

'TRANSIT ORIENTED DEVELOPMENT': A STRATEGIC INSTRUMENT FOR SPATIAL RESTRUCTURING AND PUBLIC TRANSPORT SYSTEM ENHANCEMENT IN SOUTH AFRICAN CITIES?

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ABSTRACT

During the last decade or more, the concept of 'transit oriented development' (TOD) has received widespread consideration as a way of promoting 'smart growth' or 'compact city' development patterns, primarily through reducing aggregate travel demand and increasing transit ridership, particularly in North American cities. A substantial literature focusing on TOD and related ideas has emerged and has influenced the formulation of urban land use and transport planning strategies in many different cities throughout the world.

In South Africa, since the mid 1990s, legislative and policy frameworks have emerged which seek to promote patterns of urban development deemed to be more accommodating of the effective and equitable operation of public transport systems. While much current policy discourse has been framed in terms of establishing high density, mixed use public transport 'corridors', little explicit or systematic attention seems to have been paid to the potential relevance of TOD and related approaches to achieving the overarching policy objectives. In this paper, I explore the concept and rationale of TOD and discuss what might be entailed, in broad strategic and institutional terms, in implementing it in a South African city, Cape Town. I conclude that, while there appear to be significant difficulties or obstacles involved, adaptation of the TOD approach nevertheless represents a potentially fruitful way of addressing important current policy concerns about the interaction of public transport and land use patterns.

1. INTRODUCTION

My primary purpose in this paper is to understand whether the concept of 'transit oriented development' (TOD) has any relevance to efforts in South African cities to give effect to proposals advocating the establishment of high density, mixed use public transport corridors as a way of enhancing the effectiveness of urban public transport systems – a strategic objective which itself is subsumed within the broader goal of restructuring our cities to better serve the needs of all their inhabitants. To this end, in the next section of the paper, I briefly outline the concept of TOD and the rationale conventionally advanced for pursuing it as a strategy in urban land use and transport planning practice. I then move on to examine the degree to which the relevant South African policy and legislative frameworks, explicitly or otherwise, may accommodate the development of planning approaches or practices which incorporate TOD and related strategies. I infer that these frameworks, while they do not directly call for the implementation of TOD, as such, suggest a need for the exploration of what that might entail under South African conditions.

Accordingly, in the third substantive section of the paper, I engage in a provisional and necessarily somewhat schematic review of the strategic and institutional considerations that probably should be taken into account in implementing TOD in a South African city – specifically, in this instance, metropolitan Cape Town. I conclude with a brief summary of my findings.

2. TRANSIT ORIENTED DEVELOPMENT: CONCEPT AND RATIONALE

The contemporary formulation of the concept of TOD appears to have originated in the United States during the late 1970s and early 1980s, but gained prominence during the 1990s through its strong association with the emerging ‘smart growth’ and ‘New Urbanist’ (or ‘neo-traditional development’) movements in North American urban planning and design circles (Southworth, 2003; TRB, 2002; van Eeden, 2002). Without seeking to unravel the complex – and sometimes quite acrimonious – strands of debate which surround the conceptual evolution and elaboration of the basic idea,¹ it should suffice here to specify it in terms of the following, generally accepted features (see Figure 1):

- a TOD neighbourhood is centred on a rail or bus transit station and extends to an easy walking distance radius of 400-800m;
- the urban fabric is developed at moderate to higher densities but remains ‘human-scaled’, including significant provision for public or civic spaces and comprising a mix of residential, employment, and retail activities, particularly in the immediate station precinct; and
- its road network is laid out in the form of a topologically ‘open’ grid – as opposed to the conventional ‘closed’ loop and cul-de-sac layout of modern suburban development – and often features extensive provision for pedestrian and cycling movement, sometimes combined with motorised traffic calming measures (TRB, 2002, pp.5-6).

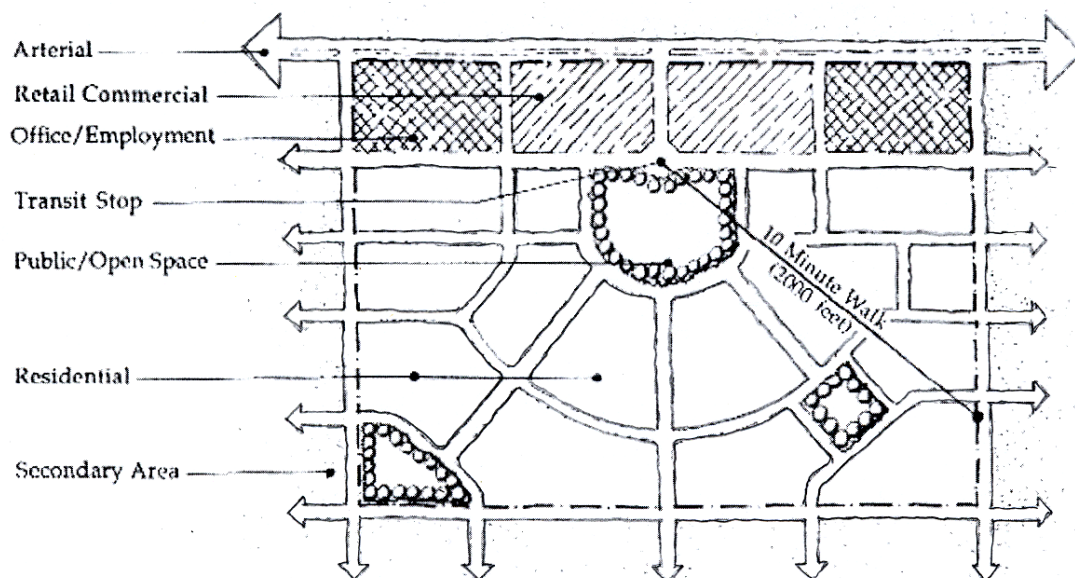


Figure 1. The TOD neighbourhood concept (not to scale).

Source: Katz, 1994

In addition, TOD neighbourhoods are sometimes, but not necessarily, presented as elements in a larger strategy of ‘smart growth’ or containment of urban sprawl at the scale of a conurbation or metropolitan region as a whole (Figure 2). In this case, TOD neighbourhoods are generally cast as more or less significant nodes within a city-wide network of linearly-extended public transport-based corridors which facilitate restructuring

of the urban system within a designated 'urban edge' to achieve what the advocates of such strategies see as the economic, social and environmental advantages of more compact urban development.

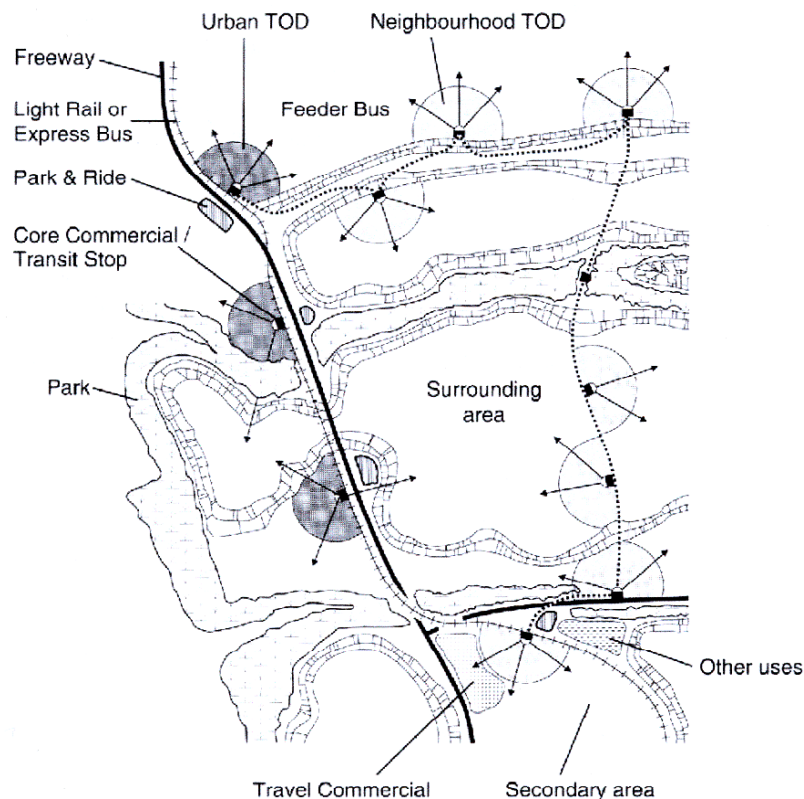


Figure 2. TOD in the metropolitan or city-wide context (not to scale).

Source: Hall & Ward, 1998

The benefits claimed for TOD strategies by their proponents range across the land use system and the transport system at both the local neighbourhood scale and at the city-wide scale, but remain vigorously disputed by critics of the 'smart growth' and 'New Urbanist' movements, often on the basis of the supposed negative impact of 'smart growth' strategies on the free exercise of property rights (e.g. Cox, 1999a, 199b). Very schematically, the beneficial impacts that have been associated with TOD may be summarised as follows:

- the enhanced accessibility of TOD neighbourhoods may be capitalised as increased land values and rentals in both residential and commercial property markets (TRB, 2002, pp. 35-40);
- reduced per capita motor vehicle travel in successful TOD neighbourhoods, manifested in lower city-wide aggregate vehicle-kilometres travelled (VKT), reduces overall road congestion levels and travel times, with beneficial environmental consequences in the form of reduced fuel consumption and exhaust emissions (VTPI, 2005; TRB, 2002, p. 43);
- TOD neighbourhood residents are more likely to use public transport services easily accessible to them, increasing ridership levels and improving levels of operating cost recovery through the farebox (TRB, 2002, pp. 40-43, 44; VTPI, 2005);
- proximity to public transport services improves the mobility of TOD neighbourhood residents without access to private vehicles who, in conventional suburban developments might be regarded as 'transport disadvantaged' (VTPI, 2005); and

- the design of TOD neighbourhoods, in particular the provision made in their layouts for walking and cycling movements, enhances their general liveability and may also promote healthier lifestyles (VTPI, 2005).

This catalogue of the possible beneficial impacts of TOD has obviously developed in the context of North American urban development trends and conditions. It is not necessarily the case that all of these putative impacts would be regarded as strategically relevant or significant in the South African urban context. The next section investigates whether and how legislative and policy frameworks here may promote strategies which support – even implicitly – at least some of the objectives or claims advanced by the proponents of TOD.

3. SITUATING TRANSIT ORIENTED DEVELOPMENT IN THE SOUTH AFRICAN URBAN LEGISLATIVE AND POLICY CONTEXT

Current policy and legislation relevant to the shaping of patterns of urban development in South African cities explicitly promote a range of policy approaches or strategies which can be seen to be aligned with certain of those associated with the ‘smart growth’ or ‘New Urbanist’ movements in the North American context. Specifically, these include the identification and enforcement of ‘urban edges’ to contain further expansion, particularly of metropolitan areas, the adoption of densification or ‘infilling’ approaches to residential development within these urban edges, or both, and – of most immediate relevance here – the installation of what have been variously labelled ‘activity corridors’ or ‘development corridors’ aligned with public transport priority routes, which on a city-wide scale are intended to provide a focus for residential densification and the nodal development of higher order civic and commercial activities. At its core, this agenda is underpinned by a fundamental commitment to overcoming the legacy of socio-spatial fragmentation and dysfunctional urban development patterns inherited from the era of apartheid-driven planning. This is reflected in key policy documents such as the *Urban Development Framework* (DoH, 1997), the *White Paper on Local Government* (DCD, 1998), and the draft *White Paper on Spatial Planning and Land Use Management* (DLA, 2001), and in official interpretation of the substantive intent of the ‘Chapter 1 principles’ of the Development Facilitation Act (NDPC, 1999), which are statutorily prescribed in the Local Government: Municipal Systems Act (No. 32 of 2000) as the normative basis for integrated development planning and the formulation of spatial development frameworks at the local level. In urban policy circles, both locally and elsewhere, the overarching concept to which these policy approaches and strategies refer and in which they have been condensed as a convenient shorthand is that of the ‘compact city’ (e.g. Todes, 2003; Jenks et al., 1996).

The foundational commitment of much of the current legislative and policy framework for urban passenger transport provision is captured in the rubric of putting ‘Public Transport First’. This is explicitly enunciated in the key policy and strategy documents published during the last decade – the *White Paper on National Transport Policy* (DoT, 1996) and the *Moving South Africa Action Agenda: A 20-Year Strategic Framework for Transport in South Africa* (DoT, 1999) – and is implicit in the legislation currently governing the field, the National Land Transport Transition Act (No.22 of 2000). It is also clear, however, that the prioritising of public transport in urban transport systems is closely allied to the ‘compact city’ agenda of urban spatial restructuring, notably through the promotion of ‘activity’ or ‘development corridor’ strategies. To this end, the 1996 *White Paper on National Transport Policy* proposed, amongst others, certain key policy actions intended “to provide for urban restructuring (densification) and efficient land-use/transport interaction”:

- the formulation of land-use frameworks, guidelines and policies to channel development, particularly employment-generating activities, into public transport corridors and nodes;
- giving development priority to infilling, densification, mixed land use and the promotion of development corridors and nodes;
- the containment of urban sprawl and suburbanisation beyond the urban limits; and
- discouraging decentralisation which disperses employment-generating activities, except in specific cases where it is favourable in terms of decreasing total transport costs and travel times on the basis of an integrated land-use plan (DoT, 1996, p. 21).

The *Moving South Africa Action Agenda* also emphasises the need to deal with the legacy of “sub-optimal spatial planning ... [in which] a combination of apartheid spatial distortions with current dispersion trends undermines the ability of all forms of non-motorised and public transport to meet the mobility needs of consumers”. Noting that “[t]he densities created by corridor enhancement lower system cost, not just for transport but for other infrastructure”, and that “[c]orridor-based public transport also improves the level of service offered to customers as speeds and frequencies increase”, it identifies the densification of public transport corridors as the “key component of urban passenger strategy” (DoT, 1999, pp. 27-28).

An attempt to give practical effect to these ideas in metropolitan Cape Town during the late 1990s took the form of the Wetton-Lansdowne Development Corridor Project, which drew directly on a conceptual proposal initially formulated in the city’s Metropolitan Spatial Development Framework (CMC, 1996). Arguably, the Development Corridor Project – which was financed primarily by the Department of Transport as part of a metropolitan ‘spatial development initiative’, and implemented by an inter-departmental project team of the then Cape Town metropolitan local council – did not achieve the range of ‘corridor enhancement’ benefits anticipated by its proponents, in particular those associated with improved public transport services (McGaffin & Watson, 2005). More generally, however, it has since become common, perhaps even standard, practice in the metropolitan cities to incorporate public transport-based ‘development corridors’ as key elements of city-wide spatial development frameworks prepared as components of the statutory integrated development plan (IDP) process initiated in terms of the Municipal Systems Act of 2000 (e.g. current IDPs of the City of Johannesburg, the eThekweni Municipality and the City of Tshwane).

Concern has been articulated at two levels about the degree to which the effective integration of transport planning and spatial or land use planning practices necessary to pursue ‘development corridor’ strategies can be established in the sphere of municipal government. The first level of concern centres on the extent to which current legislation – with integrated development planning and urban transport planning frameworks evolving in two separate streams (and with a spatial planning and land use management framework emerging from a possible third stream) – has not created an institutional framework conducive to such integration, despite its express intentions. The further suggestion is that this situation potentially could be exacerbated by the formation of transport authorities juridically and functionally independent of municipal planning departments, as enabled under the provisions of the National Land Transport Transition Act (NLTTA) (Wilkinson, 2002; Behrens & Wilkinson, 2003). The second level of concern relates to the perception, reinforced by some experience, that disciplinary discourses and professional practices remain divergent between spatial or land use planners and transport planners operating in the local sphere, as elsewhere, and that this too obstructs the formation of a fully integrated land use-transport planning approach (Wilkinson, 2002; Watson, 2003).

In spite of such caveats, it seems likely that proposals to establish public-transport based 'development corridors' will continue to form a central component of spatial development frameworks framed in terms of the 'compact city' concept. It is perhaps surprising, then, that there would appear to have been little systematic investigation of the appropriateness of TOD as a strategic instrument to achieve spatial restructuring and public transport enhancement objectives in the South African urban context. There are certain references to 'nodal development sites' incorporated in documentation of the yet to be finalised design of Klipfontein Corridor Project initiated in Cape Town in 2003 as Phase 1 of the city's 'Mobility Strategy' (see below), but these remain too vague to yield any sense of how the idea is to be elaborated and implemented operationally, and of how it might be aligned with the TOD concept. If the latter does indeed remain as little explored as would seem to be the case, it may be useful to sketch a preliminary and provisional account, in terms of broad strategic and institutional considerations, of what might be entailed in implementing TOD in a South African city. The focus here will be specifically on the situation in metropolitan Cape Town.

4. IMPLEMENTING TRANSIT ORIENTED DEVELOPMENT IN CAPE TOWN: STRATEGIC AND INSTITUTIONAL CONSIDERATIONS

As in most South African cities, the transport system in metropolitan Cape Town continues to function in an essentially dualistic manner, reinforced and sustained by the fragmented and segregated patterns of urban development inherited from the era of apartheid planning. On the one hand, a significant proportion of the population, perhaps half, and constituted very largely from the poorer strata of the Coloured and African population groups, are 'captive' public transport users or walk as their primary mode of movement. On the other, the remainder, drawn from the wealthier socio-economic strata, have access to private vehicles and travel primarily as car drivers or passengers. A relatively small and possibly declining proportion the population living in the so-called Southern and Northern Suburbs of the city – residential zones formerly reserved for occupation primarily by households in the White population group – are actual or potential users of public transport, generally the commuter rail system and minibus-taxis rather than the now somewhat degraded scheduled bus service. The residents of the Cape Flats – the extensive zone of 'townships', housing estates and informal settlements occupying the south-east quadrant of the city which was developed during the apartheid era for occupation by the Coloured and African population groups – constitute more than half the population and are overwhelmingly public transport users. The modal split there is undoubtedly fluid but continues to be dominated by the commuter rail service, followed by minibus-taxis and then scheduled bus services. Despite investment over the last decade or more in public transport facilities, particularly modal interchanges and bus and taxi ranks, it is generally accepted that the overall level of service offered by the scheduled public transport sector has continued to decline and that this has led to increased reliance on minibus-taxis or private vehicles, the latter often acquired at costs that cannot comfortably be afforded.

While the perspective offered here is necessarily schematic and undoubtedly overgeneralised in many respects, it does serve to provide what is arguably a reasonably accurate reflection of the city's transport situation against which to review the issues that would need to be addressed in implementing a contextually relevant TOD strategy. A further aspect of that situation that should first be sketched out briefly, however, is the formulation of the city's proposed 'Mobility Strategy' – the still somewhat inchoate attempt to provide a strategic focus to the integrated transport planning process required under the provisions of the NLTTA, which explicitly prioritises the "transformation and restructuring of public transport" under the rubric "Putting Public Transport, People and Quality of Life

First” (PGWC/CCT, 2003). The key component of the strategy is the phased installation of a framework of ‘public transport corridors’, integrated with higher density mixed land uses and based on the identification of public transport-based ‘accessibility’ and ‘mobility’ networks which will comprehensively span the metropolitan area (Frieslaar et al., 2005). Phase 1 – the Klipfontein Corridor Project, running over some 27km between Khayelitsha in the metropolitan south-east sector and the city centre (see Figure 3) – was initiated in mid 2003 but has yet to result in any significant transformation of transport system operations or land use patterns in the areas traversed by the corridor.

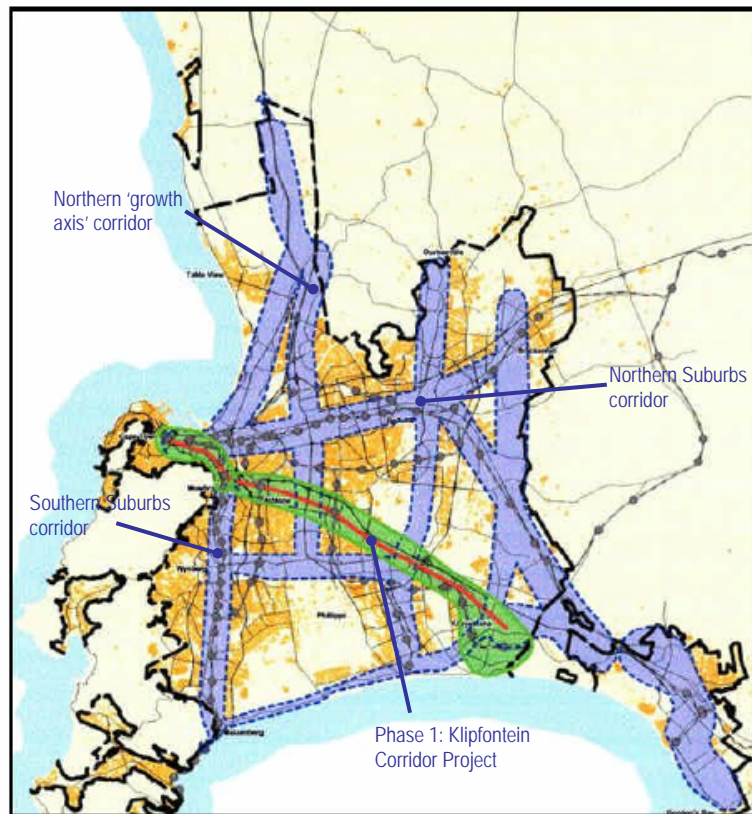


Figure 3. City of Cape Town Mobility Strategy: city-wide system of potential integrated corridors.

Source: CCT, 2004

I do not intend here to query systematically the particular specification of the ‘integrated corridor’ framework put forward in the ‘Mobility Strategy’ nor the rationale that may underpin it, but rather to address certain of the broad strategic and institutional considerations raised by any attempt to frame TOD as an implementational mechanism for some such ‘corridor’-based strategy.

In the first place, the dualistic nature of the transport system and the persisting socio-spatial segregation of disparate public transport user groups implies that any framework for TOD would need to be differentiated accordingly. The planning and implementation of TOD projects for the large segment of low-income ‘captive’ public transport users living on the Cape Flats quite obviously would require a very different approach to any that might be developed to retain current public transport users, or – more ambitiously, perhaps – to attract ‘choice’ public transport users in the areas served by what might emerge as the ‘Southern Suburbs’ and ‘Northern Suburbs’ corridors (Figure 3). Development of the residential components of the former category of projects on the Cape Flats would undoubtedly have to be largely or entirely public sector-driven and the involvement of

commercial land use interests would require careful and intensive negotiation. The acquisition of strategically-located land holdings in station precinct areas might be facilitated, however, by their public or quasi-public status, provided that the commercial ambitions of one of the potential key roleplayers in this regard – Intersite, as the property agency of the South African Rail Commuter Corporation (SARCC) – could be at least partially re-oriented to serve the broader public interest. Given that the target group in this instance would be completely dominated by ‘captive’ public transport users, and assuming – not unproblematically – that the financial framework for publicly-assisted housing provision could be repackaged to support higher density development, it is probable that such TOD projects would be significantly oversubscribed. By contrast, in the Southern and Northern Suburbs corridors, TOD would generally be rail-based, in the first instance, and market-driven, although it would probably require some initial pump-priming through public sector investment, as well as active and persistent marketing of the ‘lifestyle’ advantages of more or less up-market TOD neighbourhoods if it were to attract significant interest from the target population. The degree to which the residents of such schemes would switch in non-trivial numbers to become primarily public transport users is obviously debatable but would obviously have as a necessary precondition significant improvements in the levels of service offered by the relevant modes over those currently experienced.

It has become conventional wisdom, in some respects, to assert that the possibility of achieving such improvements in Cape Town’s public transport system – as in other major cities – is dependent on the establishment of a metropolitan transport authority, as enabled under the provisions of the NLTTA. The advantages and disadvantages of setting up institutionally separate transport authorities have been well-rehearsed (Cameron, 2005) and there is now reasonably widespread agreement that the most important advantages will not be realised and transport authorities will not be enabled to function effectively unless or until the power to regulate, plan and implement infrastructural and operational changes across all the public transport modes, including the local commuter rail systems, has been devolved to them, and an adequate and sustainable funding framework put in place. The timeframe for these essential institutional developments is simply not clear at the moment and the hesitancy with which most of the metropolitan municipalities have approached this issue is quite clearly a consequence of this continuing uncertainty.

Given this situation, it is likely that the prospects for implementing TODs in the second of the categories discussed above are relatively remote in the near to medium term future and that priority attention should be given to investigating what specific institutional changes might be required to implement TODs in the first category. Considerations of social equity – prioritising the accessibility and mobility needs of ‘captive’ public transport users – obviously support such a focus, and it is possible that the City could secure limited but significant improvements to the services available to the target population on these grounds, even in the absence of a fully established transport authority. Recent indications that the Cabinet is considering substantial increases in the funding streams for infrastructural improvements in the transport sector may give some credence to this speculative conclusion.

Insufficient space is available in this paper to explore these possibilities in more detail, but a final point to be made is that the identification of the Klipfontein Corridor as Phase 1 of the city’s ‘Mobility Strategy’ may have been premature. Apart from concerns that securing the development of a rail-based corridor may have made more strategic – but possibly less immediate institutional – sense than promoting a corridor based on the installation of a putative bus rapid transit system, it may be the case that the development of the Northern ‘growth axis’ corridor (Figure 3) would yield more space for innovative planning and implementation of a pilot project. The merits or otherwise of this possibility cannot be

debated here, but there would certainly seem to be a need to review the strategic implications of such choices as thoroughly as possible before committing significant amounts of the always limited resources available to projects of this nature.

5. CONCLUSION

I set out in this paper to investigate whether the TOD concept had any relevance to the project of fundamentally restructuring urban spatial structure and transport systems in South African cities which current legislative and policy frameworks are clearly seeking to bring about. My overarching conclusion – which remains preliminary and provisional at this stage – is that the concept does indeed appear to resonate with central aspects of the strategies that have emerged to date to give effect to this project. In this regard, however, it is likely that its elaboration as a strategic implementational instrument would need to recognise and accommodate the very different conditions and possibilities that prevail in different parts of our cities, which I attempted to illustrate somewhat cursorily by reference to the situation in metropolitan Cape Town. I suggested that there are good reasons to give strategic priority to the implementation of substantially adapted forms of TOD in the zones of relative and absolute disadvantage concentrated on the Cape Flats and that there may be a case for reviewing the choice of the Klipfontein Corridor Project as Phase 1 of the city's 'Mobility Strategy'. I further argued that there are significant obstacles to establishing transport authorities as the key vehicle for formulating and implementing strategies of this nature, primarily continuing uncertainty about the devolution of powers to regulate, plan and invest in the improvement of the major public transport modes, particularly commuter rail, and about the establishment of an appropriate funding framework.

In the final analysis, therefore, I conclude that TOD presents a potentially interesting and useful addition to the portfolio of implementational mechanisms that might be deployed in bringing about spatial restructuring and public transport system improvement in South African cities. Questions remain, however, about how precisely it would need to be adapted to address conditions here and how it might be situated within a necessarily transformed institutional framework and these undoubtedly would need to be explored further if this potential were to be realised

6. NOTES

- [1] The literature around TOD and conceptually related approaches has grown considerably during the last ten years and no attempt to review it systematically can be made in this paper: useful reviews may be found in Bernick & Cervero (1997), Porter (1998), Boarnet & Crane (1999) and two key reports prepared for the US Transportation Research Board (TRB, 1996; 2002).

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