TWO RIVERS URBAN PARK: ADDITIONAL COMMENTARY TO MARKET POTENTIAL REPORT DATED 20/05/2016

FINAL SUPPLEMENTARY REPORT

Prepared for:
Western Cape Government in partnership with The City of Cape Town

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Contents

1. Introduction

The purpose of this additional commentary on the (Two Rivers Urban Park) TRUP market research dated 20 May 2016 is to provide further insight into the potential take-up of space in this proposed development. The original research provided insights into the size of the local market and the potential take-up that the development could secure. This further work provides market segmentation of the office, residential, retail and warehousing (industrial) markets. It also provides insight into some of the parameters that could impact on the adoption of new transport modes. Finally, it considers developer and investor perceptions for these new types of developments.

Due to its extent, the development is expected to take place over a 20-30-year period resulting in considerable market uncertainties. Some of the take-up figures suggest that it would take several decades to take up the proposed space. This also suggests that demand would straddle one or two property cycles. The take-up rates of large mixed-use developments should be based on a clear understanding of competing developments which in this case would include the Conradie Hospital site, the Athlone Power Station site, the Voortrekker corridor, as well as other private sector developments presently in the pipeline.

2. Market analysis conclusions

The property market report prepared in May 2016 drew the following conclusions;
- The site is well located from a transportation / access perspective
- The site has a role to play in strengthening the local economy, in particular in the medical and educational clusters in close proximity.
- The site has the potential to enhance the home, work, play and education environment in the Cape Town metropolitan area.
- Some 220,000 people live in a 5km catchment area around the site.
- The site could capture a take-up of office space of some 2,800m^2 per annum.
- The residential research suggests that TRUP could secure a take-up of 161 units per annum.
- A neighbourhood shopping centre of 10,000m^2 could be secured at the site once the number of households living and working on the site has sufficiently increased to ensure viability.

3. The market conceptualization of TRUP

3.1 Introduction

The Draft Manifesto for TRUP (2016) emphasises that the proposed development of the site offers an opportunity to provide the surrounding communities with access to resources, to improve the freedom of movement across and around the site through affordable and sustainable modes of transport as well as the opportunity to celebrate different cultural narratives. An emphasis is also placed on social partnerships that could be fostered at the site. Moreover, a number of scenarios have been proposed which range from maintaining the 2003 contextual framework, allowing the market to take over "namely a market-driven approach, and placing a strong emphasis on the development delivering an 'urban wetland' with development on the rivers' edges, in other words, maintaining the integrity of the Park.

The market driver approach places a strong emphasis on realistic levels of investment on privately and publicly-owned sites. The approach also places considerable focus on the highest and best use of land from a financial perspective.

In determining the potential use of space consideration should be given to the following;
   a. The overall size of the market and the share of this market that the development would secure,
   b. The income groups, that the development could cater for,
   c. The degree to which the different uses would complement each other,
   d. Finding an appropriate balance between uses and income groups, and
   e. The phasing of the development.

At its best in terms of absorbing urban development, the TRUP developable area can provide approximately 110 Ha of developable land with expected total floor area of approximately 2,2 million square metres (NMA Preliminary Bulk Estimates, July 2016) distributed as follows (see Table 1):

Table 1: TRUP developable land			
Sector	Floor area m²	GLA m²	Units
Commercial	415,925	332,740	
Institutional	245,225		
Residential	1 613,800	968,280	16,138
TOTAL	2 274 950		

3.2 The commercial property market

At 415,925 m² of floor area and a GLA of 332,740m² (see Table 1), the proposed commercial property take-up at the site is equivalent to the size of the Century City office

node. While most of the office space would be taken up by the office sector (tenanted by the private and public sectors), opportunities also exist to support urban manufacturing and the retail sector.

As a matter of comparison, it is worth noting that the take-up of commercial space in the Cape Town market is approximately 40,000m^2 with a node such as Century City taking up some 15,000m^2 of office space per annum. Yet the development has the potential to develop into an alternative to existing office nodes and complement the office node market located, for instance, at the Black River Office Park.

While the development does not envisage a significant level of retailing, scope would exist, to serve, in time, a growing population located at the site. It is estimated that the development would offer an opportunity to cater for some 10,000-20,000 m^2 of retail space, playing the role of a neighbourhood shopping centre.

Urban manufacturing would be limited to outlets that would permit entrepreneurs to manufacture and sell goods from the same premises, it is estimated that take-up would not exceed 10,000 m^2 GLA.

3.3 The residential market

The residential property market can be segmented as follows (Table 2) using monthly income categories:

Table 2: Residential property market income segmentation		
Housing type	Monthly income	Value of house
RDP Housing	< R3,500	Subsidy
Social Housing	R3,501-R7,500	Up to R300,000
Affordable Housing	R7,501-R15,000	Up to R700,000
Market	>R15,001	>R700,001

Based on the market research undertaken in the main report (May 2016), the demand for residential space at the site would largely be focussed in the "market", "affordable and social housing" segments.

The challenge lies in developing an inclusionary housing concept based on the following criteria:

a. The proposed mix should take cognisance of viability of the entire project and should ensure that the development can be marketed to different segments of the market.

b. A poorly constructed mix means that values in particular segments of the market would either start shifting upwards and downwards. In particular the problem arises in the lower end of the market where upward value movements in values can reduce affordability.

c. A balance needs to be found between development costs and market affordability.

d. The choice in market segmentation influences the infrastructural and related subsidies that can be secured.

Based on a comparative study of developments such at Fleurhof (IHS), Jabulani (IHS), Cosmo City and the Conradie site, it would seem reasonable to suggest that the demand for residential units at TRUP could be segmented as follows in Table 3;

Table 3: Residential property market demand segmentation				
Type	Percentage	Floor area (m²)	Size of units (m²)	No of units *
Social	20%	322,760	40	4,841
Affordable	24%	387,312	58	4,007
Student	6%	96,828	20	2,905
Market	50%	806,900	80	6,052
Total	**100%**	**1 613,800**		**17,805**

*calculations based on GLA

This categorisation of the market would suggest that the unsubsidised market would be responsible for over 50% of take-up with the social and affordable housing market taking up close to 50% of the demand. However, a caveat. Despite the clear advantages of creating a mixed tenure environment at TRUP (which is also one of the goals of TRUP's draft manifesto), one should also be cognisant of the potential pitfalls associated with mixing disparate tenure types and income groups in a development. Some of these are listed by Smit & Stevenson (2010).[1]

3.4 The student market

Estimates of student accommodation take-up and supply are difficult to ascertain. First, the student market should be seen in terms of specific segments which have their specific dynamics. The student market, not unlike the overall market, can be segmented into the "social", "affordable" and "market" components catering to students with different financial means. The higher income segment of the market would capture demand arising from young professionals. In addition, the student market needs to deal with the fact that the great majority of students cannot afford market-related rentals. This reduces the viability of the sector from a development and investment perspective.

Research undertaken by the department of Higher Education and Training in 2011 suggests the following shortage of residential units shown in Table 4:

Table 4: Shortfall of student residential units in Cape Town	
Institution	Beds needed
CPUT	6,387
UCT	6,226
Total	**12,613**

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[1] Smit, D. & Stevenson, K. (2010). *Mixed tenure and its relevance in South Africa*. Houghton: Social Housing Foundation.

At present the University of Cape Town is able to accommodate 6,600 students out of a student body of 23,000. Increasing the accommodation to 50% of the enrolled students would require a further 4,900 beds. Students are presently being accommodated in the private sector property market with students travelling considerable distances to maintain affordability and sharing rooms.

Providing student housing in close proximity to UCT at the TRUP site would play an important role in strengthening the educational and medical cluster in the TRUP catchment area.

4. Shifting perceptions about transport

4.1 Introduction

While there is considerable scope to increase the use of public transport and other means of transport at the TRUP development, significant challenges exist in altering existing transport patterns and habits. This is particularly true for higher income households and that developers are presently reluctant to try new concepts with this segment of the market. In discussion with property developers (IHS, TUHF and Communicare and other developers) and investors, the following points came to the fore:

A. Generally, the ability to provide adequate parking remains of importance especially in the middle and upper segments of the market.
B. One needs to be careful in justifying high density residential units in order to justify public sector sponsored transport systems.
C. The student market and lower income groups generally demand lower demand for parking.
D. Once can reasonably assume that the demand for vehicle/parking will alter with time. Existing developments need to include a level of flexibility to adapt to change transport uses. This would be particularly true for developments such as TRUP which will be developed over a number of decades.
E. The quality of the public transport is of critical importance in determining the decision by households to alter their existing transportation arrangements.
F. Future transport habits will be influenced by changing residents' perception of density.
G. Important further influencing factors include (City Lab):
   - the place of residence
   - income
   - living arrangements (position in life cycle)
   - car ownership
   - technology.
H. The ULI (2016) suggests that in the industrialised world there is a movement to drive less. This is being influenced by
   - the changing nature of work
   - on-line shopping

- alternative transport modes are increasing
- critical connectivity between different modes of transport is improving.

In the short term one should potentially rely on technologies such as autonomous vehicles, electric vehicles, transit improvements, better networking of cars and car sharing schemes.

By improving the relationships between home, work, play and education, the TRUP development has a role to play in altering perceptions of traditional car usage. The challenge lies in providing a wide offering of transport mobility and accessibility from and to the TRUP site.

4.2 Investor perceptions

We conducted several interviews to glean investor perceptions regarding the TRUP project as well as other public sector driven projects. The following specialists shown in Table 5 were consulted:

Table 5: Specialists consulted	
Name	**Institution**
Andrew Teixeira	Capital Property Fund (Investor)
Anthony Dippenbroek	Zendai Development Sa (Pty) Ltd (Developer)
Byron Wilson	Dipula Property Fund (Investor)
Henry Chitsulo	Bold Moves (Financier)
Jason Cooper	Lodestone Properties Limited (Developer)
Pamela Lamoreaux	International Housing Solutions (Investor and Developer)
TC Chetty	RICS (Consultant)
Sarah Webb	TUHF (Investor)
Vusi Nondo	Communicare (Investor and Developer)

The interviews suggest the following:

A. The possible interaction between the public and private sectors

The overwhelming view is that the public sector has an important role to play in the development of a conceptual plan and a vision for the proposed TRUP development. The public sector should, however, not attempt to undertake the role of the developer, especially when the private sector is willing to undertake the project and especially if public sector development expertise is not available. One interviewee made the point that they would 'interact 'with the public sector as a facilitator, but not do business with it.

It is therefore imperative that the public sector should assess the role that it could optimally play in this project.

B. The proposed conceptual plan

The overall view is that the proposed conceptual plan has merit, especially the focus on the residential property market. The view was expressed that the public

sector would have an important role to play as an anchor tenant which could foster further opportunities. Questions were raised regarding the scale of the development and its role in the market.

C. The market

The interviewees were unanimous in their view that housing demand would be considerable and that the development should largely focus on the social housing market and the non-subsidised market.

E. The role of government

The public sector can support the proposed development of TRUP as follows:

a. Develop an appropriate development framework and reduce development risk,
b. Ensure that the necessary town planning (rezoning) requirements are achieved, thereby reducing private sector costs and time,
c. The provision and planning of infrastructure,
d. Marketing of the development,
e. Ensuring that small scale developers are able to play a role in the development. This may mean developing a mentoring programme with larger developers.
f. Releasing of land in an appropriate manner,
g. Use government leases to act as 'anchor' to the development.
h. Initiate the project through a 'kick-start "project.
i. Ensure that urban management is given the necessary attention through City improvement districts (CIDs or similar structures).

F. Infrastructure provision

There was agreement that the public sector has considerable opportunity to promote the proposed development through the provision of bulk, connector and possibly internal infrastructure.

The private sector would expect to see a commitment by the public sector to provide the required infrastructure. This would need to be through the proposed concept plan and public sector budgets. There is an understanding that infrastructure would only need to be delivered in a phased manner, reflecting the pace of development activity. The main question for the public sector is to ensure that the infrastructure is appropriately budgeted for and that the land values reflect the level of infrastructure provided.

G. Land availability and development process

The public sector could consider a land availability agreement with private sector players. The public sector could achieve this through a development entity

which would hold land and decide on the release of land in a manner that reflects the needs of the proposed concept plan and development objectives. While a portion of land could be developed by the public sector to meet its own space requirements (underpinned by public sector leases), other sections of the development would be made available to the private sector through land availability agreements.

Interviewees are of the view that it would be preferable to consider a number of developers rather than a single developer. The reasoning behind this being that developers often specialize in particular sectors of the market and rarely have the expertise to undertake commercial and residential developments together.

H. Investor appetite for the project

The interviews suggest that developers and investors in both the residential and commercial property sectors would show interest in the proposed development. Investor interest would be further enhanced through a strong public sector commitment to unleash value through rezoning of land and the delivery of infrastructure. The critical point is that the proposed concept and development framework must play a role in creating investor confidence.

I. Usage of alternative technology

One interviewee opined that housing affordability at the bottom rungs of the market in South Africa is driven by energy costs. Using 'green' technology (sustainable design and construction) in the design process of a residential development at TRUP could be beneficial both for residents and developers. For residents, green features cause considerably lower operating costs through savings in electricity and water costs, usually more than compensating for the initial premium of upfront capital costs related to insulation, solar water heaters, and flow restrictors – thus producing lower lifecycle costs.[2]

This benefit is especially meaningful in the affordable-housing market, where utility costs may consume 5 to 10% of net household income. Green technologies are also often more affordable to maintain than conventional ones, thus potentially further reducing ownership costs.[3]

From a developer's perspective, evidence in the USA and UK reveals that green features may result in higher sale's prices for residential units, while research in the USA shows that default risks for energy-efficient homes are about 30% lower than for non-energy-efficient ones, thus indicating that these mortgages are more attractive for banks too.[4]

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[2] Veldsman, D. (2016). The financial case for 'green' affordable housing. *Rode's Report on the South African Property Market* **27** (2): 1-3.

[3] Ibid.

[4] Ibid.

In Annexure A, the benefits of 'greening' groups of buildings to form an urban precinct are discussed in more depth. This is particularly relevant to future development proposals for TRUP. Also discussed in Annexure A is the desirability of reducing the usage of cars and incentivising the use of alternative modes of transport in modern cities. Obviously these aspects need to be encouraged at TRUP as well.

J. Innovative mixed-use solutions

One of the objectives contained in TRUP's Draft Manifesto is the creation of a dense, mixed-use, mixed tenure environment. Successful mixed-use developments have traditionally catered to the higher end of the income spectrum. However, the challenge at TRUP will be to create a successful mixed-use development that caters to a lower-income market segment. Our interviewees indicated that there was a limited success where this has been implemented. To achieve this goal at TRUP, innovative, untested solutions will be required.

Annexure A

Smart Cities and the Impact on the Environment

By

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1. Introduction

Global warming and climate change are issues that have attracted increased awareness from a variety of different stakeholders (Brundtland *et al.*, 1987; Parsa and Farchschi, 1996; National Geographic News, 2007). The built environment is a significant user of resources and contributor to global emissions both during construction, as approximately one third of carbon emissions are produced by the construction industry (Milne, 2012), and throughout the operational phase of buildings.

Green building has gathered momentum over the last twenty years, especially since the establishment of the World Green Building Council (WGBC) in the late 1990s. Many developed countries such as the United States, the United Kingdom and Australia *inter alia* have their own green building councils. The different green building councils have developed a variety of green rating tools, which take into account specific climatic conditions, materials and user demands.

The Green Building Council of South Africa (GBCSA) was established in 2007, and in 2009 the first building in South Africa was awarded green certification. To date there are over a hundred and sixty green certified buildings (by design) in South Africa, which has resulted in the fastest uptake of green buildings globally.

There is now a move from greening buildings on an individual level to greening groups of buildings, which may have different uses and operate as a single entity. This can be at a small level, e.g. an office park, or at a larger level, commonly referred to as an urban precinct. Precincts are becoming increasingly popular, and the correct strategic plan can result in an operational system that leads to an efficient use of resources. Currently the efficient real time operations rely on integrated and robust IT solutions. This has led to the rise of smart cities, where the Internet of Things (IoT) is being implemented to reduce the environmental impact of both buildings and users. Smart cities are considered a partial derivation of eco-cities. The concept of eco-cities came as a result of acknowledging that cities consume vast resources, and thus the sustainability of cities is becoming increasingly important (Bao and Toivonen, 2014). The smart city is related to several other city concepts, such as the information city, the wired city, the knowledge city, the digital city and the ubiquitous city. Regardless of which

concept/term is used, a general definition is when the combination of social and human capital together with transport and IT infrastructure result in sustainable economic growth and a high quality of life, while managing natural resources through public/private partnerships (Capdevila and Zarlenga, 2015).

2. The emergence of efficient cities

The concept of an eco-city emerged in the mid-1970s, with the primary aim to rebuild cities so that they were integrated with nature. In the 1980s and 1990s the conversation was more focussed on issues pertaining to resource conservation, local agriculture and carbon neutral/renewable energy. By the early 2000s the practical application of eco-cities, although in its infancy, started to gain momentum, which has led to many countries aiming to develop next generation eco-cities (Bao and Toivonen, 2014).

Urbanisation is increasing at a rapid rate, especially in developing countries. At the beginning of the twentieth century there were only sixteen cities with populations of more than a million people. Presently there are over four hundred cities with at least a million inhabitants. Of the four hundred cities, approximately seventy per cent are in developing countries, where production and employment opportunities are concentrated in cities. The increased growth in cities is expected to continue throughout the twenty first century. This growth will impact both resource consumption and pollution, both of which will have an effect on the environment (Bao and Toivonen, 2014). Developing countries are struggling to cope with increased urbanisation, as current infrastructure is not sufficient to handle the demands of the increasing population. A report by Frost & Sullivan (2013) states that in order for a eco and smart city to exist there needs to be complete integration between eight key stakeholders, as shown in figure 1. Eco and smart cities provide a potential solution by designing efficient integration of the built environment with public services via the latest IT solutions (Singh, 2014).
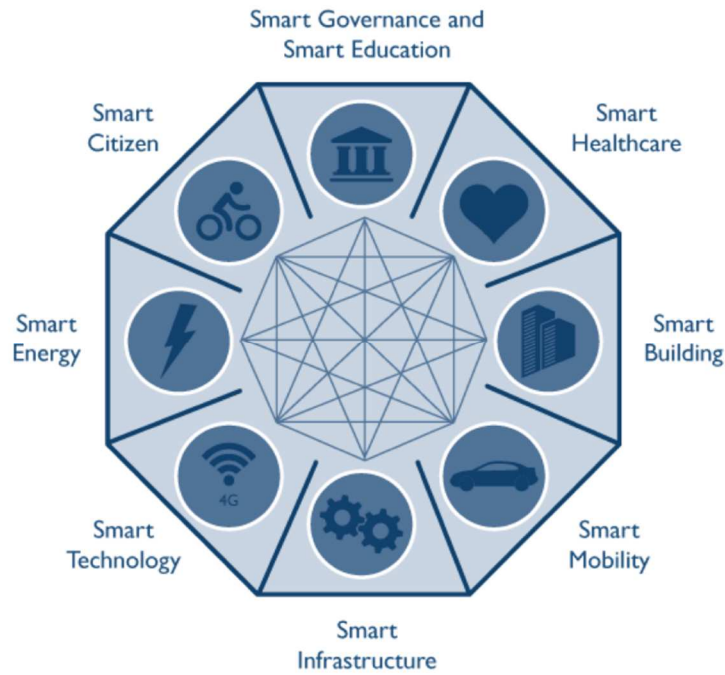
Figure 1: Smart City Stakeholders (Frost & Sullivan, 2013)

There has been an emergence of eco-cities within Asia, specifically China. The main components of eco-cities comprise (1) technological innovation, which allows broad integration of buildings and services; (2) integrated sustainability planning, which focuses on implementation of green building features and initiatives (GBFIs) (Michell and Nurick, 2014); (3) civic empowerment/involvement, an example is the formulation of rules to limit the use of private cars (Bao and Toivonen, 2014).

3. The benefits of efficient cities

Eco and smart cities have resulted in a number of benefits in the form of technological, financial and societal advancements. The IoT has resulted in a level of connectivity that allows users to interact with their environment to a point where users can engage with both public and private services by using a smart device. Technology allows for the establishment of a sustainable digital economy where technology acts as a catalyst that allows for the balance between modern lifestyles and the natural environment (Bao and Toivonen, 2014). Eco and smart cities are attracting increased public and private investment. Another investment group that are heavily involved are construction and real estate companies, as mass development targeted towards an increasingly technology savvy market is considered to be viable in the future.

According to High (2015) Barcelona is currently ranked the top smart city in the world. One of the smart elements is that of transport, where electricity is being used to fuel transport in the increasing numbers of electric cars and bikes. There are a number of re-charging points across the city, which encourages commuters to adopt this cleaner form of transport. The environmental benefits are a reduction in emissions

(BCN Smart City, 2013a). Barcelona also has established a pedestrian initiative targeted at school children, where streets are painted directing them to school. This will result in decreased motorised school traffic, which will reduce traffic congestion and emissions around school nodes (BCN Smart City, 2013b). From a business perspective, Barcelona was ranked to the top and third city in terms of number of conference delegates and the number of international conferences respectively. This has both direct and indirect commercial benefits for a number of supporting commercial industries (BCN Smart City, 2013c).

It should be noted that those who can afford the latest hardware generally adopt smart technology. Another potential barrier to the concept of the smart city, specifically the IoT is the level of security within wireless networks. There is a portion on the population that are deeply concerned around issues pertaining to data encryption, which could lead to criminal elements remotely accessing mobile devices in order to hack email, banking and other confidential user accounts. Regardless, there seems to be a trend among younger people to embrace new technology that will result in a more convenient lifestyle.

4. Walkable cities: Moving away from the car

The level of walkability of given city is one of the key components of eco and smart cities. Jeff Speck, town planner and author of "Walkable City" emphasises that walking for purpose has significantly declined. This is largely due to urban sprawl, which has resulted in increasing distances between people's place of work and home. Highly density cities with relatively narrower roads encourage walking and cycling, as well as the design of efficient public transport systems (TED, 2013). Walking infrastructure that allows for high pedestrian traffic such as wide pavements, allowing for long periods for crossing intersections, easy access to amenities, and implementing controls on the amount of traffic by reducing parking bays. All these components are evident in the top five ranked smart cities, which are Barcelona, New York, London, Nice and Singapore (Kamel, 2013; High, 2015; Newman, 2015).

According to Newman (2015) there needs to more attention placed on walking, cycling and public transport. These forms of transport result in the most spatially efficient form of redevelopment that result in the urban locations to be prioritised over major transport arterial routes. Young professionals, especially those working in the knowledge economy are reducing car use and are therefore seeking more efficient alternatives. Due to the advancement of mobile technology, most millennials rank the value of their mobile device over that of a personal vehicle. There is an increase in younger people moving into walkable and transit cities as the accessibility of the urban culture is seen to be more attractive, as is evident in New York and London (Newman, 2015).

The implementation of urban railways is increasing, especially in developing countries such as India and China where there is a slow recognition that urban roads are becoming a less efficient form of mass transportation. Benefit cost ratio (BCR) is an assessment tool, which analyses travel time saving, general cost saving, reduced accidents and vehicle emissions. BCR's also include wider economic benefits (WEBs), which occur when complimentary businesses are in close proximity to each other. The net result being that there is a higher frequency of information exchange, which has been identified as an economic benefit of high-density cities (Newman, 2015).

Another factor that is being increasingly considered is that of value capture. Transport systems, especially railway infrastructure cause an increase in land values and can therefore be used to finance infrastructure. The momentum generated by value capture can result in more environmentally and technologically efficient transport systems, thus resulting in the creation of eco and smart cities for a more sustainable urban future (Newman, 2015).

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