Chapter 2
Exploring Urban Life From an Ambient Perspective: From Culture to Economy to Mobility

ABSTRACT

The purpose of this chapter is to provide an introduction and background to the concept of the ambient in relation to urban life and to evolving understandings of smart, learning, and future cities. A review of the research literature is provided for the ambient and urban life, in the context of smart cities, focusing on culture, economies, and mobility. The literature review surfaces issues, controversies, and problems while also enabling formulation of a conceptual framework for urban life and the ambient in smart cities which is then operationalized for use in this chapter. Using an exploratory case study approach involving survey and in-depth interviews, combined with an explanatory correlational design, how the ambient emerges in urban life in the context of smart cities is explored focusing on a variety of variables such as multiple modes of transport and walkability for mobility. Directions for future practice and research are also discussed.

1. INTRODUCTION

The ambient is described by Stoop (2003) in the context of the ambient intelligence vision as a space "where people will be empowered in their daily activities by technology that surrounds them, responds to them and anticipates their needs, yet remains invisible" as in, "unobtrusiveness" making way for other features such as that of "mobility" involving "relevant and meaningful technology on the move." Bohn, Coroamă, Langheinrich, Mattern, and Rohs (2005) describe the ambient economy as accommodating invisible technologies that are embedded in products in support of smart products and tracking, while acknowledging issues associated with personal privacy, reliability, and social acceptability. The anything, anywhere business model for the ambient economy (Bohn et al., 2005) gives rise to a space for ambient mobility, as described perhaps by Stoop (2003). Marzano (2006) argues that "we are rapidly developing a global civilized culture based on sustainability" contributing to "an appreciation that the world and its

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inhabitants are ultimately interdependent" resulting in "a culture that goes beyond environmental issues to include questions of social responsibility and economic viability" opening the way possibly for the notion of ambient economies. The ambient has been described by Rauterburg (2007) in terms of the notion of ambient culture in the context of computing as "open systems that understand and support the rituals of our living" and that "adapt themselves to people through time and space." McCullough (2013) describes the ambient as "a continuum of awareness and an awareness of continuum" while Patorniti and Stevens (2017) explore ambience at the street level in urban spaces. This chapter is significant in that it builds upon the work of these researchers in further developing perspectives on the ambient involving people and technologies in smart urban environments, including the suggestion possibly of a mutual augmenting of awareness giving rise to the motivation to provide an exploration as identified in the primary objectives of this chapter, formulated as follows.

Objectives: The objectives of this chapter are to: a) describe the notion of an ambient perspective in the context of smart cities, learning cities, and future cities using the examples of ambient culture, ambient economy, and ambient mobility; b) formulate a conceptual framework for perspectives on urban life and the ambient in smart cities; and c) explore the relationship between multiple modes of transport for smart cities and walkability as factors contributing insight into ambient mobility. As such, the main research question under exploration in this chapter is – *How does the ambient emerge in urban life in the context of smart cities?*

2. BACKGROUND

The ambient is not a new phenomenon in that information of an ambient nature is generally present in the form of information sensed by people through well-worn paths, the presence and direction of the wind, and other such examples. Stoop (2003) argues that "unobtrusive technology is not actually about hiding the technology, but about making it appropriate, comprehensive, more human" such that "the 'real estate' of the body provides endless opportunities" whereby "wearables will adapt to the user, rather than the user to the system." For Stoop (2003) mobility is important, affording as it does, "freedom of both body and mind" supported by technologies for people that enable them "to be productive, to express themselves, feel safe, explore and connect with others" while "on the move" with "access to solutions that meet the needs of their immediate personal context." Said to "trigger the imagination" (Marzano, 2006), ambient intelligence (AmI) is also referred to as a term that gives rise to many other questions (Marzano, 2006) where quality of life is important. Papastergiadis, Hannon, McQuire, Wyatt, and Carter (2020) identify the need to critically examine ambient public culture using "a new methodological tool-kit" through experimenting with "an exercise in understanding ambient culture" involving "a collage of some of the different views and perceptions" of a public square.

2.1 Definitions

Definitions are provided for key terms used in this chapter based on the research and practice literature.

- **Ambient:** McCullough (2013) describes the ambient in various ways, one of which is, as "that which surrounds but does not distract."