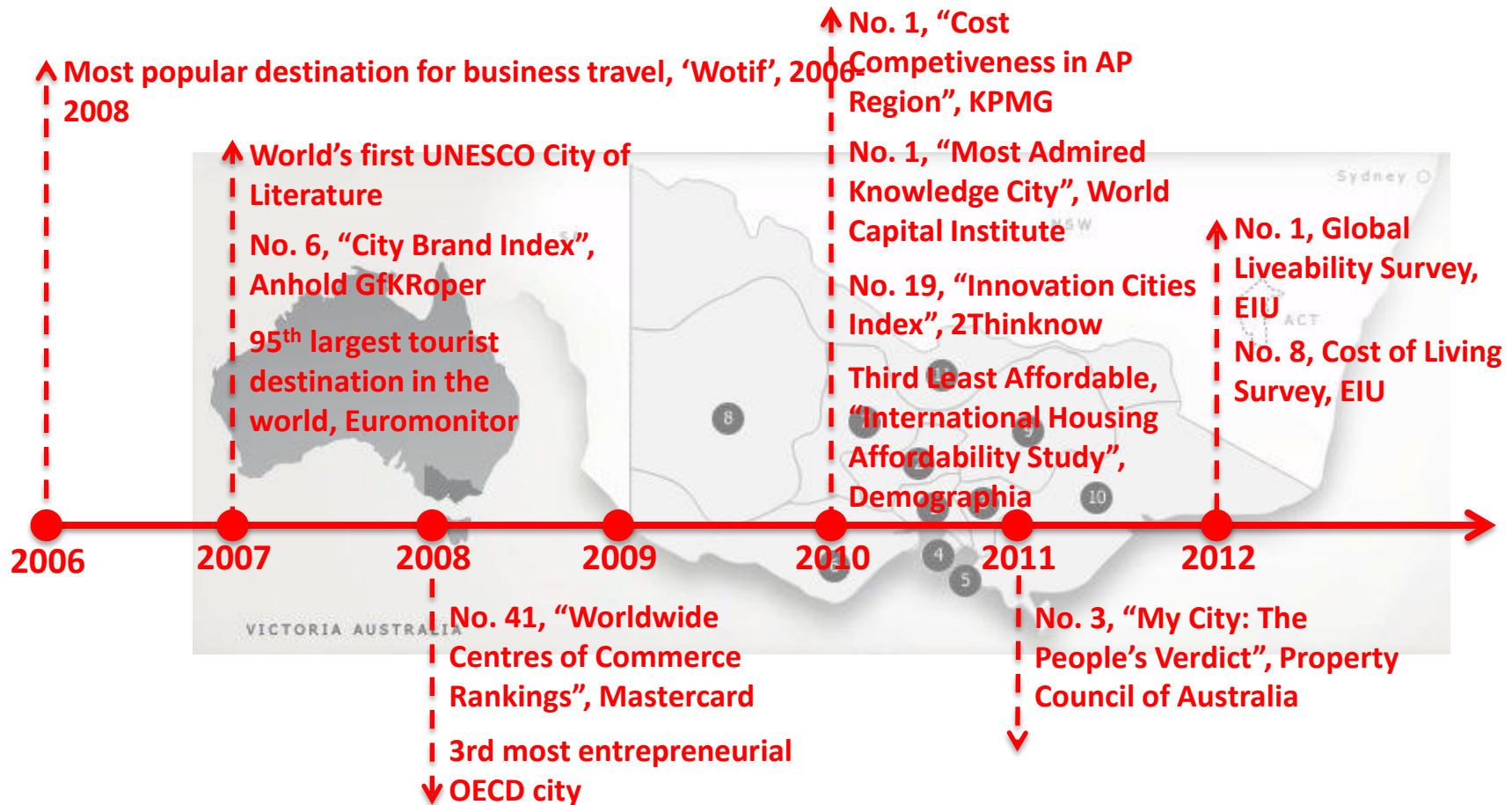
# Work in Progress

## Case Study City of Melbourne

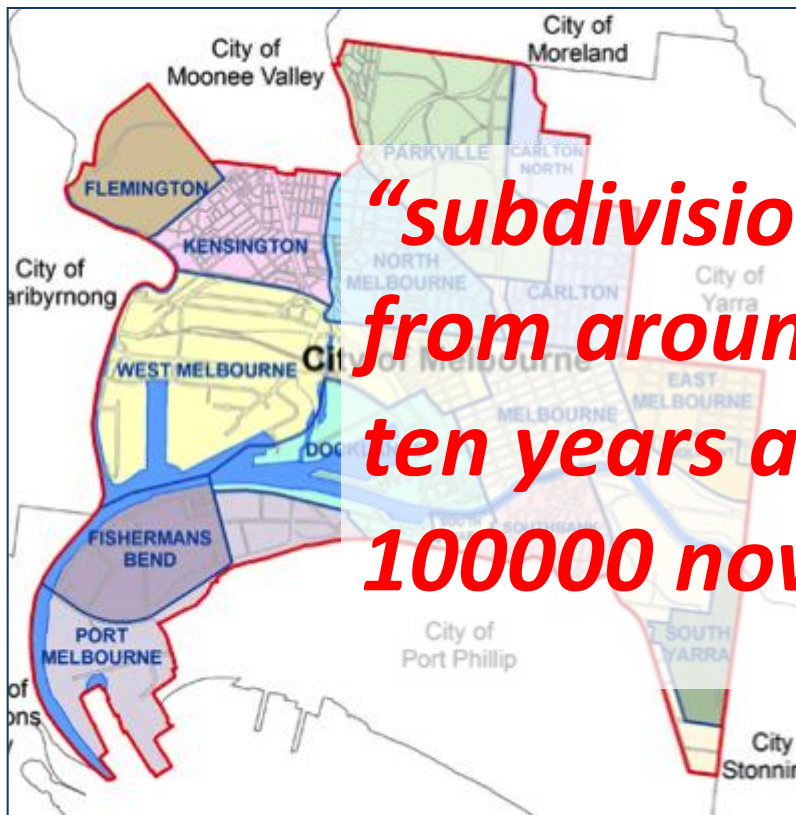
*Consideration of some  
preliminary institutional issues*



# Melbourne, VIC



# City of Melbourne



***“subdivisions have grown from around 30000-40000 ten years ago, to around 100000 now”***

- 13 suburbs, 47 km<sup>2</sup> of street land and floor space
- 1400 persons per km<sup>2</sup>
- 60:40 (built:unbuilt)
- 6.1% increase in built space from 2008-10
- Estimated need for additional 620000 dwellings by 2051, currently around 50000
- Between 2002-12:
  - 78% of development involved layered properties – CoM staff
  - 52% of development had a residential function
  - 38% of development had an office function



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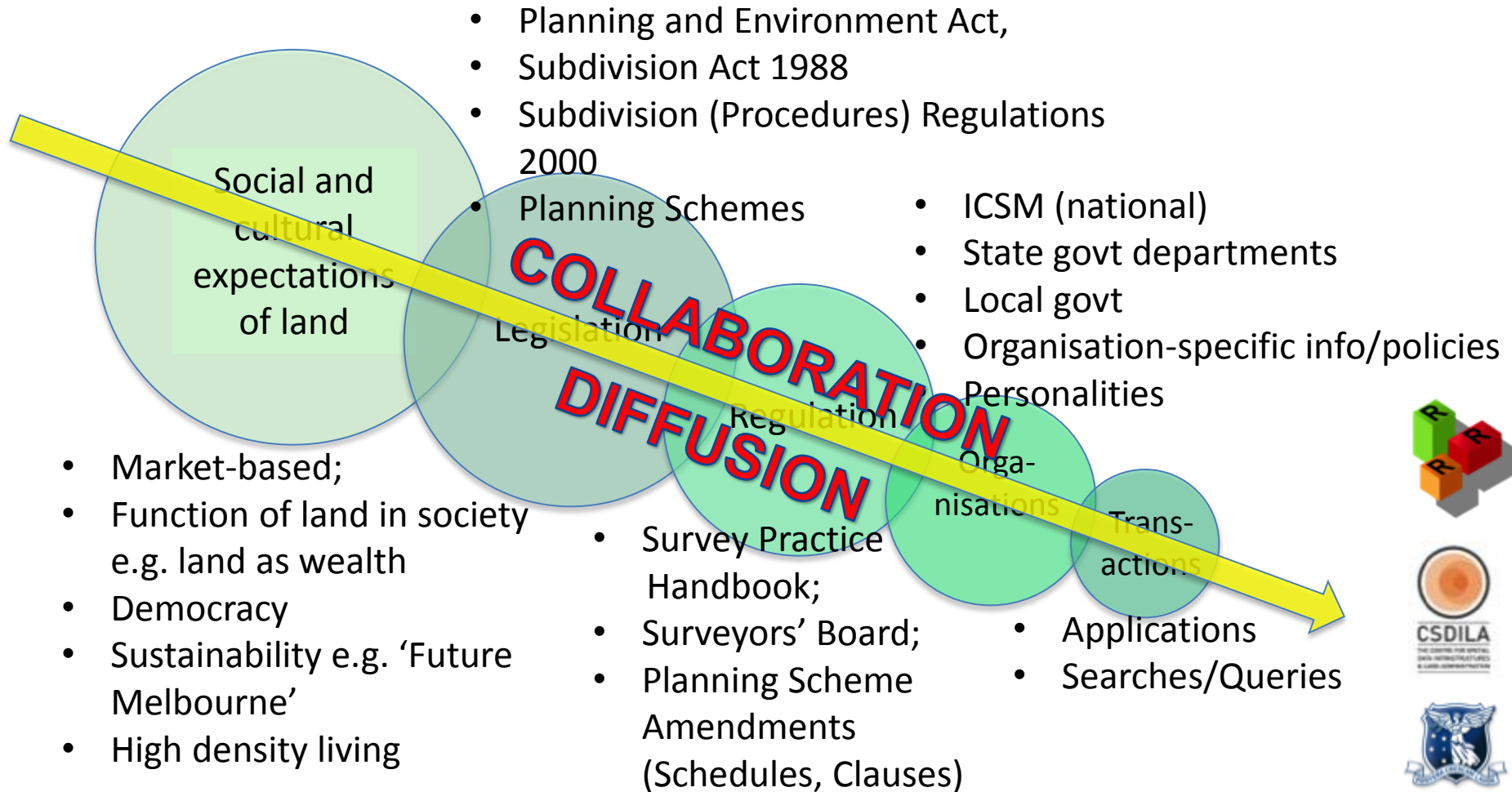


# 58 PAGES OF PLANS!

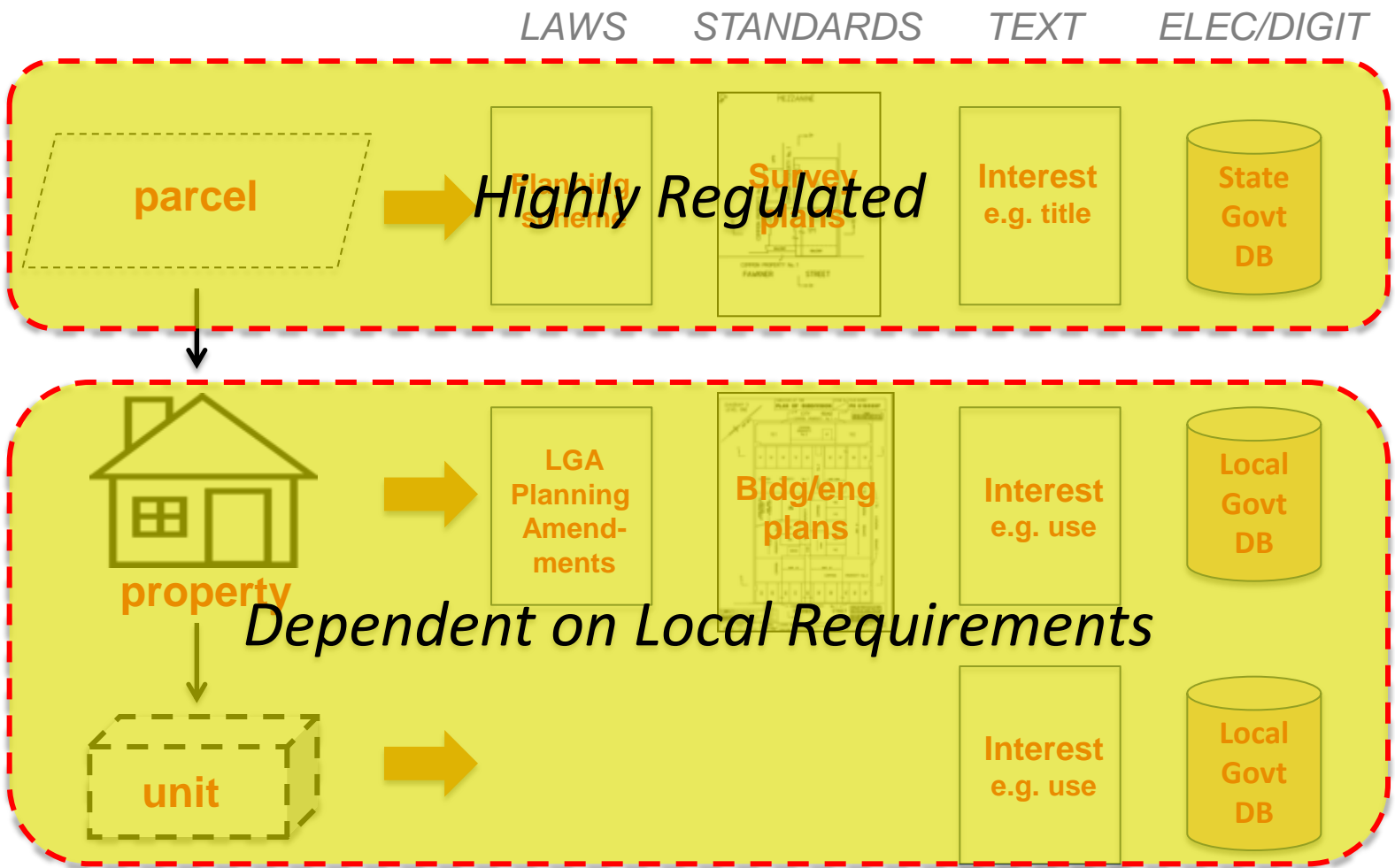
Communication challenges  
Comprehension challenges  
Info management challenges  
*(and this is just a small project...)*



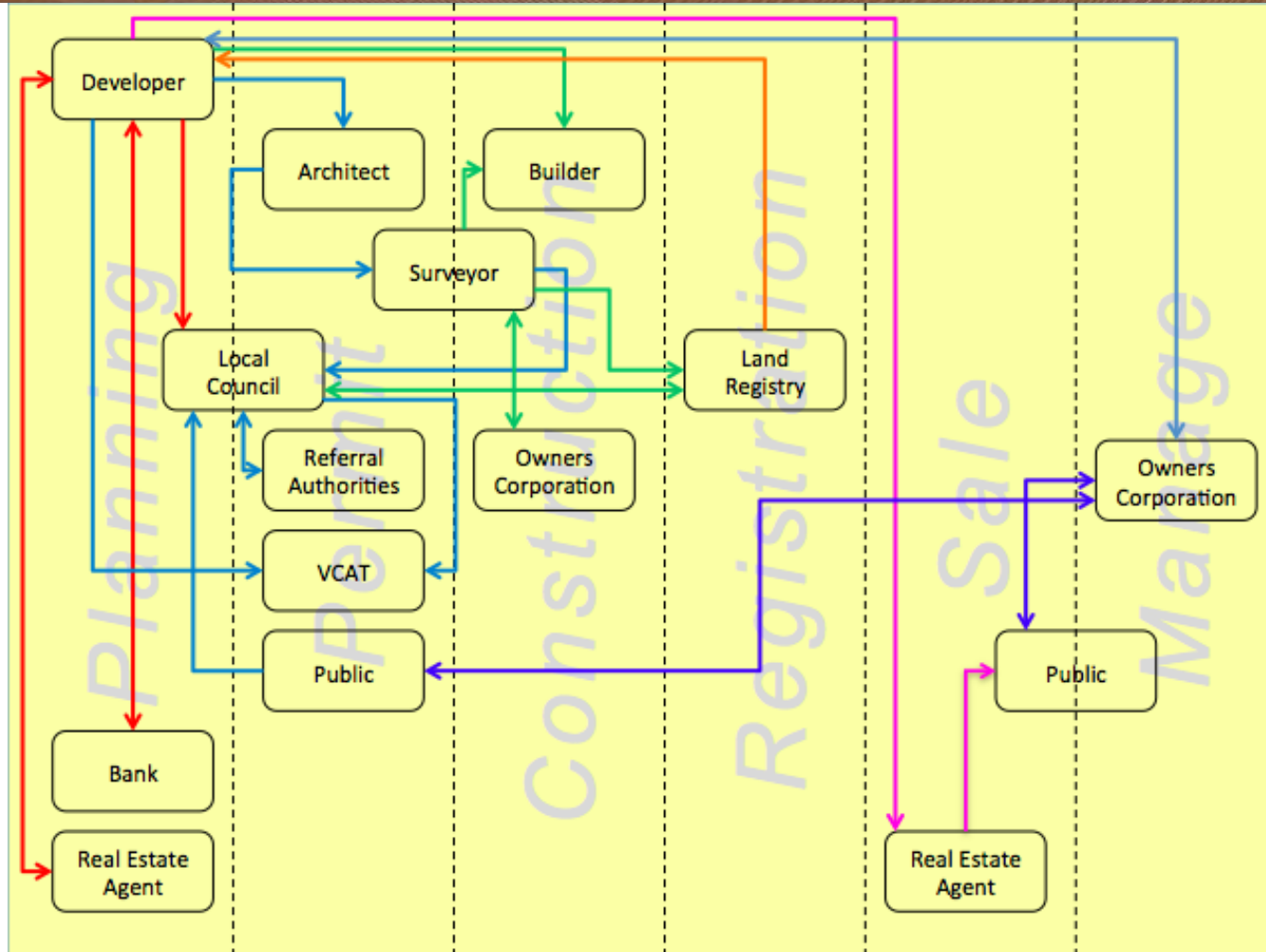
# Institutional Environment



# Land and Property Data Input and Output



# Implications for Collaboration and Diffusion



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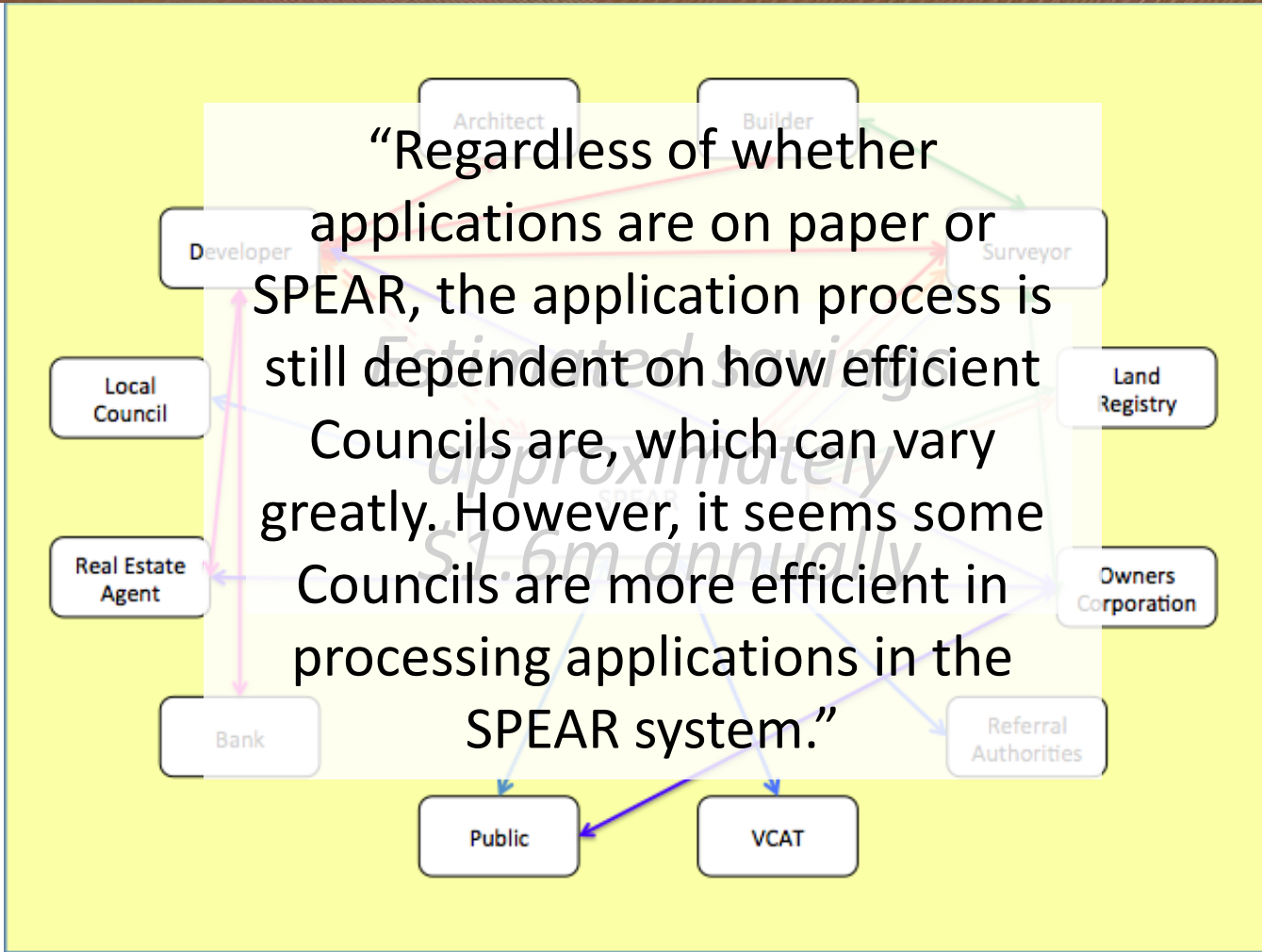


# Improving Collaboration: SPEAR

- SPEAR: online application management system to improve efficiency of the subdivision and planning process
- Replaces paper-based applications and associated communications
- Introduced in late 2004
- Driven by VIC govt commitment 'Reducing the Regulatory Burden' (2006)
- No difference to information obligations



# Collaboration: SPEAR



# Implications for Diffusion

Supported by a strong, regulated institutional environment

Variable Institutional environment – driven as much by org policies as by individuals

Dependent on user/organisation and application

???

Land Devt Process

KNOWLEDGE PRODUCTION

KNOWLEDGE TRANSFER

KNOWLEDGE APPLICATION

KNOWLEDGE DIFFUSION

*e.g. survey plans, title info*

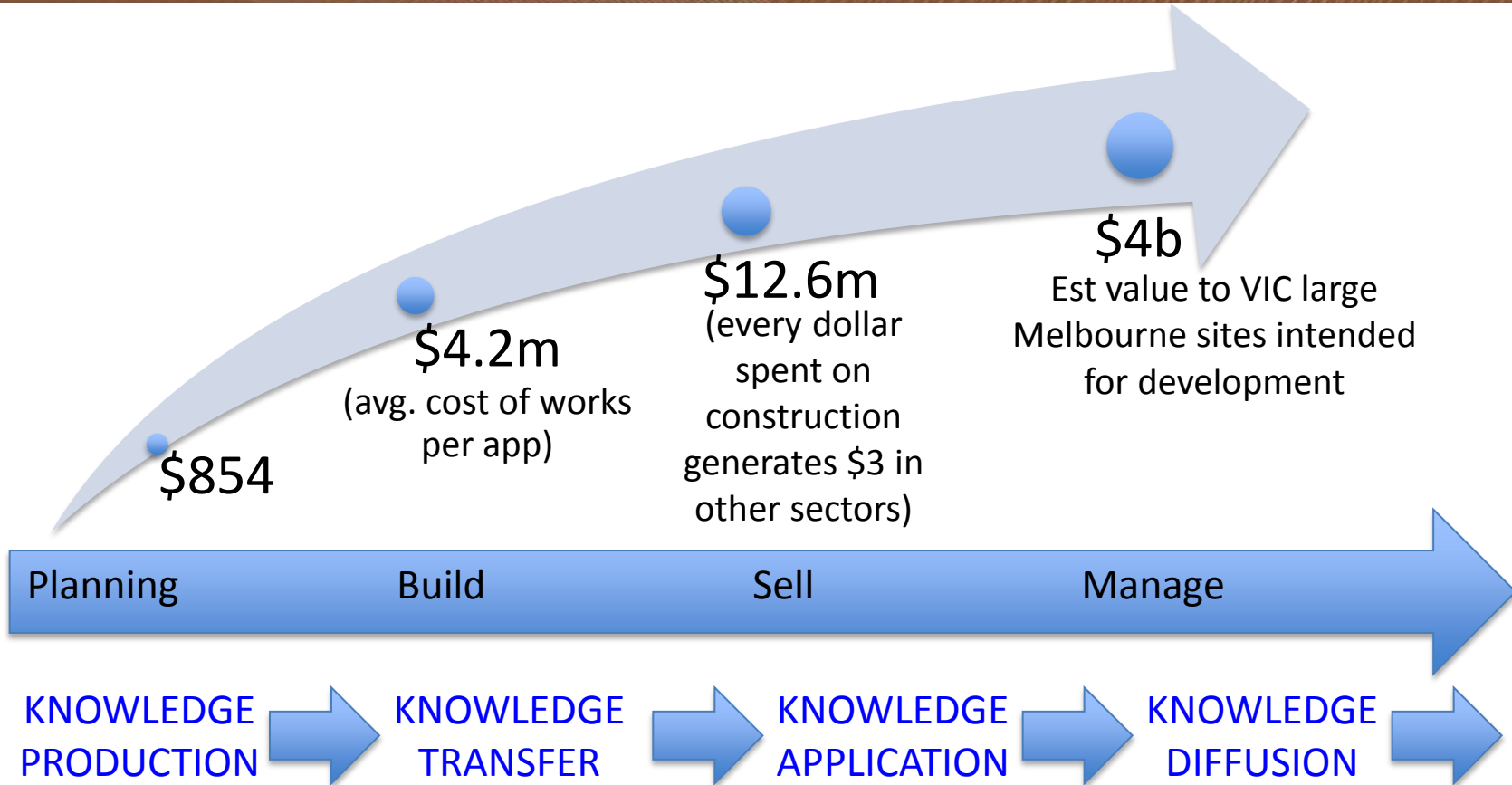
*e.g. local databases*

*e.g. underpin property datasets*

*e.g. cadastral/property data used to support other sectors*



# Implications for Diffusion



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# Improving Diffusion: ePlan

***ePlan is an initiative that aims to facilitate the electronic lodgement of digital plans of subdivision through SPEAR***

- ePlan is a LandXML digital data file
- contains information about the plan of subdivision, lot parcel structure, owners corporation schedule, survey marks information, surveyors report and a subset of the abstract of field records
- Electronic lodgements of ePlans will allow for the exchange, alteration and examination of digital plans of subdivision and their associated data in Victoria
- Digital data with greater reuse potential



# Incentives for 3D Data: Local Council Perspective

LGA obligations e.g. sustainable development of city; emergency and event modelling/planning; amenity and investment potential

Adherence to initiatives e.g. 'Future Melbourne', 'Office of Knowledge Capital', internal business efficiency review

Laws and Regulations (int/ext)

Resources and resourcing

Timeline – may take years

Technical risks e.g. maintenance, quick pace of technology development (obsolescence)

Est. cost of developing 3D city model will cost more than it saves over the first 5 years

*STRATEGIC*



*OPERATIONAL*



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& CASE DEMONSTRATION



# So...What's the Problem?

“There’s always  
exceptions to the rule...”

- Senior Planner, City of Melbourne



# Acknowledgements



Australian Government  
Australian Research Council





# Questions?

## *Thank you*

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Land and Property  
Information in 3D

