



The development feasibility of canal oriented development in the arid southwest: Opinions of key stakeholders



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ABSTRACT

Phoenix Arizona is the quintessential polycentric desert city. Built for the car in an extreme climate, the city both lacks walkability and substantial density within the built form that is often found in cities of similar size. Yet within the boundaries of the metropolitan area, 181 miles of canals traverse the built environment, providing an opportunity for walkable nodal development at strategic locations. This unrealized potential offers the city a unique opportunity for mixed-use development within an already-constructed infrastructure, but challenges remain. This paper explores the feasibility of canal oriented development (COD) in Phoenix by analyzing: (1) opinions of key stakeholders, (2) the possibility of place based mixed-use walkable developments along the canals, and (3) the ability to create pockets of density. Results indicate that COD in Phoenix will be driven by commercial development, which entails that municipal investment will be a greater catalyst for eventual success than the regional utility that maintains the canal.

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Introduction

The arid United States southwest owes its current form to the commodification and control of water. The cities of the region mirror [Swyngedow's \(2004\)](#) notion of water and sustainability, that the very sustainability of cities and the practices of everyday life that constitutes 'the urban' are predicated upon and conditioned by the supply, circulation, and elimination of water. The development and settlement of the southwest is reliant on the management of water ([Simon, 2002](#)), without which Phoenix, Las Vegas and Los Angeles could not assume their current form.

Through the manipulation of water, particularly in the form of the Colorado River Compact,¹ cities of the southwest have transformed themselves into economic hubs by constructing an elaborate water delivery system. These networks transfer water from distant lands to quench the thirst of cities in the region, creating landscapes of wealth and habitation. For instance, the impact of water commodification and the network of canals in the Phoenix region toward the end of the nineteenth century created a landscape that developed the character of a desert oasis ([Simon, 2002](#)). The canals that created this desert oasis were utilitarian by nature, yet also played a key cultural role in the city's growth. Historically

the canals were important sites for culture and recreation until the mid-twentieth century when the role of canals shifted back to a utilitarian identity. The strictly functional nature of the canal system would remain for much of the second half of the twentieth century.

In recent years there has been a renewed interest in the canals as a means of economic development and as a cultural amenity, in addition to their utility. An important idea relative to the use of the canal as a form of economic development and as a cultural hub is canal oriented development (COD), which entails mixed-use neighborhood scaled developments on canal banks where the canal intersects the street. In the same way that redevelopment has revitalized the waterfronts of many seaside communities, CODs create areas that foster cultural and economic activities for landlocked cities

This paper looks at the viability of COD in the Phoenix region from a development perspective. It examines the pros, cons, and feasibility of COD, with particular emphasis on what would be required for developers to undertake COD. Through this analysis, this paper highlights the historical significance of the canal system to the Phoenix region, the importance of urban coalitions to the development process, critical design principles for a successful COD and the results of a survey administered to key players within the development community of the region.

The post-industrial waterfront

The impact of water as a development mechanism, central to COD, is a mirror of how the waterfront is being portrayed in

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¹ First drafted in 1922, the Colorado River compact allocated 17.5 million acre feet (AF) annually to seven states, split between the Upper Basin (Wyoming, Colorado, Utah, and New Mexico) and a Lower Basin (California, Arizona, and Nevada) ([Resiner, 1986](#)).



Image 1. Past canal landscapes.

Source: Simon (2002).

the post-industrial economy. Represented by service sector industries and just-in-time production, the post-industrial economy has meant new challenges and roles for the waterfront. Much of the remaining industrial waterfront activity became centralized, transforming it into a much more mechanized operation, leaving many historic waterfronts empty. At the end of the twentieth and beginning of the twenty-first centuries, these neglected sites presented the opportunity for waterfront development to be driven by a “theme park” (Sorkin, 1992) atmosphere of consumption and cultural reification.

In the post-industrial economy the new waterfront has capitalized on its historical significance in cultural and economic terms. The commodification of history and culture has become a key mechanism for redevelopment of the waterfront which embodies the primeval pull of water (Breen and Rigby, 1994), a major source of economic development.

While the waterfront has become a key economic development source, this viewpoint has not always been the status quo. According to Breen and Rigby (1994: 12) “American cities have neglected the opportunities of their waterfronts with a regularity equaled by which European cities have accepted theirs.” Setting aside past views of neglect, the current shift in how the waterfront is represented has become a driving force for cities in their attempts to revitalize their downtowns (Kotval and Mullin, 2001) and underused urban areas. Attempts at revitalization via the waterfront has meant that in conjunction with other post-industrial urban design, the waterfront is no longer home to heavy “blue collar” activity, rather it now presents a theme park persona of cute kitschy shops and eateries creating an illusion of urban vitality (Kostof, 1992).

The post-industrial waterfront provides a place for commerce, and has become a community resource. Waterfronts in many communities function as gathering places presenting ideal sites for festivals and events (Breen and Rigby, 1994). This position of the waterfront as a festival space was a prominent idea during the 1970s, when the idea a festival marketplace was popular. While short lived, it did help to make the public aware of the power of the waterfront as an economic development center and cultural tool, and a potential place maker. Invariably, waterfront redevelopment has become an important planning doctrine for waterfront cities that wish to not only create both an economic development source and a community asset (Heckscher and Robinson, 1977).

While the waterfront development phenomenon is being harnessed by oceanfront cities, it also is being explored by landlocked cities via COD. Landlocked cities that have tapped into the waterfront development idea include: Oklahoma City (OK), Irving (TX), Indianapolis (IN), and San Antonio (TX) with its famed Riverwalk to name a few. Like these cities, the Phoenix Arizona area has begun to look to its canal system for redevelopment, as much of the canal

system remains underutilized presenting an opportunity for development.

Role canals play in the valley of the sun

The greater Phoenix area boasts 181 miles of canals that provide water to the region, many of which are the original canal basins of the ancient Hohokam Indians. The Hohokam developed an intricate canal system between 1000 and 1400 AD, enabling them to practice agriculture in the arid Salt and Gila River valleys (Simon, 2002). Sometime in the fifteenth century, the Hohokam left the region leaving behind fallow fields and their canal systems. As settlers returned to the Salt and Gila River valleys in the late nineteenth century, the canals that were abandoned by the Hohokam became the basis for the present day canal system that laces through the Valley. The canals that the settlers excavated would not only supply sources of water for the growing region, but would also become important areas for recreation and cultural life.

Throughout much of Phoenix’s history, especially the late nineteenth and early twentieth centuries, the canal was an important source for the prosperity of the area and as a community gathering place, due in large part to its relatively cooler temperatures (Simon, 2002; Yabes et al., 1997). Residents of the area had a deep connection with the canal: homes were built near the canal and neighborhoods had public access to them (Fifield et al., 1990). The canal was as much a part of the psyche and the day-to-day life of the community in addition, and contrast to, the desert, making Phoenix the quintessential canal city (Image 1).

Community connection with the canal would radically change after World War II. The Second World War was a source of prosperity for the area, as the Valley became a key location for the military industrial complex that supported Luke Air Force base and the war effort. This facilitated a population boom, as many people who came to work in the military factories remained in the Phoenix area after the war. The influx of new people resulted in a population that did not have a historic connection to the canal (Simon, 2002) and, in turn, did not understand the intricacies of the canal system.

The lack of societal interaction with the canal, the advent of air conditioning, and suburban tract home development all relegated the canal system to an afterthought, save for its functional use. With this combination of factors, local municipalities, the U.S. Bureau of Land Management (which owns the canal system), and the Salt River Project (major energy supplier and controller of 130 miles of the canal) decided to further distance the community from the canal. SRP, which operates large sections of the canal system and never outwardly sanctioned its non-utilitarian water use, capitalized on the situation, labeling the canals as dangerous places through both explicit and implicit means

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