



# Assessing land use plan implementation: Bridging the performance-conformance divide



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## ABSTRACT

The assessment of land use plan implementation is a contentious issue. The debate centers on whether the crucial evaluation element is conformance of development to plan directives or alternatively, plan performance, i.e. the degree to which the plan is actually used. An analytic framework combining both conformance and performance in the evaluation of (regional) land use plans is applied to the case of the Central District Plan in Israel. Qualitative and quantitative simulation methods are exploited. Qualitative analysis reveals that both performance and conformance are greater than indicated by non-contextualized, numeric evaluations. Additionally, high conformance does not necessarily imply good plan performance. Quantitative simulation suggests that plan performance with respect to land values and densities is initially pronounced as expectations for development are subdued but subsequently tends to wane merging with the counterfactual trend. Findings imply that plan assessment needs to consider the transaction costs of land use re-designation and actors' perceptions of the probability that plan amendments will be approved. These perceptions differ across actors as a function of the political influence that they wield.

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## 1. Introduction

Assessing the implementation of land use plans is fraught with pitfalls (Talen, 1997). Land use plans are multi-dimensional and their effects are felt over extended time periods. Moreover, there is no clear counter-factual against which to compare outcomes. Hence, it is not surprising that the (scarce) attempts to conduct such assessments often deplore the lack of firm theoretical foundation (Alfasi et al., 2012; Bengston et al., 2004; Faludi, 2000; Talen, 1996). In this paper we strive to advance such an analytic framework for the evaluation of (regional) land use plans and apply it to the case of the Central District Plan in Israel.

One major controversy in the evaluation of land use plans is whether the evaluation should assess the conformance of development to the plan or whether it should focus on the performance of the plan – that is, on the degree to which the plan is actually used.<sup>1</sup> The majority of recent studies, including those conducted

in Israel, tend to focus on the conformance of development to the plans, utilizing technological progress in GIS and remote sensing to achieve this goal (Abrantes et al., 2016; Alfasi et al., 2012; Frenkel and Orenstein., 2012; Laurien et al., 2004). Yet, previous studies have suggested that land use plans are not blueprints and hence the real test is the extent to which plans affect decision making, rather than the extent to which deviations from the plan exist (Alexander and Faludi, 1989; Faludi, 1987, 2000; Mastop and Faludi, 1997).

Inherently, these two approaches can be perceived as two sides of the same coin. In Fig. 1 the bottom arrow depicts how a certain phenomenon (for example, population density) is expected to evolve if no plan is put into place (business as usual – BAU). The top arrow shows the growth of the phenomenon under consideration (density) as stipulated in the plan assessed while the middle arrow depicts the evolution of density over time in practice. A conformance-based assessment compares the density stipulated in the plan with that achieved in practice labeling the plan a “failure” when densities do not reach the prescribed level. In contrast,

(Talen, 1996). Nevertheless, plan implementation also pertains to the interpretations and rulings of planning commissions regarding the proposed development and the extent to which they conform or deviate from the plan. Hence, the assessment of planning committee policies is part of plan implementation evaluation.

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<sup>1</sup> In this study we focus on the performance of plans, rather than on the success or lack thereof of planning systems. Evaluation of planning systems as such has been widely discussed and differs methodologically from the evaluation of plans

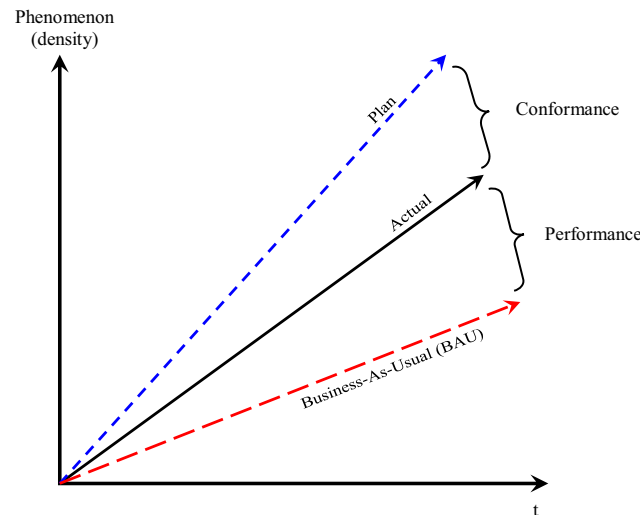


Fig. 1. Conformance and performance effects of plans.

a performance based evaluation notes that density is substantially higher than it would have been in the absence of the plan (BAU scenario), and hence the plan succeeded in performing its function. A full assessment of the plan notes that the plan has had a substantial effect on densities, though less than targeted.

Assessing the deviation from a plan (conformance) is conceptually simple but may be technically sophisticated (Padeiro, 2016). Thus it is not surprising that empirical assessments tend to focus on conformance, including most of those undertaken in Israel (Alterman and Hill, 1978; Alfasi et al., 2012). Assessing the performance of plans (reflected in the deviation from the BAU scenario) is more challenging, as the counter-factual (the business as usual arrow in Fig. 1) is not readily estimable. It is also easily subject to manipulation. If the counterfactual is pitched too low, the plan is falsely depicted as not having influenced actual development. Conversely, if it is pitched too high, the performance of the plan is underestimated. Researchers who have attempted to assess the performance of plans generally evaluate the extent to which certain self-defined, indicators relating to plan goals are met (Frenkel and Orenstein, 2012; Ingram et al., 2009). However, as these indicators are subjective, other researchers can conceivably come up with alternative indicators leading to different conclusions.

The purpose of this study is to formulate a theoretically grounded approach to the evaluation of large-scale land use plans. To this end, we begin by identifying how plans affect space in a market context. On this basis, we argue that plans affect development patterns by differentiating expectations according to the designations made in the plan. These are a function of the policies enacted by the planning committees regarding deviations from the plan and the transaction costs of such deviations (themselves a function of committee policies and politics). Hence, a performance-based evaluation should focus on the policies of planning committees conforming with Faludi's (1987) decision-centered view of planning. It should also focus on the effects these policies have for developers (both institutional and private). These should explain the degree to which development outcomes conform to plans on one hand and deviate from the business as usual (BAU) trajectory, on the other. We proceed to apply this theoretical framework to the revised Central District Outline Plan in Israel (DOP 3/21).

Due to Israel's highly centralized planning system, which is based on large-scale statutory land use regulation, plans in Israel have received disproportionate attention in the literature (Alterman and Hill, 1978; Alexander et al., 1983; Alfasi et al., 2012; Frenkel and Orenstein, 2012). DOP 3/21 covers the middle and

external rings of the Tel Aviv metropolitan area, Israel's economic and cultural hub and hence is subject to intense development pressures. The plans for this region were recently evaluated by Alfasi et al. (2012). They focus primarily on the original plan (DOP 3), while we focus on the updated plan (DOP 3/21). By assessing DOP 3/21 using the theoretical framework formulated below, we extend previous conformance-based assessments by considering plan performance through the vehicle of stakeholder analysis and counterfactual assessment.

After presenting the framework and the DOP (including previous evaluations), we describe the methodology used in this study. In the subsequent two sections the degree to which DOP 3/21 is used in planning decisions is assessed looking at both decision making and the deviations and the requests for deviations from the plan. This is followed by simulating the effects of the DOP. Using the UrbanSim (integrated land use-transportation) model allows us to assess the extent to which development patterns deviate from a business-as-usual (BAU) trajectory. The simulation is followed by a brief discussion and conclusion.

## 2. The theoretical framework

Development trajectories are the outcome of complex processes involving developers, land owners, house buyers (and renters), planning committees, intermediaries, banks and capital markets, local jurisdictions, and macro-economic conditions (which affect interest rates). The central actors in any development are the developers as they are the entrepreneurs that drive such the development processes. In essence developers will develop a site if the expected returns from the development exceed the total cost of development, which includes the cost of the land plus the transaction cost and construction costs. This inequality is presented in Eq. (1), where  $V_{n,k}^e$  is the expected value of land in site  $n$  in use  $k$ ,  $V_{m,n}$  is the market value of the same tract of land in its current use ( $m$ ), and  $C_{n,m \rightarrow k}^T$  are the costs of transforming use  $m$  to use  $k$  at site  $n$  (transaction cost plus construction cost, henceforth termed transaction cost for sake of brevity).

$$V_{n,k}^e - (V_{m,n} + C_{n,m \rightarrow k}^T) > 0 \quad (1)$$

The expected returns ( $V_{n,k}^e$ ), presented in Eq. (2), are a function of the stream or rents that can be derived from the development

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