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Implementing bus rapid transit: A tale of two Indian cities

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ABSTRACT

The ongoing debate within the Bus Rapid Transit (BRT) community over the relative importance of 'appropriate' design standards, the 'right' institutional setup and the need for 'political will' to the success of projects obscures the larger importance of the planning process to outcome effectiveness. Political leadership, institutions and design are important conditions that must be considered in the context of one another, but they are also conditions that will change and be influenced by the planning process. Drawing on case studies of Janmarg BRT in Ahmedabad, and the Delhi BRT in India's capital, we demonstrate the role of the planning process in influencing BRT project outcomes. The planning process is too often viewed as a sequence of steps in which design, institutions and leadership provide an unchanging framework in which planning proceeds. This 'one-dimensional' view needs be re-framed in 'three-dimensions.' It must explicitly also consider approach (i.e. strategy and tactics) and timing (i.e. both moment of action and duration). These in turn reshape design, institutions and leadership. Findings suggest that such a 'three-dimensional' planning process, when well timed, incremental and pragmatic may help to overcome institutional and design weaknesses, and to solidify political support. This improves viability and long-term system sustainability.

1. Introduction

Bus Rapid Transit (BRT) has been promoted as a low cost panacea to problems of urban mobility (Hesse, 2010; Kubala & Barton, 2003; Wright, 2010). BRT holds the promise of myriad benefits – offering affordable service for the poor; the prospect of environmental improvement as well as much needed urban congestion relief (Currie, 2005; Hensher & Golob, 2008; Hidalgo & Gutierrez, 2013; Levinson, Zimmerman, Clinger, & Rutherford, 2002). BRT technology is particularly suitable for developing countries due to it's low capital costs, flexibility, and potential for integration with much-needed non-motorized transport (NMT) facilities (Fouracre & Dunkerley, 2003; Hidalgo & Graftieaux, 2008; Polzin & Baltes, 2002). It is not surprising that countries like India have enthusiastically adopted BRT systems, rolling out the technology to Delhi in 2008 and Ahmedabad in 2009. Today there are 6 operational BRT systems in India [1] with a further 13 currently being planned or under construction.

The Delhi BRT was one of the nation's first 'full service' BRT. Ten years in the making, the project has clear institutional responsibilities, significant political support and a thoughtful and inclusive design (DIMTS, 2010; Kishore, 2009; TRIPP, 2005b). And yet the Delhi BRT faced many operational challenges. It has been widely lambasted in the press as an abject failure, with public interest litigation leading to a court-ordered shut down of the system (Aaron, 2008; TH, 2008b). Today it continues to face public relations obstacles and despite high ridership has failed to be extended beyond its initial pilot length. In contrast the Janmarg BRT in Ahmedabad, launched little more than a year later, was successful in overcoming initial hiccups and is now internationally lauded as a success story, receiving multiple national and international awards.[2] Implemented much faster than Delhi, it also benefited from a careful design, clearly assigned responsibilities, and strong political will. Today the system is well received by city residents, extending over 70 km while also recovering operating costs (CEPT, 2013, p. 12).

What explains the difference in perceived outcomes of these two schemes? Global evaluations of BRT suggest a wide variety of factors that support success, including issues associated with

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[1] Operational BRTs include Pune (2007), Ahmedabad (2009), Delhi (2008), Jaipur (2010), Rajkot (2012), Indore (2013).

[2] Awards include the Government of India's 2009 "Best Mass Rapid Transit System" award and the ITDP Sustainable Transport Award for 2011.

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political leadership, institutions and design choices (Hesse, 2010; Hidalgo & Carrrigan, 2010; Hidalgo & Graftieaux, 2008; Kittelson and Associates & Consultants, 2007; Miller & Buckley, 2001; Wright & Hook, 2007). The latter has been the subject of extended recent debate within the BRT community developing 'bronze', 'silver' and 'gold' design and service standards (ITDP, 2012). While these factors are important, they overlook the role of planners and 'good' planning processes in influencing outcomes. This paper draws on cases of BRT in Delhi and Ahmedabad to show how planning processes impact both perceived and actual achievements, extracting lessons for India and beyond.

2. Background

The rapid global expansion of BRT systems in recent decades has generated an equivalent expansion of literature on the nature, characteristics, advantages and impacts of this technology.

(CFTE; DNA, 2010; Levinson, Zimmerman, Clinger, & Gast, 2003; Levinson et al., 2002; Polzin & Baltes, 2002; Vuchic, 2007, pp. 202–298). Strong BRT advocacy groups have also emerged. But despite its considerable promise, BRT systems have faced numerous obstacles during implementation. There has been considerable debate within the BRT community concerning the importance of design quality for successful BRT outcomes (ITDP, 2012). The role of institutional and political 'success factors' are also well documented (Gow & Morss, 1988; Hossain, 2006; Miller & Buckley, 2001; Thynell, Mohan, & Tiwari, 2010). But recent cross-country studies (Hidalgo & Carrrigan, 2010; Hidalgo, Custodio, & Graftieaux, 2007) also point to the possibility of improving outcomes through planning practice. These studies offer useful checklists for improving the planning process of BRT schemes. But while they serve as guidelines for BRT implementers they offer a one-dimensional understanding of the planning process as a 'series of steps',[3] and do not reflect other critical dimensions of the process – most notably timing and planning approach.

In the context of this paper, a broader three-dimensional definition of the planning process will be considered (refer Fig. 1). As shown in this schematic, the content of the planning process can still be understood as a sequence of events that commences at problem identification and concludes post-implementation. But planning process should equally be defined by the manner in which it is pursued – e.g. strategy and tactics employed; and its temporal qualities – e.g. duration, order and timing of events. The planning process thus includes not just the 'what', but also the 'how' and 'when' of the decision-making, technical analysis, citizen involvement and the negotiation involved in producing a plan. For the purposes of this study, the planning process is considered separately from institutional, political and design considerations. The intent is to show how the process itself, independent of these factors, can influence outcomes. In practice of course these distinctions are blurred as all factors interact closely in the production of any 'plan', 'policy' or 'project'.

To demonstrate the relevance of a three-dimensional framework, this paper describes the BRT planning process in Ahmedabad (2005 to present) and Delhi (1996 to present), comparing and contrasting experiences from initial conceptualization to operationalization. The discussion starts by examining city context, politics, institutions and design of the BRT systems, highlighting differences between the two cities. The cases then describe the content (steps), approach (strategy) and timing of the planning

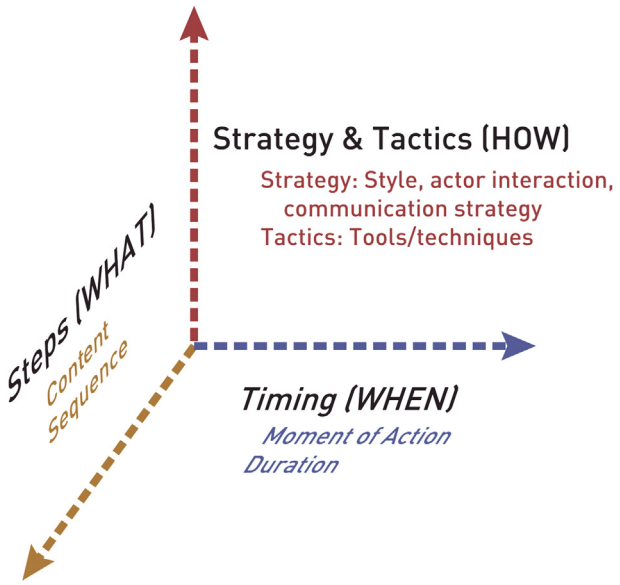

Fig. 1. Three dimensional model of the planning process.

process and how it evolved in both cases, responding and contributing to the influence of politics, institutions and design, while also directly impacting outcomes. Information was collected from a variety of sources including published documents, meeting minutes, design and preparation documents, technical reports, newspaper articles, promotional pamphlets and other materials illuminating the underlying processes, events and stakeholders. In addition interviews were conducted with key decision makers, relevant agencies, officials and stakeholder representatives in India in September 2012. Meetings were also held with design teams of both systems, and visual inspections of the operating corridors undertaken. Follow-up interviews to verify data and probe more closely on key issues were conducted from January 2013 through to June 2013 using phone, skype and email.

3. The city, political and transport contexts of Delhi and Ahmedabad

Delhi (formally known as the National Capital Territory of Delhi or NCTD[4]) is one of the largest metropolitan areas in India, incorporating the nation's capital – the city of New Delhi. The sprawling, poly-nucleated city serves a population of 16.8 million and is a key political, cultural and commercial center for the nation (Bose et al., 2001; GOI, 2011). Urban transportation in Delhi is road-based with mass transit provided by public and private bus service, with little attention to non-motorized transportation (NMT). Poor bus services has resulted in a decline in public transport ridership over the last decade that even the highly popular "Delhi Metro" has failed to stem. Private motor vehicle ownership in the city has increased rapidly, resulting in chronic congestion, deteriorating traffic safety and declining air quality in Delhi (DIMTS, 2010). Institutional governance in Delhi is complex, hierarchical and highly political, with a multiplicity of local, state and federal authorities engaged in the cities affairs leading to poor institutional clarity, duplication, delayed decision-making and serious coordination difficulties (Baijal, 2011).

[3] Planning process is typically understood as a rational sequence of events starting with problem analysis, identification and evaluation of design alternatives, concept development, design, implementation and feedback.

[4] The NCT has special status under the Indian Constitution, as neither an independent State nor centrally administered Territory. The elected Government of the NCTD (GNCTD) holds only limited state government powers.

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