VALUE CAPTURE
FROM TRANSIT-ORIENTED DEVELOPMENT
And Other Transportation Interchanges

Prepared for **Urban LandMark**

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INTRODUCTION

On behalf of Urban LandMark, ADEC prepared recommendations for capturing the value gained from transport interchanges to assist in the alleviation of poverty. The recommendations are based on various analyses that examined the increase in land value that can be expected due to the development of transport interchanges, along with an assessment of best practices in capturing this increase for public good.

Background

Fast, efficient transportation systems help to promote the movement of large numbers of people between the places they live, work, and play. History has shown that transportation infrastructure has also helped promote the growth and development of the world's great cities. London and New York, for example, attribute much of their economic expansion to the development of transit systems that linked people efficiently to growing numbers of jobs. Many of South Africa's cities lack modern mass transit systems for transporting commuters, who rely on increasingly gridlocked roads. Partly as a result, South Africans spend (on average) a relatively high share of their disposable income on transport. Low-income workers, especially, bear a huge financial cost as well as economic opportunity cost for transport in this country.

The Gautrain Rapid Rail Link, along with BRT, Metrorail, new highways, and other major transport infrastructure projects represent a huge new investment in the region's transportation network. These systems provide an exceptional opportunity for South African cities to promote development and "capture" the increase in associated land values as a public good.

Businesses, tourists, and residents want *access* to clean, efficient rapid transit. Therefore, the presence of transit stations can be an economic asset for attracting and concentrating development. This fact, coupled with the regional planning benefits and sustainability of public transit, has led local planning and economic development agencies in many countries to promote the concept of transit-oriented development (TOD). From a planning perspective, TOD promotes the development of "compact, walkable" mixed-use communities around transit stations as a way or reducing automobile dependency and enhancing quality of life. The mix of jobs and housing helps reduce transport and opportunity costs for the poor, thereby raising living standards. Economically, transit access spurs demand for new development, enhancing the marketability of transit-oriented locations. This enhanced market value is particularly powerful in low-income communities and areas that otherwise lack market access.

In more affluent communities, there is the even more powerful opportunity to "capture" the increase in market value generated from mass transit (along with multi-modal nodes and other forms of public transport) to increase access to jobs and housing for those with less means. To

accomplish this, experience suggests that certain market interventions are usually required.

Organization of this Report

This report presents policy recommendations based on market and financial analysis that translate development potential around transport interchanges into a residual land value. Such approaches are commonly used to illustrate the differential or "premiums" achieved from access to transport nodes or infrastructure. ADEC also utilises several comparative models to illustrate the value of differentials between various typologies of transport access. Ultimately, transportation infrastructure plays a significant role in urban land markets, in urban regeneration, and in economic upliftment. The following report responds to the need to develop strategies for South Africa's cities to maximise the positive impacts of transit to the benefit of the nation's poor and underserved markets. The various analyses are organised as follows:

Section 1 provides a summary of the method used to select the transport typologies and site location case studies to use for the comparative analysis. Section 2 presents findings on best practices for value capture around the world. Appendices present the results of site assessments and detailed market potentials analyses conducted for each of the selected case study sites. The market analyses were critical for forecasting the type, scale, and pricing of development potential around each of the case study sites. Appendix 1 presents the site assessments, whilst Appendices 2, 3, and 4 present the findings from the market analyses for sites in Diepsloot, Soweto, and khayelitsha, respectively.

The market findings were used in pro forma analyses as the basis for determining the revenue stream and therefore, the residual value for each site. The land values for each site were then compared with existing values at the sites, the potential future value at the sites if there were no transport interchange, and the value of land at comparable sites. These value premiums are discussed in Section 3 of the main body of the report. Finally, Section 4 provides a summary of policies and actions for capturing the increase or premium in value generated by the transport interchange at each site.

Section 1. TYPOLOGIES AND CASE STUDIES

This section provides a brief summary of typologies and case studies for assessing the opportunities for value capture from transport interchanges. BKS Engineers, as part of the ADEC team, have researched and identified relevant large transport infrastructure projects currently under development or within the "pipeline" in South Africa. Much of the following section provides background and a summary of these projects. ADEC and BKS then developed a "short list" of the key projects and possible typologies. From there, ADEC selected several specific case studies for review with Urban LandMark. Based on this input, the selected case studies were identified.

Transport Expenditures

BKS conducted research on the South African Government's transportation budgets, summarised herein. According to information from the World Bank and the South African Reserve Bank, infrastructure investment in South Africa (including transportation) has been much lower as a percentage of GDP than in other countries. South Africa spent about 2% of GDP during this period, compared with 5 to 10% on average in other countries between 1990 and 2005. Since 2005, the 2010 FIFA Soccer World Cup has had a major impact on infrastructure spending, which has increased dramatically.

Transportation infrastructure improvements often result from land use pressures, but as such improvements must be made in relatively large steps (half a freeway lane or half of a rail line doesn't accomplish anything). Infrastructure improvements, in turn, can have a substantial impact on land use. Due largely to improved accessibility, land values adjacent to major transport arteries tend to increase in view of the potential development opportunities being created.

Government Objectives

The Government of South Africa's strategic objectives for transport over the medium term are identified below:

- improve access to affordable public transport;
- streamline the freight logistics network along key corridors by promoting infrastructure investment and improved operational efficiency;
- develop the regulatory system and capacity required to ensure that operators in the transport sector meet the required safety and security standards;
- reduce road accident fatalities;
- optimise resources and promote efficiencies within the transport sector,
- ensure balance between the role of rail and road both for passengers and freight; and

- promote the role of ports in international trade and economic development, thus reducing the carbon footprint of the transport sector.

Since the announcement of South Africa as the 2010 FIFA World Cup host on 15 May 2004, Government has made available major funding resources which resulted in a boom in the implementation and maintenance of transport facilities in South Africa. The agencies/companies owned by government (such as ACSA and SANRAL) have also increased their borrowing to have even more funds available for transportation infrastructure improvements. Thus, Government objectives have, in the short term, come to include meeting the requirements for moving large numbers of people for sporting events on a massive scale.

Overall Transport Expenditure Trends

The Department of Transport expenditure increased from R10.4 billion in 2005/06 to R24.1 billion in 2008/09, at an average annual rate of 32.4 percent. This growth was mainly driven by the introduction of the public transport infrastructure and systems (PTIS) grant (focussing on 2010 FIFA World Cup), the Gautrain rapid rail link grant, once-off transfers to the Road Accident Fund (R2.7 billion in 2005/06 and R2.5 billion in 2008/09), and increased allocations for passenger rail infrastructure. In addition, infrastructure spending increased as a result of the maintenance and upgrading of the national road network, from R1.8 billion in 2005/06 to R4.2 billion in 2008/09, at an average annual rate of 33.4 per cent. In 2008/09, disaster management funding was allocated to KwaZulu-Natal and the Western Cape for roads, bridges and stormwater damage caused by floods.

These once-off allocations and extraordinary transfers to the Road Accident Fund, the disaster management grants, and the grant for the Gautrain rapid rail link in 2011/12 distort expenditures, reflecting an average annual increase of only 4.5 per cent over the Medium Term Expenditure Framework (MTEF) period. Expenditures excluding these transfers are expected to increase by 16.7 per cent from 2008/09 to 2011/12, much higher than inflation and represents real growth in budgets.

SANRAL has embarked on large projects, the most substantial of which being the Gauteng Freeway Improvement Project (GFIP). Spending on Phase 1 of this project, which is scheduled for completion by 2011, is R15 billion. Phases 2 and 3, which could extend beyond 2020, are estimated to cost another R40 billion. Allocations from the Department of Transport to the South African National Roads Agency continue over the medium term at an average annual growth rate of 24.9 percent. Investments in public transport infrastructure and rail infrastructure also continue, at an average annual growth rate of 17.5 percent and 17.1 percent, respectively.

Inflationary adjustments for the South African National Roads Agency, the South African Rail Commuter Corporation, the public transport operations grant, the public transport infrastructure grant, and the Gautrain rapid rail link grant amount to R4 billion over the MTEF period. Over the same period,

additional allocations of R21.3 million and R10 million are made for compensation of employees and payments for capital assets respectively.

Transport Interchange Typologies

BKS identified the "imminent" large transport projects with South African Government funding that are either under development or in various stages of planning. Based on this list of projects, various typologies were identified that capture the types of projects with interchanges likely to have an impact on land values within a particular region. A summary of transport interchange typologies follows.

New Road Interchanges

One typology appropriate for this analysis includes new road interchanges (or intersections) that provide access to adjacent land. This category can include new roads as well as existing roads that have added a new interchange. Highways are prime examples of how access can drive development potential and therefore, land values. For example, four major shopping centres have developed at interchanges along the N1 Freeway in Cape Town, illustrated below. These centres include Cape Gate, Tygervalley, N1 City and Century City.[1] There can be little doubt that access made possible by the freeway interchange was the critical factor in the location of these shopping centres.

New Rail Stations

Major rail links provide access to people, goods, and services. New stations become the key "interchange" that propels opportunities for development that serves populations accessed by the rail network. Transit-Oriented Development (TOD) is the prime example of how commuter rail can add value to surrounding land by increasing the development opportunities at rail stations. Such opportunities can develop both at ***commuter*** rail stations (e.g., Metrorail, Gautrain) as well as at ***regional & long-distance*** (Shosholoza Meyl) rail stations.

New Airports

Airports are major drivers for development of surrounding land. Airports bring with them not only requirements for support services (e.g., freight movers, logistics companies, airline offices, rental car agencies, etc) but also

[1] Century City was technically developed in concert with the new intersection.

opportunities for development including corporate office and other uses. In many countries, airports are seen as key economic and property development nodes. New "Greenfield" airports are rarely built, but South Africa has currently under development the large new La Mercy International Airport in Durban.

Other Public Transport Facilities

Other public transport typologies include such facilities as Bus Rapid Transit (BRT), along with interchanges such as transfer terminals. Government has embarked on a major public transport restructuring and improvement programme in 2007/8 in order to bring the informal minibus-taxi industry into the formal road-base public transport sector by encouraging the major cities to investigate and implement BRT. Major investment in operational planning, institutional reform and infrastructure planning, design and implementation have already taken place. Additional planning will be underway through 2014. BRT systems are being (or have already been) implemented in:

- Johannesburg
- Cape Town
- Nelson Mandela Bay
- Tshwane

Further Integrated Public Transport Planning is also proposed for:

- Ethekwini
- Buffalo City
- Ekurhuleni
- Mangaung

Most of the public infrastructure funding is directed at these primary typologies. The following chart provides a summary "Short List" of typologies and the key case study interchanges that were selected by the ADEC/BKS team within each typology.

"SHORT LIST" OF PROJECT TYPOLOGIES

Typology	Project / Interchange	Location	Project Description	Timing		Budget
				Begin	End	
New Mass Transit	Gautrain Marlboro Station	Marlboro Drive/N3 Highway	Establishment of a new Commuter Rail Station on new system	2007	2010	R300 million
Existing Highway	N1 Highway Allandale Interchange (Midrand)	Allandale Rd off ramp along N1 Freeway in Midrand	Expansion of Allandale Rd/ Interchange easing traffic congestion in Midrand.		2009	
New International Airport	La Mercy Airport	30km North of Durban	Construction of the first new airport in SA for some time. La Mercy Airport will be three times bigger than the Durban International Airport.	2007	Early 2010	R7.7 billion.
Extension of Existing Commuter Rail	Metrorail Kuyasa and Chris Hani Stations (Khayelitsha)	All east of Khayelitsha Business District	Extension of rail services to the east of Khayelitsha Business District.		completed	R300 million.
Extension of Existing Commuter Rail	Metrorail Mamelodi Gardens Station, Pienaarspoort Station, and Greenview Station	North of City of Tshwane	Extension of rail services to the north of Tshwane.	2011		R140 million for the 3 stations.
New Regional Passenger Railway	Moloto Rail Corridor: Siyabuswa Station or Sekhukhune Station	Pretoria-Siyabuswa (Mpu)-Ph1; Sekhukhune-Burgersfort (Lim)-Ph2.	Construction of a long-distance passenger rail corridor.	2007		R9.3 billion.
New Highway	PWV9 Mabopane, Atteridgeville, or Laudium Interchanges	Pretoria (Mabopane, Diepsloot, Atteridgeville, or Laudium)	Construction of a major new regional highway parallel to N1		2020	All Gauteng Improvements: R15 Billion
New Bus-Rapid Transit	BRT Johannesburg – Soweto System	Johannesburg CBD (throughout), Soweto (two main lines)	Construction of a major new bus mass transit system	2007	2010	

Selected Case Studies

Several criteria were used in narrowing the list of transport projects and typologies for inclusion among the case studies. These criteria included the following:

1. New interchange (vs improvements on existing interchanges)
2. Diversity of typologies
3. Diversity of locations, especially low-income communities
4. Possible scale of impact on low-income communities
5. "Comparable" non-interchange site nearby for comparison

Based on these criteria, the following five projects were selected for discussion (with graphics supplied by BKS).

1. Gautrain: Marlboro Station (adjacent to Alexandra)

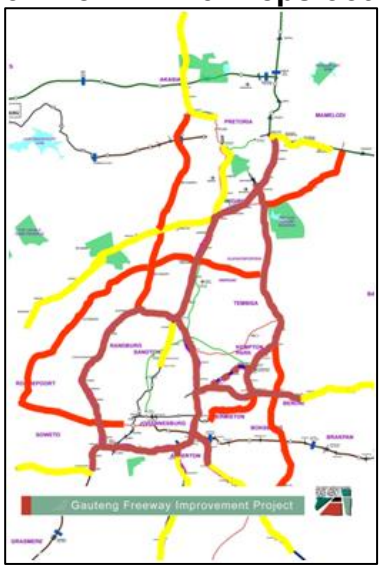
Key Characteristics:
- *New commuter rail system*
- *New station*
- *Mixed-income, high-potential area*
- *Adjacent low-income township (Alexandra)*
- *Johannesburg location*
- *Under construction*
- *High visibility project*

2. Metrorail: Chris Hani or Kuyasa Station (In Khayelitsha)

Key Characteristics:

- *Existing commuter rail system*
- *New station*
- *Interior to Low-income township (Khayelitsha)*
- *Cape Town location*
- *Relatively low visibility but...*
- *Near Khayelitsha Business District*

3. New PWV9 Diepsloot Interchange (Midrand)



Key Characteristics:

- *New Highway*
- *New Interchange*
- *Potential high regional traffic volume*
- *High development potential ("New N1")*
- *Near low-income area-Diepsloot*
- *Midrand location*

4. **Moloto Rail: Siyabuswa Station** (or Sekhukhune) (Mpumalanga)

Key Characteristics:

- *New regional/long-distance rail service*
- *New station*
- *Rural area*
- *Mpumalanga Location*
- *Low-income area*

5. **La Mercy Airport** (Durban)

Key Characteristics:

- *New airport location & terminal*
- *Modest development area*
- *High development potential*
- *Durban location*

Based on discussions regarding this list, it was determined that the study would focus on **Chris Hani Metrorail Station** in Khayelitsha and **PWV9 Highway Interchange** at Diepsloot. Urban LandMark determined a need to examine impacts of Bus Rapid Transit (BRT). Since most BRT stations had already been completed, the third site was determined to be a planned **BRT Station at Mooki & Mogoye streets** in Soweto.

Section 2. BEST PRACTISE

There are numerous examples of where the benefits of transportation are translated into social goods. Transport infrastructure itself provides access to economic opportunity, by linking jobs to housing and enhancing social mobility. Transport can reduce opportunity costs, thereby increasing disposable income. Finally, transport improves cost efficiencies which spur economic development. Many of the benefits of transportation are concentrated at nodes or interchanges, where traffic, exposure, networks, and passenger loads are maximised. At transportation interchanges, the demand for land, and therefore the value of land, is heightened. As such, opportunities for capturing value for the purposes of poverty alleviation are often maximised at transport interchanges.

Background

Individuals and private investors have long understood the value of locating at a transport interchange. Cities typically arise because of the socio-economic networks and commerce that accrue to a transport hub. Individuals and private interests are drawn to interchanges because of the access and exposure to networks and market base that they supply. Even at the most rudimentary scale, individuals will seek interchanges to promote their economic well-being. For example, so-called “informal” traders will establish themselves at the intersection of two roads, a taxi rank, or a train station. The decisions made by informal traders are not that different from those made by large corporations like Engen or McDonalds, to locate where traffic and exposure are maximised.

Governments have increasingly attempted to capture some of this value for broad-based community benefit. Wikipedia defines value capture as an innovative public financing technique in which increases in private land values generated by new public investment can be “captured” either in part or wholly through a land-related tax. But, there is a variety of tools besides taxes that aim to achieve value capture.

Value can then be transferred to alleviate poverty through direct or indirect means. More often, an increase in value associated with a transport interchange is captured and transferred indirectly through access to, or cross-subsidy of, transport, infrastructure, housing, or services. The poor can also accumulate wealth directly through property ownership in or near a transport interchange. However, ownership also comes with risks, including the potential for capital loss. Other studies have revealed that proximity to transit has a positive correlation to property values, but there are cases where proximity can also incur externalities such as an increase in noise, pollution, and crime that can actually depress value.

Transit-Oriented Development

Many of the policies associated with value capture are directed to transit-oriented development (TOD). Policies have been oriented towards urban and regional planning efforts that will reduce urban sprawl and improve the relationship between jobs and housing. Such efforts not only provide benefits to the environment and establish more sustainable development patterns, but also reduce commute time and opportunity costs, thereby improving the quality of life as well as disposable incomes for people throughout all economic strata. Among the most common of these pro-active policy efforts is the concept of TOD.

TOD policies typically make use of public rail-based mass transit to leverage mixed-use private and institutional development. In TOD, real estate development is oriented to, and maximised at, public transit nodes. TOD is beneficial because it helps to increase the use of public transport, which in turn reduces private automobile use and thereby reduces the negative impacts of suburban sprawl, which can include:

- inefficient use of land,
- higher take-up of productive farmland,
- more traffic and congestion,
- higher level of carbon output and global warming,
- higher opportunity costs for travel,
- higher accident rates and traffic fatalities,
- lower productivity,
- higher levels of air and water pollution,
- increased health risks,
- lower disposable incomes,
- higher marginal costs for municipal capital infrastructure,
- higher operating or running costs for municipal services, and thus higher net fiscal costs and fewer opportunities to supply under-served areas, etc.

TOD not only helps alleviate these issues, but in the process can also dramatically increase ridership and utilisation of public transport. TOD puts more housing and jobs, and thus more potential commuters, within walking distance to a transit station. In doing so, TOD helps establish a captured "market" for public transport and increased farebox revenue stream. Often, TOD is encouraged at prime locations in affluent communities, where increased ridership and revenues help to cross-subsidise the provision of public transport to less-affluent portions of the regional commuter base. The value from TODs is also used to help subsidise the actual development cost of capital infrastructure, including transit itself. One tool used to accomplish this is the tax increment financing (TIF) district, detailed later in this report. Over the longer term, the increased land value generated by higher-density development at TODs also helps enhance fiscal revenue stream to local

governments, which in turn cross-subsidise service delivery to less-affluent areas.

Further, TOD is also used to establish mixed-use, mixed-income communities and enhance the quality of life for residents of a city. Policies that allow for higher-density development at TODs enhance the opportunities for developers to finance mixed-income and affordable housing, since the cost of such housing can be spread over a larger number of units located at one site. Many local governments now require developers to incorporate affordable housing units in their projects (such as through inclusionary zoning policies), which is much easier to finance in high-density developments and where there is demand for market-rate units (such as at a transit hub). However, there must be sufficient demand for market-rate housing in order for such cross-subsidy to work.

Other Types of Transport Interchanges

Fewer pro-active value capture policies are oriented to non-mass transit interchanges, such as road or highway intersections, airports, bus stops/stations, etc. Again, since the thrust of value capture has related to a modal shift from road to rail mass transit, few efforts have been directed to encouraging development and higher values along highways. There are, however, significant efforts in many countries including South Africa to maximise economic development opportunities associated with ports and airports. Typically, these efforts are oriented to broad-based regional economic development, rather than specifically to poverty alleviation or cross-subsidy of services for under-served populations. However, that opportunity does exist. The following provides a summary of findings regarding various mechanisms to capture value from mass transit / TOD and other transport interchanges.

Betterment Tax or Special Assessment

Betterment taxes are imposed by local governments to capture the increase in land value generated by private development that results from investment in infrastructure (including transport infrastructure). A betterment tax, benefit assessment, or special assessment indirectly obligates the owners and occupants to pay for a public service.

Example: Bogota, Columbia

Cities in Colombia have implemented a form of a betterment levy known as *contribucion per mejoras* to finance public works. Bogota packaged its street and bridge improvement program into a citywide bundle of public works projects. These projects are financed in part through a betterment levy imposed on taxpayers. The levy has, however, declined in importance since a peak in use during the 1980s.

Example: Portland, Oregon, USA

Many cities in the United States create special taxing districts to generate revenues in support of infrastructure improvements. The City of Portland, Oregon established the Pearl Special Assessment District (SAD) based on a consensus building process among community members and property owners in an industrial part of the city. The special assessment was targeted to funding for street car infrastructure. The City envisioned the Portland Street Car system as a way to provide linkages and connectivity between abandoned rail yards and a contaminated brown-field site, north of the Pearl District.

Implementation of the taxing district helped generate funds for the streetcar line and opportunities for private, high-density transit-oriented development. The cost of the streetcar line is contributed through tax levies collected by the City from developers/property owners, which are dedicated to payment of debt service on the streetcar bonds. This levy is also known as SAD-"Set Supplemental Tax Rate." In other cases, developers often negotiate an up-front SAD-Set Cash Contribution. The Pearl Special Assessment District has enabled the creation of a privately-developed and vibrant commercial area. Provisions within the district legislation require developers to include affordable housing. Private developers have been required to provide at least 15% of their dwelling units for very low-income households (those with less than 30% of the area median income-AMI) and 20% to low-income households (those with 30% to 50% of AMI). Other housing provisions require that 15% of all rental units and 10% of for-sale units must be no more than 65m^2, thus ensuring more available affordable units.

Key Lessons Learned

Betterment taxes are most effective in robust markets where there is a well-established tax administration system. This tax may be difficult to implement where valuation rolls are incomplete and where the marginal costs outweigh the benefits to taxpayers. Affluent communities exhibit a stronger willingness to pay, which can result in the concentration of infrastructure interventions in wealthier neighbourhoods.

Business Improvement Districts

A Business Improvement District (BID) (or City Improvement District (CID), in South Africa) is an ad valorem tax or levy on property owners and/or businesses located within a specific area. The levy raises funds for the delivery of an added layer of service, above and beyond that provided normally within the city. BIDs or CIDs often raise funds to combat "crime and grime" issues, such as through added security and cleansing staff. However, revenues from such levies are also sometimes used for infrastructure improvements, signage, landscaping, surveillance cameras, marketing, management, and other services that benefit the property owners, businesses, and residents of the designated area. CIDs currently operating in

Johannesburg were not associated with transport infrastructure development. However, future CIDs could be centred on TOD.

Development Impact Fees

Impact fees or developer contributions are once-off fees levied by local governments on developers to help recover the cost of public infrastructure generated by projects that they develop. In this regard, the developer is often obligated to supply infrastructure beyond their own development site, when such development causes impacts on regional infrastructure systems. Such contributions may involve payment for bulk water systems, road works, and other public infrastructure. Clearly, the infrastructure helps leverage development that could not otherwise occur. Developer contributions are required of some developers in South Africa. Another example of their use is provided below.

Example: Chicago, Illinois USA

A variation on the impact fee raises funds to pay for low-income and affordable housing. Rather than writing inclusionary housing requirements into development regulations, the City of Chicago provides developers with incentive density bonuses, which offer the option of additional density (higher floor-area ratios and/or height for private development) in exchange for a direct financial contribution (fee) to pay for affordable housing in the city. Housing developers receive a 4:1 bonus per additional hectare of affordable housing. If the developer opts to pay the fee, the amount is deposited into a special sinking fund which to date has collected US$12 million (nearly R100 million). These funds are then used to finance affordable housing at various locations within the city. Many U.S. cities now operate housing trust funds to finance affordable housing using the monies raised in this manner from private developers.

Example: San Francisco, California USA

San Francisco City and County introduced what is known as a Transit Impact Development Fee in 1981 to offset increased operating and capital costs arising from additional transit services provided downtown. A charge of $5.00 was levied per square foot of new office development in the downtown area. In later years this charge was levied to other commercial land uses. Moreover, the application was also expanded to development citywide and not just in the downtown area. The development impact fees increased from $8.00 to $10.00 per square foot. TIDF revenues were reported to have averaged $10 million annually.[2]

[2] "Capturing the Value of Transit," Prepared for the United States Department of Transportation Federal Transit Administration, November 2008.

Zoning Tools

Zoning can be used as a powerful tool for creating value, by directing the location, type, and scale of development (so long as there is the market demand to support the envisioned type and scale of uses). Incentive zoning provides developers with rewards in exchange for including certain public amenities or meeting other public objectives. For example, incentive zoning can include density or floor-area bonuses, which allow a developer to build to greater densities (see above) so long as they include certain public amenities, such as parks and open space that benefit the community at large. Density bonuses act as an incentive because developers generate a higher return by reducing the marginal cost of development by building to greater densities.

In the United States, the United Kingdom, (and presently being considered in South Africa), various local jurisdictions increasingly implement inclusionary zoning policies which require housing developers to include a certain percentage of affordable units in their projects to create mixed-income communities. Inclusionary zoning is particularly relevant and successful in application to high-density and transit-oriented development (TOD) projects, because the densities, mix of uses, and broad market appeal, allow developers opportunities for cross-subsidisation. Thus, the value created at a transit node allows developers the financial leverage to create affordable housing and inclusionary zoning requires it of them.

Example: Portland, Oregon, USA

The City of Portland implemented zoning regulations to minimize parking (and therefore automobile use), increase density, discourage inappropriate land use, and encourage pedestrian-orientated design near transit stations. Since implementation of these zoning laws, more than US$500 million in residential and non-residential development has taken place around many of the city's light rail transit stations.[3]

One of the successful examples of implementation of these policies is Centre Commons, a 1.62-hectare site located within walking distance of the Northeast 60th Avenue MAX light rail station. The site has been developed into a mixed-income, transit-oriented community. The site was initially purchased by the Portland Development Commission, which selected Lennar Affordable Communities as the developer. Conditionality of sale required that at least 40% of the project's residential offering meet affordable housing requirements (meaning that 40% of the units had to be priced for households with less than 60% of the area median income). The developer of the project superseded these requirements by providing 75% of the residential units below market-rate. Overall, the project comprised of 172 units of affordable

[3] "Effects of Light and Commuter Rail Transit on Land Prices: Experiences in San Diego County," by R. Cervero, University of California Transportation Center (UCTC), May 2003

housing for seniors, 60 affordable family units, and 56 market rate units. An on-site day-care facility and a play area for children are also included, thanks to the zoning requirements.

Higher density zoning (such as through "density bonuses') add value to the land by allowing the developer to build to higher densities and therefore generate higher income streams and reduce the marginal (per unit) cost of the land and development. In gaining higher marginal profits for the project, the developer is able to add and cross-subsidize affordable units. Thus, it is a zoning incentive, not a direct financing tool, for affordable housing delivered as part of mixed-income housing projects.

The condominium (sectional title) townhouses at this site were built primarily for first-time homeowners and were made available for sale to both conventional and below-median-income buyers. Income qualifying households also receive a 10-year transit-oriented property tax abatement from the city of Portland because of the development's proximity to the MAX light rail system. Thus, modest-income households benefit from access to affordable housing, lower taxes, access to public transit, and a preference for first-time buyers.

Example: Montgomery County, Maryland USA

Montgomery County is a leader in the provision of affordable housing through the use of inclusionary zoning. Such zoning is applied county-wide (throughout the jurisdiction), but there are also overlay districts oriented specifically to encouraging mixed-income housing near transit stations. The County applies a “transit station – mixed use” (TSM) zone around its transit stations which allows for a broad range of commercial, service, and residential uses with a 3.0 maximum floor-area ratio (FAR). Another category, the “transit station residential” (TSR) zone allows primarily for residential, along with ancillary retail and services at an FAR of 2.0 and 150 dwellings per hectare. The county now has a long history of successful mixed-income housing development, including an increasing amount of such development around transit stations.

Example: Arlington County, Virginia USA

Arlington County is a suburban jurisdiction located across the Potomac River from Washington, D.C. The county was characterized for many years as a homogeneous (predominately white), low-density, middle-class suburb. Arlington suffered some disinvestment during the 1970’s due to competition from newer suburban areas further out from Washington, D.C. The regional mass transit system (Metrorail, operated by the Washington Metropolitan Area Transit Authority-WMATA) was extended into Arlington with a number of stations built in the 1970s. The Rosslyn-Ballston Corridor incorporated five Metrorail stations which opened between 1976 and 1979. It is approximately 4.82km long and 1.2km wide with each of the five stations along its route approximately 10 to 15 minutes’ walk from neighboring stations.

In May 1980, Arlington County adopted a strategy to encourage transit-oriented development (TOD) around its transit stations as a way to encourage re-investment, create mixed-use and mixed-income communities, and develop employment and affordable housing opportunities for its residents. Detailed sector plans were developed for each of the stations within the primary transit corridors that envisioned high-density, mixed-use development around each of the stations.

Ballston. Ballston was envisioned as a major hub within central Metrorail corridor through the county. At the time, Ballston was a low-density residential neighbourhood surrounding a failing suburban shopping mall. The Ballston Sector Plan called for the area to be transformed into a high-density office, retail, and residential hub oriented to the Metrorail station. Sector plans were also developed for each of the other stations in the central corridor: Rosslyn would become the primary office and hotel area; Courthouse would become the County government precinct; Clarendon would become an "Urban Village;" and Virginia Square would become the cultural, educational and recreational node. These plans were based in a thorough understanding of the market potentials as well as an economic development vision for the role of each station in the county as a whole.

A seven-block area around the Ballston station was designated as a co-ordinated mixed-use precinct with densities as high as 3.5 FAR for commercial buildings, 135 dwelling units per acre for residential, and 210 dwelling units per acre for hotels. Density bonuses were given to developers in order to incorporate a component of residential into their office developments. The bonus permitted an increase in FAR from 3.5 to 6.0 where the developer has included a (mixed-income) residential component. All commercial office buildings had to incorporate street-level retail, in order to help create an urban environment and a sense of place. The County also provided incentives like density bonuses to developers who were willing to provide public amenities like streetscape, parks, public art, and other amenities.

These policies resulted initially in the private development of Ballston Metro Center, a 66,071m^2 project built above the Ballston Metrorail station. It comprises an office tower with over 18,000m^2 of office space and 1,356m^2 of retail. There are 209 hotel rooms, 277 residential condominiums, and 706 parking bays. Construction began in May of 1987 and was completed in February of 1990. More importantly, this project became the first of many that have transformed Ballston into a major, high-density mixed-use and mixed-income transit-oriented hub. Thousands of jobs as well as thousands of market-rate and affordable housing units have been created within walking distance to the transit station. The County has gained from the immense increase in property tax revenues that have been generated around Ballston and other stations along their transit corridors. The confluence of housing and economic development has helped to create synergies that benefit people of all income levels and the county as a whole.

Rosslyn. Rosslyn is the predecessor of all successful TOD developments in Arlington County. It was development around the Rosslyn Metro Station that helped transform the county from a physically-constrained, economically-declining suburb to a vibrant employment, housing, and cultural centre. Incentive zoning was key to the success of the Rosslyn Sector Plan, completed in 1977. It allowed developers greater densities around the newly-established Metrorail station. The plan awarded developers density bonuses for developments like parks and boulevard improvements. By 1990, Rosslyn already had over 86,000m^2 of office space, 5,000 residential units, and over 2,000 hotel rooms. This high-density urbanised area is home to corporate headquarters as well as small businesses.

Key Lessons Learned

Zoning tools are more successful in achieving their aims when cities develop conceptual land use plans with stipulated development guidelines. Plans need to articulate in detail the type of land uses (i.e. residential, retail, office, etc). Furthermore, the plans also need to articulate the market-based format for residential development for a given area (i.e. lofts, townhouse clusters etc). Nonetheless, such plans still need to provide long-term flexibility and accommodate revision to accommodate changes in market conditions. Ultimately, such plans must be responsive to the market whilst encouraging the type and scale of development and amenities envisioned as a public good.

Simply zoning land for higher densities does not ensure that higher-density development will occur. It is better for the planning authorities to establish minimum and maximum permitted densities for any given area within the zone, and then to offer a density bonus as a direct incentive to achieve certain public objectives. Incentive and inclusionary zoning policies are widely-used tools for creating mixed-income development. Regulations typically require a developer to include a certain percentage of affordable housing units as any part of a new development. By offering a “carrot” (density bonus), the developer is more likely to incorporate the “stick” (requirements for affordable housing or public amenities) in their development.

Joint Development Agreements

Joint development refers to a type of public-private partnership where public and private entities contribute to the costs of a transport facility and share in potential revenues generated from associated development leveraged by that facility. Joint development projects are often location-specific and have a high degree of community involvement and complexity.

Example: Oakland, California USA

Oakland, California (part of the San Francisco Bay area) participated in development of Fruitvale Transit Village, an example of a joint development project. The project was spearheaded by the Unity Council, a non-profit

organisation which formed the Fruitvale Development Corporation together with the City of Oakland, Bay Area Rapid Transit (BART), Alameda County Transit, the Metropolitan Transportation Commission (MTC), and various community-based groups.

The primary objective of the project was to assist in the revitalisation of the East Oakland inner city which, like Johannesburg, suffered from disinvestment in the 1960's when factories and canneries that employed a large number of local residents relocated out of the area. As a result of such disinvestment, the commercial node along East 14th street declined over the subsequent years. In 1989, BART announced its intentions to build a 500-car parking garage at its Fruitvale Station, which the transit agency perceived as a commuter node. However, this plan was met with opposition from residents of the East Oakland community. The largely low-income, Hispanic community felt that the parking garage would serve as a barrier and would spiral the community into further decline.

The Executive Director of the non-profit Hispanic Unity Council put forward the concept of a transit village which would link the local economy of East Oakland to the mass transit station. Her recommendations were largely based on a study completed by the University of California at Berkeley (which is located near Oakland). The community was heavily involved in the subsequent conceptualisation of a plan for the Fruitvale Station area.

Formation of a partnership between the Unity Council and BART was critical, as BART owned most of the land surrounding the station. The two organisations worked closely together for mutual benefit by engaging in land swaps. Marketable properties that belonged to BART on the east side of the station were swapped with less-marketable properties on the west side, which belonged to Unity Council.

Planning for development of the Fruitvale Transit Village began in 1992, but the site was only acquired from BART in 2001. Construction of Phase 1 of the Fruitvale Transit Village began in January 2002 was completed in February 2004. The total development covers an area of 1.62 hectares of mixed-use development located next to the Fruitvale BART Station. The commercial office component covers over 10,000m^2 with five tenants occupying an average of 1,600m^2 each. The retail component covers 3,680m^2 with a wide complement of stores ranging from personal services to food outlets that serve the local community as well as commuters. Residential development covers 4,800 m^2 and comprises of 37 market-rate housing lofts and 10 affordable housing units. Community-based facilities comprise of a child development centre, a public library, and a health care clinic.

The Unity Council has a vested stake in the project as it owns land on which a pedestrian plaza and commercial (South) building were eventually built. Furthermore, the Unity Council entered into a 95-year lease for the land on which the residential (North) buildings sit. Thus, the non-profit Unity Council generates direct revenue from its participation in the project, which helps to fund activities to assist the organization's low-income constituency.

Tax Increment Financing (TIF) was also applied in this project, which is included in a broader TIF District. TIF permits the use of bonds financed based on the incremental increase in tax revenue generated by the new development within the district. TIF bond funds were used to help pay for certain infrastructure improvements in the Fruitvale Transit Village project. The Unity Council required four years to access adequate financing from the project, which was generated from an array of financing sources including development and construction grants as well as the TIF tax-exempt bonds.

Key Lessons Learned

The Unity Council managed to capture some of the direct revenue generated through the joint development agreement to fund projects needed to serve its low-income constituency. The project itself also helped to create a 47-unit apartment building with 10 affordable units. . However the waiting list for affordable housing in the East Oakland area retains in excess of over 300 families, which means that there is a need for larger-scale projects to actually address the affordable housing needs within this particular community.

Land Value Increment Taxes

Many local jurisdictions around the world (including those in South Africa) utilise property taxes to generate revenue in support of municipal service delivery. Property taxes are typically applied to land and/or improvements (buildings) at flat rates depending on land and building use. Many jurisdictions adjust the rate based on a combination of the change in total assessed value and municipal budget requirements. A variation in the approach to property taxation is the land value increment tax. This form of property tax provides a mechanism to capture value at specific locations by ring-fencing the revenue raised on the incremental increase in the value of land brought about by public interventions (such as the provision of transport infrastructure and other services).

Example: Mexicali, Baja California, Mexico

The Mayor of Mexicali (in the Mexican state of Baja California) sought new sources of funding for infrastructure through use of a land increment tax. Despite initial opposition from property owners, the success of this reform has been reflected in the revenue collected from the land increment tax, which increased from 3 million pesos in 1988 to 63 million pesos by 1998. The tax was eventually accepted by landowners who gradually realised the value of owning serviced land that is taxed at a higher rate. It was reported that in 1995, Mexicali drew 15.3% of its revenue from its land tax while other cities in Mexico only drew 8.4% from their property taxes. As such the land increment tax was adopted in other Mexican cities.

Example: Taiwan

The Taiwanese Government introduced a progressive tax system on land value increments. Increments of less than 100% attract a 20% tax rate

whereas increments in excess of 300% can attract a tax rate of 80%. In 1995, the Government of Taiwan was able to raise 20% of tax revenue from the land value increment tax. However by 1998, this revenue source had declined by 6.5%, to 13.5%. The decline was largely attributed to a downturn in the market.

Example: Port Alegre, Brazil

A similar system of incremental property tax has been introduced in Port Alegre, Brazil, to achieve the similar purpose of infrastructure financing based on the capture of incremental increases in property value.

Land Banking & Leaseholds

Land banks are mechanisms used by local governments for a variety of public purposes. Most relevant is where local government purchases or otherwise acquires land located near or within transit-orientated development hubs. The area is then re-zoned for higher density and transit-oriented development. The municipal agent would often retain full control of the land but sell leasehold rights for private development of the land. An increase in the value of land is often captured by the public sector through leasing income tied to value or commercial revenue stream. Leasing, as opposed to outright sale of land, gives the public authorities more autonomy and flexibility in directing development to public purpose over the long term. Another advantage of this mechanism is that it is not necessary to link revenue to specific transport infrastructure or service delivery as is the case with a betterment tax or tax increment financing. A disadvantage is the possibility that revenue can be redirected to general fund purposes unless policy is written to control use of funds.

Air Rights

Air rights are designated to allow for development above public infrastructure and facilities such as railway or mass transit stations, highways, and other facilities. Famous examples include Manhattan's Madison Square Garden arena, which was built using the air rights above Pennsylvania Station. Another famous example is the 59-Story Pan Am Building, constructed above New York's Grand Central Station. Within South Africa, air rights have provided for such development as The Bridge shopping centre (built above the railways behind Johannesburg Park Station) and N1 Plaza (built above the N1 Highway in Midrand). In some cases, air rights granted by public authorities have come with stipulations and requirements for the provision of public amenities, infrastructure, affordable housing, and other public benefits.

Example: Hong Kong

The Metropolitan Transit Railway Corporation (MTRC) purchased air development rights from the Hong Kong Government, a majority shareholder in MTRC at pre-rail development prices. The MTRC then sells these rights to

developers, incorporating the development cost of the rail into the price. The price differential is substantial because of its inclusion of rail development costs. Money from the sale of rights is used for the operations and maintenance of the railway stations and thus helps to cross-subsidise the cost of providing public mass transit.

Example: Boston, Massachusetts, USA

The Massachusetts Turnpike ("Mass Pike"), the primary east-west highway corridor through the state of Massachusetts, was extended through inner-city Boston in the 1960s, ripping apart neighbourhoods and effectively cutting off access between low- and modest-income central city communities. The City of Boston, through its Redevelopment Authority, has made a concerted effort to re-knit the CBD and neighbourhoods together by decking over the Mass Pike and encouraging infill, mixed-use development. Early projects included Copley Place, built on a deck over Mass Pike.

These projects involved a partnership between the Boston Redevelopment Authority (BRA, a municipal agency), the Massachusetts Turnpike Authority (MTA, a state government agency which owned the air rights), and private developers. Private developers secured air rights from the MTA and were required to contribute rentals or pay backs for the use of those rights.

More recently, additional projects have been proposed for development using the sale of air rights on decking above the turnpike. Columbus Center is proposed by Winn Development and was supposed to move forward but has been slowed by the financial crisis. However, another public-private partnership is moving forward based on a partnership between the private developer and the Boston Red Socks (the city's professional baseball team). The Red Socks had a need for parking associated with their stadium. As a result, they entered into an agreement with the developer to help finance a deck over the highway in exchange for the provision of structured parking facilities adjacent to the stadium. The developer in turn was able to secure financing for mixed-use development. The BRA required that the development include mixed-income and affordable housing as well as community amenities such as public parks that are to be maintained by the developer or their management subsidiary in perpetuity.

Lessons Learned

As with any type of property development, there must be demand for the property as well as available private financing. During the current credit crunch, private development is hampered by a lack of available financing. In the case of Boston, the MTA relaxed certain financing rental / pay-back requirements (by allowing them to delay the first payment until after revenue could be generated by commercial development). The initial requirement for immediate rental payments had held back the Red Socks project, so the relaxing of those payments allowed the developer to move forward during this credit crisis. The property market and private financing are key drivers for

generating revenue to support the cost of providing infrastructure and to meet public objectives through private investment. Governments must work closely with developers to ensure that projects are not held back due to restrictive agreements yet still achieve the longer-term public objectives.

Tax Increment Financing (TIF)

Tax increment finance (TIF) can be used to pay for transport and other infrastructure, streetscaping, and private development. TIF is usually targeted to encourage investment in under-developed or downgraded areas. This mode of financing works on the principal that public infrastructure will impact on the value of property, thus increasing public tax revenues. The resultant incremental increase in tax revenue can then be "captured" within a specific district or precinct to pay the debt service on municipal bonds used to pay for the infrastructure *within that precinct*. Thus, municipal governments help leverage private investment by financing improvements based on the future incremental revenue stream generated as a result of the private development. TIF districts are established in a variety of locations and circumstances, and not just at transport interchanges. However, transport-related projects and interchanges are a very common location for these financing districts.

TIF is an incentive for private development, because it helps in the provision of infrastructure necessary to support such development. Because it is an incentive (a "carrot,") public agencies interject requirements ("sticks") to ensure that the private developer creates the type of place, amenities, and public goods that the community desires. TIF is an increasingly common tool used for urban regeneration in the United States, but the laws and policies guiding TIF vary dramatically from state to state. Some states still do not enable the use of TIF at all. In some states like California, local redevelopment agencies have primary responsibility for implementation of TIF and are required to spend at least 20% of their collectable tax increment on affordable housing for low to moderate income households within the TIF districts. In other states, TIF funding is targeted specifically to bulk infrastructure within the TIF district. In others, it can actually be used to finance private commercial or housing construction within the district.

Ultimately, there must be a public purpose shown for use of the funds, whether those funds are used by public agencies (such as for financing infrastructure or subsidised housing within a private development) or directly by private developers (for these same purposes). Regardless of the style of implementation, TIF seeks to leverage private investment which will in turn generate tax revenues. Those revenues not only pay debt service over the life of the bonds, but also generate long-term and sustainable new, long-term sources of revenue stream for local governments. Often, TIF finances development in areas that otherwise generate little or no tax revenue to local government. The growth in revenue can help municipal governments fund other infrastructure, services, and economic development projects that benefit low-income residents.

Example: Atlanta, Georgia, USA

The Atlanta Development Group and Novare Group were involved in the construction of Twelve Centennial Park, a high-density mixed-use development located in the transition area between the Central Business District and Midtown in Atlanta, Georgia. It is a large, mixed-use and mixed-income complex located directly adjacent to the Civic Center Transit Station (operated by the Metropolitan Atlanta Regional Transit Authority ("MARTA")), near Centennial Olympic Park (site of the 1996 Summer Olympics). As such, this TIF is associated with a transportation interchange as part of a transit-oriented development.

On completion, Twelve Centennial Park will include 1,034 one and two-bedroom condominiums (sectional title units) in two 39-storey towers. The specific development mix consists of 358 two-bedroom condominiums averaging 136m^2, of which 40 units are below-market-rate affordable homes, and 676 one-bedroom condominiums averaging 68m^2 of which 164 units are below-market-rate affordable homes. Plans for the ground floor at Twelve Centennial Park include approximately 2,015 m^2 of retail including restaurants and shops and approximately 1198m^2 of loft-style office space creating a live/work environment.

TIF was instrumental in moving the development forward. The Atlanta Development Authority provided the developer with $11million in TIF bond financing. This amount was used to cover for costs incurred for site acquisition, site preparation, streetscape, landscaping; and the structured parking facility. Debt service for these projects was covered by the tax increment generated by private development of the site.

The first phase of 517 condominium units, a hotel, and most of the retail and office space broke ground in 2005. The housing includes 104 affordable for-sale condominium units. These units are targeted for households earning 80% of AMI or less. Applicants must also be first time buyers. The Atlanta Neighborhood Development Partnership has oversight of the affordable housing component of the project and participated as a financial partner in the development, providing $500,000 in return for the ability to market and sell the affordable condos.

As of June 30, 2008, the developer for Twelve Centennial Park reported sales of 201 one-bedroom units, 89 two-bedroom and 9 penthouse units. On the retail component, it was reported that at about 1,000 square metres of retail space had been leased, with tenants ranging from restaurants to office users.

Lessons Learned

TIF has been widely applied in the United States, often to transportation interchanges, to garner revenue for development of public

goods (like affordable housing and infrastructure) based in the incremental increase in property value. TIF districts are created at the local level, but are mandated by the 50 individual state governments of the United States. The most effective use of TIF occurs where there is a long-term development plan in place for the TIF district, since tax revenues are to be ring-fenced to finance projects within that district. TIF revenues are always projected based on market analysis in order to support the issuance of bonds.

Local governments must provide justification for the use of the funds for public purposes. Since each US state has established its own TIF enabling legislation, there is a significant amount of variation that helps to defining best practise. Weaknesses in TIF have occurred where states have not specified the requirements for public purpose. For example, the state of North Carolina enabled local governments to use TIF funds, but the law was not restrictive. As a result, some local governments (e.g., Raleigh) have seen TIF financing wasted on private real estate projects that did not necessarily generate a measurable public return (such as an increase in the supply of affordable housing, small business development, or public transit accessibility).

Another issue in some states (such as Illinois) is the proliferation of TIF districts that, taken as a whole, dilute the power of any one district to access financing and regenerate a community. Like any incentive, TIF is more powerful when it is used selectively and restrictively. There is a moderate level of TIF district assignment that allows for a range of opportunities whilst not diluting the incentive with over-use. It goes without saying that TIF works best where there is a strong market for development and where projects are projected to generate a substantial return to the private sector. As with other value capture mechanisms, the opportunities for value transfer are maximised at locations that offer high economic potential. It should be noted that TIF districts start from a lower taxable base but the tax rates are normally higher than in surrounding areas of the municipality.

Summary and Conclusions

Many of the value capture mechanisms are oriented to provision of infrastructure, including transport itself, with the ultimate objectives of reducing sprawl, regenerating derelict neighbourhoods, or providing affordable housing. In some cases, there have been revenues generated directly for the purposes of service delivery to low-income communities through joint development agreements and partnerships with community-based organisations (CBOs). Many of the mechanisms described herein are applied to a variety of locations and not just to transport interchanges. These various mechanisms work in tandem to create and capture value for public purposes. For example, zoning may require the inclusion of affordable housing, but density bonuses and TIF help create incentives for private developers to implement inclusionary zoning policies. Fruitvale Transit Village utilised both joint development agreements and tax increment financing. A number of value capture mechanisms have been described here, and several are recommended for implementation later in this report.

Section 3. VALUE PREMIUM

This section provides findings from a pro forma analysis of the residual land values for development associated with the three transport interchange sites. The results of these pro forma analyses were used to determine the value differential, or premium, on land located near a transport interchange. The premiums were calculated against land values at each site in the absence of an interchange and also against comparables. Ultimately, the objective of this analysis is to determine the impact of transport on land values that can be "captured" for the purposes of poverty alleviation.

Market Analysis

The pro forma used as the basis for determining the premium on land values (associated with transport interchanges) are informed by extensive market analyses conducted for each of the case study sites used in this analysis. An understanding of the future market potential for development under the assumption that the transport interchange is constructed is crucial to an evaluation of true value at the sites. The market analyses project that potential, by type of use, in terms of scale, pricing, and other market parameters. A mix of uses (including mixed-use projects) would then be recommended for each site. The detailed market analyses are documented in the Appendices of this report. Key findings are summarised below.

PWV9 Diepsloot Interchange

The indicative market analysis forecasted demand of up to 110,000 square metres of office space in the area surrounding the PWV9 Diepsloot Interchange by 2030. Whilst absorption would start off slowly in the near term, due to economic conditions and issues associated with image and overall development take-up, the area would gradually capture an increasing share of the Midrand office market. As the affluent population base expands westward and Lanseria Airport continues to grow, sites along the PWV9 will become a premier location for local, regional, and international office development. The Diepsloot site would primarily compete with other PWV9 interchanges (Olievenhoutbosch and Khayalami) for this future market.

The market analysis also forecasted indicative demand for nearly 140,000 square metres of industrial use in the PWV9 Diepsloot Interchange area by 2030. This is a relatively conservative capture, and assumes competitive development of at least 1.0 million square metres of industrial space throughout the market during the 20-year planning horizon. The Diepsloot Interchange area will be highly attractive as an industrial location because of its direct highway access (and lower traffic volumes, at least in the near term), airport freight access at Lanseria, and proximity to executive and worker housing. The area will have sufficient undeveloped land for expansion whilst other portions of the Midrand and Centurion markets are filling up with development. Prices will start relatively low but will increase rapidly to match

rentals in other parts of the primary market area. In doing so, opportunities for many small and emerging industrial businesses to locate in this area will be pushed aside unless there is intervention in the market.

Mooki-Magoye BRT Station

The indicative market analysis forecasted potential for 170 housing units in the areas surrounding the Mooki-Mogoye BRT station in 2015, increasing to more than 540 by 2020. Whilst the BRT station has some positive impact on housing potential at this site, access to the nearby Mlamlankuzi Metrorail station and pent-up demand for housing in Soweto in general also play a role in driving demand at this site. The combination of a high-quality, attractive, mixed-use environment within walking distance of BRT, Metrorail, and the Orlando Stadium all help to make the Mooki-Mogoye area a potentially attractive housing site for young professionals and other working commuters. Retail plays an important part in creating the attractive mixed-use environment that will help attract renters and homebuyers.

Site demand was also determined for retail, restaurants, entertainment, and personal services in the areas surrounding the Mooki-Mogoye BRT site. This analysis determined that there would be potential for about 5,000 square metres of retail business space (at formal business operating thresholds) by 2015. This number could be higher if more destination activity is attracted to the area, for example if the site is linked through entertainment or other activity precinct to the Orlando Stadium area. Specific categories of retail demand at this site are described in detail in the Appendix. There would be a mix of retail uses oriented to convenience goods (e.g., groceries, pharmacies, etc) but also including stores selling apparel and shoes, hardware, home furnishings, personal services, dining, and entertainment. The business mix would include national brands as well as locally-owned specialty stores and destination-oriented businesses.

This potential assumes that there would be an attractive commercial component developed and integrated with 500 to 700 new housing units and urban streetscape as part of a mixed-use, transit-oriented precinct. This precinct would link the two key transit nodes – the Mooki-Mogoye BRT station and the Mlamlankuzi train station – which would create synergies for attracting inflow retail expenditures as well as higher capture of commuter transit expenditures. Overall the mix of uses and excellent management would also help make the use of public transit a more attractive option for residents of Orlando East and surrounding areas.

Chris Hani Metrorail Station

There is market potential for more than 1,100 housing units in the area surrounding the Chris Hani Station within the next five years. Competitive projects have largely comprised of detached dwelling units. Such housing is favoured by large families as the units allow for extension to accommodate household growth. Flats have been poorly received in this market due to notoriety associated with apartments in the Cape Flats. However, young

workers and others will be attracted to flat in well-designed, convenient, and attractive mixed-use and mixed-income projects near transit stations such as Chris Hani. Families and young couples can also be attracted to townhouses and other higher-density, single-family housing products located near transit, especially where other amenities such as convenience retail and shopping are located nearby.

The market assessment also forecasted potential for about 7,000 square metres of retail goods and services by 2015 in the area surrounding Chris Hani Station. Demand would be limited to convenience goods and personal services in the absence of a more comprehensive, destination marketing concept. Demand for destination retail could also expand at this site should the Metrorail line be extended east beyond Chris Hani station, opening up new markets and opportunities for housing development in support of retail expenditures. At this time, however, there are no plans to extend the line beyond Chris Hani Station.

These market findings were then used to inform the development pro forma for each of the three sites, in terms of the mix of uses, scale of development, and pricing. Based on these inputs, the income stream was capitalised and a "residual value" determined for each site. Again the market findings are detailed in Appendix tables 1 through 4.

Caveat

The pro forma were drafted based on a number of assumptions relating to financing and development feasibility. However, it is important to note that the findings are based in part on market analyses, which helped to forecast the demand for land for specific uses. Thus, the scale and type of development potential was determined as a key input to assessing land value, rather than relying solely on comparables or on assumptions about possible development patterns. Valuation is more than just an assumption about rentals, it must account for the scale and type of development that is supportable in the market. As such, there is an economic underpinning for the valuations.

Even with an extensive analytical basis, there is the caveat that residual land values, once calculated, must still then be compared against the value of the site without an interchange in order to determine the "differential" or premium on the value of the interchange itself. It was determined that there are three methodologies for identifying this premium, each of which is insufficient on its own.

The first approach would entail a simple comparison to the existing land value at the proposed interchange site, in order to identify the "leap" in value associated with development. However, that alone is not sufficient to isolate the "premium" on value associated with the *interchange* itself. There are other variables that affect the comparison. For example, ADEC found that there is development potential at all three of the interchange sites even without the development of an interchange. So, just comparing the residual

value with existing site values will not isolate the premium associated with an interchange.[4]

A second approach would compare the residual value of the land with and without an interchange. In other words, the market potentials for each site were determined under two scenarios – one with and one without an interchange. This approach is common in analytical market potentials assessments used in litigation. ADEC performed this analysis using a matrix of demand capture models that utilised different capture rates depending on the presense of the interchange. Market capture was higher with the interchange and lower without.

A third and obvious approach is to identify comparable sites for the purpose of identifying the premium. Identifying comparables is not an exact science, particularly where it is important to identify comparable sites that do not benefit from an interchange. ADEC did utilise this approach as well, to help confirm findings from the second method. In this case, weighted averages were used for multiple sites that shared location, zoning, surrounding land use, and other attributes with the subject sites but did not benefit from a transport interchange. As in the first approach, there are a large number of variables that could interfere with the isolation of a premium on the value of interchange-proximate land. The averages help to reduce some of the variance.

Projected Land Values

Land values were projected in the areas surrounding each of the three transport interchange sites, namely Mooki-Magoye, Chris Hani, and Diepsloot. The development impact areas were defined based on the 20-year program established by the market analysis and on logical floor-area ratios in support of a “walkable, transit-oriented environment” (for Mooki and Chris Hani) and rapid accessibility (for Diepsloot). For Mooki-Magoye, this area comprises a total of approximately 14 hectares. Chris Hani requires 25 to 30ha and Diepsloot would support 10 to 20ha.

Values were determined through a static development pro forma analysis, where the residual land value is determined based on the stabilised annual net operating income (NOI) from each component of the development mix (i.e., housing, retail, office, or industrial). The residuals were then translated and expressed as a value per square metre. The pro forma findings are summarised below:

[4] If the market was efficient, the “comparable” price paid is more likely to factor into the site potential. This is a common issue in South Africa, where land is sometimes under-valued because of a lack of market information. Also, there are few “comparable” TOD sites, so the market has not yet understood this relationship to value.

Site	Residential MF-Rental	MF-Sale	Townhouse	Retail	Office	Industrial
Mooki-Magoye	R581	R422	R425	R 969		
Chris Hani	R255	R241	R230	R 852		
Diepsloot				R2,725	R2,580	R1,424

In general, commercial land values are higher than residential because of the higher rentable income streams and lower operating costs. Retail/commercial land values will be higher in Midrand (Diepsloot) than in either Soweto (Mooki-Magoye) or Khayelitsha (Chris Hani).

Value Differential (Premium)

The key question is the impact of transport interchanges on land value. To determine this impact, three approaches were employed as noted in the introduction. First, the pro forma values were compared with the existing value for these three sites. Second, the projected values were compared with the likely values at each site if the interchange were not developed. Finally, the pro forma values were placed against existing values for comparable properties. In all three cases, a value differential or "premium" was determined for the purposes of simple comparison. The premiums for each land use were integrated in order to provide an overall value differential measure.

Key Assumptions

Several assumptions were integrated into the pro forma models as a basis for determining the residual land value from development that could be compared in the three approaches. For example, the residual land value was determined primarily using a capitalisation (CAP) rate of up to 10%. The CAP rates were set based on market conditions and risk factors ameliorated by the introduction of public infrastructure (including new interchanges). The models also set a target developer "cash-on-cost" return of at least 17%, again based on market conditions in a risk environment ameliorated by public intervention. A developer fee of at least 3.0% is assumed, although fees would be higher if working as contract developers rather than equity partners. Vacancy factors, interest rate and other inputs are also made explicit in the model. Rents and development program are set based on the findings of the market analyses completed specifically for this report. As such, there is a measure of realism associated with the income stream used to calculate the "value-add" associated with each site.

Existing Value

Information on existing values was derived from municipal deeds records, assessment data, and recent sales. In some cases, existing valuations (especially in townships) are likely to be spurious. Thus, information was collected from various sources in order to provide an appropriate context. The Pro forma values were compared with existing land value to determine a differential. At Mooki-Magoye, development of the area

involves some measure of re-development, since there is already housing located near the site. Even so, re-development should result in an increase of up to 42% in the value of the land in that area. Similarly, redevelopment at Chris Hani will result in almost a 100% increase in land value. However, in the case of the Diepsloot site, it must be kept in mind that this approach compares the value of zoned, serviced and developed land with un-zoned, un-serviced, and un-developed land. Zoning, servicing and development of the site will, not surprisingly, result in more than a 1,800% increase in land value.

Site	Existing Value/SM	Pro Forma Value/SM	Differential
Mooki-Magoye	R422	R600	1.42
Chris Hani	R200	R394	1.97
Diepsloot 1/	R120	R2,200	18.30

1/ Existing is undeveloped, un-serviced agricultural land.

Sources: City of Johannesburg, City of Cape Town, various brokers and ADEC.

Based on this analysis, Diepsloot will obviously see the largest change in value driven by development. But again, the comparison is not consistent since the existing site is un-serviced, un-zoned and un-developed. Among the two developed sites, Chris Hani will see the larger differential impact.

Market-Based Differential

A more appropriate measure of the discreet impact of the transport interchange on land value is the market-based differential. In this case, the value of each respective site was determined where development occurred with and without the benefit of the transport interchange. The scale, type, and pricing of development (in other words, demand) will be different at a particular site depending on whether the interchange is constructed or not. Using a capture model, demand was calculated for each site under a scenario where the interchange is *not* developed, for comparison to demand and resulting pro forma value where the interchange *is* developed. These findings are summarised below.

Site	No Interchange	Interchange	Differential
Mooki-Magoye	R477	R600	**1.26**
Chris Hani	R180	R394	**2.19**
Diepsloot	R800	R2,243	**2.80**

Source: African Development Economic Consultants (pty) Ltd (ADEC).

This approach helps isolate the premium in value attributable to the interchange. At Mooki-Magoye, the premium on value attributable to the interchange (a BRT station) is about 26%. This amount is relatively low compared to the premium at Chris Hani on the value of land associated with the Metrorail station (119%). Higher still is the premium associated with the highway interchange in Diepsloot (180%).

A general observation could theoretically be made that access to rail will generate a higher premium to land than BRT, and that a highway interchange will have an even higher impact on land values than rail. There is some logic in this finding, since rail and (limited access) highways have fewer entry points and thus a near monopoly on access to rapid transport. In rail and highways, there are relatively few opportunities for competition as compared with BRT, where there are bus stations within walking distance of one another. Railways and highways also provide faster means of transport, although highways offer multi-use (freight and passenger) traffic whilst rail is often limited to single use.

However, *extreme caution* is advised in drawing such conclusions without further research, since a multitude of variables can account for the differences between transport modalities and locations. The purpose of this analysis is primarily to assess the premium on land within each of the given interchange locations, rather than to compare across modalities and locations. For the latter, it would be necessary to expand the analysis to a broader range of sites and modalities than just the three permitted by the scope of this study.

Comparables Approach

A third approach examined the pro forma values against comparable sites where there is zoning and services in place to accommodate development. Here again, there are multiple variables that would have to be considered and the comparables approach is less likely to control for intervening variables. To help strengthen the results, weighted averages were compiled from sites throughout the region of each site with similar characteristics. The key factors considered include location, transport access (lack of an interchange but otherwise similar), adjoining uses, and others. Based on this approach, the findings included the following:

Site	Comp Value/SM	Pro Forma Value/SM	Differential
Mooki-Magoye	R492	R600	**1.22**
Chris Hani	R224	R394	**1.76**
Diepsloot 1/	R1,120	R2,200	**1.96**

Sources: City of Johannesburg, City of Cape Town, various brokers and ADEC.

In this case, the Mooki-Magoye site would see a 22% premium in value as compared with other similar sites without BRT. Chris Hani would see a 76% premium in value compared with similar sites, and Diepsloot would see a 96% premium compared with other sites. Again, in theory, Metrorail and limited-access highway will generate a higher premium on value than BRT. As noted earlier, extreme caution must be taken in comparing across the three site locations and modalities. Further research is required to confirm and strengthen any findings with respect to the various locations and modalities. For the purpose of this analysis, interpretation is limited primarily to the internal change in value at each of the three sites that may be attributable to the development of an interchange at those sites.

Summary

This analysis has determined that the introduction of a transport interchange will have a positive impact on the value of a given site. The relative differential or "premium" in value depends on a number of factors relating to the market demand for land at the site and the role of the transport mode. In general, the premiums range from about 22 or 26% up to a high of 120 or 180%. While it is tempting to compare across sites and modalities to show that highways and rail have a higher impact on value than BRT, such conclusions are spurious without a larger and more diverse sample for testing. Further research is required to determine the role of any given transport mode or location in comparison to another. For the purposes of this study, the pro forma are used as the basis for recommending strategies for capturing land premiums for poverty alleviation in the section that follows.

Section 4. MECHANISMS, POLICIES AND ACTIONS

This section presents conceptual recommendations for capturing the value gained from transport interchanges to assist in the alleviation of poverty. The recommendations are based on findings from the previous sections in this report and appendices that examined the differential in land value that can be expected due to the development of transport interchanges, along with an assessment of best practices in value capture and other inputs. Key acronyms are also included in the Appendix of this report. Leading to these strategies were the following:

Section1. Typologies and Selection of Case Studies
Section2. Best Practices for Value Capture
Section3. Value Premium
Appendix 1. Market Analysis: DIEPSLOOT Site (Midrand)
Appendix 2. Market Analysis: MOOKI-MAGOYE Site (Soweto)
Appendix 3. Market Analysis: CHRIS HANI Site (Khayelitsha)

Several typologies and case studies were selected based on the need to examine diverse infrastructure modalities and locations. Only those sites where an interchange is actually planned (and potentially budgeted) but not yet built, where selected for study. A highway interchange along the planned PWV9 was selected near Diepsloot in Midrand, A bus-rapid transit (BRT) station site was selected near Mooki and Magoye streets in Soweto. Finally, a commuter rail (PRASA) station site was selected in Chris Hani, Khayelitsha.

Best practises were analysed with respect to value capture worldwide. Whilst an increasingly utilised tool for financing infrastructure, value capture is not always explicitly directed to “poverty alleviation.” Still, many examples of value capture are aimed at urban regeneration and, at least indirectly, improvement of conditions in low-income areas. Various countries in South and North America are advanced in the use of value capture mechanisms. In South American countries, value capture often takes the form of land value increment taxes. The North American counterpart is Tax Increment Financing (TIF). In both cases, as well as in the use of other mechanisms such as local improvement districts, impact fees, land purchase & development agreements, the incremental increase in land value (usually captured through the increase in local property taxes) is ring-fenced for specific uses. Often, the use is for financing of infrastructure which, in turn, leverages private investment.

At present, two forms of value capture are used in South Africa: CIDs (City Improvement Districts), which are a form of self-imposed betterment tax used to improve local conditions within a specified district; and developer contributions (a form of impact fee) that is applied specifically to funding of new infrastructure. However, South African municipalities are generally restricted from designing other forms of value capture or fiscal incentives at the local level and must rely on Treasury approval.

The market analyses for each of the sites (detailed in the Appendices) provided detailed and comprehensive assessment not only of existing market conditions but also forecasts for demand of various uses at each site. The purpose of these market forecasts was as a basis for determining the residual value of the sites based on their potential, rather than based on existing market conditions. A fallacy of development is that development depends on existing market conditions, when, in fact, markets can be "created" or leveraged through public investments (such as infrastructure) that help to create future asset value. Thus, it was critical to understand the future potential for various types of development near these sites if and when new transport interchanges were developed and other conditions were met. Mixed-use development also helps generate demand for transportation, since people are living and/or working near stations and interchanges. As such, transit-oriented development (TOD) is key to creating markets for public transportation, which in turn generate revenues to transit agencies and help cross-subsidise service for the poor (thereby increasing disposable incomes).

The market findings were then used to generate revenue stream which was translated into a residual future value for land at each site. These potential values were compared with values in the case where there is no transport interchange to illustrate the potential "premium" on value attributed to the transport interchanges. Three different methodologies were used to determine this premium, each a "check" on the other. One method examined the potential value against *existing land values* at the interchange or nearby. Another method examined the potential value against the site's future potential if there were *no interchange* developed. The final method examined the potential value against *comparables* at other locations in the market without an interchange. Based on these findings, this final report provides recommendations for capturing the premium in value attributable to the publicly-funded transportation interchange interventions, through appropriate policies and actions at each site and overall.

It must be noted that the findings were ascertained from a limited set of three transport interchange sites, namely the Mooki-Magoye BRT site in Soweto, the Chris Hani Metrorail site in Khayelitsha, and the Diepsloot Interchange of the PWV9 Highway planned in Midrand. These three sites are not sufficient in themselves to represent the values that can be achieved for comparison across the three forms of transport (BRT, commuter rail, and highway, respectively). The limited number of sites reduces the strength of the findings for comparative purposes. However, they do provide indicative findings with respect to the opportunities for value capture at each of these particular sites.

Review of Differential Values

Land values were projected in the areas surrounding each of the three transport interchange sites, namely Mooki-Magoye, Chris Hani, and Diepsloot. A development program was established based on market potentials analyses conducted previously for each site that forecasted the development potentials by type, scale, and pricing. The market findings are in Appendices 1-4.

Values were determined based on a static development pro forma analysis, where the residual land value was determined based on the stabilised annual net operating income (NOI) from each component of the development mix (i.e., housing, retail, office, or industrial). The residuals were then translated and expressed as a value per square metre and compared against three measures: (1) Existing Values at each site, (2) Forecasted Market Potentials at each site *without* the proposed interchange, and (3) Comparable Values at non-interchange sites in the respective region. The "differential" between the residual value and the three alternative measures helps to isolate and express the value (or "premium") associated with the interchange at each site.

The analysis determined that the introduction of a transport interchange will have a positive impact on the value of a given site. The relative differential or "premium" in value depends on a number of factors relating to the market demand for land at the site and the role of the transport mode. In general, the premiums range from about 22 or 26% up to a high of 120 or 180%. The premiums on land values associated with the transport interchanges at the respective sites are delineated below.

PREMIUM IN LAND VALUE ASSOCIATED WITH TRANSPORT INTERCHANGE

Site	(1) Existing Value	(2) Market Potential W/Out Interchange	(3) Comparables
Mooki-Magoye	1.42	1.26	1.22
Chris Hani	1.97	2.19	1.76
Diepsloot 1/	18.30	2.80	1.96

1/ Existing is undeveloped, un-serviced agricultural land.

Source: African Development Economic Consultants (pty) Ltd. (ADEC)

While it is tempting to compare across sites and modalities to show that highways and rail have a higher impact on value than BRT, such conclusions are spurious without a larger and more diverse sample for testing. Further research is required to determine the role of any given transport mode or location in comparison to another. For the purposes of this study, the pro forma are used as one basis for recommending strategies for capturing land premiums for poverty alleviation.

Appropriate Value Capture Mechanisms

Various mechanisms have been identified for capturing the value associated with transport interchanges for the benefit of the broader public and, in some cases, to alleviate poverty specifically. The consultants are engaged in many ongoing projects that utilize these mechanisms to fund public infrastructure, finance affordable housing, create jobs, and otherwise transfer benefits. In addition, the consultants have examined the "best practices" of value capture worldwide. Several tested and commonly-used approaches are recommended herein for each case study site to "capture" the differential or premium in value associated with the respective transport interchanges. In addition, new or less-tested approaches are also identified that relate to the specific goals and objectives of poverty alleviation in the areas surrounding the sites. In essence, the mechanisms employed to capture value in this way rely on the definition of "poverty alleviation" within the specific context of each site.

Mooki/Magoye BRT Site

The Mooki-Magoye BRT stop will be located in Orlando East, home to a sizeable low- and moderate-income population base. In general, household incomes in Soweto are only 30% of those in Johannesburg as a whole. Due to the lack of employment in this "dormitory" suburb, a high percentage of the working population commutes to jobs elsewhere in the region, often at great expense in terms of lost time and wages. Thus, household income available for purchasing of goods and services (which could help drive the local economy) or for education (which increases income mobility) is reduced in order to cover transport expenses.

Orlando East has among the lowest-value formal housing in Soweto. However, median prices have been rising precipitously since 2007, with the development of new housing (e.g., Protea Glenn) in the area coupled with rising incomes. Orlando East has the lowest homeownership rate in the Soweto sub-market, suggesting the need for more affordable housing and an increase in equity participation in the housing market.

Existing uses surrounding the BRT site include primarily lower-income single-family detached housing, and there is some informal settlement not far from the site. Orlando Stadium is located just two BRT stops away, but is not close enough to have a direct impact on near-term development at Mooki-Magoye. The market analysis nevertheless suggests potential for redevelopment of the immediate Mooki-Magoye area for a mix of 810 residential units (about 280 townhouses and 530 rentals), plus 7,000 square metres of retail, by 2020.

The market and financial analyses yielded a modest premium on the residual value for land at the Mooki/Magoye BRT site in Soweto. This premium ranges from about 22% (over comparables) to 26% (in market

potential without BRT development). In other words, it was found that the introduction of BRT infrastructure at this site helps to increase the value of land in the area surrounding the site by at least 22 to 26% over what it otherwise would have been in the absence of such infrastructure.

Objectives. Certainly, key objectives for poverty alleviation surrounding this site would be to capture the potential for market-rate residential and retail development in a way that also helps to diversify the income mix and cross-subsidize the delivery of affordable housing units. There is a need to diversify the housing mix in order to help create more sources of disposable income in support of local economic activities.

Ideally, other business opportunities relating to Orlando Stadium would be promoted in order to create a destination attraction and employment node at that location. Such development would help to uplift the area surrounding Orlando Stadium whilst also spurring demand for housing and economic activity around nearby BRT stops such as Mooki-Magoye.

Finally, there is limited existing connectivity between the Mooki-Magoye BRT stop and the nearby Inhlazane Metrorail station. Another objective should be to increase connectivity and open up development opportunities associated with the two transit nodes. In doing so, opportunities would be created to encourage higher-volume use of mass transit, in turn generating revenue to support public transit systems. Public transit is an important tool for reducing the marginal opportunity costs of commutation amongst low-income workers.

Recommended Mechanisms. The following mechanisms are recommended as approaches for capturing the interchange-related premium on value to help meet the aforementioned objectives.

- **Inclusionary Housing Provision**. Given that there is likely to be demand for market-rate housing units within the area surrounding this site, there is the opportunity to implement an inclusionary housing provision (such as an overlay) that requires developers to include a percentage of affordable units within their projects. Inclusionary housing has become the norm in many communities throughout North America and Europe. The utility of the provision is greatest where there is strong demand for market rate housing, especially in affluent areas where the profit margin on housing is highest. Inclusionary housing policies are also most effective where there is an explicit link to the value gained through a public improvement (such as a transport interchange). Given that the marginal increase in value due to BRT (the "premium)" is relatively shallow at Mooki-Magoye (at 22-26%), it may be difficult to attract developers who would reduce their profitability in order to gain a foothold in this relatively low-margin market. Whilst the excuses normally given by South African developers for avoiding inclusionary projects are moot, the effectiveness of the provision is weaker at this location than it would be in high-density or high-value locations, such as Johannesburg CBD or Sandton. The profitability of

inclusion of affordable units could be tested in the future through sensitivity analysis of the development pro formas from this analysis.

- **Joint Development Agreement**. Another option which may be appropriate for this site and surrounding areas would be a Joint Development Agreement (JDA) or similar mechanism where community equity stakeholders could share directly in the planning and financial benefits generated by development associated with the BRT site (and the nearby Metrorail station). In this case, a community-based organization (CBO) might be formed based on the equity participation of homeowners and residents within the development area. This CBO would form a partnership with PRASA and City of Johannesburg for the development of land around, and as a linkage between, the two transit nodes (BRT and Metrorail). Because this is a redevelopment site, rather than a green field site, the CBO would bring a benefit to private developers by assisting in the assembly of properties for redevelopment. The assembly process is very valuable to developers, who otherwise must expend time and money to purchase and assemble parcels, often through negotiation with a number of small property owners. The CBO and public agencies (which own the infrastructure) would be in a position to recruit and partner with a developer, with profits shared between the CBO, public agencies and private entity. The CBO can also introduce requirements for development such as inclusion of affordable housing and/or locally-based retail tenants.

Inclusionary policies by their very nature penalize developers, whilst in markets like Orlando East, it is often more important to incentivize development (such as through fiscal, financial, regulatory, or other incentives). Infrastructure such as BRT is a form of incentive for development (noting that it does achieve a modest impact on development potentials and land values in the area). As such, it would be unwise to over-penalize developers after providing an incentive for them to invest. The best strategies for poverty alleviation rely on a combination of "carrots and sticks" to attract private investment whilst ensuring that such development meets the community's standards and needs for housing and economic development. Where the community has an equity position (such as through a CBO), it is better able to negotiate for inclusion of elements that meet community needs, so long as there is agreement that profitability must still be assured.

Chris Hani Metrorail Site

Like Mooki-Magoye, the Chris Hani site is located in a relatively low-income dormitory township on the outskirts of a major city. Khayelitsha suffers from many of the same socio-economic problems that plague other townships, but has also seen tremendous demographic growth in recent years. Khayelitsha's household incomes are much lower even than Soweto, and are increasing at a much slower pace than in the Johannesburg township. Unemployment is rising and there is a dire need for generating economic opportunities for residents.

A significant portion of the Chris Hani area's residents live in informal housing, often in shacks. While the *share* of residents living in informal settlements has declined, the overall number in such housing has increased with the population. There is very little supply of affordable rental housing to meet the needs of this under-served household base. One significant difference between the BRT site and this Metrorail site is the level of public transport utilisation. Here in Chris Hani, a much higher share of commutation to work occurs through use of Metrorail.

The market analysis forecasted demand near this site for 3,400 housing units by 2020, including about 700 townhouses, 1,800 market rentals, and a "target" of 900 affordable rentals (an appropriate ceiling to maximise delivery whilst minimising impact on marketability). The market analysis also forecasted demand for about 20,000 square metres of retail/commercial use. The commercial potential at this site is otherwise limited due to competition from larger-scale development nearby at the Khayelitsha CBD Metrorail Station.

The market and financial analyses yielded a significant premium on the residual value for land at the Chris Hani Metrorail site in Khayelitsha. This premium ranges from about 76% (over comparables) to 119% (in market potential without Metrorail development). In other words, it was found that the introduction of a Metrorail station at this site helps to increase the value of land in the area surrounding the site by at least 76 to 119% over what it otherwise would have been in the absence of such infrastructure.

Objectives. As in Orlando East, there is a need in Chris Hani to provide diverse housing choices, including market-rate housing but also a large number of affordable rental housing to accommodate families that are otherwise living in shacks. The need for delivery of affordable housing suggests that the overall scale of development should be maximised within the constraints of the market. There is also a need to encourage commerce and business development at this site, whilst not distracting from the destination opportunities presented at Khayelitsha CBD. Finally, there is again the need to maximise ridership for Metrorail to help support their operations and reduce the opportunity cost of transport to local residents.

Recommended Mechanisms. Similar mechanisms are recommended here as in Orlando East. However, the strength or effectiveness of these mechanisms is heightened at this location due to the opportunity for larger-scale, higher-density Transit-Oriented Development (TOD) associated with the Metrorail station. In this case, comprehensive TOD development could incorporate a stronger menu of potential mechanisms for capturing value.

- **Inclusionary Housing.** Here again, there is the opportunity to establish an inclusionary housing policy that requires developers to include a percentage of affordable units. Whilst the Mooki-Magoye site provides only a marginal opportunity for this type of regulatory tool, the

Chris Hani site provides a more feasible scale of development. There is also the opportunity for such policies to encourage inclusion of mixed-use such as retail where rentals can help cross-subsidise housing management costs.

- **Joint Development Agreement**. There is also the opportunity for a JDA at this location, which could be used to create asset ownership and income for a Community Based Organization. A CBO would use such income projects associated with poverty alleviation, such as to finance a community management and maintenance company or other entities that provide job training and hands-on experience for community residents.

- **Business / City Improvement District**. A BID or CID operation could become useful at this type of location in collecting the revenues necessary to support maintenance, management, and security of the residential and commercial areas associated with mixed-use development around the station precinct. A CID would also help generate employment opportunities for residents to help perform these functions. Enhancing and maintaining the public environment around the station and mixed-use areas helps to maximise transit ridership.

In the case of Chris Hani Station, there is the opportunity to create a comprehensive, master-planned TOD that establishes the density to support economic activities. The station is located at the end of the line and thus can accommodate ridership from commuters who travel from further afield by taxi, bus or other transport. The confluence of commuters at this location provides more "inflow" opportunities to capture a broader commercial and residential market. Master planning could aim to designate the station as a more regional economic node and thus increase opportunities for local entrepreneurs.

Diepsloot PWV9 Interchange Site

The Diepsloot PWV9 Interchange presents different challenges and opportunities for poverty alleviation from the other two sites. Here, the interchange is not located directly within a township but is a slight distance (six kilometres) away. The highway is not meant specifically to provide access to low-income commuters, as BRT or Metrorail would, but rather to serve regional economic interests. Finally, this green field site located in the prosperous Midrand market presents a different development context from the urban redevelopment sites in Soweto and Khayelitsha.

Diepsloot was established as a transit camp and continues to see an exploding migrant population. With annual growth of nearly 34%, development in Diepsloot has lagged behind the need for proper sanitation and services. The impoverished population in Diepsloot lacks access not only to services but also to employment and housing. The PWV9 Highway will improve regional access to the area, but most Diepsloot residents would not be direct beneficiaries of this transport infrastructure as they lack private transportation. The highway will, however, improve access to potential businesses that could

hire local labour including residents of Diepsloot. Thus, the opportunity for poverty alleviation is less in the direct access provided residents to transport but rather, in the indirect benefit of attracting businesses to the area that will employ local residents.

The market potentials analysis forecasted demand for up to 30,000 square metres of offices, 70,000 square metres of industrial, and 40,000 square metres of "ancillary" retail use by 2020. Based on typical employee ratios, this level of development would generate employment for up to 2,875 people, some of whom could originate in Diepsloot. Thus, the very development of this interchange, without any additional mechanisms, will act as an incentive to spur the creation of jobs. The interchange itself is potentially a key tool for alleviating poverty in Diepsloot.

The market and financial analyses yielded a significant premium on the residual value for land at the PWV9 highway interchange site near Diepsloot. This premium ranges from about 101% (over comparables) to 180% (in market potential without interchange development). In other words, it was found that the introduction of highway infrastructure at this site helps to increase the value of land in the area surrounding the site by at least 101% to 180% over what it otherwise would have been if still developed in the absence of such infrastructure. The question is how to maximise the benefits of this interchange (including but also above and beyond land value premiums) for poverty alleviation.

Objectives. At this PWV9 Interchange, there is the opportunity to capture a significant premium in value to the benefit of low and moderate-income households in nearby Diepsloot. Ultimately the objective should be to maximise employment creation at this interchange whilst ensuring that Diepsloot residents garner a fair share of those potential jobs as well as entrepreneurial opportunities. Another objective is to ensure that affordable housing is created near these jobs so that residents do not need to travel great distances to access them.

Recommended Mechanisms. At this interchange, the focus is on overall employment creation coupled with the need to ensure local hiring. Development of the interchange itself will serve as a tremendous incentive to development. As such, the private sector will benefit greatly from this public investment in infrastructure. This concept provides the basis for ensuring a return on the public investment through capture mechanisms as outlined below.

- **Development Impact Fees (Bulk Service Contributions).** South African municipalities already extract bulk service contributions from private developers in order to help pay for bulk services to support such development. In the case of this PWV9 Interchange, there is the opportunity to ring fence these contributions and enable a social investment fee equivalent to some portion of the premium on land value generated by the interchange. The social investment fees would

be collected concurrently with bulk service charges but would be targeted to public improvements in Diepsloot.

- **Land Value Increment Taxes**. There is also the opportunity to enable the direct capture of increased land value (and even to attribute those increases, as shown in this analysis, to the construction of the interchange), through a land value increment tax. Such taxes could ring fence additional revenue which could be ear-marked for special projects or programmes within Diepsloot or for job training and transport associated with businesses that locate within the interchange area (thus providing both a direct benefit to the businesses as well as to the Diepsloot residents).

- **Special District Regulatory Employment Conditions.** Another mechanism that may be appropriate here would be the creation of a special local economic development district for regulatory purposes. Development applications within this district would be approved contingent in part on submittal of an employment, training, or social service application that indicates the level of employment (and share to local residents), training opportunities, and/or social services that will be created on the site. This is particularly relevant where industrial businesses and corporations are likely to construct purpose-built (owner-occupied) premises, since there is more of a direct relationship between the approval process and employment creation. The municipal government provides the incentives of (1) access to the interchange and (2) tax abatements or other fiscal incentives to attract corporate investment. In return, government can extract requirements for employment creation and local participation in contracting, etc. The businesses are held to their agreements through legal contracts. This is a very common mechanism used in the United States to encourage economic development.

- **Land Banking and Leaseholds**. Also appropriate at this location would be government land banking, where local or provincial government purchases land surrounding the planned interchange and holds it for sale upon development. The public agency then benefits from the increased land value, which is captured and ring-fenced for poverty alleviation projects (e.g., housing, infrastructure services, etc) in Diepsloot. An important consideration, however, is that government agencies are notorious for re-allocating funds to other purposes (such as to plug a hole in the budget) rather than to the original purpose of poverty alleviation. Ideally, an oversight agency should be designated to ensure that the funds are distributed as intended by the original legislation.

- **Tax Increment Financing (TIF) District**. Because of the development potential at this green field site, there is the opportunity to establish a TIF district to help finance infrastructure (including the interchange itself along with supporting reticulation services). The TIF would help create bonding capacity to support infrastructure development without

the direct cost to Govermment, thus freeing up resources to use for poverty alleviation and other projects. (Again, re-allocation would be one issue that needs to be avoided).

Overall, the PWV9 Highway Interchange presents the broadest and strongest set of opportunities for capturing added value for the purposes of poverty alleviation, even though the site is not directly located within a low-income area. Creating high value development and attracting/accommodating economic drivers, regardless of location, is critical for establishing a source of funding for poverty alleviation projects.

Actions and Policies

Several important actions and relevant policies are identified in this section, which are aimed at maximising access for and benefits to the poor. These policies respond to the general conditions relating to the use of infrastructure, such as transport interchanges, as economic drivers and sources of added value.

Context for Policy Development

An important message from this analysis has been that "access" in this context has several different definitions. Access can mean *immediate proximity* to transport, affordable housing, jobs, and services at a specific location that can be leveraged for low-income people through development of an interchange. But access can also mean broader economic development and *sources of funding* that are leveraged through an interchange and are captured to help deliver transport, affordable housing, jobs, and services for low-income people at another location or throughout the region. Thus, access can refer to the interchange location, but also to the benefits derived from the interchange regardless of location.

Public infrastructure (such as a transport interchange) is used throughout the world as a tool, an ***incentive,*** for private investment, in the same way that fiscal, financial, and regulatory incentives are used to encourage investment where directed by the public sector. As such, it is important to understand how such infrastructure incentives impact on the private market and to direct public policies accordingly to maximise the public benefits.

Where infrastructure is used specifically as an incentive, it is imperative that its power to leverage the market is not diluted completely by policies that reduce its investment return to the private sector. Rather, the objective is to ensure that the private benefits of public infrastructure (and other incentives) are communicated clearly from the start, and that such incentives are balanced by regulatory or other requirements. Further, it is imperative that all private investors are treated equally and/or fairly, to ensure that there is buy-in to the policy.

Overall Key Themes

Many of the policies and actions recommended in this report relate to the ring-fencing of tax revenues generated by infrastructure investment within a particular location or district. In almost all cases, such tax revenues are generated to local government, which has the most direct control over zoning, land use, development regulation and local economic development. For example, Tax Increment Financing (TIF) and Land Value Increment Taxes are direct value-capture mechanisms utilized by local governments to capture the increase in local property tax revenues, often to service the debt on municipal bonds. Various incentive mechanisms are also utilized by local governments to encourage the types of development for which each individual local economy is most competitive.

In South Africa, most of these value capture mechanisms do not exist and must be enabled by national legislation or Treasury policy. And even where National Government has enabled incentives, the designation of districts is usually reserved for National Treasury. As such, there is little opportunity for local municipalities to establish their own unique incentives or special taxing districts under current policies. This dependency on National policy acts as a "wall" to reduce the opportunities for local governments to experiment and to leverage their tax base to encourage the market and type of development for which each municipality is particularly competitive. Markets differ between and within municipalities, depending on location.

Municipalities do have more control at present over *regulatory* mechanisms like zoning. There are opportunities for municipal governments to implement policies such as inclusionary zoning (see below), which requires private developers to include affordable housing within their developments in order to create mixed-income housing communities. However, municipalities are still hampered from use of diverse financial and fiscal mechanisms for value capture and leveraging of development.

Regulatory mechanisms, however, cannot leverage a market. Demand must exist in order to capture value for poverty alleviation. Use of infrastructure and other assets to leverage demand is extremely important. Value is captured where the market is heightened. Where there is public intervention in the market (such as through infrastructure development), then there is reason for generating a public return from such investment. Overall, the common themes for value capture include:

1. Value capture is maximised where there a market can be leveraged.
2. The market is leveraged and heightened through the introduction of public infrastructure such as a transport interchange.
3. Where the public sector has created an asset or helped leverage a market (through the development of public infrastructure), there is a reason for capturing a public return (including various measures of poverty alleviation) from such investment.

4. Capturing the value created from this investment is best achieved by ring-fenced through districts with focused tax and regulatory policy mechanisms.
5. The opportunity for such ring-fencing will only be maximised if local municipalities are enabled to define and utilise the tax revenue they generate for the public purposes that best suit their specific markets and competitive advantages. This may require a change in National Government policies to enable local municipalities such control..

Policy recommendations as well as specific actions are summarized below.

Inclusionary Housing

A perfect example of the need for fair policies that have buy-in from the private sector are inclusionary housing or zoning policies that require inclusion of affordable housing (or other community-oriented components such as locally-owned retail businesses, etc). In South Africa, such policies are an imperative due to the need for affordable urban housing and the lack of government resources to supply all of this need. Unlike other nations with high levels of poverty, South Africa also benefits from the presence of an affluent population and a vibrant private housing market that has the ability to absorb some cross-subsidisation through private development.

These policies (as opposed to the current South African initiatives for "mixed-income" but separate housing developments) have become the primary mechanism for delivery of affordable or "workforce" housing in much of North America and increasingly, Europe. But experience suggests that such policies cannot be easily directed to one specific site, and the financial feasibility of the policy must be tested and communicated clearly with buy-in from developers and investors.

Developer Buy-In. As in South Africa, the introduction of such policies in North America and Europe received push back from the development community. It was only after much deliberation and input from developers in the formation of the policies that they were implemented. Essentially, the policies fail if they are not applied evenly and fairly, so that there is no undue burden on any one project or location to supply the affordable housing needs of the region. Furthermore, there is a need to avoid "ghettoisation" by continuing to concentrate all low-income and affordable housing in low-income neighbourhoods. Ultimately, housing objectives should encourage diversification of housing throughout the region. So, it is important to examine the opportunity for inclusionary housing policies that are applied citywide or province-wide.

Key Policy Components. It has been determined that the policies have deleterious impacts on the financial viability of small developments, but projects over a certain size threshold and density are more likely to absorb the cost and to cross-subsidize the affordable units. The share in affordable units must be reasonable, from the standpoint of financial feasibility but also

marketability. Often, jurisdictions have required a minimum of 20% affordable, but the requirements range depending on market and are often on a sliding scale by size of project. The share is managed through multiple sales not by maintaining a particular unit as "affordable," but only by maintaining the share of units as such. Often, this is accomplished by the private sector with oversight from a public agency. There is also flexibility in the policy as required by market cycles, change in tenure, and other fluctuations that could place a private investor at financial risk.

Marketability. Further, it must be made clear that the affordable units are no different from market-rate units within any particular project. South Africans, like Americans and Europeans initially, have had difficulty with the concept that someone will invest in a market-rate unit in a building or project where there are also subsidised units. However, it has been shown repeatedly that this initial hesitance can be overcome, especially where there is a shortage of housing. The market in many cities has embraced mixed-income, inclusive housing.

Applicability to Transport Interchanges. Inclusionary housing is a particularly beneficial objective surrounding transport interchanges, as indicated throughout this report. Developing housing near transport helps to dramatically increase access to jobs, educational opportunities, commerce, and networks. Mixed-use, including housing and employment-generating uses, is even more desirable near transport interchanges because then some people can live and work in the same location, greatly reducing their explicit transport expenditures and increasing their disposable income. Ultimately, housing and mixed-use development at transport interchanges is a primary goal of Transit-Oriented Development (TOD) and can help to alleviate poverty.

Balancing Private "Carrots" and "Sticks." Again, inclusionary housing policies are most successful when applied evenly and fairly throughout the broader region. However, there are also examples where additional requirements for inclusionary housing (or local retail) are tied to regulatory mechanisms such as TOD zoning around a transport interchange. In such locations, the benefit of the public infrastructure must be made explicit in order to communicate the balance between market benefits (gained through the interchange) and higher regulatory requirements (such as inclusionary housing).

In essence, this process could use the land value premium as a tool to communicate the benefit of the interchange in exchange for the affordable housing component. However, in many places where inclusionary housing policies are applied, the emphasis is more typically on cash flow than on land value, since the return from housing (and commercial development) is often measured based on net operating income (NOI) and an internal rate of return (IRR). Thus, a developer is likely to plug in the affordable housing component into a cash flow model and determine whether they will still generate a sufficient return. The public sector may want to communicate the comparative return (in NOI) of the interchange with affordable housing, versus the same

project without affordable housing but where the interchange is not developed. This is similar to the market potential without the interchange (Model #2 in the land value comparison) but with an affordable housing component.

Density Bonuses**.** A more common approach to capturing value in TODs by requiring inclusionary housing is through the use of density bonuses. As noted in a previous volume of this report, density bonuses use zoning to create special districts or "overlay" zones (such as around a transit station) where higher densities are allowed. Higher density allowances, particularly in a strong property market, generate higher returns to developers (because land and development costs are spread over a larger number of units). Zoning is a public tool, so the developer is aware that higher density is a benefit or incentive granted by the public sector. As such, the public agency can also place requirements on the developer (such as inclusionary housing) in exchange for the higher density requirement. The developer works out the benefit through a cash flow analysis to determine whether the density is sufficient to overcome the requirement for affordable housing yet still make a return.

Density bonuses only work as an incentive where there is the market for high-density development. Larger scale and higher-density projects are more likely to have the ability to cross-subsidize and support affordable housing. The market analyses in this series did not establish that there is demand for very high densities in the near term at these particular sites. However, there may be demand for somewhat higher densities than current (or prospective) zoning allows, and more work would be required to determine the relative density benefits. Experience suggests that development around key transit stations and interchanges in South Africa, because it is often not master planned based on analysis of market potentials, does not consider the longer-term potential for higher-density development.

Economic Incentive & Financing Zones or Districts

South African Treasury has policies guiding development of several types of local economic development zones that offer certain (often limited) financial incentives. Such zones include the IDZ (industrial development zone) which offers only VAT benefits for corporations that locate investments in these designated zones (typically located at ports or major industrial sites). The Treasury's UDZ (urban development zones) offer a very limited accelerated depreciation incentive for development within the larger central cities. However, other than CIDs (city improvement districts) there are few if any locally-driven and designated zones or districts in South Africa that offer a mix of incentives appropriate to development and poverty alleviation within a specific area.

Yet, there are enumerable opportunities and a need for such zones or districts where resources and investment can be directed to support economic development and poverty alleviation. As noted previously, incentives, whether through infrastructure, financial and fiscal tools, or regulation, can be

balanced and tied with requirements that ensure that local objectives are met. Among the relevant mechanisms that have been recommended in this report are tax increment financing districts, special taxing districts (e.g., offering tax abatements or ring-fencing the increase in tax revenues), and land banking districts, among others. In various incentive zones, there are opportunities to require delivery of employment, housing, transport, and other needs that can be directed to low-income residents.

There is a need to explore opportunities for local governments to experiment with such incentive districts. Whilst Treasury has limited such activity due to a desire to avoid "competition" between municipalities, there are several advantages to their development in this way:

1. Experimentation can occur in many more location throughout the country, enabling the rise of models for local economic development that are appropriate to the South African context and increasing the number of experienced professionals in the field.
2. Competition can increase the effectiveness and strength of local economic development efforts. In reality, most economies have their own local strengths and therefore should develop their own niches which strengthen their internal growth engines.
3. Markets are local (meaning site-specific), so the incentive package developed for one site is not necessarily the best suited for another site. The package should be developed in light of the relative and competitive strengths, as well as the community needs, of a specific location. As in #2 above, each site should play to its strengths to maximise development potential in order to create opportunities for value capture and cross-subsidisation.
4. Local control of tax policies and incentives make local governments more accountable to their electorate and more responsible for poverty alleviation within their jurisdictions. More control can open the door to abuse, but not if measures are put into place that foresee such problems. Again, local governments must be accountable to their citizens.
5. Master planning and "feasibility" analysis for such districts helps to direct resources, identify the appropriate incentives, and ensure accountability through an open process. Master planning can be tied to the development and management of such districts.
6. Districts, once defined, can be managed for public purposes more effectively throughout the development process and beyond. Many local governments establish special purpose authorities with some independence from elected officials, in order to provide oversight of such districts.
7. Local governments and CBOs can have more control and can leverage development through land banking and other mechanisms that provide them with an equity position in a specific interchange district or area in advance of any development moving forward.

Regardless of how far Treasury enables local governments to experiment more with their tax and other fiscal incentives, there is a need for

local governments to recognize the power of public infrastructure itself as an incentive to development and to capture that value through existing regulatory processes (such as through zoning policies) and fee mechanisms (targeted bulk service contributions).

Key Actions

Several specific actions are recommended as a way forward within the context of the aforementioned policies. These actions would apply to the general concept of value capture and incentive development around transport interchanges, and may be applicable to other types of locations.

1. Based on the findings of this study, communicate to local governments, National Treasury, and transport agencies (e.g., PRASA/Metrorail/ Intersite) the apparent benefits generated by transport interchanges to land values, as a basis for programmatic "capture" to alleviate poverty.
2. Expand the assessment of transport interchange benefits (a) to examine a larger and more comprehensive set of alternative transport modes and locations and (b) to examine other financial measures of benefit beside land values (such as NOI, IRR, and economic (market) benefits). Communicate these results to local governments, Treasury, and transport agencies.
3. Encourage local governments to require master planning at all mass transit (e.g., Metrorail or Gautrain) stations and major highway interchanges that incorporate an assessment of market/development potentials, indicative residual land value or NOI, broad area plans, marketing & development strategies, developer engagement, and community benefits strategies.
4. Encourage transport agencies to participate as full partners in the master planning processes (rather than establishing processes independent from the municipal governments) and to extend the "site" to include surrounding potential development and impact areas.
5. Encourage transport agencies to examine the development potentials around their interchanges as input to their transport ridership projections and modelling (which could be integrated with the station master planning). At present, modelling does not account for future development potentials around stations, which is key to increasing ridership and increasing revenue stream for expansion of transit access.
6. Encourage local governments to explore the packaging of incentives and regulatory requirements necessary at appropriate transport interchanges to communicate and capture value for poverty alleviation. It should be clear that some interchanges could qualify as having regional significance, whilst others would focus on local impacts. This process would be driven by the master planning in Action Item #1, above.
7. Encourage local governments to explore the full menu of incentive policies around transport interchanges that build on existing tax and regulatory options within municipal legal jurisdiction. This menu could

include infrastructure, financial, fiscal, economic, programmatic (e.g., agency assistance or training), and regulatory incentives.

8. Encourage National Treasury and Government to examine opportunities to expand the menu of options available to local governments to experiment with fiscal (tax) and financial (direct investment, loans, or financing) incentives for economic development, including that associated with transport interchanges. This may require assessments of various alternatives to illustrate the relative benefits or merits (and/or cost-benefit) of key options.
9. Encourage local governments and transport agencies to examine broader, regional and long-term TOD and value capture indicative opportunities along full systems as a basis for prioritising sites for future master planning and development.

Summary

This report has measured the premium on land value generated by transport interchanges and has identified approaches for "capturing" this value in support of poverty alleviation efforts. In some respects, this work has raised as many questions as it has answered. There are numerous variations and combinations of transport mode, location, and market condition, many of which have not been tested. But a theme has been confirmed from the three tested sites that transport interchanges are a form of ***incentive*** which leverages development, spurring the private market and adding value that might not otherwise exist at a particular location. Capturing that value occurs proximate to the interchange but the benefits can be spread to alleviate poverty elsewhere.

If capturing value requires a reduction in the overall financial benefit to the private investor, then caution is advised to ensure that there is a balance between "carrots" and "sticks" and that the private sector is engaged as a full stakeholder in the process. Ultimately, an objective should be to maximise the economic development potential and value-add of public infrastructure, which can generate regional benefits.

Many of the approaches for value capture relate to the fiscal structure of local municipalities, where there are currently constraints on the ability of local governments to experiment. Opportunities such as ring-fencing the increase in property tax revenues, providing tax abatements, funding through tax increment financing, and other fiscal policies are hampered by national legislation or at least by processes that require national government intervention or enabling actions. Other opportunities, such as inclusionary zoning, have been tried but demoted due to a lack of successful stakeholder engagement and education. In general, there is a need for strong leadership to encourage education on and use of these mechanisms in order to ensure their appropriate application.

APPENDIX: ACRONYMS

AMI	Area Median Income
BID	Business Improvement District
BRT	Bus-Rapid Transit
CAP Rate	Capitalisation Rate
CID	City Improvement District
CBD	Central Business District
CBO	Community-Based Organisation
DU	Development Unit
FAR	Floor-Area Ratio
HA	Hectare
IDZ	Industrial Development Zone
IRR	Internal Rate of Return
NOI	Net Operating Income
PRASA	Passenger Rail Agency of South Africa
PSM	Per Square Metre
SM	Square Metre
TIF	Tax Increment Financing
TOD	Transit-Oriented Development
UDZ	Urban Development Zone