SUCCESSFUL SIDE STREETS IN SACRAMENTO: AN ANALYSIS OF ALLEY ACTIVATION PROJECTS

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SUCCESSFUL SIDE STREETS IN SACRAMENTO: AN ANALYSIS OF ALLEY ACTIVATION PROJECTS

A Thesis

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Abstract

of

SUCCESSFUL SIDE STREETS IN SACRAMENTO: AN ANALYSIS OF ALLEY ACTIVATION PROJECTS

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The development of alleys into European-style streets with cafes and living spaces – termed "alley activation" by developers – has gained attention and garnered buzz in the city of Sacramento in 2008 and 2009. Proponents of alley activation believe that Sacramento's grid system presents a unique opportunity to enhance a valuable resource through identification of an extensive alley network. Several projects are in the beginning stages of development including a restaurant row, a lane of midtown condominiums, and greening and landscaping of midtown alleyways.

The purpose of this thesis is to give context to an issue that is relatively new in the planning world – to debate the costs and benefits of these innovative future uses of alleyways. Is activation of the Old Soul Alleyway an efficient use of funds, and what benefits could the City of Sacramento and its residents expect? What makes the restaurant row located at Belden Place alley in San Francisco so successful, and how was this success intertwined with local ordinances and policies? What can Sacramento policymakers learn from these two examples?

Written in the style of a client report to the fictional client of the City of Sacramento, this thesis uses two different analysis techniques – a case study and a cost-benefit analysis – to answer these questions. A case study of Belden Place Alley in San Francisco uncovers the reasons why the restaurant row located at Belden Place alley is thriving, and identifies the likely costs and benefits of a similar restaurant row in Sacramento. Results from the case study indicate that location, pedestrian walkability, tie to the character of the surrounding neighborhood, exclusivity of restaurants on the row, and support from policymakers all have an impact on the creation of a successful restaurant row. Benefits received from this type of alley activation project include public safety benefits from more eyes on the street, economic benefits in terms of sales tax revenue and impact on surrounding property values, and social benefits like community cohesion and aesthetic enhancement.

An alley activation project proposed for Old Soul Alleyway in midtown Sacramento is examined using cost-benefit analysis to determine whether the benefits outweigh the costs. Results from the cost-benefit analysis indicate that benefits received from the project over a 25-year time horizon do outweigh the initial and ongoing costs of that project. This analysis uses a set of variable assumptions including different discount rates, and a 25% increase/decrease in costs and 25% decrease/increase in benefits to calculate the net present value under these different scenarios. Most of the scenarios return a positive outcome, but several do not. One important thing to note is that the cost-benefit analysis does not quantify social benefits (stimulation of community cohesion,

aesthetic value, direct use value, and health benefits), and therefore the benefits that could be realized from the social aspects of alley activation are not included in the net present value calculations. Policymakers can use the cost-benefit analysis as a framework to discuss the various impacts of alley activation, and determine for themselves how to value the non-monetized benefits of alley activation. The final chapter provides conclusions about the results of the two analysis techniques, and makes a set of recommendations for policymakers on future alley activation projects in Sacramento.

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Date

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INTRODUCTION AND BACKGROUND

Introduction

The development of alleys into European-style streets with cafes and living spaces – termed “alley activation” by developers – has recently gained attention and garnered buzz in the city of Sacramento. Proponents of alley activation believe that Sacramento's grid system presents a unique opportunity to enhance a valuable resource through identification of an extensive alley network. Several projects are in the beginning stages of development including a restaurant row, a lane of midtown condominiums, and greening and landscaping of midtown alleyways.

This approach to infill development could be beneficial to a city like Sacramento. Alley activation creates an active streetscape past the traditional nine-to-five work hours of nearby state employees. With the recent push in the state Legislature promoting reduction of greenhouse gas emissions by linking housing, land use and transportation to climate change impacts, alley activation presents an additional option to keep development focused in the urban core rather than sprawling further into the suburbs and outlying areas of untouched farmland. Cleaning up alleys in Sacramento could help reduce crime and provide a safer atmosphere for urban residents.

As developers and policymakers in Sacramento discuss various alley activation projects, it is imperative to do a more thorough analysis of the advantages and disadvantages of alley activation. The focus by the local media paints alley development

in a positive light; however, there could be other issues to consider. How much would alley revitalizations costs? How would the ongoing maintenance costs of such revitalizations be funded? What types of benefits would the city of Sacramento and its residents receive? Would these benefits outweigh the costs? Local government officials and staff need to understand the policy implications of development in alleyways, as well as the costs and benefits.

Layout of Report

[1]At the Client's request, this report was written with the goal of identifying potential challenges related to moving the alley activation projects forward, and the costs and benefits of such developments. Because the concept of revitalizing alleyways has gained momentum in various cities in the United States over the last two or three years, there is very little academic research on the costs and benefits of alley activation. As such, this report brings clarity to the concept of alley activation so that policymakers can make informed decisions as these projects progress.

Chapter 1 lays out the goals and purpose of this report, and gives a brief introduction to the concept of Sacramento alley activation. It also provides a short history on Sacramento alleyways, background on the proposed alley activation projects in Sacramento including detailed descriptions of the three types of proposed projects, and a short description of potential benefits and costs of such projects, as depicted in the local media.

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[1] This thesis is structured as a professional client report, as requested by the fictional client of the City of Sacramento.

Chapter 2 provides a thorough background of alleyways: first, the history of alleys and interaction with urban planning techniques; second, their usage and function in the United States; and third, a discussion of governance of alleyways. This chapter also includes a section on what other cities are doing to revitalize their alleyways, most notably Chicago's Green Alleys Program. Literature related to the benefits and costs of alleys is included, as well as the larger picture of current land use trends in the United States and California. This background research generated a list of costs and benefits that was used for the cost-benefit analysis contained in Chapter 4.

Chapter 3 goes further in depth to reveal lessons learned in the alley development of Belden Place, a very popular restaurant row on an alley located in San Francisco's financial district. Because of the lack of academic research on the benefits and costs of alley activation, a case analysis can help provide useful lessons for Sacramento policymakers. The final section in this chapter provides recommendations for policymakers on what a successful restaurant row in midtown Sacramento might look like.

Chapter 4 focuses on a cost-benefit analysis of one of the specific alley projects proposed in Sacramento, using costs and benefits identified in the review of background literature. This chapter includes a description of cost-benefit analysis techniques, and why it is important for policymakers to understand the trade-offs implicit in alley developments.

Chapter 5, the final chapter, provides recommendations for policymakers specific to the Sacramento projects, identifies areas for further study, and summarizes lessons learned in other alley activation projects for Sacramento policymakers to consider.

Purpose of Report

The City of Sacramento requested a report that examines the history and nature of alleys, reviews and summarizes academic and professional alley revitalization literature and other related studies, and analyses the costs and benefits of one type of alley activation project. To complete this task, two different analysis techniques are used – a case study and a cost-benefit analysis. A case study of Belden Place Alley in San Francisco uncovers why the restaurant row located at Belden Place Alley is so successful – this chapter also provides a set of recommendations for Sacramento policymakers and restaurant row stakeholders based on the findings of the Belden Place case study. An alley activation project proposed for Old Soul Alleyway in midtown Sacramento was examined using the technique of cost-benefit analysis to determine whether the benefits outweigh the costs. This cost-benefit analysis also reveals non-monetized costs and benefits that should be taken into consideration by policymakers and other interested stakeholders.

The purpose of this report is to give context to an issue that is relatively new in the planning world – to learn the historic purposes of alleyways and to debate the costs and benefits of these innovative future uses of alleyways. Is alley activation an efficient use of funds, and what types of benefits could the City of Sacramento and its residents

expect? What makes Belden Place in San Francisco so successful, and how was this success intertwined with local ordinances and policies? What can Sacramento policymakers learn from these two examples?

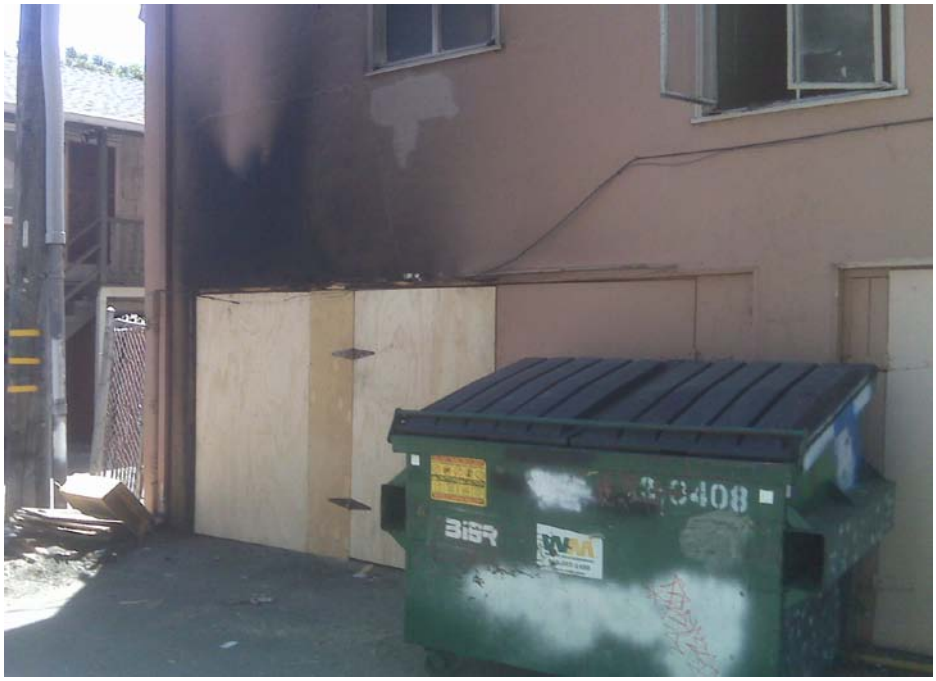
The following sections of this chapter discuss the history of Sacramento alleyways, the media attention surrounding alley activation in Sacramento, the three different types of alley activation projects, and the August 2009 City Council hearing during which the subject of alley revitalizations was discussed as an agenda item.

Sacramento Alleys and Alley Activation Projects

In 1870, the City of Sacramento acquired its interest in alleys located in the central city by deed from John A. Sutter, Jr. (Community Development Department, 2009). Adjacent property owners have fee ownership of the alleys, running to the centerline of the alleys, and the city owns an easement over the alleys for use by the public (Community Development Department, 2009). These downtown and midtown alleys are generally 20' wide by 320' long. There are approximately 600 alley blocks resulting in 88 acres of land in the central city (J. Drucker, personal communication, September 3, 2009).

Generally, these alleyways are used as service streets – for commercial and residential trash pick-up, for utilities, and for usage by city departments like police and fire. However, many of the alleyways in the central city are less than attractive (see Figure 1.1). The alleys are filled with multiple trash cans and dumpsters which are

usually covered in graffiti, they generally smell bad, and can also be used as a dumping ground for large items like mattresses and other debris.



Source: Julie Young, Young Clifford L.L.C., 2009

Figure 1.1. Blighted Sacramento Alleyway.

Media Attention

In the fall of 2008, *The Sacramento Bee* ran several articles and editorials introducing the idea of redeveloping alleys, as the proponents of alley activation went public with their campaign for several different types of alley projects. Bob Shallit's article (2008) “Group Seeks Commercial Makeover of Sacramento's Alleys” describes the group of business owners, architects and city government staff who comprise the “Alley Activation Committee,” a group that has been meeting since the spring of 2008 to discuss how Sacramento's alleys can be revitalized. The article “Lively Look, Right Up

the Alley" focuses on the idea of developers buying up the back portion of deep central city lots and building condominiums that would face the alleyway (Vellinga, 2008). These condominiums would be built on underutilized land at the back of properties and could further the goal of bringing more residents downtown instead of increasing growth in the suburbs.

A short *Sacramento Bee* editorial entitled "An Intriguing Call for Residential Alleys" presented an argument in favor of the development of condominiums in underused alleys, because of the notion of "growing up" instead of "growing out," and proclaimed that transforming alleyways into living spaces is a great way to start [to increase density in the city] (Editorial, 2008). A more recent article – "Sacramento's Alleys Viewed as Ripe for Development" – focused on the positive benefits of alley activation, including aesthetic benefits, reduction of crime with more "eyes on the street," and the excitement that such projects will bring to midtown (Enkoji, 2009).

The above articles gave a snapshot of the three different pilot projects planned for Sacramento alleyways. The first proposed pilot project is "greening" an existing alleyway – putting in new, more environmentally-friendly paving, adding solar lighting, and landscaping – all with the goal of creating more pedestrian- and bike-friendly side streets. The second project would transform a midtown alley into a "European dining experience" with a coffee house, cafes, and bistros, reminiscent of Belden Place in San Francisco's financial district (Shallit, 2008). The third project focuses on "activating the alley as a new streetscape" by using the back portions of downtown lots and building new

condominiums, thereby fronting the units on Sacramento's deserted alleyways. The condominium alley activation project is being proposed by a group calling themselves "Stitch" – a partnership of Sacramento area developers whose focus is on making the inner core of Sacramento more environmentally sustainable, affordable and lively (Vellinga, 2009).

The idea of concentrating growth in infill areas is not a new one; however, these types of projects employ the innovative idea of using what underutilized land Sacramento already has in alleyways to further the goals of sustainability. The proposed projects are also timely, given trends in urban planning toward focusing growth in urban rather than suburban or rural areas. These trends have emerged at both the regional and statewide level in California. In 2004, the Sacramento Area Council of Government (SACOG) adopted the "Preferred Blueprint Scenario," also known as the "Blueprint," a regional growth plan that focuses on density and mixed-used development and transportation choices other then vehicular use, instead of low-density suburban sprawl. A landmark land use planning bill, Senate Bill 375 (Steinberg, Chapter 728, Statutes of 2008), links housing, transportation, and land use planning with the ultimate goal of reducing greenhouse gas emissions and vehicle miles traveled (VMT), and is currently in early stages of implementation.

Other cities have already undertaken alley revitalization projects. The city of Chicago's Green Alleys Program makes smart use of environmentally-friendly materials to "green" unused alleyways – this program has paved the way for other smaller scale

projects in the United States, including alley projects in Seattle, Portland and Baltimore. Closer to home, the University of Southern California's (USC) Center for Sustainable Cities has released a number of academic surveys and professional publications on attitudes toward alleyways, greening of alleyways, and the role alley developments can play in aiding sustainability goals. Chapter 2 of this report contains more background on other alley activation projects in the United States and reviews the literature looking at the topic of alleyways.

Sacramento Alley Project Details

The following is a brief description of the three different types of alley projects proposed for Sacramento's alleyways.

Pedestrian First Alleys

The Pedestrian First demonstration alley, also known as Old Soul Alleyway, is located between 17th and 18th Streets, and L Street and Capitol Avenue. The project will replace the alley surface with alternative paving (some sort of permeable or porous pavement), install wayfinding signage, maintain ADA compliance, install street lighting and street furniture, and add trees and shrubs to the surrounding landscape (see Figure 1.2). The idea behind the project is to “beautify” the alley to encourage pedestrian use, while maintaining limits on car usage. Proponents of alley greenings see an opportunity to revitalize a total of 41 midtown alleyways, but are starting with one demonstration alley first. Please see Chapter 4, which contains a cost-benefit analysis of the proposed

plan for Old Soul Alley. This chapter discusses whether the plan for the alleyway is an efficient use of resources.

Source: Alley Activation Committee Update (Community Development Department, 2009)

Figure 1.2. Artistic Rendering of Proposed Old Soul Alley Activation Project.

Alley Condominiums

Pilot Alley #2 aims to increase population density without affecting the existing streetscape by locating new condominiums adjacent to alleyways. Entrances for residents, including garages, would face the alleyway in order to recognize the benefit to public safety (see Figure 1.3). This idea of alleyway condominiums is also included in

Sacramento's General Plan. The “Stitch” group submitted an application to the Zoning Administrator on July 2, 2009 for three condominium units at the rear of an existing 40 x 160 lot, located at 1717 Capitol Avenue (Community Development Department, 2009). The rear of that lot fronts Old Soul Alleyway.

Source: Alley Activation Committee Update (Community Development Department, 2009)

Figure 1.3. Artistic Rendering of Alley Condominiums Project.

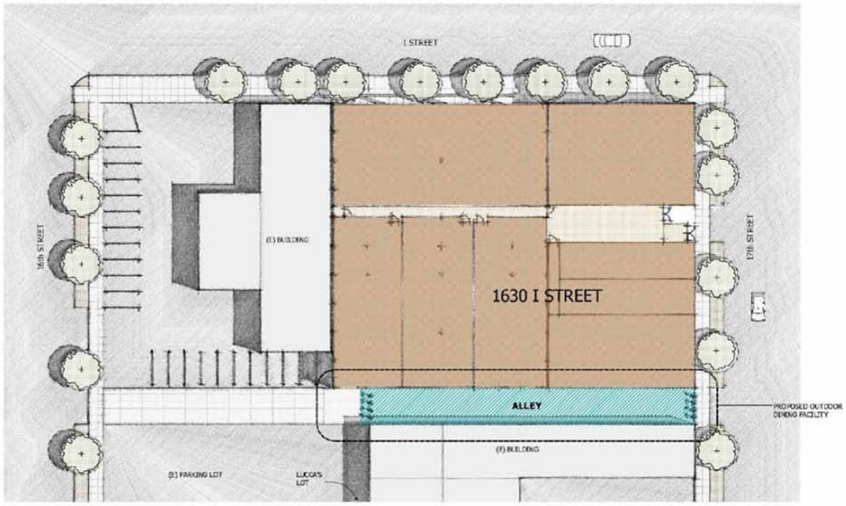
Restaurant Row Alley

Pilot Alley #3 would transform a midtown alleyway into a restaurant row. An application was submitted to the city of Sacramento for this project, which would be located on the alley bounded by I and J Streets and 16th and 17th Streets (Community Development Department, 2009). The goal is to enliven the area and provide a special

amenity for residents similar to Belden Place, a row of restaurants in San Francisco with a European feel (see Figures 1.4 and 1.5). The plan is to close the alleyway to vehicular traffic from 10 am to 2 am, with the remaining hours to be used by vehicles for trash pick-up and deliveries.

Source: Alley Activation Committee Update (Community Development Department, 2009)

Figure 1.4. Artistic Rendering of Restaurant Row Alley.



Source: Alley Activation Committee Update (Community Development Department, 2009)

Figure 1.5. Map of Location for Restaurant Row Alley.

Costs and Benefits Identified in the Media

Several local newspapers have covered the introduction and progress of the alley activation projects over the last year. Though brief, the articles give a snapshot of the potential benefits and costs of the proposals. Project proponents of alley condominiums believe that neighborhoods with such alley developments would "win by having 'more eyes on the alleys' as a way to deter crime" (Editorial, 2008, ¶ 5). Supporters believe that having legitimate businesses in alleys will chase away other kinds of [seedy and illegal] businesses (Enkoji, 2009). As for the restaurant row proposal, the project's developer believes that using alleyways is one way to find new, affordable space for new and existing businesses, which is especially important because of escalating lease rates (Enkoji, 2009). More businesses mean an increase in taxes and jobs: by adding roughly

25% more commercial space, alleys that [are] reactivated also will generate another 25% in sales and employment, according to a recent article in the Sacramento Bee (Enkoji, 2009). Proponents believe that greening existing alleyways will have an impact on the environment because of the use of permeable paving and addition of trees and landscaping, and will provide more pedestrian friendly spaces, thereby imparting social benefits.

On the other hand, there is, of course, a financial cost involved in the projects. For the alley greening projects, the estimate to do all 41 midtown alleyways comes in at $8 million, according to one of the developers (Enkoji, 2009). This is an upfront cost, but ongoing maintenance is certainly an issue that needs to be studied, especially because the City of Sacramento faces a tough budgetary situation over the next few years. How would these projects be paid for? Are they an efficient use of funds? Do the benefits of such projects outweigh the costs?

Movement on Alley Activation Projects

Several representatives from different Sacramento city departments have been working with the Alley Activation Committee, a group of property owners, developers and a few other non-governmental organizations that have been meeting monthly to discuss the pilot alley proposals. The Sacramento City Council heard an “Alley Activation Update” from the committee on August 11, 2009, and the public hearing on this particular item lasted for over an hour.

The purpose of this agenda item was to give the City Council an idea of the amount of work that has gone into the alley activation proposals since the committee's inception. A number of different alley activation committee members each gave a short presentation, including a representative from Sacramento's Community Development Department, several developers, an architect, a Sacramento police sergeant and the Executive Director of the Environmental Council of Sacramento (ECOS).

The police sergeant commented about the existing uses of midtown alleyways – they are poorly lit, predominated by trashcans and odor, and many nearby residents do not want their windows focused on the inner alleyways. In his opinion, all this leads, from a law enforcement perspective, to the notion that no one cares about the alleyways, nor does anyone pay attention, which creates the perfect combination for criminal activity in those alleyways.

Images of other successful alleyway revitalization projects helped to paint the picture of what alleyways in Sacramento could look like with some improvements and attention. These images included the romance and intimacy of alleyways in such places as Paris, London, New York, Chicago, Baltimore, Pasadena, Portland, Santa Cruz, San Francisco and Seattle, and showed why the alleyways in those locations have become a tourist draw. Having pictures of successful alleyways contributed to the effectiveness of the presentation by showing the untapped potential of Sacramento's alleys.

The Executive Director of ECOS focused on the environmental benefits and suggested that alley activation could produce higher returns than other city planning-

related investment options. He suggested that an analysis was needed to quantify the impacts. Since city staff involvement in the monthly alley activation committee meetings is voluntary, he said that it was important for city staff to have the resources at their disposal to undertake such an analysis, which could be very time-consuming and complex. He also brought up the types of environmental benefits of alley activation could be expected including greenhouse gas emissions reduction, and decreased air and water pollution. Additionally he mentioned the public safety benefits of alley activation, and the enhancement of neighborhood equity.

Public testimony at the hearing ranged from strong support to concerns from neighbors about trash collection, the need to maintain adequate access for fire trucks, and aesthetic considerations for the alley condominium units and how to maintain the look and feel of the neighborhood in those new residences.

In general, most council members were supportive of the concept of alley activation, although some had questions about how the projects would be financed. One council member raised the issue of focusing alley improvements only in midtown, and noted the need for clean-up in downtown alleyways as well. Another council member, echoing concerns heard during public comment, emphasized the need to reach out to neighbors of the proposed alleyway projects to make sure their fears were addressed. At the end of the hearing on this agenda item, Sacramento City staff was directed to keep working, on a volunteer basis, with the alley activation committee to address the issues raised, and engage neighborhoods that might be impacted.

Chapter 2

LITERATURE REVIEW

Introduction

This chapter focuses on information gathered through a review of the literature on alleyways. The first section details the history of alleys and their relation to principles of urban planning, notes the usage and function of alleys in the United States, and discusses governance of alleys. This chapter also includes a section on other alley revitalization projects, most notably Chicago's Green Alleys Program. A discussion of benefits and costs of alley revitalization projects is included, as well as a review of land use trends in the Untied States and California.

American Planning: History, Function, and Ownership of Alleys

Alleys were a basic part of early city planning in the United States. Transportation networks in Pre-WWII grid-based residential suburbs often contained both streets and complementary back alleys (Martin, 2002). These narrow thoroughfares were used to provide access to the back of buildings where the more unsightly elements of city life were located – utilities, storage, garages and trash collection (Zelinka & Beattie, 2003). By mid 20th century, planning concepts had moved away from a city grid system to that of a curvilinear pattern that no longer had much use for alleyways. Garbage collection, utility poles and garages moved to the front of homes, and housing patterns changed to streets without alleys and open-back neighborhoods (Martin, 2002).

In most cities, alleys are quasi-public spaces, and responsibility for their governance and maintenance falls to the local jurisdiction (Cassidy, Newell, & Wolch, 2008). There are a number of different municipal departments that either require access to or have administrative responsibilities pertaining to alleyways, depending on the departmental structure of a municipality, but mainly including the public works, police, fire, sanitation, water, power, planning, transportation, engineering and building departments.

There have been several studies on various aspects of back-alley networks in the last 20 or 30 years, as the practice of planning has evolved and planning trends have changed. Some academics studied the impact of alleys on crime and citizen perception, and others looked at the social interaction benefits of different types of housing patterns, including and not including alleyways. These are discussed later on in this chapter.

In the last five years, the trend of alley revitalization as a planning technique has led to the development of the school of thought that alleys can be transformed into safe and pedestrian-friends spaces (Zelinka & Beattie, 2003), a concept that meshes with principles of new urbanism and sustainability. Some planners and developers now look upon alleyways as an untapped resource of available land, and propose to “green” them for environmental benefits, revitalize them to include pedestrian-friendly restaurants, cafes and bars, or even to use alley space for the building of affordable housing units.

Alley Revitalization in the United States

Several cities in the United States have undertaken efforts to revitalize their urban alleyways in the last couple of years. Seattle's Street Edge Alternative (SEA) program implements the re-creation of natural drainage patterns in certain areas, and has significantly reduced urban runoff (Cassidy et al., 2008). The city of Baltimore allows for the leasing and gating of alleys by local communities through their "Alley Gating and Greening" ordinance, in which nongovernmental organizations partner with neighborhoods to create shared community green spaces from underutilized alleys (Cassidy et al., 2008). Vancouver's "Country Lanes and Sustainable Streets" program uses a financial mechanism – the increase in residential property taxes on a block-by-block basis – to fund their neighborhood alley improvements (Cassidy et al., 2008).

In reviewing the available literature on alleys, it seems that there are three different types of alley revitalization projects – those that are proposed by the local jurisdiction, those that are undertaken through a joint partnership approach, and those that are pushed by community residents.

One of the highest profile municipal alley revitalization projects is in the city of Chicago, and was pushed largely by the city's Department of Transportation. As of January 2009, 80 alleyways in Chicago have been "greened" since the announcement of alley greening pilot project in 2006 (Daley, 2006). The success of the city's alley revitalization efforts makes the area a prime target for further study.

Chicago

Chicago has approximately 1900 miles of public alleys, or roughly 3500 acres of paved impermeable surfaces (Daley, 2006). Because of the large amount of alleyways in the city, Chicago's Department of Transportation undertook a study of alley greening. The resulting "Green Alley Handbook," which was published in 2006, proposes to "green" alleyways for better storm water management, heat reduction, greater material recycling, energy conservation and glare reduction.

Chicago's Green Alley Program focuses on the environmental benefits of "greening" alleyways by using sustainable solutions. The use of permeable pavement (asphalt, concrete, or pavers) or infiltration basins allows water to pass through the surface through pores or other openings. This reduces the rate of storm water runoff, reduces stress on the sewer system, recharges ground water, and filters silt, pollutants and debris. Another benefit of permeable paving is the reduced likelihood of flooding. High albedo pavement is another suggested paver material – since it is light in color it reflects sunlight away from the surface, meaning that it reduces the urban heat island effect, conserve energy by reducing cooling costs, and improve air quality. Recycled construction materials can be used in concrete mix and as a base beneath surface paving, which reduces waste hauled to landfills, and reduces the need to extract virgin natural resources.

Another alley greening tip in the Green Alley Handbook is to change lighting in alleyways to "dark sky compliant" light fixtures. These types of fixtures focus light

downward, rather than allowing light to be dispersed in the traditional manner. Dark sky compliant light fixtures reduce light pollution from sites, reduce glare and provide better light uniformity, allowing people to perceive color more accurately.

The handbook recommends that citizens help with alley greening by incorporating some best management practices into their lifestyles – planting shade trees, using native landscaping, recycling, composting, and planting a rain garden or installing a rain barrel or cistern to be used to recycle rain water for a variety of uses.

Studying Alleys in Los Angeles

The city of Los Angeles has over 12,309 alley segments, amounting to 914 linear miles of alleys, or 3.12 square miles of land (Seymour, Bradbury, Wolch, & Reynolds, 2008). The University of Southern California's Center for Sustainable Cities (Center) has produced a number of academic and professional publications examining public perceptions of alleys, the role alleys can play in sustainability, and providing guidance for citizens to take alley revitalization into their own hands. The Center is also a part of the "Back Alley LA" project, a joint partnership between community-based organizations, public agencies, and the Keck School of Medicine.

The Back Alley LA project website notes that little research exists to guide public policy efforts to transform alleys into desperately needed green infrastructure for Los Angeles, one of the challenges to implementation of any sort of alley revitalization. Their research ranges from social and behavioral aspects relating to alleys, to recommendations

for best practices on alley transformation. The Project's research and publications have been distributed to other community organizations, public officials and policymakers.

The Center believes that alley greening in Los Angeles can offer multiple benefits. It can create recreational opportunities by transforming alleys into walkable, bikeable, and playable spaces that can be used to address LA's park-poor status (Cassidy et al., 2008). Other benefits include encouraging neighborhood walkability and connectivity, improving water quality and supply, greening of the urban matrix, and reducing crime (Cassidy et al., 2008).

Surrounding Context of Land Use in California

Leinberger (2008) describes the built environment over the last 60 years as "drivable sub-urbanism" – nearly every trip taken is by car because of the low density of the surrounding suburbia. However, in the early to mid-1990s the United States saw the resurgence of market demand for walkable urbanism. Many cities have recognized major revitalization since that time, in both housing and urban entertainment in their core areas. The concept of "New Urbanism" gained popularity in the early 1990s, and focused on the development of pedestrian friendly, walkable environments. At the same time, the concept of 'sustainable development' was gaining recognition after the release of the 1987 report of the United Nations World Commission on Environment and Development (known as the Brundtland Commission). The report defined sustainability as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations World Commission, 1987).

With the popularity of New Urbanist ideas and sustainability came the concepts of smart growth, infill, mixed-use and transit-oriented, which remain on many policymakers' agendas today.

The trend toward urbanism also made its way into statewide policies on growth management. The California State Legislature recently debated a number of measures aimed at curbing emissions and global warming, most notably Assembly Bill 32 (Nunez, 2006), which requires California to reduce its greenhouse gas (GHG) emissions down to 1990 levels by the year 2020. Senate Bill 375 (Steinberg, 2008), focuses on decreasing GHG emissions in the land use and transportation sector through the use of a sustainable communities strategy, which directly relates to how and where developments will be located in the future. SB 375 is modeled after the Sacramento Area Council of Government's (SACOG) successful regional blueprint planning process, which focuses future growth in areas that make sense, rather than on the outskirts of existing suburbs where the impact might be the conversion of prime agricultural land or important habitat. These bills mandate reductions of GHG emissions through the regulation of certain sectors and their impacts on air quality.

Street Design and Sustainable Streets

Another current planning concept revolves around street design and "sustainable streets" – the practice of street design using sustainable design principles that promote least-polluting ways to connect people and contribute to livable communities. Greenberg (2009) notes that the practice of design of sustainable streets is in its infancy, but is based

on established trends that emphasize context-sensitive streets and livability. For example, Chicago's Green Alleys Program was one of the first early efforts that improved the community and economic life of the city because of the minimization of impacts on the environment of urban development. Sustainable streets can create harmony among the goals of community, the demand for mobility, and the new mandate for environmental stewardship (Greenberg, 2009).

Greenberg (2009) notes that sustainable street design is evolving both in concept and in practice, and that there is a significant need for data on the effectiveness of specific techniques in all areas of sustainable street design and operations. This lack of information includes implementation costs, maintenance requirements and the performance over time of streetscape and environmentally friendly paving materials.

Alley Revitalization: Costs and Benefits

A critical component of any proposed development is an analysis of advantages and disadvantages that could occur with the project. Chapter 4 of this report contains a cost-benefit analysis of the demonstration alley pilot project to be located at Old Soul Alleyway in midtown Sacramento. Before that analysis was undertaken, however, it was important to identify, through review of the applicable literature, what types of benefits and costs should be included in the analysis.

A review of the literature reveals several types of benefits that could occur from revitalization of urban alleyways – public safety benefits, environmental impact benefits, social benefits, and market-based benefits. Costs of alley projects include initial funding,

and ongoing funding and maintenance of the projects. These concepts are summarized below.

Public Safety Benefits

Public perception sometimes paints alleys as blighted, dangerous, and underutilized spaces. The Center for Sustainable Cities undertook the first in-depth study of its kind analyzing resident perceptions on alleys and alley uses by selecting and interviewing focus groups in five different neighborhoods. Focus group participants reported on the nuisances and dangerous alley uses that they had observed, and the frequency of such activities including dumping of garbage and furniture, drug use and dealing, homeless occupants, tagging and graffiti, drinking, sexual activity and prostitution, hideouts and gathering places for gang members, speeding cars, vandalism, assaults and muggings, fighting, and thieves accessing adjacent properties (Seymour et al., 2008).

Findings of the study suggest that residents were wary of alleys, considered them dirty and potentially dangerous, and worried about encounters with people from outside the neighborhood. Participants of the focus groups, however, did widely embrace transformation of alleys, whether it was adding ecological improvements like vegetation to improve the appearance of the alley, allowing murals and other types of wall art, or improving the areas for pedestrian use and as a play area for neighborhood children.

Improving lighting and making alleys attractive may help in addressing safety concerns, and encouraging the use of alleyways (Cassidy et al., 2008). Research by

Farrington and Welsh (2002) concludes that improved lighting should be included as one element of a situational crime reduction program because it is associated with greater use of public space and neighborhood streets by law abiding citizens, thus increasing the perception of greater public safety. A study on spatial analysis and interactions on crime found that secluded access is ultimately what criminals need and want, and therefore makes the argument for high-visibility public spaces to reduce crime (Hillier, 2004).

Environmental Benefits

Identified previously in this chapter, revitalization of alleyways can have positive environmental impacts – most directly on storm water control. Less water in sewers means more for groundwater replenishment. Less concrete or more environmentally friendly concrete can reduce the “heat island” effect. Using alley land for businesses or housing could keep growth concentrated in the urban core, rather than expanding into suburbs, and thus would have a positive impact on air quality. As well, planting trees an adding landscaping could have environmental benefits like air pollution reduction and better air quality. Revitalization of alleyways could increase pedestrian and bicycle usage, which in turn would have beneficial effects on health.

Social Benefits

Martin (2002) studied five different typological housing patterns, with varying densities and configurations, some with alleys, some not. He found that both streetscape and alley-scape are vital to the outdoor social life of the community: the streets are the "public" social realm in a neighborhood, whereas the alleys offer a more discreet, semi-

private social realm for the surrounding neighborhood. Overall, he found that alleys are part of a much larger system of neighborhood open spaces, and have important benefits to neighborhood social networks. Additionally, residents with access to the alleyways usually adopted and modified the landscape to meet their own particular needs, to their own benefit (Martin, 1996).

Market-Based Benefits

Greenberg (2009) notes that there has been little research done on the impact on real estate values of streetscape improvements. De Sousa, Wu, and Westphal (2009) found that redevelopment of brownfields generated desirable economic outcomes and spillover effects on surrounding home values. Nichols and Crompton (2005) found that property values near greenways were enhanced because of that amenity, and also found that there were multiple environmental, social, aesthetic, health and recreational benefits from a well-designed urban area. Nichols and Crompton also noted the positive impact of greenways on property tax base. While there is little academic research on the financial impact of alleyway revitalizations, looking at other types of improvements like redevelopment and urban greening gives a good idea of the economic benefits that could occur from alley activations.

Costs: Initial Funding and Ongoing Maintenance

Any alley revitalization project will involve securing funding – either through local, state, or federal funds, taxes or fees from surrounding businesses or residents dedicated for alley maintenance, or from other sources like non-profits and community

organizations. Many local governments in California are directly feeling the pinch of the economic recession, and funding for new projects is limited, if not altogether impossible as municipalities deal with significant shortfalls and employee lay-offs and furloughs.

Cassidy et al. (2008) note that greening alleyways will require the same types of maintenance that streets do. Alley revitalizations are not just one-time costs – an ongoing funding source or sources should be identified. For example, Vancouver did not earmark funds dedicated to ongoing maintenance of their pilot alley projects, and some costs have been borne by local residents (Cassidy et al., 2008). Baltimore has similar problems – the city's ordinance approved in 2007 states that residents are responsible for the maintenance of alleyways (Cassidy et al., 2008).

Identified Costs and Benefits for Further Analysis

The process of reviewing academic and professional literature reveals categories of costs and benefits, depending on the type of alley revitalization project. These individual benefits can be grouped into several categories – public safety benefits, environmental benefits, market-based benefits and social benefits. The costs, however, are more limited to strictly the financial impacts, which could range from how to fund the improvements to the ongoing maintenance costs of alley revitalizations over time.

Chapter 3

CASE STUDY OF BELDEN PLACE ALLEY

Introduction

This chapter presents an analysis of an existing alley development, using the technique of a case study. Case studies show an in-depth examination of a single instance of a social phenomenon (Babbie, 2007). The principle purpose of a case study is descriptive – to produce explanatory insights from in-depth research (Babbie, 2007). This chapter focuses more on the qualitative side of research into an existing alley development, whereas Chapter 4 examines the quantitative side of costs and benefits of a proposed alley development.

Because development and greening of alleyways is a relatively new phenomenon, there is a lack of academic studies and research completed about the costs and benefits of such developments. A case study of a successful alley revitalization project focuses on one specific situation to learn how the situation came about, what the challenges were, and whether there are applicable lessons learned that can apply to a similar alley development in Sacramento. This case study focuses on Belden Place Alley in San Francisco.

History of Belden Place Alley

The alley located at Belden Place was primarily a service road prior to development of the European-feel restaurant row. It is located in San Francisco's Financial District between Pine and Bush streets, running parallel to Kearny and

Montgomery Streets. Sam's Grill, a restaurant that has been in business since 1867, moved to the corner of Belden and Bush in 1946 and has been there since. By all accounts, the alley in its previous life was described as “gritty” and full of trashcans – part of the seedier urban feel of the city.

Known now as the hub of French-American culture, the immediate area around Belden Place alley was originally home to San Francisco's first French settlers, who arrived near the end of the Gold Rush in 1851 (History of Belden, 2009). The French settlers shared the area with early Chinese settlers, but the enclave of French settlers persisted, despite the influx of other Chinese, Italian, and Irish immigrants (History of Belden, 2009).

Belden Place Alley: Development and City/County Involvement

In 1990, Eric Klein and Olivier Azancot opened Café Bastille on Belden Place alley. The two were spotted arranging trashcans, spraying off the pavement with a hose, and arranging tables along the narrow alleyway, which runs approximately 100 meters long. Café Tiramisu opened a year later, followed by Plouf five years after that, and B44, a Catalan restaurant, in 1999 (History of Belden, 2009). Other restaurants have opened in recent years, bringing the total to eight restaurants. The general atmosphere of the alley restaurants is a mix of French, Italian and Catalan.

In the early 1990s, the city paid for several improvements along Belden Place alleyway including raising the street level to meet the 6-inch curb, improving drainage, and adding a permanent gate that could be closed and opened, depending on the time of

day (S. Hom, personal communication, November 3, 2009). The goal with these improvements was to make the alley safe for pedestrians and meet ADA compliance standards. Support for the city-funded improvements was strong; a conversation with a city employee about Belden Place revealed that the Belden Place alley improvements were done because of the "political motivation" behind the project (S. Hom, personal communication, November 3, 2009).

In 1994, San Francisco Supervisor Angela Alioto pushed to permit outside seating in alleys (Enkoji, 2009). In 1995, the Planning Department of the City and County of San Francisco released their “Downtown Streetscape Plan,” which provided the implementation framework for downtown streetscape improvements to develop the “Downtown Pedestrian Network.” The Downtown Pedestrian Network provided a design vision for city streets, and had the following goals: to reinforce the sidewalk as an essential element of the public realm; to provide for the comfort and safety needs of pedestrians; to contribute to the unique physical character of the City; to promote walking as the primary transportation mode in the downtown core; and to unify the downtown streetscape (City & County of San Francisco, 1995).

The Downtown Streetscape Plan classified San Francisco's network of streets into five different categories – special streets, second level streets, base case streets, destination alleys, and walkthrough alleys. The classification system was used to create a design matrix for streetscape elements in order to craft interrelated pedestrian routes. Special streets were those streets that were noteworthy because of their citywide

symbolic recognition, and therefore were in a separate design category because of their unique setting. Belden Place Alley was designated as a “Destination Alley,” which “merit[ed] its own design to be developed in conjunction with local merchants and property owners” (City & County of San Francisco, 1995, p. 10). Types of designs for “Destination Alleys” included entry gates, decorative single-surface paving treatments, banners, pedestrian-scale lighting, plantings and restricted vehicular access (City & County of San Francisco, 1995).

Chinatown borders San Francisco's Financial District, with its boundary ending at where Kearny and Bush Streets intersect – quite close to Belden Place alley. Chinatown has the highest density of any area in San Francisco, with more than 30 alleyways in the span of 20 blocks, making this an area that presents another interesting take on alley revitalizations in San Francisco (Urban Life, 2007). Historically, the city did not maintain Chinatown's alleys because the alleys were treated as private property. In 1980, the Chinatown Alleyway Improvement Association, with support from the Chinatown Community Development Center, began beautification of their alleys including physical improvements and ongoing maintenance (Urban Life, 2007). In 1994, the Chinatown Community Development Center compiled the Chinatown Alleyway Master Plan after a thorough study of their alleyways. In 1998, the Master Plan was adopted by San Francisco's Department of Public Works (Urban Life, 2007).

Another way that the City and County of San Francisco encourages public spaces in unique locations is through the use of permit fees for outdoor dining. The San

Francisco County Board of Supervisors reduced the fees a few years ago. A recent article on San Francisco outdoor dining options noted that this was one reason that restaurants are adding to the European sidewalk-café sensibility in San Francisco, and because of this there are lots of outdoor options that take advantage of the urban aesthetic (Bauer, 2008).

In June 2008, the City and County of San Francisco released the draft *Better Streets Plan: Policies and Guidelines for the Pedestrian Realm* – similar in concept to the 1995 Plan in that it aims to provide a "blueprint for the future of San Francisco's pedestrian environment" (City & County of San Francisco, 2008, p. 5). Again, the Belden Place alley was mentioned as an example of a successful pedestrian-only street. Guidelines to achieve substantial pedestrian activity and thriving commercial land uses were included in the 2008 Plan.

Ambiance and Atmosphere

Blogs, newspaper articles, cuisine reviews, and travelers' guides reference Belden Place's "joie de vivre" – the quality of livelihood that attracts both local neighborhood residents and out of town travelers to the restaurant row. The Alliance Francaise, the French consulate, the Notre-Dame-des-Victoires Church, several other French restaurants and cafes, and other French-related institutions along Bush Street and Claude Lane are all in close proximity to Belden Place, which lends to the "French Quarter" atmosphere (History of Belden, 2009). Belden Place plays host every year to the city's Bastille Day celebration, drawing large crowds of revelers for a street party of dining, dancing and celebrating.

The alley is narrow, and hidden enough so that a person driving by might miss the row of restaurants there. The restaurant fronts are brightly colored, and out in front of the restaurants, the tables are lined up wall-to-wall. The white lights glow overhead, which adds to the festive environment (see Figure 3.1). One blog author noted that the reason for the European feel was the apartments opposite the restaurants, and the baskets on ropes that dangle off the ground against the building's walls – for the purpose of allowing residents to get the meals they order from the restaurants below without having to leave their apartments (Europe by the Bay, 2008).

Source: Romantic Belden Place (2009)

Figure 3.1. Belden Place Alley at Night.

Exclusivity

In 1995, Boudin – the popular San Francisco chain of restaurants – proposed locating one of their restaurants along Belden Place alley. The other restaurants along the

alley were vocal opponents, and feared that the chain's plan would “intrude on the character of the alley” (Levy, 1995, ¶ 4). Boudin's design plans for the space included the use of a 50-foot long brick wall, which formed the backdrop for the alley's outdoor dining, which, according to opponents, would have meant that over half of the tables would have been pulled from the alley, losing the intimacy and charm of Belden Place (Levy, 1995). Boudin's plan went before the Planning Commission, and the proposal was voted down.

In May of 2000, a similar issue occurred with a restaurant named Spaghetteria. The restaurant's front was on Kearny Street, but the back door faced Belden Place alley, and the owner wanted to put tables on Belden to take advantage of the success of the alley (Gardner, 2000). At that time, a Burger King, a Chinese restaurant and another vacant unit also had back doors on the alley, and if all wanted to put tables on Belden, fire regulations would have required a six-foot clearance on both sides of the alley, rather than just the one side (Gardner, 2000). The end result would have been cutting the numbers of outdoor tables allowed on Belden Place alley by more than half (Gardner, 2000).

According to the Planning Commission meeting minutes, there was opposition from neighboring restaurants because the restaurant was not a “fine dining establishment,” rather it was a fast-food establishment, as a restaurant owner noted in his testimony (San Francisco Planning Commission, 2000). A former restaurant critic for the San Francisco Examiner also testified in opposition, noting, “introducing a fast food

operation to Belden place would be like putting a low end shop at Union Square" (San Francisco Planning Commission, 2000). Another restaurant owner on Belden Place collected signatures opposing Spaghetteria's requested outdoor seating permit, to the tune of 4,000 names in total. Spaghetteria's bid for outdoor seating was ultimately denied by the San Francisco Planning Commission, which upheld its 1995 ruling that decreed that businesses located at Kearny Street could not have outdoor tables on the Belden Place alley.

Analysis of Belden Place

This case study presents an in-depth look at how Belden Place alley came to be: the history behind the alley, the surrounding political context, and the qualities that make Belden Place a success in the eyes of both nearby residents and out-of-town travelers. While this case study is specific to one successful location, there are several lessons that Sacramento policymakers should keep in mind for the "Restaurant Row" pilot project.

First, the location is of utmost importance. It has to be walkable, pedestrian-friendly and have limited vehicular access. As seen with Belden Place, there is a strong tie to the history of the local community, which comes through in the atmosphere of the restaurants, the chefs and their menus, their celebration of Bastille Day, and the nearby French community. This French theme-of-sorts gives the alley a "hook" with which to grab tourists, aids in the authentic feel of the restaurant row, and is not contrived or forced in any way, as some tourist traps can be.

While restaurant selection is important, as seen by the exclusivity of what restaurants have located on Belden Place alley (no chains, no fast food), the quality of the food seems less important than the overall atmosphere and ambiance. Travelers' guides and online foodie blogs do highlight the food and restaurant quality, but it is the setting, the vibe – the whole transformative dining experience – that serves as the real reason why Belden Place's restaurant row has been so highly regarded for the last 10 years.

Lastly, the interaction with the San Francisco Planning Commission and the City and County of San Francisco has been important to the restaurant owners and the creation of the restaurant row at Belden Place. Early on, policymakers recognized the uniqueness of Belden Place and celebrated the location as a local destination, which allowed the alley to serve as a model for other alleyway developments in the city. The Board of Supervisors encouraged the use of public spaces for alternative uses by lowering outdoor seating permitting fees, and promoted Belden Place through their policies to residents and tourists alike. By focusing on the street network that includes Belden Place alley, the city supported a walkable, pedestrian-oriented system.

A restaurant row in Sacramento can emulate the special qualities of Belden Place, by taking to heart these lessons learned from San Francisco. Part of the challenge for the restaurant row project will be to create a unique atmosphere that fits with midtown Sacramento's character and history. Sacramento policymakers may also want to consider the creation of an “"Urban Alley Master Plan,” similar to Chinatown's Master Plan, to help consistently govern the alleys located in downtown and midtown Sacramento.

Costs and Benefits

This chapter focused on the special qualities that make Belden Place alley a unique neighborhood and tourist draw. However, it is also important to consider the costs and benefits of the revitalization of Belden Place alley, especially because city staff and the developer of the proposed restaurant row alley project in Sacramento could benefit from this knowledge.

A city of San Francisco public works staff person noted the public safety and social benefits of the revitalization of Belden Place alley, as well as the Chinatown alleyways (S. Hom, personal communication, November 2009). He mentioned the benefits of cleaning up alleyways as an important way to enhance the pedestrian experience. For Chinatown, these improvements included undergrounding of utilities, getting rid of unsightly dumpsters, and adding ornamental lighting at a height more friendly to pedestrians (rather than streetlights which are installed much higher up benefit drivers). Because of these improvements, he felt the alleys were more heavily used as a pedestrian network, and that both tourists and nearby residents use the alleyways. These alleyways were avoided before the improvements, but now there are part of the pedestrian system, and the alleys are viewed as a safe place for pedestrians.

The city staff person also talked about the economic benefits of Belden Place – increased sales tax revenue to the city from the restaurants, and increased property tax revenues because the surrounding property values have increase based on the aesthetic improvements of those alleyways.

Another interesting thing he noted is that because of soil type, permeable pavers and pavement have not been used in San Francisco. Especially in Chinatown, installation of permeable pavers is not a good idea because of the water impact on nearby basements, which are a frequent amenity in Chinatown residences.

The public works employee had several recommendations for alleyway revitalizations. First, he thought it was important that before permeable pavers are used, that there is some type of soil analysis completed so that impacts of replacing asphalt or concrete with permeable pavers is known. A loamy soil is preferable to a soil with high clay content because the clay doesn't absorb water. Not all permeable pavement is the same, so once the soil analysis is done, it is important to analyze the needs of that alleyway before choosing a paving type.

Alley improvements can disrupt traffic, pedestrians, and businesses, and the city staff person recommended that these disruptions be minimized as much as possible by taking into consideration the current alley uses. As well, he recommended that an ongoing funding source be identified, because maintenance of alleyways can be expensive, especially when permeable pavers are used.

Chapter 4

COST-BENEFIT ANALYSIS OF PROPOSED OLD SOUL ALLEY ACTIVATION PROJECT

Introduction

This chapter presents a simple cost-benefit analysis of the demonstration alley pilot project located between L and Capitol Streets, and 17th and 18th Streets, known as the "Old Soul Alley" in reference to the Old Soul Coffeehouse located in the alley. Many factors are unknown about other proposed alley activation projects throughout midtown, but the Old Soul Alley project is a good candidate for a cost-benefit analysis because some of the cost information and economic valuation impacts have already been calculated by developers. The Old Soul Alley is a good representative of the types of costs and benefits that could be realized in a larger analysis of all proposed alley activations in midtown. This cost-benefit analysis could serve as a model for a larger study in the future.

Cost-benefit analysis is one tool that can be used to identify the different types of costs and benefits in a policy decision that affects the public. Policymakers should keep in mind that it is only a tool, and as such, has limitations that need to be taken into consideration.

Findings

In cost-benefit analysis, a positive net present value (NPV) means that the discounted stream of benefits outweighs the costs, and therefore the project is an efficient use of scarce resources. Several scenarios were used in this cost-benefit analysis to show

what would happen under different assumptions. A baseline cost-benefit analysis shows the resulting NPVs based on the usage of a 1%, 2%, 3%, 4%, and 5% discount rate. This baseline analysis produced a positive NPV for each discount rate, meaning that the benefits outweigh the costs over the 25-year horizon and therefore, the project is an efficient use of resources based on the baseline estimates (see Appendix, Table A1).

For comparison, the baseline estimates were also re-calculated with the assumption that total costs were actually 25% higher and total benefits were 25% lower over the 25-year period. The results varied – for a 5% or 4% discount rate, the NPV calculation resulted in a negative value, meaning that with these assumptions in place, the project would not be an efficient use of resources because the costs outweigh the benefits. For a 3%, 2%, or 1% discount rate, the resulting NPV was positive. This re-calculation assumed that the upfront costs to complete the alleyway were also 25% higher than anticipated. It should be noted that if only ongoing maintenance costs were 25% higher (not including the upfront costs to complete the alleyway revitalization) and total benefits were 25% lower, then for all discount rates the NPV results in a positive number (see Appendix, Table A2).

The baseline estimates were also re-calculated using the assumption that total costs were actually 25% lower and total benefits were 25% higher over the 25-year period. In this case, all discount rates produced positive NPVs. For comparison, the NPV calculation was also determined based on just ongoing maintenance costs being 25% less than anticipated (therefore leaving the upfront cost of the alleyway project constant), with

25% higher benefits. All NPVs for each discount rate were positive (see Appendix, Table A3).

Because this cost-benefit analysis did not attempt to quantify the monetary value of the social benefits of alley activation (community cohesion, value of aesthetic benefits, direct use value because of increased pedestrian and bike usage, and benefits to health), the expected result is an even larger NPV because the social benefits are not factored into the value streams. Further conclusions based on the cost-benefit analysis calculations are included in Chapter 5.

The next sections of this chapter discuss the technique of cost-benefit analysis and its history in the public sector, define the scope of the cost-benefit analysis, show the current uses of the Old Soul Alleyway versus the proposed activation, and provide in-depth background on how the assumptions were made for the costs and benefits of the proposed Old Soul Alley activation cost-benefit analysis.

Cost-Benefit Analysis Background

According to Fuguitt and Wilcox (1999), cost-benefit analysis has proven to be a useful decision-making tool that provides information to aid public managers who are considering any of a number of policies with social goals or consequences. By going through the steps of an objective cost-benefit analysis, decision makers get a better understanding of the surrounding issues, which helps them to make more informed decisions.

By completing a simple cost-benefit analysis, and enumerating the steps taken and assumptions made in the analysis, Sacramento policymakers will be able to weigh competing objectives and understand the trade-offs inherent in their decisions. Such an analysis will also provide the implications for society and create a reasoned framework that will help policymakers prioritize policies according to their relative efficiency.

Cost-benefit analysis has a long history of usage in the public sector, tracing back to the United States federal government in the 1930s, during which cost-benefit analysis was used to assess public project expenditure decisions (Fuguitt & Wilcox, 1999). This type of analysis is versatile and has widespread applicability, and thus can be used in numerous different fields – hence, its popularity.

Cost-benefit analysis measures a policy's efficiency and whether that policy increases or decreases social welfare. Thus, a policy is determined to be efficient if the benefits outweigh the costs. Efficiency, in this case, relates to usage of scarce resources, and whether a policy creates good results or bad consequences for social welfare with those scarce resources. However, it is important to note that measuring a policy's success by its efficiency may not be the only way policy makers can judge whether a change in policy results in good outcomes. For instance, cost-benefit analysis assesses the net benefit to society, but may not take into account the impact on one segment of the society, a segment that could be greatly impacted. Cost-benefit analysis does not take into account issues of sustainability, and the resulting impact on future generations of a policy decision made in the present.

Scope of Analysis: Society, Time Horizon, and Discount Rate

One of the first steps in cost-benefit analysis is to determine the "society" that would be impacted by the policy change of alley greenings – those that would benefit or incur a cost from the policy under consideration. In this case, society is defined as the residents in the city of Sacramento. If alley greening projects were to be undertaken in midtown, the surrounding homeowners and businesses would be the most impacted. Renters in those neighborhoods, additionally, would be impacted, as well as people who work nearby, and those who visit the central city regularly. Also, because the city of Sacramento could provide some level of funding for the projects, it is justifiable that the proper level of analysis for this project is at the city level.

Some cost-benefit analyses look at an even broader definition of society – say to the county, regional or state level. In this case because of the general high level of impact on the residents of the city, a city-wide analysis is appropriate. However, there may be some "spillover" effects on those people outside of the defined society.

This analysis uses costs and benefits over the time horizon of 25 years, based on the expected lifetime of pervious pavement. Lifetime estimates of pervious pavement in other areas of the United States are approximately 20-25 years because of freezing temperatures, snowfall, high rainfall percentages, and other such weather conditions that do not generally apply to Sacramento. Pervious pavers might last for much longer in Sacramento, but 25 years is used as a conservative estimate.

Quantifiable costs and benefits are listed in the coming sections of this chapter. Those costs and benefits, in dollar values, are added up over the horizon time frame of 25 years, and the benefit and cost streams are discounted to obtain the present value. Present value calculations are used because $1 today will not have the same value in the future, because of several reasons. First, $1 presently could be invested and thus would return a yield of $1 + yield in the year 2010, and so on, regardless of inflation. And second, individuals are said to exhibit a positive time preference, meaning that people would rather consume $1 right now because of the satisfaction, rather than wait until some later date in the future.

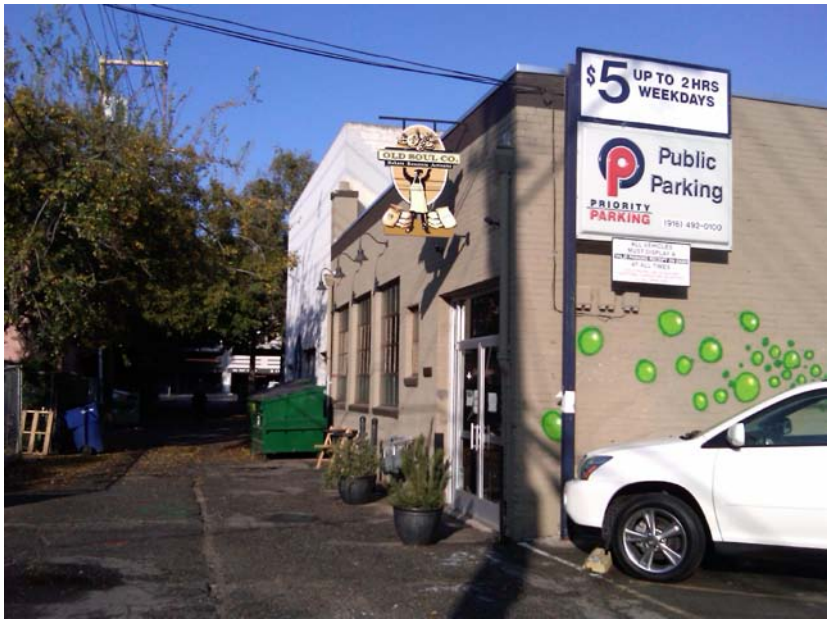
One difficulty in any cost-benefit analysis is determining what discount rate to use for the NPV calculation of cost and benefit streams, especially in an ex-ante analysis which looks at the costs and benefits of a future project, rather than an ex-post analysis in which data for the project is already available. A sensitivity analysis is used to overcome the difficulty of predicting a future discount rate. As discussed previously in the Findings section of this chapter, the discount rates of 1%, 2%, 3%, 4%, and 5% were used. Several different scenarios were also analyzed by changing the total cost and total benefit assumptions to increase or decrease the value of benefits or costs by 25%.

Description of Current Uses in Old Soul Alleyway

The demonstration alleyway has a number of current uses (see Figure 4.1). A public parking lot is next to the Old Soul Coffee House, and there are several apartment complexes that have use of the alley. The pavement in the alleyway is uneven and rough

in places, making bicycle and pedestrian access somewhat hazardous, especially during inclement weather conditions. There are also several murals on the building next to Old Soul, revealing the “public art” usage of the alley space. A recent survey of the alleyway at 9 am during on a workday revealed five large container dumpsters, one residential recycle bin and one residential green waste bin (see Figure 4.2). During the survey, one homeless man was observed, and there were a few bags of trash, some clothes and shoes, and a sleeping bag located in the shrubs bordering one of the apartment complexes near 17th Street.

Just southeast of the alley is a popular hub of restaurants including Zocalo, Paesano's, Dragonfly, 58 Degrees and Holding, and to the southwest are other restaurants including Crepeville and Aioli. Across the street from the west entrance of the alley are two state buildings and MVP's Bar Grill. This area of midtown receives a lot of traffic from cars, pedestrians and bicyclists who frequent the restaurants and bars from residences and workplaces nearby. During lunch and dinner hours these areas are often congested with drivers looking for parking spaces, making the crossing of main thoroughfares by pedestrians and bicyclists dangerous. Figure 4.1 shows the view from 18th Street looking down the alley toward 17th Street, with the Old Soul Coffee House on the right-hand side of the alleyway.



Source: Debra Lynn Michel, November 2009

Figure 4.1. Old Soul Alleyway (view from 18th street looking west).

Source: Debra Lynn Michel, November 2009

Figure 4.2. Dumpsters on Old Soul Alleyway.

Proposed Old Soul Alley Activation Project

The demonstration alley is proposed to be activated in several ways. First, the Stitch group has submitted an application to the City of Sacramento to build a 3-unit housing development using the back lot of one of the properties fronting the Old Soul Alleyway. Also, 640 square feet of pavement in the alleyway will be replaced with permeable pavers. Trees will be planted in large planters, solar lighting will be installed, and there will be one trash enclosure for all residences and businesses on the alleyway, instead of multiple dumpsters and receptacles that block sections of the alleyway and add to the unsightliness.

Upfront Costs

Developers have identified $438,030 in upfront costs to complete the entire Old Soul Alley activation. This cost figure includes site surveying, civil construction drawings and administration, architectural drawings, permit fees, costs of trees, tree watering bladders, permeable pavers, benches and planters, all of the construction site work, solid waste and lighting costs, and replacement of some underground utilities. The $438,030 total cost is proposed to be paid for by donations from Alley Activation Committee members, a leftover amount of federal Community Development Block Grand (CDBG) funds, and Sacramento's Department of Utilities, which will replace the underground pipes. The proposal is a unique blend of public and private funds, and as such, both public and private costs are accounted for in the analysis, even those that are donated or are amounts received from the federal government. The total cost is assumed

to be accrued in the 2009 year, while ongoing maintenance costs start in 2010 and continue through 2034. This analysis uses 2009 dollar values for all costs.

Ongoing Maintenance Costs

Developers of the Old Soul demonstration alley have not yet identified ongoing maintenance costs related to the activation of the alley over a 25-year period. Because of the lack of this information, this analysis uses other assumptions to determine an annual ongoing maintenance cost for the Old Soul Alley.

Pervious Pavers

The City of Olympia, Washington undertook an analysis of the traditional versus pervious concrete sidewalks for construction and maintenance costs in 2005. For pervious concrete, the City estimated sweeping twice a year and high-pressure washing the pervious concrete every five years. Based on their cost estimates for sweeping and high-pressure washing (including labor costs), this gives a cost basis of $0.09 per square yard for sweeping, and $0.60 per square yard for pressure washing, on an annual basis. This analysis uses the combined cost in 2009 dollars, or $0.76 per square yard (using the Consumer Price Index to convert 2005 dollars to 2009 dollars).

Developers anticipate replacing 640 square feet (approximately 71 square yards) in the demonstration alley with pervious pavers. Based on the City of Olympia's cost basis in 2009 dollars, the cost in 2010 for maintenance on the demonstration alley in Sacramento would be $54. However, this does not cover the cost of any new equipment that would need to be purchased by the city of Sacramento. For example, the City of

Olympia's total cost estimate also included the cost of purchasing a used sweeper at $15,000. Capital costs like equipment that the city of Sacramento might need to purchase are not included in this cost analysis.

Trees

Thompson and Ahern (2000) found that on average California cities spent $19 per tree annually in 1997 dollars for ongoing maintenance. Using the Consumer Price Index, this amounts to approximately $25 per tree in 2009 dollars. Part of the ongoing maintenance costs of trees is determining how the trees will be watered, and by whom. Project developers propose putting the trees in planters and using bladders to water the trees, but it is unclear whether city staff or private or commercial residents will be responsible for the costs of watering. Because of this uncertainty, costs for watering are not included in this analysis.

Project developers estimate planting between 6 and 20 trees per alleyway, depending on location. This analysis uses the amount of 13 trees in the demonstration alley as a good middle ground between the low and high end of proposed number of trees per alley. Maintenance costs begin in the year 2010.

Solar Lighting

The demonstration alley will also have solar lighting. Lighting costs, however, are not included in the ongoing maintenance costs because many solar streetlights (LEDs) have very long life expectancies, some even in the range of 25 years and beyond. Because the time horizon of this analysis is 25 years, costs to maintain lighting are not

included (upfront installation costs are included in the total alley activation cost of $438,030). However, there may be some municipal costs if a solar light stops working and needs to be fixed. Also, it is unclear what type of solar lighting will be used in the demonstration project, but the City of Sacramento may wish to use solar lighting with a long lifespan in order to maximize the efficiency of such lighting.

Summary of Benefits

Based on the literature review in Chapter 2, this analysis considers four different types of benefits: environmental, social, public safety, and economic (market-based) impacts. Each of these benefits is described below.

Environmental Benefits

Groundwater Replenishment

With the replacement of existing concrete in alleyways with porous pavement, concrete or pervious pavers, the groundwater in those areas would be recharged because of less storm water runoff from annual precipitation into the sewer systems. For certain areas, groundwater recharge could mean a more sustainable supply of drinking water, and a reduction in the rate of land subsidence. Other benefits could include a reduction in the weakening of foundations of structures resulting from the excessive withdrawal of groundwater, which would help to maintain a high water table (which has other environmental benefits) and potential to recharge good quality water to dilute undesirable underground water.

However, measuring the effect of the inclusion of porous pavement in alleyways on groundwater recharge is far beyond the scope of this analysis, and would involve the identification of many complex factors – measurement of existing groundwater and the water table, Sacramento's hydro geological conditions, soil identification, gravity and flow of water including rate of discharge and infiltration rate, and measurement of other sources of natural and incidental recharge.

Urban Storm Water Runoff

Assumptions in a 2008 report by the Trust for Public Land's Center for City Park Excellence entitled "How Much Value Does the City of Sacramento Receive from Its Park and Recreation System?" were used to estimate the benefit of having reduced urban storm water runoff from the use of pervious pavers. This report was requested by the City of Sacramento's Department of Parks and Recreation to study the economic value received by Sacramento's parks. Several of the benefits that Trust for Public Land's (TPL's) study quantifies are similar to the benefits that might be received from alley revitalizations. In this case, parkland and pervious pavers have similar benefits on urban storm water runoff. Ultimately, less storm water runoff in Sacramento means that less water will need to be treated by the Sacramento Regional County Sanitation District.

TPL's report notes that there are several ways to calculate the benefit of less runoff – through a complex model that looks at estimated annual runoff by including a number of different factors including perviousness and annual rainfall, or by looking at treatment costs of water that would have otherwise ended up in the sewers.

This analysis measures the benefit of pervious pavers by looking at the reduction in wastewater treatment costs. TPL (2008) used treatment cost of two cents per cubic foot of water by the Sacramento Regional County Sanitation District. Assuming 1.5 feet of annual rainfall, and assuming all of the rainwater that hits the pervious pavers flows into the ground instead of into the sewer system, the net benefit of 640 square feet of pervious pavers, on annual basis, is approximately $19. This calculation, however, does not factor in the reduction of chemicals in the sewer and thus Sacramento's waterways, as a result of pervious pavers, which act as a filter for such chemicals. Further research is needed to determine the reduction in chemicals and what the monetized benefit would be.

Benefits of Trees

The TPL study looks at the value of tree cover and the ability of trees and shrubs to remove air pollutants like carbon monoxide, ozone, sulfur dioxide, nitrogen dioxide, and some particulate matter (TPL, 2008). Leaves absorb these various gases, in addition to the particulate matter. TPL's study used very complex formulas and GIS mapping to determine the amount of tree cover and the resulting economic value. TPL found that 28 percent of Sacramento's 5,223 acres (1, 426 total acres) of parkland was covered with trees, and this resulted in an economic value of $359,000 per year.

This analysis looks at the net benefit of planting trees on 41 alleys in midtown, and derives the benefit for the Old Soul Alleyway by dividing the monetary benefit by 41. For the 41 alleyway greenings on 6 acres, there will be significantly less tree cover than in parkland. This analysis assumes that 1/10 of the alleyways would have tree cover

(.6 acres). Based on TPL's economic valuation, each acre of trees results in about $252 of economic benefit related to air pollution reduction. In this analysis, 0.6 acres of trees on 6 acres of alleyways will result in $151 in economic benefit. The per-alley benefit would be $3.68. One thing this analysis does not include is the fact that the trees will grow over time, thus producing more tree cover, which could result in a larger benefit over the 25-year period.

Social Benefits

TPL's study identified two social benefits of parks – the stimulation of community cohesion and the "direct use" value. For TPL's study of the monetary benefits of stimulating community cohesion, TPL used donations to the park system as a proxy for human capital. However, for this cost-benefit analysis, it is very difficult to predict the stimulation in community cohesion and networking benefits that might be received from alley greenings, and TPL's proxy cannot be used to help make assumptions. Community cohesion is listed as a non-monetized benefit in this analysis.

TPL also measured the "direct use" value of parks – what visitors received as a benefit from using the parks for different types of activities. Again, TPL used a proxy, which doesn't work for this cost-benefit analysis – the number of visits multiplied by the monetary value of each park activity to determine an overall benefit. Because alleyways have different direct use values, it is hard to measure how many people would increase usage of alleyways once they are revitalized (comparing the baseline scenario of who uses alleys currently, and who would increase usage of those same alleys after they are

activated, and how to quantify this benefit). This information is also needed to derive health benefits because of the increased usage of the alleyways. For the purposes of this analysis, direct use value and health benefits are listed as non-monetized benefits.

Aesthetic value is also listed as a non-monetized benefit. The assumption is that revitalizing the alleyway with new pavers, adding trees and shrubs, adding solar lighting, and removing the dumpsters will increase the aesthetic value. How to quantify this value in monetary terms remains the difficult part. Academic research on aesthetic value is limited and in very early stages; for purposes of this cost-benefit analysis aesthetic value is listed as a non-monetized benefit.

Public Safety Benefits

An academic study of street lighting and effects on crime statistics found an overall reduction in crime of 7%, when new or brighter lighting was added to streets (Farrington & Welsh, 2002). Similarly, a cost-benefit analysis of the redevelopment of Auburn Boulevard found a 31% reduction (approximately 3% annual reduction) in all types of crimes over a 10-year period during which the Boulevard was redeveloped (Catron & Wassmer, 2005). This analysis assumes an annual 5% reduction in crime for the areas surrounding the alleyways, which is derived from averaging the 7% reduction from streetlights with the 3% reduction from the redevelopment project. A per-alley benefit is calculated by looking at the impacts of all 41 alley greenings, and then dividing by 41 for the single alley benefit.

The City of Sacramento Police Department has GIS-based crime mapping available on their website. Table 4.1 contains the crime statistics for the one-year period of 9/1/2008 – 8/31/2009 for the midtown area bounded by J Street on the north, R Street on the south, 16th Street on the west, and Business 80 on the east.

Table 4.1

Midtown Area Crime Statistics

Crime Type	Number of Incidents
Arson	7
Assault – Felony and Misdemeanor	142
Auto Theft	111
Burglary – Business	46
Burglary – Residence	45
Drugs/Narcotics	56
DUI	100
Graffiti	21
Larceny Theft	244
Robbery – Other	32
Vandalism	94
Weapon Offense	7

Source: City of Sacramento Police Department, 2009

McCollister, French, and Fang (2004) estimated the tangible and intangible costs of different types of crimes in "The Cost of Crime to Society: New Crime-Specific Estimates for Policy and Program Evaluation," including the cost of the crime, police time to investigate the crime, financial impact to the victim, court costs, etc. They quantified the total costs of each offense in 2004, which has been converted to 2009 dollars based on the Consumer Price Index.

Table 4.2

Real Costs of Crime, Based on Crime Type

Crime Type	Real Cost, 2009 Dollars
Murder	$9,679,978
Rape/Sexual and Aggravated Assault	$177,712
Robbery	$52,981
Arson	$9,580
Motor Vehicle Theft	$9,492
Household Burglary	$4,529
Larceny/Theft	$1,532
Stolen Property Offenses	$562
Vandalism	$512

Source: McCollister et al., 2004

For ease of computation, this analysis assumes a 5% across-the-board reduction in all crime types per year of the 25-year time horizon. Also, both felony and misdemeanor

assaults are categorized together because of differences in terminology between Sacramento crime statistics and the McCollister et al. cost of crime analysis (the average cost of any assault is the sum of the costs of rape/sexual assault and aggravated assault, divided by two). Table 4.3 shows the dollar benefits derived for matching categories (number of reported incidents in Sacramento midtown area multiplied by a 5% reduction in crime incidences, multiplied by cost per that crime category).

Table 4.3

Reduction in Crime Costs, Assuming 5% Reduction

Crime Type	Cost Reduction Savings in 2009 Dollars
Arson	$3,353
Assault	$1,261,755
Vehicle Theft	$52,680
Robbery	$84,769
Vandalism	$2,406
Larceny/Theft	$18,690
Burglary (Residence/Household)	$10,190
Total Benefit Per Year	$1,433,843
Per Alleyway Benefit	$34,972

This benefit analysis is based on several caveats. First, the area of crime statistics overlaps the 41 proposed alley greenings, but not entirely. The Sacramento Police

Department's crime statistics area is bounded by J Street on the north, but several alley greenings are proposed for I Street, and thus this area is not included in the crime stats.

Second, a 5% across-the-board reduction in crime may not be realistic. The Auburn Boulevard Redevelopment area cost-benefit analysis saw a reduction in crime because of the revitalization of the area, but also because of increased public safety initiatives targeted at the area. An average of 5% reduction of all crimes means that some types of crimes could increase, while others might decrease. Alley activation may not have the same effect on each type of crime, and thus this aspect is not accounted for. Third, this analysis attempts to quantify the total crime reduction benefit of all 41 alleyways, and the impact on the surrounding neighborhoods. The benefit is then divided by 41 to get a per-alley benefit to be used in the overall cost-benefit analysis of the demonstration alley. However, crime could be reduced in other alleyways much more and it is possible that the demonstration alley could have no net reduction in crime during certain years.

Direct Economic Benefits

Project developers and city staff completed a simple return-on-investment (ROI) analysis of the demonstration alleyway in July of 2009, which was used as the basis for developing the following economic valuation assumptions for sales tax revenue and property tax revenue included below.

Sales Tax Increase

Old Soul Coffee House is expected to produce $675,000 in gross receipts for the 2009 year, of which 1%, or $6750, will go directly to the city (Zeidner, 2009). A review of Board of Equalization taxable sales in the city of Sacramento shows an average of 3% increase annually over the time period of 2000 – 2007. Assuming this, Old Soul's taxable receipts will be expected to grow annually by 3% without any type of alley activation.

However, with alley activation, this analysis makes the assumption that taxable receipts will increase more than 3% because there will be greater pedestrian and bike traffic on the alleyway attributable to the activation of the alleyway. If a 5% increase in sales is assumed annually, the net benefit attributable directly from alley activation would be 2% yearly, of which 1% of the benefit would go to the city in the form of sales tax revenue.

Property Tax Increase

The ROI analysis of the Old Soul Alley Activation shows a $3,500 increase in property taxes to the City of Sacramento, based on a new 3-unit property to be developed by the Stitch Group on the back half of one the parcels along the alleyway (Zeidner, 2009). This estimate is based on a new property of 3 units valued at $1,000,000 total, of which 1% is the assessed property value. Approximately 35% of the 1% assessed value will go to the city. Because of Proposition 13 (1978), growth in the assessed valuation of land can only increase up to 2% a year. This analysis assumes that the assessing of property taxes for the 3-unit development will grow at 2% per year, but because of

inflation (3%), this analysis assumes a constant value to the city of $3,500 over the 25-year period.

No other increase in other property tax of surrounding homes or businesses is accounted for in this analysis because of the Proposition 13 limitation of only re-assessing property values upward when property changes hands, or is assessed downward in times of economic downturn. It is very difficult to make assumptions about the surrounding businesses and the impact of alleyway revitalization on the property values, as well as how many of those properties will trigger reassessment because of sale or the economy. However, this might be part of a larger analysis on all alley activation benefits, if the assumption is that alley revitalization has a positive impact on property values in surrounding neighborhoods. This analysis only includes the property tax increase to be received by the city from the new Stitch development.

The ROI analysis also considered the impact of the new Stitch 3-unit development on Measure A (sales tax used to fund transportation), Utility Users Tax revenues (UUT imposed on utilities), and parking revenue. These economic benefits are not accounted for in the overall cost-benefit analysis, but could provide additional revenue to the City of Sacramento.

Waste Management Service Reduction

Based on the weekday survey of the Old Soul Alleyway, there are currently five 3-yard dumpster bins that residents and businesses use for disposal of waste. The Sacramento Department of Utilities' rate for one pick-up per week of a 3-yard dumpster

in the 2010 year is $111.42. Assuming that each dumpster is picked up once per week, the cost for the businesses and residents along the alleyway is approximately $557 per week, or $28,964 per year, based on five dumpsters.

Instead of numerous trash bins along the alleyway, the alley activation developers have proposed the installation of one large bin to manage the alley's waste, and are proposing that that bin have a trash compactor feature to add to the efficiency of managing the waste. A review of commercial trash collection bins with compactors reveals that a 2:1 ratio for trash compaction is a conservative estimate of the benefits of compaction (meaning that compaction results in 50% reduction in waste volume). With this in mind, an 8-yard bin with compactor should service the needs of the entire alleyway for trash collection purposes (5 dumpsters multiplied by 3 cubic yards of capacity = 15 cubic yards needed, 8-yard bin provides 50% compacting, thus can handle 16 cubic yards of waste). The Sacramento Department of Utilities' rate for weekly pick-up of an 8-yard compacted bin is $424.94, or $22,097 per year.

Sacramento's Department of Utilities has set rates for the 2011 year, and the increase in rates for the 3-yard dumpster is about 3% and the increase in rates for an 8-yard compact dumpster is approximately 8%. Taking into account inflation and price increases, this analysis uses a benefit of $6876 per year, over the 25-year time horizon for switching from five smaller dumpsters to one larger dumpster.

This benefit is based on the assumption of one pick-up per week for a large replacement dumpster with trash compactor. However, if there are more pick-ups per

week needed, the benefit derived from having one dumpster versus five dumpsters would increase. This analysis does not take into account the initial cost of the replacement dumpster (some waste management companies provide the dumpster once a service contract is signed, some charge extra for it, and some businesses buy their dumpsters). As well, recycling containers and green waste bins for the alleyway are not addressed.

Limitations of Cost-Benefit Analysis

This analysis has obvious limitations: the discount rate could potentially be higher than the ceiling of 5% used in this analysis, the United States could undergo a period of severe inflation or deflation that is not accounted for, the time horizon could be longer or shorter than the 25 years used, and the public safety benefit derived could be much lower than assumed, and thus have a strong effect on the bottom line. Also, this analysis does not account for some ongoing costs for city staff to work on the Old Soul Alleyway, groundwater recharge benefits are not calculated, and the four different types of social benefits are not monetized, and therefore not included in the total monetary amount of benefits. As in any analysis that anticipates the costs and benefits based on a future occurrence, there are likely to be other costs and benefits that are not accounted for, and cannot be predicted until the revitalization is undertaken. By looking at several discount rates, and by changing the assumptions to reflect either a 25% increase or 25% decrease in costs and benefits, some of these limitations are addressed.

These types of limitations are inherent in a cost-benefit analysis. After speaking with several developers, a representative from a local environmental group, and a UC

Davis Professor Emeritus in environmental science and policy about how to undertake a cost-benefit analysis of alley activation projects, there was mutual hesitation in attempting to complete any sort of analysis of alley activation because of the lack of ability to monetarily quantify the costs and benefits of certain impacts. And, because alley activation has only recently been implemented in other cities, there is very little analysis done on the after-effects of those alley revitalizations with which to draw from for a Sacramento-based analysis.

The UC Davis Professor pointed out that completing an analysis is chancy because many of the economic costs and benefits are already quantified, but the environmental impacts in future years are not because of the difficulty in quantifying them. The professor also felt uncomfortable using the technique of a private ROI calculation to justify a public investment, since many public investments are done for moral and other reasons.

The representative from ECOS also found it difficult to quantify components expected as a return on investment. He felt that a positive sense of place and the value of a tree in monetary terms would result in a negligible dollar benefit, but would be immeasurably valuable to the people who live or work in the affected neighborhoods.

Another developer not involved with the project observed that the substantial value to municipalities from increasing density through the receipt of income from taxes was well worth the expense – this analysis does not attempt to quantify the benefits of density in relation to land-use planning. A developer involved with the alley activation

projects noted that even if the environmental benefits were underestimated, the increased value of having permeable pavers, one trash location, increased “eyes on the alley,” increased accessibility for pedestrians and bicyclists, and overall aesthetic value would be reason enough to support the project.

The idea that the public sector undertakes development projects for moral, ethical or other reasons is an interesting one. The underlying motives for alley activation projects by developers is not addressed in this chapter, nor is it accounted for in this analysis because only those costs or benefits that can be measured in dollars are reflected, thereby leaving out moral and ethical arguments.

Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This chapter summarizes the first four chapters, presents conclusions based on the Belden Place case study and the cost-benefit analysis of the activation project proposed for Old Soul alley, and provides a set of recommendations regarding alley activation to the City of Sacramento and other interested stakeholders.

Report Summary

Several cities in the United States have recognized the unique value in revitalization of land located in urban alleyways – as a way to beautify the central core, increase walkability and pedestrian-networked spaces, and to reap environmental, public safety, and social benefits. Chicago's Green Alleys Program is at the forefront of the alley revitalization movement, a movement, which has only been in existence for the past three or four years. Projects to improve alleyways also fit with the goals of sustainability because updating alleys in the present term will provide a resource for the future. Alleyway revitalizations, especially those that include affordable housing units and restaurants, can help to concentrate growth in the central city, rather than promoting suburban sprawl. Proponents of alley revitalization believe that revitalizing alleyways and finding new uses for alleyways will reduce crime and enliven blighted urban areas.

This report describes the past uses of alleyways – their place in the historic context of service streets used for waste storage and utilities, as well as the governance of

such alleyways. These city alleys are very much a hot topic in Sacramento, with three different types of projects under current discussion by the Alley Activation Committee and the Sacramento City Council.

Because alley activation is a relatively new phenomenon in the urban planning world, there is very little academic research or economic analysis on the alley projects that have already been completed in other parts of the United States. There are, however, several handbooks and guides produced as a result of alley revitalization projects around the country. These professional resources present the general benefits of undertaking such projects, show how to undertake them, and discuss the importance of alleyways as an untapped resource in cities. These guides were useful in determining the types of costs and benefits that could occur through alley activation in Sacramento, and thus were used in the analysis portions of this report.

Each type of Sacramento alley activation project has different costs and benefits. This report presents the results of two analysis techniques – first, a case study of Belden Place alley, a thriving restaurant row in San Francisco, and second, a cost-benefit analysis of the demonstration alley pilot project located at Old Soul alleyway in midtown Sacramento. The case study and cost-benefit analysis contained in this report are by no means an exhaustive study of alley activation, but are instead included to give Sacramento decision makers information about what has worked in other alley activation projects, and what types of costs and benefits should be discussed in the context of Sacramento's own alley activation projects.

Belden Place Case Study Results

Chapter 3 of this report presented a case study analysis of Belden Place, which was the basis for several conclusions about the restaurant row's popularity. These conclusions should serve as guidelines for development of a restaurant row in Sacramento.

To summarize the conclusions, the location of the restaurant row is critical – the area surrounding the row needs to be pedestrian-friendly and the row should have limited vehicular access. The tie to the surrounding neighborhood is very important – the history, character, and culture of midtown should be taken into consideration for the design and the aesthetic feel of the row in Sacramento. Also, Belden Place is home to distinctive dining establishments, not chain restaurants or fast-food – this helps Belden Place retain its exclusivity and unique atmosphere, a quality that Sacramento may want to emulate.

Early on, San Francisco policymakers recognized Belden Place as both a local and tourist destination, and treated the alley in a favorable manner in several different city and county policy manuals. They also concentrated on making the street network surrounding Belden Place a walkable, pedestrian-oriented system, thus increasing traffic for the restaurants, as well as increasing public safety benefits. Sacramento's policymakers may want to create some sort of Alleyway Master Plan, like Chinatown, as a way to govern alleyways and recognize the unique needs of alleyways in Sacramento.

A public works employee for the city and county of San Francisco was enlisted for his comments about the costs and benefits of Belden Place alleyway and his

recommendations as part of the case study analysis of Belden Place. First, he recommended that the city and developer do the best they can to minimize the impacts of development of a restaurant row, and be aware of the impacts of such a project. One way to do this is to get a good understanding of what and who uses the alleyway during all hours, and take this information into consideration before the project starts. Second, he suggested that an ongoing funding source be identified – either through an assessment from a business district, or city, state, federal or private funds. Alley improvements are not just a one-time occurrence and therefore funds used to pay for the ongoing maintenance should be identified for the long-term benefit of that alleyway. He also recommended that a soil analysis be completed to determine if permeable pavers or other types of pervious pavement or concrete should be used. Soil types vary, and permeable pavers and pervious concrete work best only with certain types of soil.

Cost-Benefit Analysis Results for Proposed Old Soul Alley Activation

Chapter 4 presented a cost-benefit analysis of the proposed alley activation project at Old Soul alleyway. This cost-benefit analysis has limitations, but could serve as a model for a larger analysis of all alley activation projects at a future date. The analysis of the single alley project shows the types of costs and benefits that could occur with other alleyway projects in Sacramento. The conclusions below should guide future decision-making by Sacramento policymakers on alley activation projects.

First, the tax receipts from the proposed Stitch condo development and the monetary benefits from reduced crime were the major drivers in the resulting positive net

present value calculations. The tax receipts from the new properties had a smaller monetary benefit, but that benefit is one that would be realized quickly in terms of financial gains to the city. The creation of new units on existing lots in the central city means more property tax revenue to the city, as well as other indirect benefits. Crime reduction benefits are good for society as a whole, including the public sector, and for private businesses and residents who are affected by crime.

Second, this cost-benefit analysis does not take into account the effect of alley activation on surrounding property values. As seen in other academic studies, urban greening projects, parks, and redevelopment of blighted areas all have positive impacts on property values located near the improvements. Beyond property values increasing, the city as a whole would benefit from cleaner, more attractive side streets that are pedestrian-friendly.

Third, several of the social benefits like aesthetic value, community cohesion, direct use value and health impacts are listed as non-monetized benefits, and should be taken into consideration by policymakers. It is very hard to put a financial dollar value on these benefits because one person may have a different idea of what the value of community cohesion is than another person. It is essential for policymakers to understand the benefits and be able to assign their own value based on how they rank the importance of these benefits.

Fourth, the value of denser growth from alley activation and its relation to sustainability is not considered in this analysis. However, it is important that

policymakers take this into account because of the benefit for future generations. Again, placing a dollar value on sustainability is difficult, but is nonetheless part of the equation for decision makers.

Conclusions Based on Research, Case Study, and Cost-Benefit Analysis

While it is helpful to know the historical function of alleys, the past use of Sacramento alleyways should not necessarily dictate the future use of those alleyways. Instead, these small spaces present a unique opportunity for innovation and revitalization.

Since each alleyway in midtown is not the same, the concepts of revitalization should not be applied in the same manner, and should instead be tailored to the specific needs of each neighborhood. Part of understanding the needs of each neighborhood includes an awareness of the neighborhood's history, looking at the connectivity of streets and alleyways, or lack thereof, and studying the current usage of that alleyway. Also, public involvement in an alley project is another important component of understanding the needs of each neighborhood, and is likely to help increase the success of the project, while maintaining the look and feel of the neighborhood.

The case study and cost-benefit analysis serve as tools to develop a framework of understanding about alleyway revitalizations. This report acknowledges the limitations and danger of trying to put a monetary value on each cost and benefit. While knowing the financial costs and monetary benefits are useful, there are other reasons to support revitalization projects beyond the quantifiable value of such projects.

Recommendations

Sacramento policymakers and developers of the proposed alley greenings should work together to determine a list of selection criteria for the alleyway projects, especially if there is not enough funding for all 41 alley greening projects in the next few years. From the criteria, policymakers can compile a list of "High Priority Alleys," which will allow the city and developers to target funds toward alley projects that will have the greatest impact on the surrounding neighborhood. Recommended criteria include:

- Those alleyways located in neighborhoods with higher crime that would benefit the most from revitalization;
- Existing alleys that are hazardous, dirty, or unsightly;
- Alleys that are connected to a specific important amenity or amenities that policymakers want to highlight (for example, an alley that is close to the State Capitol and could benefit from revitalization because of its heavy use by pedestrians and tourists).
- Alleys that have high pedestrian and bicycle traffic, or areas that have an unrealized potential to become part of an existing pedestrian network.
- Those alleyways that have deep lots and are likely to be used for development of Stitch condo units.

Because the cost-benefit analysis in this report only focuses on one pilot project that includes alley greening and new condo units, Sacramento policymakers may want to undertake a simple cost-benefit analysis of the third type of alley activation project – the

restaurant row proposal. The analysis should look at expected taxation benefits, costs to the city for the alleyway including ongoing maintenance costs, and should be undertaken in concert with the restaurant row developer. The city may want to look at existing design review codes and update them to specify that the design of the restaurants on the row must maintain the surrounding look and feel of the neighborhood. The city has a vested interest in the success of the restaurant row project and therefore it is important to have influence on the aesthetic component of the restaurant design so that the row will ultimately represent Sacramento's charm and character.

APPENDIX

Table A1
Cost-Benefit Analysis of Old Soul Alley Activation Project

	2009	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*
COSTS (Upfront and Ongoing):								
Total Upfront Alley Cost	-438,030							
Tree Maintenance		-325	-325	-325	-325	-325	-325	-325
Paver Maintenance		-54	-54	-54	-54	-54	-54	-54
City staff time	*NM*							
Total Costs:	-438,030	-379	-379	-379	-379	-379	-379	-379
BENEFITS								
Environmental:								
Groundwater recharge	*NM*							
Water Treatment Reduction		19	19	19	19	19	19	19
Air Pollution Reduction (Trees)		4	4	4	4	4	4	4
Social:								
Community Cohesion	*NM*							
Aesthetic	*NM*							
Direct Use Value (Pedestrian/Bike)	*NM*							
Health	*NM*							
Public Safety:								
Crime Reduction		34,972	34,972	34,972	34,972	34,972	34,972	34,972
Economic:								
Property Tax Revenue to City from Stitch Devel.		3,500	3,500	3,500	3,500	3,500	3,500	3,500
Increase in Property Values (Surrounding Area)	*NM*							
Increase in Sales Tax Revenues Received by city	*6750	135	135	135	135	135	135	135
Waste Management Service Reduction		6,876	6,876	6,876	6,876	6,876	6,876	6,876
Total Benefits:		45,483	45,483	45,483	45,483	45,483	45,483	45,483
***** = initial 2009 city sales tax revenue estimate, used as base value to determine increase in sales tax for future years derived from "activation"								
NM = non-monetized benefit								
Annual Cash Inflow / Outflow	-438,030	45,104	45,104	45,104	45,104	45,104	45,104	45,104
Discount Rates	*5%*	*4%*	*3%*	*2%*	*1%*			
NPV	*188,251*	*256,335*	*337,255*	*433,878*	*549,804*			

Table A1 continued

	2017	*2018*	*2019*	*2020*	*2021*	*2022*	*2023*	*2024*
COSTS (Upfront and Ongoing):								
Total Upfront Alley Cost								
Tree Maintenance	-325	-325	-325	-325	-325	-325	-325	-325
Paver Maintenance	-54	-54	-54	-54	-54	-54	-54	-54
City staff time								
Total Costs:	-379	-379	-379	-379	-379	-379	-379	-379
BENEFITS								
Environmental:								
Groundwater recharge								
Water Treatment Reduction	19	19	19	19	19	19	19	19
Air Pollution Reduction (Trees)	4	4	4	4	4	4	4	4
Social:								
Community Cohesion								
Aesthetic								
Direct Use Value (Pedestrian/Bike)								
Health								
Public Safety:								
Crime Reduction	34,972	34,972	34,972	34,972	34,972	34,972	34,972	34,972
Economic:								
Property Tax Revenue to City from Stitch Devel.	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500
Increase in Property Values (Surrounding Area)								
Increase in Sales Tax Revenues Received by city	135	135	135	135	135	135	135	135
Waste Management Service Reduction	6,876	6,876	6,876	6,876	6,876	6,876	6,876	6,876
Total Benefits:	45,483	45,483	45,483	45,483	45,483	45,483	45,483	45,483
***** = initial 2009 city sales tax revenue estimate, used as base value to determine increase in sales tax for future years derived from "activation"								
NM = non-monetized benefit								
Annual Cash Inflow / Outflow	45,104	45,104	45,104	45,104	45,104	45,104	45,104	45,104
Discount Rates								
NPV								

Table A1 continued

	2025	*2026*	*2027*	*2028*	*2029*	*2030*	*2031*	*2032*
COSTS (Upfront and Ongoing):								
Total Upfront Alley Cost								
Tree Maintenance	-325	-325	-325	-325	-325	-325	-325	-325
Paver Maintenance	-54	-54	-54	-54	-54	-54	-54	-54
City staff time								
Total Costs:	-379	-379	-379	-379	-379	-379	-379	-379
BENEFITS								
Environmental:								
Groundwater recharge								
Water Treatment Reduction	19	19	19	19	19	19	19	19
Air Pollution Reduction (Trees)	4	4	4	4	4	4	4	4
Social:								
Community Cohesion								
Aesthetic								
Direct Use Value (Pedestrian/Bike)								
Health								
Public Safety:								
Crime Reduction	34,972	34,972	34,972	34,972	34,972	34,972	34,972	34,972
Economic:								
Property Tax Revenue to City from Stitch Devel.	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500
Increase in Property Values (Surrounding Area)								
Increase in Sales Tax Revenues Received by city	135	135	135	135	135	135	135	135
Waste Management Service Reduction	6,876	6,876	6,876	6,876	6,876	6,876	6,876	6,876
Total Benefits:	45,483	45,483	45,483	45,483	45,483	45,483	45,483	45,483
***** = initial 2009 city sales tax revenue estimate, used as base value to determine increase in sales tax for future years derived from "activation"								
NM = non-monetized benefit								
Annual Cash Inflow / Outflow	45,104	45,104	45,104	45,104	45,104	45,104	45,104	45,104
Discount Rates								
NPV								

Table A1 continued

	2033	*2034*
COSTS (Upfront and Ongoing):		
Total Upfront Alley Cost		
Tree Maintenance	-325	-325
Paver Maintenance	-54	-54
City staff time		
Total Costs:	-379	-379
BENEFITS		
Environmental:		
Groundwater recharge		
Water Treatment Reduction	19	19
Air Pollution Reduction (Trees)	4	4
Social:		
Community Cohesion		
Aesthetic		
Direct Use Value (Pedestrian/Bike)		
Health		
Public Safety:		
Crime Reduction	34,972	34,972
Economic:		
Property Tax Revenue to City from Stitch Devel.	3,500	3,500
Increase in Property Values (Surrounding Area)		
Increase in Sales Tax Revenues Received by city	135	135
Waste Management Service Reduction	6,876	6,876
Total Benefits:	45,483	45,483
NM = non-monetized benefit		
Annual Cash Inflow / Outflow	45,104	45,104
Discount Rates		
NPV		

Table A2
NPV Cost-Benefit Analysis Using 25% Increase in Total Cost Assumption and 25% Decrease in Total Benefit Assumption

	2009	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*
Total Costs (2009 dollars)	-438,030	-271	-271	-271	-271	-271	-271	-271
Assume 25% Increase in ALL Costs	-547,538	-339	-339	-339	-339	-339	-339	-339
Total Benefits (2009 dollars)		45,483	45,483	45,483	45,483	45,483	45,483	45,483
Assume 25% Decrease in ALL Benefits		34,112	34,112	34,112	34,112	34,112	34,112	34,112
Annual Cash Inflow/Outflow, Using 25% Assumptions Above	-547,538	33,774	33,774	33,774	33,774	33,774	33,774	33,774
Discount rates		*5%*	*4%*	*3%*	*2%*	*1%*		
NPV -- Assumes 25% increase in ALL costs including upfront cost, and 25% decrease in ALL benefits.		*-68,130*	*-19,159*	*39,383*	*109,645*	*194,318*		
NPV -- Assumes 25% increase in ongoing maintenance costs from 2010 - 2034 (no increase in upfront cost in 2009), and 25% decrease in all benefits.		*36,164*	*86,137*	*145,702*	*217,005*	*302,742*		

Table A2 continued

	2017	*2018*	*2019*	*2020*	*2021*	*2022*	*2023*	*2024*
Total Costs (2009 dollars)	-271	-271	-271	-271	-271	-271	-271	-271
Assume 25% Increase in ALL Costs	-339	-339	-339	-339	-339	-339	-339	-339
Total Benefits (2009 dollars)	45,483	45,483	45,483	45,483	45,483	45,483	45,483	45,483
Assume 25% Decrease in ALL Benefits	34,112	34,112	34,112	34,112	34,112	34,112	34,112	34,112
Annual Cash Inflow/Outflow, Using 25% Assumptions Above	33,774	33,774	33,774	33,774	33,774	33,774	33,774	33,774
Discount rates								
NPV -- Assumes 25% increase in ALL costs including upfront cost, and 25% decrease in ALL benefits.								
NPV -- Assumes 25% increase in ongoing maintenance costs from 2010 - 2034 (no increase in upfront cost in 2009), and 25% decrease in all benefits.								

Table A2 continued

	2025	*2026*	*2027*	*2028*	*2029*	*2030*	*2031*	*2032*
Total Costs (2009 dollars)	-271	-271	-271	-271	-271	-271	-271	-271
Assume 25% Increase in ALL Costs	-339	-339	-339	-339	-339	-339	-339	-339
Total Benefits (2009 dollars)	45,483	45,483	45,483	45,483	45,483	45,483	45,483	45,483
Assume 25% Decrease in ALL Benefits	34,112	34,112	34,112	34,112	34,112	34,112	34,112	34,112
Annual Cash Inflow/Outflow, Using 25% Assumptions Above	33,774	33,774	33,774	33,774	33,774	33,774	33,774	33,774
Discount rates								
NPV -- Assumes 25% increase in ALL costs including upfront cost, and 25% decrease in ALL benefits.								
NPV -- Assumes 25% increase in ongoing maintenance costs from 2010 - 2034 (no increase in upfront cost in 2009), and 25% decrease in all benefits.								

Table A2 continued

	2033	*2034*
Total Costs (2009 dollars)	-271	-271
Assume 25% Increase in ALL Costs	-339	-339
Total Benefits (2009 dollars)	45,483	45,483
Assume 25% Decrease in ALL Benefits	34,112	34,112
Annual Cash Inflow/Outflow, Using 25% Assumptions Above	33,774	33,774
Discount rates		
NPV -- Assumes 25% increase in ALL costs including upfront cost, and 25% decrease in ALL benefits.		
NPV -- Assumes 25% increase in ongoing maintenance costs from 2010 - 2034 (no increase in upfront cost in 2009), and 25% decrease in all benefits.		

Table A3
NPV Cost-Benefit Analysis Using 25% Decrease in Total Cost Assumption and 25% Increase in Total Benefit Assumption

	2009	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*
Total Costs	-438,030	-271	-271	-271	-271	-271	-271	-271
Assume 25% Reduction in Total Costs	-328,523	-203	-203	-203	-203	-203	-203	-203
Total Benefits		45,483	45,483	45,483	45,483	45,483	45,483	45,483
Assume 25% Increase in Total Benefits		56,854	56,854	56,854	56,854	56,854	56,854	56,854
Annual Cash Inflow/Outflow Using 25% Assumptions Above	-328,523	56,651	56,651	56,651	56,651	56,651	56,651	56,651
Discount Rates	*5%*	*4%*	*3%*	*2%*	*1%*			
NPV -- Assumes 25% reduction in ALL costs, and 25% Increase in ALL benefits.	*447,530*	*535,073*	*638,778*	*762,246*	*910,000*			
NPV -- Assumes 25% reduction in ongoing maintenance costs (not including upfront costs in 2009), and 25% increase in ALL benefits).	*343,237*	*429,778*	*532,460*	*654,886*	*801,577*			

Table A3 continued

	2017	*2018*	*2019*	*2020*	*2021*	*2022*	*2023*	*2024*
Total Costs	-271	-271	-271	-271	-271	-271	-271	-271
Assume 25% Reduction in Total Costs	-203	-203	-203	-203	-203	-203	-203	-203
Total Benefits	45,483	45,483	45,483	45,483	45,483	45,483	45,483	45,483
Assume 25% Increase in Total Benefits	56,854	56,854	56,854	56,854	56,854	56,854	56,854	56,854
Annual Cash Inflow/Outflow Using 25% Assumptions Above								
Discount Rates								
NPV -- Assumes 25% reduction in ALL costs, and 25% Increase in ALL benefits.								
NPV -- Assumes 25% reduction in ongoing maintenance costs (not including upfront costs in 2009), and 25% increase in ALL benefits).								

Table A3 continued

	2025	*2026*	*2027*	*2028*	*2029*	*2030*	*2031*	*2032*
Total Costs	-271	-271	-271	-271	-271	-271	-271	-271
Assume 25% Reduction in Total Costs	-203	-203	-203	-203	-203	-203	-203	-203
Total Benefits	45,483	45,483	45,483	45,483	45,483	45,483	45,483	45,483
Assume 25% Increase in Total Benefits	56,854	56,854	56,854	56,854	56,854	56,854	56,854	56,854
Annual Cash Inflow/Outflow Using 25% Assumptions Above								
Discount Rates								
NPV -- Assumes 25% reduction in ALL costs, and 25% Increase in ALL benefits.								
NPV -- Assumes 25% reduction in ongoing maintenance costs (not including upfront costs in 2009), and 25% increase in ALL benefits).								

Table A3 continued

	2033	*2034*
Total Costs	-271	-271
Assume 25% Reduction in Total Costs	-203	-203
Total Benefits	45,483	45,483
Assume 25% Increase in Total Benefits	56,854	56,854
Annual Cash Inflow/Outflow Using 25% Assumptions Above		
Discount Rates		
NPV -- Assumes 25% reduction in ALL costs, and 25% Increase in ALL benefits.		
NPV -- Assumes 25% reduction in ongoing maintenance costs (not including upfront costs in 2009), and 25% increase in ALL benefits).		

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