



Public Lighting Group.

On-Street Community Participation.

Mini Business Case

Draft
7th August 2017

Arup
Rebecca Chau, Matthew Dunn,
Tim Hunt, Matt Low

ARUP

Introduction

Arup was commissioned to explore what smart city projects could leverage smart lighting and other connectivity. The team took a design-led approach to identifying what smart city opportunities are applicable to the nine Victorian councils and developed mini business cases for two of those.

A Mini Business Case has been developed for the smart city concept, On-Street Community Participation. The concept was designed and developed through a series of workshops with the member Councils of the Public Lighting Group, see *Smart Lighting and Smart Cities* for an outline of the process undertaken. It was one of many concepts outlined in the complementary document, the *Smart City Concept Deck*.

This concept was selected to proceed to business case after conducting a survey with Council. The survey considered a short-list of appropriate pilot projects, and drawing from the Better Business Case: Five Case Model asked respondents to answer the following questions:

1. How well do you think this concept aligns with your Council's strategic priorities?
2. What level of impact do you think this concept would have?
3. How difficult do you think it would be to procure this concept?

4. How difficult do you think it would be to get funding for this concept?
5. How much capacity / capability does your Council have to deliver this concept?

Following on from this, the mini business case presented here draws on the Better Business Case: Five Case Model¹, widely adopted in the UK, and outlines the Strategic Case, Economic Case, Commercial Case, Financial Case and Management Case for On-Street Community Participation.

The mini business case is intended to provide Council to will a starting point for progressing this concept into a pilot project. A pilot will help one or more of the member councils to test On-Street Community Participation, smart lighting connectivity and build smart city skills and capabilities. The next steps for Council would be to develop a business case in their respective frameworks and test the tech in one or more Councils.

¹ Assessing Business Cases 'A Short Plain English Guide' UK Treasury

5x Resources



Smart Lighting
& Smart Cities



Smart City
Concept Deck

You Are Here



On-Street Community
Participation Mini
Business Case



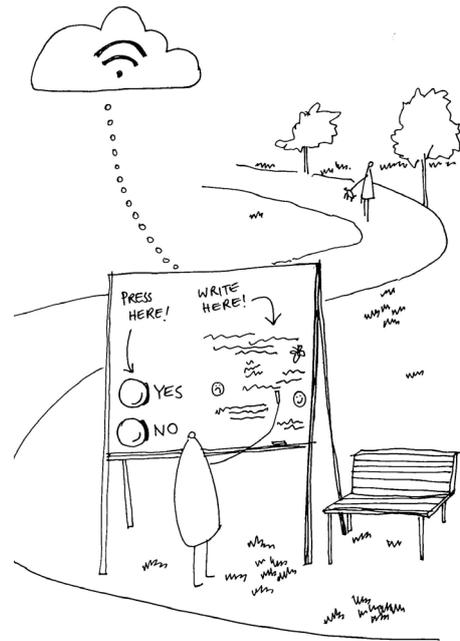
Smart Parking
Spaces Mini
Business Case



Smart Lighting
Feasibility
Study

On-Street Community Participation

A physical voting system that can engage the community in decision-making by using on-street interactions to collect real-time opinion. The questions could be crowd-sourced or council-led, they could be serious or silly, and help to get a gauge on public opinion or engage people in a particular space. The tech would be movable and could be used with different parts of the community at different times and could be shared or scaled across Councils. It could combine qualitative (e.g. phone booth, chalk board or voice recognition tech) and quantitative (e.g. buttons or gates) data collection.



Strategic Case: Making the Case for Change

- The 2016 Australian Government Smart Cities Plan sets out a vision for Australian cities to maximise their potential. In order to create the cities of tomorrow, the strategy makes the case that public spaces should ensure that they bring people together to exchange ideas and build a sense of community.
- Plan Melbourne 2017-2050 recognises that Melbourne must evolve to ensure that it keeps its legacy of distinctiveness, liveability and sustainability. As people create the character of a neighbourhood, it is necessary that they have a voice and influence to ensure that Melbourne is inclusive, vibrant and healthy.
- The Victorian 30-Year Infrastructure Plan, authored by Infrastructure Victoria, sets out the pipeline of initiatives which are to be delivered to create a better State for the future. To create the plan, extensive consultation with the community took place in order to ensure that Victoria's infrastructure needs were met with considerable effort put into 'citizen juries'. This clearly highlights the importance of community engagement and consultation when creating infrastructure strategies.

Economic Case: Optimising Value for Money

- On-street community participation is an avenue which has the capability to improve community participation in Council initiatives, projects and decision making; a clear social benefit. This inclusive approach to decision making has the potential to include a range of members in the community who otherwise would not have engaged with the Council.
- On-street community participation can act as a catalyst for potentially innovative ideas. A more diverse range of engaged stakeholders would also be expected to lead to better problem identification.
- Increased community engagement could enable new forms of funding for community projects such as crowdfunding. Platforms such as Brickstarter and Patronicity have been successful in raising community funding for projects. Intuitively this starts with project buy in which could step from a project such as on-street community participation

On-Street Community Participation



Commercial Case: Viability

- On-street community participation would be expected to be commercially viable provided it is located on council owned land. Intuitively, it would be logical that the physical technology be placed in spaces of high pedestrian traffic such as activity centres or other public spaces.
- This method of community engagement is a proven technology and has been successfully trialled in San Francisco, by Market Street Prototyping with a campaign called Vote with your Feet. The key risks when considering the technology would likely relate to vandalism as well as maintaining interest in the feature over time.



Financial Case: Affordability

- The equipment for the on-street community participation should be affordable as it is an existing technology. The cost should primarily be an upfront cost with ongoing costs expected to be limited.
- It is key to note that this technology is an investment for community participation as opposed to an investment with the goal of revenue generation.



Management Case: Deliverability

- The project would be expected to be delivered by the relevant community engagement team within the Councils. Although there may be an existing team, there is a possible risk that there will be a competency gap with regards to managing the technology element of the project.
- There is an indirect deliverability consideration associated with on-street community participation in decision making. A potential implication of on-street voting is that there may be an expectation of imminent action on the topic being voted on from the wider community and a risk of level of engagement reducing should there be a perceived lack of action.



Public Lighting Group.

Smart Parking Spaces.

Mini Business Case

Draft
August 2017

Arup
Rebecca Chau, Matthew Dunn,
Tim Hunt, Matt Low

ARUP

Introduction

Arup was commissioned to explore what smart city projects could leverage smart lighting and other connectivity. The team took a design-led approach to identifying what smart city opportunities are applicable to the nine Victorian councils and developed mini business cases for two of those.

A Mini Business Case has been developed for the smart city concept, Smart Parking Spaces. The concept was designed and developed through a series of workshops with the member councils of the Public Lighting Group, see *Smart Lighting and Smart Cities* document for an outline of the process undertaken. It was one of many concepts outlined in the complementary document, the *Smart City Concept Deck*.

This concept was selected to proceed to business case after conducting a survey with Council. The survey considered a short-list of appropriate pilot projects, and drawing from the Better Business Case: Five Case Model asked respondents to answer the following questions:

1. How well do you think this concept aligns with your Council's strategic priorities?
2. What level of impact do you think this concept would have?
3. How difficult do you think it would be to procure this concept?

4. How difficult do you think it would be to get funding for this concept?
5. How much capacity / capability does your Council have to deliver this concept?

Following on from this, the mini business case presented here draws on the Better Business Case: Five Case Model¹, widely adopted in the UK, and outlines the Strategic Case, Economic Case, Commercial Case, Financial Case and Management Case for Smart Parking Spaces.

The mini business case is intended to provide Council to will a starting point for progressing this concept into a pilot project. A pilot will help one or more of the member councils to test Smart Parking Spaces, smart lighting connectivity and build smart city skills and capabilities. The next steps for Council would be to develop a business case in their respective frameworks and test the tech in one or more Councils.

¹ Assessing Business Cases 'A Short Plain English Guide' UK Treasury

5x Resources



Smart Lighting & Smart Cities



Smart City Concept Deck



On-Street Community Participation Mini Business Case



You Are Here



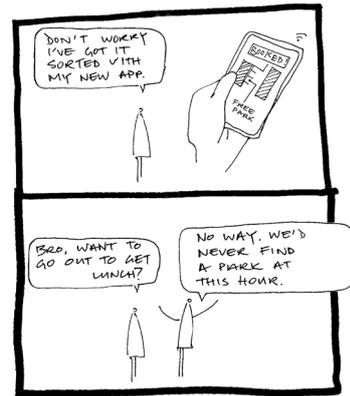
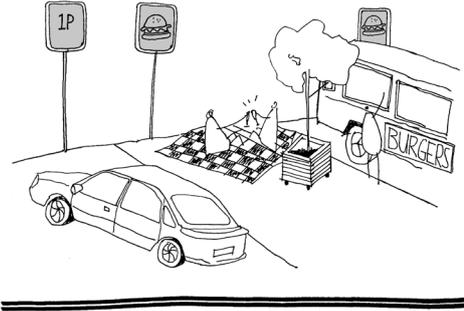
Smart Parking Spaces Mini Business Case



Smart Lighting Feasibility Study

Smart Parking Spaces

Dynamic management of vehicle and cycling parking spaces for vehicle storage and other flexible uses (markets, parklets, etc.). Understanding parking trends over time to develop an accurate demand profile, adjust parking signs to meet demand, justify alternative uses in off-peak periods for pop-ups from a few hours to a few months and justify rationalising parking spaces where not required. Sensing real-time parking occupancy can be communicated, using physical (e.g. e-ink) and digital (e.g. an app) infrastructure, to drivers and cyclists to encourage them to choose alternative modes during periods of high demand for parking. This will reduce congestion and improve air quality.



Strategic Case: Making the Case for Change

The following strategies have relevance to smart parking:

- The 2016 Australian Government Smart Cities Plan sets out a vision for Australian cities to maximise their potential. The plan includes three pillars: Smart Investment, Smart Policy and Smart Technology. The strategy sees the potential in smart technologies together with utilising open and real time data in the transport sector.
- Plan Melbourne 2017-2050 recognises that Melbourne must evolve to keep up with the growing and changing needs. The outcomes of the plan suggest that Melbourne should ensure that there is investment in an integrated transport system that promotes all modes of transport and encourages convenient trip options; clearly technology has a role to play in this.
- The VicRoads SmartRoads 2011 Plan has been developed to initiate an improvement in the overall management of the arterial road network across Victoria. The strategy points toward the impact of actively managing the road network both in terms of decreasing congestion and the demand on roads. The strategy supports the use of sustainable transport modes as well focusing on the improvement in the reliability of travel time.
- The objectives of the Victorian 30-Year Infrastructure Plan, authored by Infrastructure Victoria, sits in line with an effective and efficient transport system. Recommendations for infrastructure improvements should sit within a three-tiered hierarchy: with changes in behaviour and managing demand and the better use of existing assets coming before expanding or building new assets. Smart parking clearly plays towards changed behaviour, managing demand and getting better use from existing assets.

- 1 Changing Behaviour, Managing Demand**
For example, using pricing to spread demand for electricity over peak and non-peak periods.
- 2 Getting Better Use From Existing Assets**
For example, using school facilities for community activities to make the most of what the state already has.
- 3 Expanding Assets or Building New Ones**
For example, building new roads and rail lines to increase the capacity of the transport network.

Smart Parking Spaces



Economic Case: Optimising Value for Money

- From an efficiency point of view, the implementation of smart parking has the potential to provide a range of benefits for users of the road network. First, communication of real time occupancy can reduce time spent by motorists looking for parking spots and can also reduce congestion associated with motorists seeking parking spaces. In addition, providing incentives for motorists to use under-utilised car parking spaces should increase the efficient usage of parking as an asset.
- Dynamic pricing of parking based on demand provides an opportunity for the council improve revenue for the council, particularly through increased utilisation of parking. The added benefit of smart parking is the opportunity to increase compliance and associated revenues.
- In terms of social benefits, smart parking encourages drivers to use alternative and active modes of transport both through pricing mechanisms and provision of additional parking for cycling. By encouraging the use of active modes, this promotes the broader community health. In addition, by utilising car parking spaces for alternative uses such as Food Trucks or bicycles this provides an opportunity to enhance the vibrancy and liveability of an area.



Commercial Case: Viability

- The commercial viability of smart parking is relatively clear in areas where the on and off street carpark is council owned. Councils are unlikely to have any levers to implement the smart parking in private car parks, reducing the overall effectiveness of the initiatives.
- The technology associated with smart parking is existing and has been proven, with precedence of implementation in numerous locations around the world.



Financial Case: Affordability

- There are two main cost categories which would be associated of with smart parking technology, the initial capital cost and ongoing costs. Initial capital costs relate to installing the technology (sensors, signage, equipment etc.) as well as those associated with Intelligent Transport Systems (ITS) infrastructure (back-office monitoring system, mobile application creation etc.). Ongoing costs chiefly comprise ongoing maintenance as well as human resources to operate and monitor the smart parking.
- Smart parking would be expected to provide additional revenue through increased utilisation of parking spaces. This would aid the affordability of the project.



Management Case: Deliverability

- Councils usually have parking operations teams that manage the parking stock. Existing capability within such teams in councils would be likely to form the basis of the management of the smart parking project.
- In addition to existing competencies, there may be a requirement for new skillsets such as data analysis. As the goal of the project is to utilise parking spaces for a range of uses, logically there is a potential need for collaboration amongst the active transport, economic development and financial functions of a Council.