AN ASSESSMENT OF MITIGATION STRATEGIES TO ADDRESS ENVIRONMENTAL IMPACTS OF HOMELESS ENCAMPMENTS

A Thesis

Presented to the faculty of the Department of Public Policy and Administration

California State University, Sacramento

Submitted in partial satisfaction of the requirements for the degree of

MASTER OF PUBLIC POLICY AND ADMINISTRATION

by

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SUMMER 2019

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Abstract

of

AN ASSESSMENT OF MITIGATION STRATEGIES TO ADDRESS ENVIRONMENTAL IMPACTS OF HOMELESS ENCAMPMENTS

by

Amelia Marie Gomez

California has one of the highest living costs of any densely populated state and consequently one of the highest rates of homelessness in the nation. Large shortages in affordable housing and lack of adequate resources have contributed to a substantial increase in homeless encampments. In this study, I focus my research on what Sacramento is currently doing to address the environmental risks posed by homeless encampments and discuss innovative methods that the city should consider implementing based on existing literature and practices from other urban areas. I used a Criteria Alternative Matrix (CAM) analysis to evaluate the alternatives for consideration. Results from the analysis found that employment of the homeless to clean up trash and debris left by homeless encampments appears most promising for mitigating the environmental impacts of homeless encampments.

_____, Committee Chair Sara McClellan, Ph.D.

Date

ACKNOWLEDGMENTS

I would like to thank all of my family and friends that have supported me throughout my time in this program. A special thank you to my mother for being my #1 fan and always encouraging me to keep working hard, to never stop, and reminding me that every day would bring me closer and closer to my goals. All of my accomplishments are attributed to you, and the sacrifices you have made to help me get to where I am today. Words will never express my gratitude and appreciation for your unconditional love and support.

To my wonderful fiancé, thank you for helping me find my balance. Thank you for keeping a smile on my face through this whole process. Thank you for all of the nights at the Sac State library and for not complaining when you had to fall asleep in chairs because I was just really on a roll. I love you so much.

Simba, thank you for always being happy to see me when I got home and for giving me a reason to go outside and take a break.

Thank you to all of my professors in the Department of Public Policy and Administration. This program has been my life for the past two years, I will always appreciate the enthusiasm, commitment, and support that was felt from all of you. I would especially like to thank my committee chair Sara McClellan and my second reader Andrea Venezia; I could not have done this without you.

TABLE OF CONTENTS

Ac	knowledgments vi
Li	st of Tables ix
Li	st of Figures x
Cł	napter
1.	INTRODUCTION 1
	Background on Housing Issues In California 2
	Conditions of Unsheltered Individuals Living in California
	Environmental Risks Associated with Homeless Encampments In Public Areas
	Budgeting Challenges Associated with Maintenance and Cleanups9
	Purpose of this Research
2.	LITERATURE REVIEW 12
	Understanding Common Population Characteristics 12
	Sacramento Initiatives to Address Environmental Impacts
	Albuquerque, New Mexico: "There's A Better Way"16
	Redding, California: "Community Clean Up Program"17
	Austin, Texas: "Alternative Revenue Clean Community Fee"
	Fremont, California: "Direct Discharge Trash Control Program"19
	Conclusion to Chapter II
3.	METHODOLOGY
	City and County Employee Interviews
	CAM Analysis25
	Measurement Criteria and Weighting

	Conclusion to Chapter III	30
4.	RESULTS	. 31
	Alternative #1	32
	Alternative #2	37
	Alternative #3	41
	Alternative #4	44
	Overview of the Findings	.50
5.	ANALYSIS AND CONCLUSION	52
	Results of CAM Analysis	.52
	Study Limitations and Implications for Future Research	.54
	Conclusion	55
Re	eferences	. 57

LIST OF TABLES

Tables		Page
1.	Measurement Criteria and Weighting	27
2.	Alternative #1 Outcomes Matrix	36
3.	Alternative #2 Outcomes Matrix	40
4.	Alternative #3 Outcomes Matrix	44
5.	Alternative #4 Outcomes Matrix	49
6.	Criteria Alternative Matrix (CAM)	50

LIST OF FIGURES

Page

Figures

1.	1.1 Number of Sheltered Homeless Compared to Unsheltered Homeless in CA 5

Chapter One

INTRODUCTION

California has one of the highest living costs of any densely populated state and consequently one of the highest rates of homelessness in the nation. The Sacramento Housing Alliance reported that four out of ten residents in Sacramento spend 50 percent or more of their income on housing, and this information has become a strong indicator of overall homelessness for the region (Baiocchi, Barker, Foy, Hodson, & Price-Wolf, 2017). Cities such as Fresno and Sacramento have had some of the largest increases to costs of living in the nation, ranging from 30-40 percent in just one year (DePietro, 2018). Large shortages in affordable housing and lack of adequate resources have contributed to a substantial increase in homeless encampments (Wilson, 2018). With no clear solution in sight, public and nonprofit entities throughout the state need new strategies to address the growing concerns associated with homeless encampments. Homeless encampments were initially created for temporary emergency shelter, but the lasting human presence has resulted in negative social and environmental externalities (Benton, 2018). In this study, I research what Sacramento is currently doing to address the environmental risks posed by homeless encampments and discuss innovative methods that the city might consider implementing based on existing literature and practices from other urban areas.

This topic is of particular interest to me through my work as a summer intern for the Santa Clara Valley Water District (The District). During my time as an intern, The District was considering alternatives to addressing the increasing cost of homeless encampment cleanups on their properties. While attending an ACWA (Association of California Water Agencies) Conference, it became apparent that a number of water districts across the state were encountering this same issue. The purpose of this study is not to provide lasting solutions to homelessness—that is a much larger issue that will require years of research and collaborative efforts among public and nonprofit agencies across the state. Instead, this study analyzes strategies to address the environmental risks and consequences of homelessness and future considerations for conservation to be applied to the Sacramento region.

In the remainder of this chapter, I provide background on how high housing costs have become a California issue and how these costs are related to the growing number of homeless encampments in public urban areas. I discuss the unsheltered¹ homeless populations and concerns associated with living conditions. I think it is particularly important to include a discussion on living conditions for the homeless because it is easy for outsiders to have negative perceptions of who the homeless are and about the impacts their lifestyle has on others. I do my best to ensure that various perspectives are included so my readers may gain a wholistic perception of the issues. Next, I outline the environmental impacts posed by homeless individuals living in public spaces. I decided to outline these issues as they are the primary focus of this paper. Growing homeless encampments have created new concerns for the environment, which require new solutions. Finally, I briefly address the budgeting issues that arise from the increasing environmental cleanup costs created by homeless encampments. Funding for this growing issue has come at an unexpected cost for many public agencies (Jin & Taylor, 2018). I believe it is important to discuss the fiscal impacts because they underscore the urgency for action on the issue.

Background on Housing Issues in California

The current number of homeless individuals living without shelter has exceeded historical events that triggered largescale waves of homelessness and that previously attracted national concern (Devuono- Powell, 2013). The first major wave of homelessness was seen after

¹ **UNSHELTERED HOMELESS** refers to people whose primary nighttime location is a public or private place not designated for, or ordinarily used as, a regular sleeping accommodation for people (for example, the streets, vehicles, or parks) (Associates et al., 2017).

the Great Depression in the 1930's (Devuono- Powell, 2013). During the Great Depression there were large instances of shanty towns made up of brick and cardboard boxes on the outskirts of cities across the nation (Rossi, 1990). The influx of homelessness was a result of limited employment opportunities and national economic disparity. The next wave of major homelessness developed in the 1970's and has continued on to current day (Devuono-Powell, 2013). The homeless population at the time could be generalized as mainly Caucasian men, who had intermittent to full-time employment with very low earnings making it difficult to afford appropriate housing (Rossi, 1990). The homeless of the 1970's were able to find shelter on a nightly basis as they were generally concentrated in "skid row" communities which consisted of cheap motels and single occupancy rooms (Rossi, 1990). As these populations have grown over time, concentrations of homeless individuals have dispersed throughout cities and beyond centralized urban areas. The current homeless population is much more visible than it was in previous years. It is now commonplace to see individuals sleeping in doorways, on park benches, sidewalks and around railroads and waterways.

Among other reasons discussed later in this Chapter, the increased number of homeless individuals in California can be explained by a few central themes surrounding the state's housing crisis: increased housing demand, home production deficiency, and unstable government funding. In 2015, 514,000 people moved to California from other states and an additional 334,000 came to the state from abroad (Lansner, 2016). People choose to move to California for a number of reasons, ranging from fair climate to job opportunity (Lansner, 2016). The state has been incapable of keeping up with rising demands created by the state's population growth. The California Department of Housing and Community Development (HCD) estimates that the state population will increase by 11 million by the year 2050, which will only intensify the current crisis. These population increases result in housing shortages and rising housing prices due to the

economics of supply and demand. Of the current 6 million renters in California, 3 million spend more than 30% of their monthly income on rent, and 1.7 million spend more than 50% of their monthly income on rent (California Department of Housing and Community Development, 2018).

California is not meeting its (affordable)² housing demands. According to HCD, California is expected to produce 180,000 new homes each year but has been falling short by 100,000 new homes annually for the last 10 years (California Department of Housing and Community Development, 2018). The state is unable to meet the goal for production of new homes due to land use regulatory barriers and costs of construction (California Department of Housing and Community Development, 2018). There is a need for improved land use policies across the state to address the problem. Local governments also need to work with the state to explore new ways to fund the necessary housing projects.

Adequate funding is one of the biggest challenges to providing a sufficient amount of (affordable) housing options. In 2018, California voters passed two affordable housing initiatives (Proposition 1 and Proposition 2) that allocate funds to support specific types of affordable housing programs. Proposition 1 authorizes the state to use \$4 billion in general obligation bonds to support *existing* housing programs (California Secretary of State website, 2019). While this would increase the funding towards housing programs, it would not create any new housing units. Proposition 2 enables the state to use existing dollars (up to \$140 million annually) to fund housing projects for those with a mental illness and for homeless veterans (California Secretary of State Website, 2019). In some cases, Proposition 2 authorizes the construction of new affordable

² **AFFORDABLE HOUSING:** In general, housing for which the occupant(s) is/are paying no more than 30 percent of his or her income for gross housing costs, including utilities. Please note that some jurisdictions may define affordable housing based on other, locally determined criteria, and that this definition is intended solely as an approximate guideline or general rule of thumb (United States Department of Housing and Urban Development).

housing options. These initiatives help address the problem, but do not provide an immediate or lasting solution to the issue of homelessness or its lasting consequences.

Conditions of the Unsheltered Individuals Living in California

California currently has the highest number of unsheltered homeless in the United States (Associates, Henry, Rosenthal, Shivji, & Watt, 2017). Approximately 68 percent of all homeless individuals in California are unsheltered (Associates et al., 2017). Figure 1.1 clearly shows the disproportionate number of individuals living without shelter facilities in California. The City of Sacramento is no exception to the rule. The Institute for Social Research conducted a Point-In-Time Homeless Count in 2017 and found that 56 percent of the homeless in Sacramento County were living outdoors, which indicates an 85 percent increase since 2015 (Baiocchi et al., 2017). Figure 1.1: Number of Sheltered Homeless Compared to Unsheltered Homeless in California



Sheltered vs Unsheltered Homeless in CA

Cities such as Sacramento, San Jose and Oakland have declared an emergency shelter crisis due to the lack of available beds for homeless individuals seeking shelter and protection from the outside elements (Hurbert & Lillis, 2018). These crises indicated that there is an inflated number of residents who are living without housing and being exposed to major health and safety risks (Hurbert & Lillis, 2018). Health and safety risks for the unsheltered homeless are numerous. Research discussed by the American Public Health Association indicates that the mortality rate among the unsheltered homeless population is 1.5 to 11.5 times greater than that of the general public. These increased health risks are associated with exposure to highly unsanitary spaces, inhabitable outside environments and a lack of access to regular health services (American Public Health Association, 2017). In 2018, 110 homeless people in Sacramento died due to severe conditions attributed to weather and ill health (Clift, 2019). The spaces where unsheltered homeless tend to gather are often both unsafe for them, and unsafe to those around them and can further increase health and safety risks for the homeless and the general public.

There are also various reasons why homeless individuals are reluctant to stay in homeless shelters even when beds are available. Many people who opt out of staying in shelters voice concerns over safety, sanitation, and the separation of families or pets (Baur & Cerveny, 2019). There are individuals who feel more comfortable creating temporary housing in parks, public lands, and open spaces instead of staying in a local shelter (Baur & Cerveny, 2019). People who choose to stay in homeless encampments tend to be either loners or individuals who build social bonds with other campers who have similar backgrounds or lifestyles. In this case, campers are allowed to build their own community amongst themselves and can bypass the rules and regulations set out by local shelters (Baur & Cerveny, 2019).

The unsheltered homeless population is subject to the natural elements. In Sacramento, a large number of individuals camp on the American River Parkway. In 2017 the number of tents counted along the American River Parkway nearly tripled from the previous count—rising from 133 to 363 (Baiocchi, 2017). Having densely populated tent communities can increase potential for criminal activity and magnify the environmental impacts imposed by the encampment life (Baiocchi, 2017). In the winter of 2017, Sacramento County had an unprecedented number of

rainstorms which resulted in significant increased water levels on the American River (Baiocchi, 2017). The increased water levels resulted in flooding along riverbanks in areas where unsheltered homeless had created tent communities and this caused a substantial migration of homeless individuals from rural areas of the park to non-flooded areas (Baiocchi, 2017). There have been instances in which the homeless living on the banks or shorelines of the river have been stranded by rising river levels (Rajaee, 2019). For these reasons, human habitation in public urban spaces can result in unsafe living conditions and may even require additional public resources to assist those in need.

Environmental Risks Associated with Homeless Encampments in Public Areas

Homeless encampments around public urban areas pose a threat to the environment and the surrounding ecosystem due to the waste and debris typically left behind. In 2013, San Jose authorities closed down one of the biggest homeless encampments in the nation nicknamed "The Jungle." This camp site was located near Coyote Creek in San Jose, and was home to almost 300 people (Wadsworth, 2015). Once individuals were evacuated from the premises, it took city officials two weeks to clean up. After the two weeks were complete, clean-up staff had collected 2,850 gallons of human waste, 1,200 needles, 315 shopping carts, and 618 tons of trash from the site (Wadsworth, 2015). Having these sorts of toxins building up in public urban spaces can negatively affect recreational activities, water quality and animal life.

One of California's biggest environmental concerns for urban space is the growing amount of pollution created from human litter. State workers have found that homeless encampments often result in an influx of pollution around parks and waterways (Meadows, 2017). In 2018 Sacramento county workers collected 575 tons of trash from the American River Parkway in just the first four months of the year (Hubert, 2018). Large amounts of litter are left in waterways as a result of the soil loosening from seasonal rain. All of the litter left over from evictions or abandoned campsites, seeps into the creeks and rivers below, and later flows directly into the ocean.

Concerns regarding homeless encampments along local waterways or public parks also include increased levels of bacteria that result from human and animal waste, making recreational activities unsafe and posing a threat to marine life. The Central Valley Regional Water Quality Control Board is currently implementing their Surface Water Ambient Monitoring Program (SWAMP) to monitor the amount of E. coli found in the Central Valley waterways. In 2017 seventeen of the twenty-five test sites in Sacramento showed bacteria levels above the federal threshold for safe recreational use (Branan, 2017). Exposure to levels of bacteria above the federal threshold can result in serious illnesses. It is imperative that local agencies work diligently to monitor water quality standards and impose regulations that will keep the public safe.

Other environmental concerns include the destruction of plant life around waterways. It is common for individuals living in a homeless encampment to cut down trees or plants in areas they are inhabiting to either clear the area or to use the materials to create a shelter. In February of 2019, Sacramento park rangers distributed five hundred and twenty-seven citations; fifty-two of which were for tying ropes to trees and 31 associated with destruction of vegetation by encampment residents (Sacramento County Regional Parks, 2019). This can create problems for local agencies who are responsible for environmental mitigation on that property. Environmental mitigation refers to the state's laws that require local government agencies to replace plants that have been removed (especially native and endangered plants). The Native Plant Protection Act (NPPA) protects all rare and endangered plants in the state, and the California Endangered Species Act (CESA) makes it illegal to move specific plants from their natural environmental (California Department of Fish and Wildlife, 2018). The California Environmental Quality Act (CEQA) requires all public agencies to report any environmental impacts created on their

property, regardless of if it was their own doing (California Department of Fish and Wildlife, 2018). Keeping track of how many trees and/or plants have been cut down and managing the cost of mitigation fees can be very difficult for public agencies. It is important that we address the environmental risks of homeless encampments and consider the alternatives to mitigate the negative consequences because California has earned a reputation for proposing some of the world's most ambitious environmental policies and acting as a worldwide environmental leader (Carlson, 2017).

Budgeting Challenges Associated with Maintenance and Cleanups

The Clean Water Act (CWA) was established in 1972 to protect the waters of the United States. The basis of this act was to reduce the amount of pollutants entering the nation's waterways and to set national water quality standards. Each state is responsible for enforcing regulations that will meet federal requirements and keep the waterways safe. Local government agencies are held responsible for meeting federal and state regulations that maintain water quality standards. In order to maintain permits that enable counties and cities to use specific bodies of water, CWA requirements must be met.

The cost to maintain water quality within rivers and creeks has increased as homeless encampments continue to grow. In 2018 the Santa Clara Valley Water District (SCVWD) budgeted \$1.4 million to cover a projected fifty-two (52) homeless encampment cleanups for that fiscal year. Within seven (7) months, the District had conducted 571 cleanups almost solely along two main waterways in their jurisdiction which included the Guadalupe River in San Jose, and the Llagas Creek in Gilroy (McCool, 2018). Unpredicted costs such as these have created financial difficulties for agencies that are being held responsible for maintaining the environmental standards set forth by state law. The amount of cleanup reflects the number of unsheltered homeless individuals and the high instances of reoccurrence. In order to meet regulations set out by the Regional Water Quality Control Boards and the CWA requirements, local agencies are being met with increasing financial obligations.

Homeless encampments in public spaces have become an increasing financial and regulatory issue for California agencies across the state. In general, public agencies are financially liable for any damages to infrastructure, water quality violations, and encampment cleanups (Smith, 2018). These unpredicted costs on public agencies have become an issue of funding as the number of cleanups continues to increase annually.

Purpose of This Research

Homeless encampments will continue to increase with the high costs of living in California. Land use policies determine the amount of new homes that can be built. Regardless of the high demand for housing, costs of construction and high regulatory barriers make it difficult for local agencies to provide affordable housing options. The lack of resources has resulted in increased numbers of unsheltered homeless in California. Unfortunately, the high homeless occupancy in public urban areas creates negative environmental externalities and financial costs that affect entire communities. California is a very diverse state, with extreme geographic and social differences. Options that address this problem need to account for the vast variances in demographics across the state.

In this thesis, I review current strategies implemented in Sacramento to address the environmental risks associated with homeless encampments and identify appropriate alternatives that agencies in other urban areas are using to mitigate the negative environmental externalities of encampments. I then discuss how these alternatives could be applied to Sacramento and make a recommendation based on a set of criteria. My findings provide a transparent view of what is currently being done to address the growing adverse environmental risks of homeless encampments in public urban spaces throughout California. I also explore different approaches that agencies might apply to more effectively address environmental risks in Sacramento.

In Chapter 2, I provide key characteristics of the homeless population to better understand their needs. I then provide information on current Sacramento strategies to address environmental impacts of homeless encampments. I then explore other strategies being implemented by outside agencies. Chapter 3 introduces my methodology for this research. I use a Criteria Alternative Matrix (CAM) and individual interviews to evaluate the alternative approaches found within the literature to examine their potential use in Sacramento. In Chapter 4, I discuss the results of my Criteria Alternative Matrix (CAM). In Chapter 5, I conclude with final thoughts and discuss opportunities for further research.

Chapter Two

LITERATURE REVIEW

Sacramento County is facing new challenges to mitigate the growing environmental impacts of homeless encampments created in public urban spaces. This issue has grown due to increases in homelessness throughout Sacramento. The county holds jurisdiction over the majority of public parkways in the city and is therefore responsible for addressing many of the environmental and social impacts created by homeless encampments. I begin this chapter by providing common key characteristics of homeless populations throughout the state. In order to understand effective methods that can begin to address the issues surrounding homeless encampments on public urban spaces, it is important to first understand who the population is, and what services they may require. I then use available literature to describe current efforts in Sacramento county to address the issue and provide three alternatives to consider from other agencies. After reviewing the literature, I conclude with major findings, gaps in the literature and implications for future research.

Understanding Common Population Characteristics

The first step in implementing a policy should be to consider the people it is likely to affect. While there is not just one path to homelessness, I use this section to describe key characteristics that make up a large majority of the homeless population to better understand the issues that contribute to their experience. One of the first conditions to consider is the individual's mental health status. Rates of the mentally ill being institutionalized decreased dramatically in the 1980's. This led researchers to evaluate the correlation between the policies of deinstitutionalization and homelessness, since twenty-three percent of the single adult homeless population suffers from a mental illness (Burt & Cohen, 1989; Liese, 2006; Shlay & Rossi, 1992). In a study conducted by Bassuk, Lauriat, and Rubin (1984), researchers interviewed seventy-eight

homeless individuals living in a shelter to evaluate the extent to which shelters were being used by individuals diagnosed with mental illnesses. This study found that one-fifth to one-third of the homeless population staying in the shelter had been psychiatric inpatients at one time or another and that the homeless shelter had ultimately become an alternative institution to meet the needs of those suffering from a mental illness who were no longer receiving treatment or services from mental health institutions (Bassuk et al., 1984). In addition to these previously provided services being removed, those who were being treated in mental health facilities often did not have social networks they could rely on for support. The study found that seventy-four percent of those interviewed disclaimed any familiar relationships and seventy-three percent could not identify any friends that could have provided resources to find housing options that meet their needs (Bassuk et al., 1984).

Substance abuse is an additional issue to consider when developing an understanding of the homeless population. While substance abuse and mental illness can go hand-in-hand, the former is a separate condition with other underlying factors to consider; substance abuse is often a precipitating factor and consequence of homelessness (Zerger, 2002). Substance abusers make up an estimated one-third of the entire homeless population (Liese, 2006). The literature found that demographic characteristics, access to social and financial resources, as well as initial knowledge of where and how to obtain services play a major role in whether or not an individual suffering from substance abuse will pursue treatment (Zerger, 2002).

While the overall homeless population is primarily composed of single adult males, there is a growing percentage of homeless families. The United States Conference of Mayors conducted a survey in 2004 and found that families made up 40 percent of the homeless population (Liese, 2006). Research conducted by Williams (1998) evaluated the changing demographics of shelters by interviewing thirty-three families living in shelters and found that most families were led by single female parents that had been consistently living on a low income, and were constantly struggling to make ends meet. In most of the surveys, parents identified single financial incidences that led to their homeless event, such as the car breaking down or an unexpected medical bill (Williams, 1998). Researchers from the 2004 study also surveyed seven hundred and seventy-seven homeless parents, which mostly consisted of females, in ten cities across the United States and learned that twenty-two percent reported incidences of domestic violence being their primary reason for leaving their previous residence (Liese, 2006). These unique circumstances deserve special consideration when determining how to treat the homeless and what types of services from which they would most benefit.

All of these factors are important to consider when implementing strategies to address homeless issues. Population characteristics provide insight into the complex issues surrounding homeless individuals and effective programs that can help lift them from current situations. Providing background on the types of individuals living in homeless encampments helps people understand the human factor, and it is my hope it can also foster empathy among those who might pass off homeless individuals as solely a nuisance to society. In order for us to effectively address the consequences of homelessness within our own communities it is important for us to understand the roots of the problem.

Sacramento Initiatives to Address Environmental Impacts

The city and county of Sacramento have directed most of their efforts towards housing initiatives, making environmental concerns a secondary issue. To date, the primary initiatives implemented by the county include the Family Crisis Response program which has placed two hundred sixty-eight families in emergency shelters and twenty-five families in transitional housing (Sacramento County, 2019). Other similar programs include the Mather Community Campus Employment Program, Full-Service Re-Housing Shelters, and the Flexible Supportive Re-Housing program (Sacramento County, 2019). While these programs do not directly address the environment, they are still relevant to addressing environmental concerns surrounding encampment life. These programs directly remove individuals who may have contributed to environmental degradation. Housing initiatives help address the overarching issue of individuals living in public areas and impacting the environment through everyday encampment activities.

Homeless encampment cleanups are currently the only efforts being implemented in Sacramento County to address the negative environmental externalities associated with encampments. Reports collected indicate that there are various agencies involved in abatement efforts in Sacramento County (Edwards, Flowers, & Taylor, 2018). Major entities involved in the abatement and cleanup programs include, but are not limited to: Sacramento Regional Parks, Sacramento Water Services, Sacramento Area Flood Control Agency, Property Business Improvement Districts, Sacramento Municipality Utility District, and the Sacramento Regional Transport (Edwards et al., 2018). According to the February 2019 Sacramento Park Ranger Activity Report, park rangers cleared four hundred eighty-two camps within the month and one thousand six hundred fifty-three camps from January to February of 2019 (Sacramento County Regional Parks, 2019). The report also claimed eighty-eight tons of garbage and debris had been removed from illegal campsites, while an additional eighty-eight tons had been removed the previous month (Sacramento County Regional Parks, 2019). Due to jurisdictional barriers there is no single organization overseeing all clearing of illegally dumped waste in Sacramento. Not having a single cohesive policy recognized by multiple agencies makes enforcement difficult so that reoccurring offenders continue to benefit from the lack of collaboration between city and county agencies (Edwards et al., 2018). It is evident that efforts would likely be more effective if there were one overarching agency responsible for monitoring efforts and initiating collaborative coordinated programs to address the issue (Edwards et al., 2018).

One of the most recent initiatives designed to address the environmental impacts of homeless encampments in Sacramento was approved in January of 2019 with a goal of hiring forty homeless individuals to clean up homeless encampments along the American River Parkways (Miller, 2019). The County Board of Supervisors approved a three hundred eightyseven thousand two-hundred-dollar partnership with PRIDE Industries (a Roseville based nonprofit) to implement the yearlong program (Miller, 2019). Many new programs throughout the country have begun to consider hiring homeless to address the issue of homelessness. Participants for this program were identified and selected by the Sacramento County Health and Human Services Department (J.D., personal communication, April 29, 2019). This Sacramento initiative is specifically designed to hire a certain number of individuals to work twenty-four hours a week for a duration of ten weeks, earning twelve dollars an hour (Miller, 2019). Successful results for this program would entail all participants graduating from the program, gaining job training, certificates, and ultimately transitioning into construction jobs (Miller, 2019). Since the implementation phase for this program is set for March 2019, there are no current measurements of success published for this program to-date. As a result, I will provide information and background on initiatives being implemented to address the environmental concerns of homeless encampments in other regions.

Albuquerque, New Mexico: "There's A Better Way"

In an effort to address homelessness and the environmental impacts associated with it, Mayor Richard J. Berry of Albuquerque, New Mexico introduced an initiative in 2015 called "There's A Better Way" (Itkowitz, 2016). This initiative employs homeless individuals for a day at a time to work on landscape beautification projects for the city of Albuquerque's Solid Waste Department (Hope Works Website, 2017). The idea for this program came from conversations the mayor had with local homeless individuals who were seeking employment. Many individuals indicated that they were desperate for work but did not know where to start (Itkowitz, 2016). This program is primarily run through the "There's A Better Way" van, which drives around the city to ask homeless individuals if they would like to work for the day. If the individual agrees they will be transported to a site to work for the day. In 2016, participants were paid nine dollars an hour with lunch provided. After the individual's shift is complete, they are also offered overnight shelter (Itkowitz 2016).

This program has not been able to ameliorate homelessness throughout the city, but it has seen success with providing employment for those willing to work. As of March 2019, the program has provided nine thousand seven hundred and nine jobs to individuals (W.B., personal communication, April 24, 2019). Of that number, ninety individuals found permanent jobs, and twenty-six were placed in permanent housing (W.B., personal communication, April 24, 2019). Another aspect of this program's success has been connecting individuals to other vital services like obtaining state identification cards and linking individuals to mental health services.

Results for this program are promising. In 2016, participants cleared 69, 601 pounds of litter and weeds from one hundred ninety-six city blocks (Itkowitz, 2016). This program's success is twofold as it addresses the immediate issue of litter and debris in public urban spaces, but also provides a lasting solution to the root issue of homelessness. It provides individuals with environmental education, workforce skills and opportunities to access vital community resources that can start to create a decline in chronic homeless experiences.

Redding, California: "Community Clean Up Program"

In an effort to address the growing environmental impacts of homeless encampments, Shasta County partnered with the city of Redding's police department to implement a program that would utilize work release inmates for cleanup initiatives (Edwards et al., 2018). The "Community Clean Up Program" transports inmates to sites where encampments have been vacated to clean up leftover debris (Edwards et al., 2018). The program requires two part-time police officers and two community work program officers to identify camps and supervise the collection of trash illegally discarded by campers (Shasta Police Department, 2018). The Community Clean Up Program works in collaboration with the Environmental Crimes Unit to not only identify vacant homeless encampments, but also to respond to any reported illegal dumping (Edwards et al., 2018). This collaboration assists in covering more ground and responding to reports in real time with the goal of catching and apprehending suspects of environmental crime.

Results for this program report an average of twenty-six thousand pounds of trash being collected monthly in 2018 (Shasta Police Department, 2018). These results can be attributed to the number of community members participating in the program by reporting illegal dumping as well as the Environmental Crimes Unit responsible for tracking down the cleanup sites and responding to filed reports (Edwards et al., 2018). The program has been effective in removing trash from local public areas and has allowed inmates to gain work experience. It is unclear as to how many repeat offenders contribute to the litter problem in Shasta County. Until housing issues are addressed, this strategy acts as a treatment method for addressing the ongoing environmental impacts of homeless encampments in public spaces.

Austin, Texas: Alternative Revenue Clean Community Fee

In 2017 Texans for Clean Water conducted a study to assess the cost of litter and illegal dumping in nine Texas cities (Burns & McDonnell, 2017). The study found that within the nine cities, there was fifty million dollars being spent every year on prevention, education, abatement, and enforcement efforts to clean up homeless encampments (Burns & McDonnell, 2017). As a result, the city of Austin, Texas implemented the Clean Community Fee, which is an eight dollar and five cent monthly fee that residents pay to keep the city clean. Various programs such as the Austin Resource Recovery Department and the Austin Code Department are funded through the

Clean Community fee to conduct street and boulevard sweeping, litter abatement, and illegal dumping cameras (Burns & McDonnell, 2017).

In 2016 the city collected two million one hundred thousand dollars from implementation of the fee (Edwards et al., 2018). These funds were allocated to programs that would support cleanup efforts around the city of Austin, such as street sweeping and costs incurred by illegal dumping (Edwards et al., 2018). A portion of the funds were also used to purchase cameras that could catch offenders illegally dumping waste (Edwards et al., 2018). If caught on camera, offenders were subject to paying fines up to two thousand dollars and being held responsible for cleanup of the objects disposed (Edwards et al., 2018). This program not only takes disciplinary action against those responsible for the environmental degradation, but also fosters a sense of responsibility to the entire community. By charging residents an environmental fee to keep the city clean, officials emphasize community engagement by directly effecting the community and simultaneously making them aware of the growing issue.

Fremont, CA: Direct Discharge Trash Control Program

The Fremont Direct Discharge Trash Control Program is a complex action and prevention plan to address provisions that were made to the National Pollutant Discharge Elimination System (NPDES), which is a permit program to address water pollution (City of Fremont, 2018). This provision sets limits for the amount of pollutants that are allowed in waterways (United States Environmental Protection Agency, 2018). Fremont is requesting to have the maximum allowable amount which is fifteen percent (City of Fremont, 2018). In order to get this amount of pollutants approved, requestors must create comprehensive plans that will ensure they do not go over the approved level of pollutants (City of Fremont, 2018).

There are approximately 47 miles of creeks and 64 miles of engineered channels within Fremont's jurisdiction (City of Fremont, 2018). Within those parameters, Fremont has found that

homeless encampment waste will be their biggest challenge in addressing water pollution (City of Fremont, 2018). Fremont has proposed the implementation of the Direct Discharge Trash Control Program which is a collaborative initiative between key city staff to identify encampments, map out most common encampment areas, reach out to encampment residents with an encampment response team and install trash capture devises such as storm inlet screens (City of Fremont, 2018). This program will utilize a homeless encampment coordinator, homeless response team, abatement contractor, and cleanup services as well as a homeless encampment tracking application (City of Fremont, 2018). While the actual cost of implementation was not available in this report, the report did indicate that individuals supporting the implementation of this program are paid through the Integrated Waste Management Division as they are considered solid waste management expenses (City of Fremont, 2018).

As of January 2017, the City of Fremont identified one hundred thirty-three homeless encampments within city jurisdictions (City of Fremont, 2018). Through the use of the city's geographic information system (GIS), employees have identified eighteen high priority encampments that show the most environmental risk based on size and proximity to waterways (City of Fremont, 2018). The GIS division plans to build a system that will track the creation of homeless encampments based on public reporting received (City of Fremont, 2018). This system will assist the encampment response team to react in a timely manner and minimize environmental risks posed by homeless encampments (City of Fremont, 2018). While there are not many results for this alternative, it promises to be an innovative response to environmental impacts of homeless encampments. This alternative takes a wholistic approach to addressing the issue by including city stakeholders, implementing response teams and creating a way to track movements and patterns of homeless encampments within city jurisdictions.

Conclusion

City and county officials have primarily focused their efforts and resources towards housing initiatives likely to prevent homelessness. Efforts to address environmental impacts that have resulted from homeless encampments are minimal. The most widely used strategy across the county has revolved around abatement programs that function as a continuous treatment rather than an effective solution. I have identified four different policy alternatives in states throughout the nation that are grappling with similar homeless encampment issues. I found that while all alternatives address environmental concerns created by homeless encampments, half of the programs attempted to use a job training component to address the issue. Most strategies I researched throughout the nation were coupled with the job training component as a way to also encourage prevention of homelessness. I found that most strategies were implemented through partnerships and not through one organization or department alone. Current results for the programs were difficult to find and, in most cases, not yet published, which would suggest there is a need for more research to understand impacts as well as more funding to enable programs to evaluate and publish their findings immediately. In the next section, I describe my methods for studying which of these policy alternatives might be most effective and viable as a means of addressing homeless encampments in Sacramento. I analyze the alternatives using a Criteria Alternative Matrix (CAM) and interviews with city and county employees who are currently working on related projects.

Chapter Three

METHODOLOGY

Chapter II of this paper reviewed literature on the challenges faced by homeless individuals, current initiatives to address environmental impacts of homeless encampments in Sacramento County, and potential alternatives for Sacramento County to consider. In this section, I will conduct a Criteria Alternative Matrix (CAM) Analysis using Bardach's (2012) method. Bardach's (2012) method consists of an eight-step approach to effective problem solving and can be applied to any policy issue. The first three steps of the Bardach method are: (a) define the problem, (b) assemble the evidence, and (c) construct the alternatives. Chapters I and II of this study addressed these steps. In this chapter, I will discuss the next step of Bardach's (2012) method which is: (d) select the criteria to evaluate the alternatives. To clarify, the criteria will not be used to directly evaluate the alternative, but rather to assess the outcomes of each alternative (Bardach, 2012).

The alternatives identified in Chapter II are as follows: (a) Albuquerque, New Mexico's There's A Better Way Program, (b) Redding, California's Community Clean Up Program; (c) Austin Texas's Alternative Revenue Clean Up Fee; and (d) Fremont, California's Direct Discharge Trash Control Program. To effectively evaluate these alternatives, I conducted interviews with county employees to better understand their current methods. I shared the proposed alternative options with these employees, and then interviewed them about their perspectives on each alternative. I used the CAM analysis to guide the interview question design and analyze interview findings.

City and County Employee Interviews

I interviewed five individuals to better understand the challenges homeless encampments have created for public agencies. Through these interviews, I planned to learn about the various methods public employees currently use to mitigate the environmental impacts brought on by homeless encampments on public spaces. In deciding who to reach out to for interviews, I used the Homeless Encampment Reference Guide created by the Department of Resources, Recycling, and Recovery's (CalRecycle) Illegal Dumping Technical Advisory Committee (IDTAC) (California Department of Resources, Recycling, and Recovery, 2018). The Homeless Encampment Reference Guide identified the County Sherriff, County Code Enforcement Department, County District Attorney, County Environmental Health, County Department of Public Works, County Stormwater Management and the County Community Development/ Planning Department as vital local government offices involved in the management of solid waste in homeless encampments (California Department of Resources, Recycling, and Recovery, 2018). When I was unable to schedule interviews with those offices, I reached out to employees from other agencies identified in Chapter II for additional references on who to contact. For the purposes of this paper, I will not use specific names of agencies or individuals, instead I created alternative names and departments to conceal the identity of all the individuals I interviewed. I created weights for the criteria used in the CAM analysis with guidance from these interviews.

Many of the agency representatives who followed up with me were either unsure of who they could refer me to within their department or they were unable to identify an individual within their department who directly worked on the environmental impacts of homeless encampments or homeless encampments in public spaces. When I identified ideal interviewees within a department, I found that the majority did not respond to my inquiry. Those that did respond informed me that their schedules were very busy and it would be difficult to schedule any time to speak before the end of the summer. As a result, representatives suggested other departments to reach out to; additionally, some provided contact information to specific individuals they believed could assist me with an interview. My first interview took place on June 28th, 2019 from 11:30 AM to 12:30 PM. I interviewed A.C. from the West Cove Regional Department. A.C. was recommended to me as an active employee working on the issues I discuss within this paper. A.C. provided perspective on current response efforts to homeless encampments within their agency. In the interview A.C. discussed cleanup challenges, environmental degradation, the need for more social services and challenges with jurisdictional limits.

The County Environmental Health department was unable to provide me with an individual to contact for an interview, but one of their representatives referred me to the Valley Group Initiative. This group meets biweekly to discuss environmental concerns throughout the county's public and open spaces. From this meeting I scheduled an interview with C.V. from Parks Grove Cleanup. I interviewed C.V. on Monday, July 8th, from 1:00 PM to 2:00 PM in downtown Sacramento. C.V. provided various perspectives surrounding how Parks Grove Cleanup works with and supports homeless individuals. We discussed the different levels of involvement with the Parks Grove Cleanup and the effectiveness of the program. C.V. was helpful in understanding the potential outcomes of the alternatives, as well as best practices to meet equity standards.

C.V. suggested I contact R.I. of Response Network Inc. R.I. was responsive and replied to my request immediately. I interviewed R.I. on July 9th, 2019 from 11:30 AM to 12:30 PM. R.I.'s primary role is to respond to each homeless encampment reported by meeting with encampment residents and providing information for available resources. R.I. was helpful in describing current abatement procedures and potential challenges in providing services to the homeless. R.I. was also able to provide descriptions of various homeless encampments and the environmental concerns that should be addressed. The Group Initiative also lead me to my fourth interview with Z.G. I conducted my interview with Z.G. on July 10, 2019 from 10:00 AM to 11:00 AM. Z.G. is responsible for organizing and managing homeless encampment cleanups. Z.G. was able to provide information on challenges their agency faces and guidance for providing scores for the criteria of all the alternatives. Z.G. shared multiple before and after photographs with me that depicted homeless encampment cleanup sites. The photographs gave a great representation of the vast environmental impacts created by homeless encampments, and showed how much work goes into the cleanup process.

I also interviewed T.B. over the phone on July 12, 2019 from 9:30 AM to 10:30 AM. T.B. was helpful in describing their agency's current and past efforts to address homeless encampments. T.B. is both responsible for cleanup and maintenance of the jurisdictional areas affected. T.B. provided insight on how extensive the issue has become for their agency and the various alternatives that have been considered to address the issue.

CAM Analysis

In order to assess the outcomes of each identified alternative in Chapter II, I use a CAM analysis, otherwise known as an outcomes matrix (Bardach, 2012). The CAM is a tool used to evaluate projects and proposals by multiple standards (Bardach, 2012). The CAM is a useful tool that allows you to view multiple alternatives in one matrix and confront trade-offs for each alternative (Bardach, 2012). I chose to use this form of analysis because it supports transparency in reporting complex evaluations. The CAM is also helpful in organizing discussion and it is good for emphasizing different city and county objectives. Lastly it is useful in understanding the outcomes of policy decisions.

While the CAM is a useful tool, it does have limitations. The CAM is relatively subjective based on who is conducting the analysis, the type of evidence being used to evaluate

the alternatives, and the criteria chosen for the analysis. I use the literature to guide the criteria and weights assigned to each alternative; still, there is no definitive way to assess the alternatives using this tool. I assigned weights to each criterion based on the literature and interviews conducted; therefore, the utility of the weights is dependent upon the decisions the analyst made in using them. Because this analysis is largely influenced by perspective, it carries potential for some biases. A CAM is not a truly quantitative analysis. That said, I believe the CAM analysis is the most effective way to allow individuals to see all the alternatives together and compare the benefits and challenges of each.

The goal of this exploratory analysis is for policymakers to have more information on how to effectively address the environmental impacts of homeless encampments in public urban spaces throughout Sacramento County. Government intervention is required for implementation of the alternatives. Decision makers need to assess the alternatives, address the negative externalities, and make an informed decision based on the information provided. Since my target audience is policymakers, I believe the CAM analysis is the ideal tool for transparency and ease of interpretation of the results. In the next section I will discuss the measurement criteria and weighting I have chosen for this analysis.

Measurement Criteria and Weighting

Based on Bardach's (2012) Eightfold Path to More Effective Problem Solving and literature discussed in Chapter II, this model evaluates alternatives based on four criteria: cost, equity, implementation viability, and political acceptability. I use a 100-point scale to evaluate each alternative. I assigned a percentage relative weight to each of the criterion. An alternative that meets all expectations would receive a perfect score of 100 percent. The table below shows the criteria I selected to evaluate the alternatives and the weight I assigned to each.
Table 1- Measurement Criteria and Weighting				
Criteria	Weight			
Cost	35%			
Equity	35%			
Implementation Viability	20%			
Political Acceptability	10%			
Total	100%			

I evaluate cost based on the actual dollar amount of implementation for the alternative. Cost is an important factor in assessing alternatives. Successful implementation of a program or initiative can be highly dependent upon available resources and whether or not it is fiscally feasible to initiate a program. The cost will also be a factor in length of continuation of a program; if it is not feasible, it will not continue. I weighted cost at 35 percent based on the information in the introduction, which describes cost as the biggest challenge for agencies responsible for mitigating the environmental impacts on homeless encampments within their jurisdiction.

I evaluate equity based on social welfare and equitable implementation. For the purposes of this study, I evaluate alternatives for equity based on how each alternative will affect the homeless population. The analyst should consider the everyday challenges associated with being homeless. As mentioned in the review of literature, homeless individuals come from a multitude of backgrounds and may not have the resources to pursue any other option. In an effort to treat all homeless individuals with respect and dignity it will be important that the alternatives follow a set of procedures that will not infringe on any individual's basic Constitutional rights. Equity is a growing legal challenge as a number of homeless individuals have filed lawsuits against public entities due to cleanup methods and procedures. Cases such as Lavan vs the City of Los Angeles and Cash vs Hamilton County Department of Adult Probation have declared that cleanup and abatement strategies previously used were in violation of the 4th, 5th, and 14th Amendments, for rights to property (National Law Center on Homelessness and Poverty, 2017). These cases have resulted in new policies requiring agencies to provide sufficient notice of encampment closures as well as storage of items confiscated for a specified amount of days before those items can be destroyed (National Law Center on Homelessness and Poverty, 2017). In order to avoid additional financial responsibilities and negative media coverage, it is in the best interest of the agency to ensure their programs are as equitable as fiscally possible. I weighted equity at 35 percent because it is a core issue surrounding homelessness in general.

I evaluate implementation viability based on the amount of effort and level of difficulty associated with executing the alternative. I weighted this criterion at 20 percent because, in relation to the other criterion, implementation viability has not been identified as a major challenge in the literature. It is not always something policymakers think through thoroughly, but it is essential to having a successful and efficient program. As mentioned in Chapter II, a key finding from the literature is the need for improved interagency collaboration to effectively address this issue. It will be important to consider who or what agency is in charge, and who will be involved in the planning process (Mintrom, 2012). If multiple agencies are involved, leaders will need to decide how funding for the program will be broken up. These factors may influence implementation viability with regards to how long it might take, and if new collaborations need to be created. Planning for a project alone can be expected to take about one-tenth of the total

project time (Mintrom, 2012). If there are multiple groups involved that will need to agree on how implementation will take place, this phase can take even longer.

I evaluate the alternatives from the proposed phase to implementation. It will be important to determine how long it will take for a proposed program to be implemented, and whether that timeframe is feasible for the surrounding community. The literature also indicates that complex or difficult implementation can deter policymakers from even considering the alternative (Denhardt, Denhardt, & Blanc, 2014). Ease of implementation will influence city and county official's choice of alternative with short-term and long-term goals in mind. It is important to note that this could be weighted differently based on the goals of the agency. If a program or initiative is extremely difficult to implement, but has shown promising results, an agency might consider prioritizing long-term goals over short-term success.

I evaluate political acceptability as the ability to gain support from key decision makers. Alternatives that score high in political acceptability will have support from local and state representatives who have the power to implement these programs within Sacramento County. Projects that will address the environmental impacts of homeless encampments will need to be politically acceptable due to the high increase of media coverage in recent years. Politicians want to be re-elected; if a project or program is unpopular among the general public, it is unlikely that key decision makers such as politicians will vote in support. Increases in homelessness throughout California have resulted in the introduction of various programs to address general homelessness, but such programs often neglect the overlying impacts felt by the surrounding community. It is important that environmental programs have high political acceptability to get put on the political agenda. Projects that address the environmental impacts tend to be less popular, and without political support and mobility will continue to be put on the backburner due to prioritization of homeless issues and experiences (Daniels, 2018). It will also be important to evaluate which alternatives have the most backing from city officials, as well as from non-profits and advocate groups. If an alternative is highly unfavorable, it is unlikely to be a viable or effective option to pursue. This criterion was weighed at 10 percent because, even if an alternative is politically acceptable, it still may not get passed due to the influx of issues surrounding homelessness.

Conclusion

To evaluate the proposed alternatives in Chapter II, I conducted five interviews with city and county officials to learn about how homeless encampments have affected their organizations and what methods they are currently using to address the environmental impacts of homeless encampments in public urban spaces. I then used the information collected from the interviews to create weights for the criteria used in the CAM. This allowed me to present the alternatives together in a transparent way and evaluate outcomes based on cost, equity, implementation viability, and political acceptability. In Chapter IV, I describe the results from the interviews and outcomes of the CAM. In Chapter V, I provide insight on potential alternatives for policymakers to consider and guidance for further research based on the outcomes of my analysis.

Chapter Four

RESULTS

In Chapters I through III, I discussed the first four steps of Bardach's methods. In this Chapter I, continue to use Bardach's (2012) eightfold path methodology to analyze the alternatives I have identified. This chapter discusses the fifth and sixth steps of Bardach's (2012) methods: (e) project the outcomes and (f) confront the trade- offs. The purpose of this chapter is to discuss all of the information gathered for the alternatives identified in Chapter II and analyze each alternative based on the chosen criteria identified in Chapter III. I discuss the probable outcomes of each alternative based on results from current models as well as provide my opinion of how each alternative might be applied to Sacramento. I base my analysis of the alternatives on the literature obtained in this study and interviews conducted.

In this chapter, I evaluate the alternatives and provide a table that reflects the weighted score for each. I begin each section of this chapter with a qualitative analysis to determine how each alternative satisfies the criteria. I then provide a quantitative analysis using the weighted score assigned to each criterion in order to create a total score for the alternative as a whole. I scored the four criteria based on a scale of 1-5 points, which I have outlined below:

A score of "1" indicates the alternative does not at all satisfy the criteria.A score of "2" indicates the alternative mostly does not satisfy the criteria.A score of "3" indicates the alternative somewhat satisfies the criteria.A score of "4" indicates the alternative mostly satisfies the criteria.A score of "5" indicates the alternatives completely satisfies the criteria.

Alternative #1: Albuquerque, New Mexico's "There's A Better Way" Program

Probable Outcomes

Based on the results of similar programs, this program has the potential to improve relationships between public workers and homeless individuals. Parks Grove Cleanup, which is based on a similar model to employ the homeless has shown that individuals who participate in this program will build trust, become aware of available resources, and gain work experience that can help them move out of homelessness (C.V., personal communication, July 8, 2019). Building rapport with individuals takes time and consistency. Having a program in place that supports the homeless provides a unique opportunity for the homeless to build a relationship with city and county employees. Participants of this program are primarily employed for beautification projects around their city. These projects include landscaping, and trash clean ups, etc. In one year, Albuquerque's There's A Better Way program cleared sixty-nine thousand six hundred and one pounds of litter and weeds from one hundred ninety-six city blocks (Itkowitz, 2016). As of March 2019, the program has provided nine thousand seven hundred and nine jobs to individuals (W.B., personal communication, April 24, 2019). Of that number, ninety individuals found permanent jobs, and twenty-six were placed in permanent housing (W.B., personal communication, April 24, 2019). The implementation of programs like this in Sacramento are promising, because while the need is high, staffing for cleanup requests has become difficult due to low pay and the nature of the work (Z.G., personal communication, July 10, 2019). In addition to providing job training, the program outcomes include cleaner streets, and educational opportunities about the effects of litter. This program is twofold: it provides homeless individuals with employment opportunities and it directly combats public and urban littering around the city.

Cost

The costs associated with this program include any tools and/ or materials needed for the projects assigned, the paycheck to each participant and team staff, and the cost of a vehicle (including maintenance and gas) to transport participants from one place to another. Programs such as these are subject to funding availability. Albuquerque spends about three hundred sixtyfive thousand dollars annually on the program using funds from the City of Albuquerque's Family and Community Services department as well as the Solid Waste Management department (Perse, 2019). Funding obtained for similar programs in the Sacramento area include Measure E, a sales tax measure proposed by the West Sacramento City Council, and approved by voters in 2016 to add a quarter percent increase to the city's sales tax rate that could be used for programs that address homelessness (Robinson, 2017). Alternatively, Parks Grove Cleanup used Property Business Improvement Districts (PBID) funding to promote similar programs (C.V., personal communication, July 8, 2019). PBID funding is generally used in downtown or commercial areas of unincorporated cities and counties as a funding mechanism that allows property owners to enter into a formal partnership to improve the district (County of Fresno Homeless Plan, 2018). Other funding options include Homeless Emergency Aid Program (HEAP) funding (C.V., personal communication, July 8, 2019). Programs that are able to show a measurable impact on homelessness are eligible for HEAP funding (Haynes, 2018). Based on the few examples I provided, this program is likely to be eligible for additional local, state, or federal funding, making it a very low-cost alternative. For the reasons outlined above, I assigned this alternative a raw score of 4 for this criterion.

Equity

The literature indicated that the homeless have a limited voice when it comes to programs and initiatives proposed to address the environmental impacts created by homeless encampments. For this reason, I focus my equity analysis on equity for the homeless. The "There's A Better Way" program provides homeless individuals with the opportunity to work for a day. The homeless are able to gain work experience, earn a paycheck, and receive a night of shelter. During my interview with C.V., I was informed that through various surveys conducted with homeless participants, the number one concern for individuals experiencing homelessness was how others perceived them. Homeless individuals feel very judged by their community members and identified homeless stigma as the worst part about being homeless (C.V., personal communication, July 8, 2019). Implementing programs such as "There's A Better Way" provides homeless individuals the opportunity to be perceived in a different light by their counter parts and to show that they do want to be active and productive members of their community. In order for the program to be equitable for all, selection of participants needs to be a low barrier, meaning people cannot be disqualified if they have a mental illness, substance abuse etc. This program exceeds those standards by also providing participants with resources for treatment (Eisenstadt, 2019). There is no specific criteria required for an individual to participate in the "There's A Better Way" program (Bartner, 2019). Selection of participants is consistent with a first come first serve method; staff drive around highly trafficked areas that are known as homeless hot spots, and they offer a job to those willing to work (Eisenstadt, 2019). The ten-person crew used for the program consists of the first ten individuals who agree to participate (Eisenstadt, 2019). The program piloted with one van to transport individuals. As interest has grown, the program has expanded to two vans and program staff have considered managing two shifts a day (Eisenstadt, 2019). For the reasons outlined above, I assigned this alternative a raw score of 5 for this criterion.

Implementation Viability

In order to implement a program that will temporarily employ a team of homeless individuals each day to clean up trash around the city, Sacramento would need to appoint an organization or public department to manage the efforts. The managing agency would identify who the employed individuals would report to, and who is accountable for them (C.V., personal communication, July 8, 2019). This would be fairly easy to implement once the leading agency was identified. A subcommittee tasked with management of the program could track participation and progress while documenting and mitigating the challenges that arise. Project managers would need to ensure that participants have proper training around hazardous materials and that they are equipped with the proper safety gear to handle these materials. If that is not possible, it will be vital that the project managers preview work sites before they bring participants to work so they can confirm safe conditions. For the reasons outlined above, I assigned this alternative a raw score of 4 for this criterion.

Political Acceptance

This program has received little to no political backlash because it addresses two vital issues: homelessness and urban trash. Sacramento in particular is likely to have vast political support since Mayor Darrell Steinberg has been chosen by the state governor to head the California Homelessness Commission (Caiola, 2019). Sacramento identified homelessness as a major issue and therefore has placed all aspects of homelessness on the political agenda, making it a very hot topic for politicians to spearhead and consider unique alternatives. "There's A Better Way" program has taken steps toward addressing the amount of litter found in public urban spaces by working with the local homeless population to staff the projects. Opposition from community members who think that resources should be used otherwise is still likely. It is common for individuals to have misconceptions of how these programs are implemented and to have a misunderstanding of who actually benefits (C.V., personal communication, July 9, 2019).

In order to keep residents involved, the county can publish monthly to quarterly reports on progress from the program in order to maintain local engagement and hold city council meetings to hear any public concerns related to the program (Z.G., personal communication, July 10, 2019).

Albuquerque's model gained national attention for its uniqueness and is very popular among residents because of its proven success (Itkowitz, 2016). "There's A Better Way" program shows that it is vital to place high importance on public branding and how policies are framed to the community in order to gain support. Sacramento would benefit from using Albuquerque as a case study, to show the benefits of the program locally. Albuquerque has gained headlines like "Give Panhandlers Day Jobs, Not Tickets" and more specifically the program was intentionally named "There's A Better Way" for branding purposes (Wogan, J.B, 2015). Sacramento policymakers should take into consideration what their constituents care about most and be sure to use that information for branding. Since this program addresses multiple issues, it should be publicized in a way that highlights its versatility. Officials can reinforce the environmental benefits to the community. Residents may be more attracted to this program if they know that their local parks and bike trails will be maintained and cleared of debris. Based on the community, it may be more influential to explain how the program gives homeless individuals employment and resources for housing. Regardless of political tactics, the benefits of this program far outweigh any potential criticism based on the reported results from Hope Works which is the non-profit that runs this program (W.B., personal communication, April 24, 2019). For the reasons outlined above, I assigned this alternative a raw score of 4 for this criterion.

Table 2- Alternative #1 Outcomes Matrix						
CostEquityImplementationPoliticalTOTAViabilityAcceptability						
Raw Score	4	5	4	4	17	
Weighted Score	1.4	1.75	.8	.4	4.35	

Alternative #2: Redding, California's Community Clean Up Program

Probable Outcomes

In Shasta County, this program has resulted in thousands of pounds of trash being collected monthly (Shasta Police Department, 2018). I was unable to find information related to successful outcomes for inmates who participated in the program. This program has the potential to result in job training for inmates by providing opportunities to earn a wage and gain practical experience. Providing work experience for inmates moves them towards a path of success after incarceration (Galvin, 2016). The Prison Policy Initiative found that poverty and prison incarceration are highly correlated because having any type of criminal record makes it more difficult to find work or gain access to student aid and other basic social services (Galvin, 2016). It is very common for inmates to have never had a job before incarceration, creating additional barriers to employment after they are released and making it even more important that opportunities be made available in jail to reduce recidivism rates (Galvin, 2016).

While this program uses a different population to address the issue, implementation of this type of program would offer an alternative to using public servants to clean up trash and debris left behind from homeless encampments. This program does not directly offer a solution to the environmental externalities created by homeless encampments, but it does take action to decrease the amount of trash seen in and around public urban spaces by maintaining and clearing out the most impacted sites. The probable outcome of this alternative is that more encampments will be cleared and at a far faster rate because this will be the sole responsibility of the inmates employed.

Cost

The cost to implement a program such as the Community Clean Up Initiative is fairly low. Inmates generally make anywhere between .08 and .37 cents per hour in California prisons (Sawyer, 2017). Additional costs that may be incurred for these services include tools and materials, additional staffing and supervision as needed, as well as transportation to and from the work site. Each team would decide how many inmates are needed per site based on the size and magnitude of the homeless encampment. Costs may also rise and fall based on the amount of encampment cleanups program staff decide to cover under the program. Because this program does affect the amount of encampments or trash that appears in public spaces, staff will be required for clean ups regardless of whether or not they use public servants or inmates. When comparing the cost to employ a full-time public servant to perform cleanup work versus an inmate, inmates would the cheaper option even when including costs of tools and transportation. Supervision of the inmates would not come at a high additional cost as there are always officers on duty for supervision who would otherwise be working at the prison rather than off site. For the reasons outlined above, I assigned this alternative a raw score of 4 for this criterion. *Equity*

In Chapter III I chose to judge equity based on fairness to the homeless population. This program would not change current homeless encampment abatement strategies. As long as individuals being evicted from sites are given reasonable notification of camp closure, have the opportunity to claim any taken property, and are not harmed in the process, this program would be deemed fair. Fairness is based on the fact that the program would not be changing any current conditions that cause any additional harm to the homeless. The program procedures are in compliance with Lavan vs the City of Los Angeles and Cash vs Hamilton County Department of Adult Probation to meet the constitutional rights of the homeless (National Law Center on Homelessness and Poverty, 2017). Since this program is solely geared toward addressing the environmental impacts of homelessness through trash and encampment cleanups, measures to meet equity for the homeless are not explicitly considered. It would be beneficial for staff leads to

coordinate with social service agencies that can offer resources to encampment residents being evicted or moved from their site to improve the equity of the program for the homeless if they have not already incorporated this into the program. For the reasons outlined above, I assigned this alternative a raw score of 2 for this criterion.

Implementation Viability

Sacramento officials could use inmates from the Sacramento County jail to implement this program. This program requires a staff member to be responsible for identifying encampment sites and coordinating encampment clean ups. This may require coordination with other departments to provide notification of abatement, ensure social workers can be on site to provide information on resources, and storage facilities are available and organized for a specified time period to house any personal property found unsupervised on site. Once abatement is complete, lead staff would need to check for hazardous materials to ensure safety of participants before bringing inmates on site to start cleanup. Lastly, lead staff needs to be able to obtain transportation services to and from the site, as well as set a standard for appropriate inmate-tostaff supervision. Implementation for this program is fairly straightforward but could face challenges related to funding and other resources based on availability.

The Fresno Police Department has implemented similar programs with individuals on probation and have faced challenges with liability concerns over safety of the participants (R.I., personal communication, July 9, 2019). It is easy for issues to arise with any group that is required to work around hazardous materials such as needles or human waste (A.C., personal communication, June 28, 2019). Project managers would need to ensure that participants have proper training around hazardous materials and that they are equipped with the proper safety gear to handle these materials. Lastly, decision makers should consider the geographic work environment. Redding has been successful in implementing this program with inmates primarily because the area is fairly rural, implementation of this program would likely face additional liability issues in an urban area (R.I., personal communication, July 9, 2019). Officers would need to consider the potential of an inmate trying to escape (R.I., personal communication, July 9, 2019). Leaders of this program would need to be selective in deciding which inmates would be eligible to participate in this program.

For the reasons outlined above, I assigned this alternative a raw score of 2 for this criterion. *Political Acceptance*

It is unlikely that there will be any political pushback on this topic since the city would be using inmates to provide cleanup services rather than public servants, and therefore lowering the cost of labor for cleanups. It is unlikely that there will be any protests of lost jobs because counties are currently having a hard time obtaining applicants to do the work now (Z.G., personal communication, July 10, 2019). Implementation of programs like this can be politically advantageous because they address recidivism issues (Gavin, 2016). Since ninety-five percent of those incarcerated are eventually released, providing job opportunities while inmates are serving time can improve their likelihood of finding work after incarceration and therefore lower the probability of getting arrested again (Galvin, 2016). Still, there will always be individuals within a community who question how resources are allocated and where resources are being taken from. That said, it would likely be beneficial for agencies implementing this program to be transparent about what funding is used to run the program and what data is being recorded to show program success. For the reasons outlined above, I assigned this alternative a raw score of 4 for this criterion.

Table 3- Alternative #2 Outcomes Matrix						
	Cost Equity Implementation Political TOTA					
			Viability	Acceptability		
Raw Score	4	2	2	4	12	
Weighted	1.4	.7	.4	.4	2.9	
Score						

Alternative #3: Austin Texas's Alternative Revenue Clean Up Fee

Probable Outcomes

This program imposes a fee on residents to pay for the cleanup costs of trash and debris in local public urban spaces. The implementation of an eight dollar and five cent monthly fee to pay for city cleanup costs resulted in the collection of two million one hundred thousand dollars to the city of Austin, Texas in 2016 (Edwards et al., 2018). This generates additional revenue to address the increasing cost of homeless encampment clean ups and litter around public and urban spaces. If an alternative revenue cleanup fee is imposed on the city of Sacramento, it is likely that more litter and trash will be picked up around the Sacramento area although I was unable to find information on the amount of additional trash collected from the implementation of the Alternative Revenue Clean Up Fee. According to interviewees, funding for cleanup projects poses a reoccurring challenge to public agencies. The implementation of a cleanup fee could provide Sacramento agencies with additional resources to pay for costs incurred by homeless encampment cleanups.

Cost

The fee imposed on residents in Austin, Texas was approximately eight dollars and five cents per month in 2016 (Edwards et al., 2018). If Sacramento were to impose a cleanup fee on residents, officials may take a few things into consideration to decide how much the fee for Sacramento would be. For example, based on current proposals to charge Californian's a fee to clean contaminated water, I predict that Sacramento officials may consider how much they are currently spending on street cleaning and homeless encampment abatements and based on how many residents benefit from these services, decide how much the fee should be (Ronayne, 2019). Officials should also consider projecting costs for the next five to ten years while considering

inflation rates. By imposing an additional fee for services, the city would gain funds to implement cleanup projects throughout the city. This program would be primarily beneficial to city agencies because it would divert the costs of cleanup to the residents of the city. It is important to be clear that this program does not change the cost of abatement and litter cleanup; it solely changes where funds are retrieved from. For the reasons outlined above, I assigned this alternative a raw score of 3 for this criterion.

Equity

This program would provide more revenue to fund cleanup and maintenance programs throughout the city. I base equity on fairness to the homeless population. When considering the fairness towards homeless individuals, this program would not directly affect or impact the homeless community. The only impact felt by the homeless living in homeless encampments would be additional or more frequent cleanups. In order to make this an equitable program, cleanup crews would just need to ensure they abide by current policies that provide encampment residents with eviction notices and give them the opportunity to store property if they are not able to be present during the scheduled clean up time (National Law Center on Homelessness and Poverty, 2017). Because this program is solely geared toward addressing the environmental impacts of homelessness through trash and encampment cleanups, measures to meet equity for the homeless are not explicitly considered. For the reasons outlined above, I assigned this alternative a raw score of 2 for this criterion.

Implementation Viability

This program has the potential to be quite difficult to implement. First, the initiative would need to be put on the ballot which would require enough backing and support from the community to even be considered. If it were to get onto the ballot, the city would need to obtain enough votes to impose a tax on residents in order to enact the measure. Once this measure gets

passed, a committee or department would most likely need to be created or held responsible for implementing the measure. The lead committee or agency would then have the responsibility to decide what programs and services should be supported by the additional funds collected, which takes time and group coordination. For the reasons outlined above, I assigned this alternative a raw score of 2 for this criterion.

Political Acceptance

It is likely that there would be opposition to this alternative because it would require an increase in the amount of money residents are charged by the city. It can be very difficult to get community support for additional fees and taxes that will be imposed on residents. In order to get enough political support for this alternative it would be important that politicians and city officials have data and/or evidence to show the high need for increased revenue and any resultsdriven data that can show the benefits of implementing the additional fee. It would also be important for politicians to be extremely transparent about how the additional funds were collected and allocated. There is current debate over how Sacramento will use Measure U funds which generates about fifty million dollars (Bizjak, 2019). Debates over how this money will be allocated creates political concern. The intention for these additional funds is to improve economic development among disadvantaged communities (Bizjak, 2019). Since the measure does not explicitly say how funds will be allocated, there are many concerns over the additional revenue being used for higher salaries or costs of pensions (Bizjak, 2019). Critics have even called for a repeal of the measure due to the lack of transparency and clear direction for how funds should be spent (Bizjak, 2019). Amounts of funding and funding mechanisms have not clearly been stated in the program proposal and city fees imposed on residents are generally unpopular unless allocation is clear and residents care about this issue being addressed. For the reasons outlined above, I assigned this alternative a raw score of 2 for this criterion.

Table 4- Alternative #3 Outcomes Matrix						
	CostEquityImplementationPoliticalTViabilityViabilityAcceptability					
Raw Score	3	2	2	2	9	
Weighted Score	1.05	.7	.4	.2	2.35	

Alternative #4: Fremont,	California's Direct Dischar	ge Trash Control Program
Probable Outcomes		

The Direct Discharge Trash Control Program is a complex plan to coordinate efforts across multiple agencies in order to address all aspects of homeless encampments in Fremont. Since this is a new program with various phases, results are not published yet. Implementation of this type of program would likely result in improved coordination and organization of homeless encampment cleanup efforts. As of January 2017, the City of Fremont identified one hundred thirty-three homeless encampments within city jurisdictions, eighteen of which were deemed high priority based on probable environmental impact (City of Fremont, 2018). These data assists responders with vital information to most effectively prioritize cleanup initiatives. This program begins with using a Homeless Encampment Tracking System which allows users to map out where homeless encampments are being created throughout counties and districts to most effectively take action. This informational database alerts the Homeless Encampment Coordinator of a new encampment so that staff can be sent to the site to offer housing and social services to encampment residents. Encampment residents are then notified that a cleanup will occur so that they may take their personal belongings and leave the site.

In addition to abatement strategies, this program has the potential to decrease the amount of trash found in public spaces because it works to better understand the origins and paths of trash. The most innovative portion of this program is that it implements preventative strategies for trash runoff by integrating trash capture devices in storm drains that will stop trash from flowing into large bodies of water. Filtrexx International is a vendor for trash capture devices and has shown through field and lab tests that screens used for trash capture are able to contain most debris that are found within waterways, only allowing liquid and small particles less than four point eighty-three millimeters to potentially pass through the screen (Faulette & Paoluccio, 2018). These screens can hold anything from seventy to one hundred pounds of sediment, so they would need to be maintained regularly and are most efficient when used simultaneously with street cleaning to ensure they do not become compromised by weight (Faulette & Paoluccio, 2018). The City of Milpitas placed trash full capture devices in targeted areas and results have shown up to twenty-nine percent trash load reduction, meaning a twenty-nine percent reduction in the amount of trash being passed through the waterways (EOA, Inc, 2017). I believe that the implementation of this program would provide more efficiency to any of the current strategies being practiced to address the environmental impacts of homeless encampments because it works to coordinate all efforts with various agencies that specialize in specific areas of cleanup.

Cost

The actual cost of implementation was not available in the report I referenced in Chapter II, but the report did indicate that individuals supporting the implementation of this program are paid through the Integrated Waste Management Division as program initiatives are considered solid waste management expenses (City of Fremont, 2018). Funds through the Integrated Waste Management Division are established through the city of Fremont's solid waste collection rates (Danaj, 2019).

This program could potentially come at a very high fiscal cost because it is implementing technology using GIS to track homeless encampments and it involves using engineer trained staff to build trash capture devices to stop trash from flowing through waterways. The City of Milpitas has placed ten trash capture devices on public and private property within the city, each device ranges in cost from eleven thousand nine hundred five dollars to sixty-seven thousand one hundred sixty-seven dollars (EOA Inc., 2017). In 2015, the City of Milpitas budgeted three hundred fifty thousand dollars for the design and construction of trash full capture devises based on successful implantation of the ten existing devices (EOA Inc., 2017). The City of Sacramento may consider the installation of one of these devices in conjunction with GIS tracking and homeless teams that can help provide services to the homeless before abatement begins. It will be important to compare these costs to the costs of constant homeless encampment cleanups to have a clearer idea of potential cost savings with the implementation of a coordinated program such as this. Given the potential costs of the required technology, this program would likely exceed costs of the other alternatives. For the reasons outlined above, I assigned this alternative a raw score of 2 for this criterion.

Equity

Fremont's Direct Discharge Trash Control Program addresses many equity concerns associated with the homeless by collaborating with various homeless support networks within the city to coordinate efforts to address the growing number of homeless encampments (City of Fremont, 2018). This program highlights the housing issues in Fremont and acknowledges the fact that lack of affordable housing has led to an increase in unsheltered homeless (City of Fremont, 2018). The Direct Discharge Trash Control Program has outlined goals for interagency collaboration to ensure involvement in housing initiatives around the city (City of Fremont, 2018).

This program introduces the Homeless Encampment Tracking Application which uses GIS to allow individuals to report homeless encampments in real time, and based on current location (City of Fremont, 2018). This technology allows providers and cleanup staff to coordinate across departments more effectively by having a centralized database with shared information on the specific location of homeless encampments, which is particularly beneficial for the more rural encampments that are sometimes hidden from plain sight (City of Fremont, 2018). From a provider's perspective, this system can be extremely useful in finding individuals who are less likely to request services on their own. For the reasons outlined above, I assigned this alternative a raw score of 4 for this criterion.

Implementation Viability

The Direct Discharge Trash Control Program requires extensive strategizing and constant communication between various agencies to ensure efforts are effective. The Fremont Direct Discharge Trash Control Program created a process chart to demonstrate the various steps involved in implementation of the program. A process chart is a graphic demonstration used by organizations to strategically plan for the implementation of a specific process by visually identifying all of the steps involved (Denhardt, Denhardt, & Blanc, 2014). The Direct Discharge Trash Control Program begins with a complaint or report of a homeless encampment. At least one of seven departments (e.g. Human Services, Police, City Manager's Office, Community Services, Fire Department, Public Works, or Community Development) will be notified by the complaint through the 311 call- in number (City of Fremont, 2018). From this point, the notified department will document the complaint in an excel database as well as map the location in the Homeless Encampment Tracking Application (City of Fremont, 2018). The Homeless Encampment Coordinator will then be notified of the complaint and work with the Homeless Response team to initiate outreach with the encampment residents (City of Fremont, 2018). Once outreach has been made and resources have been provided, tagging and abatement procedures will take place (City of Fremont, 2018).

It is likely that the implementation of a program such as this would require trial and error due to new relationships being built and new technology being created solely to address the homeless encampment issue in Fremont. Since this program involves mapping out affected areas, documenting interaction, and creating trash capture devices, it could be very difficult to coordinate with the various divisions involved to provide time effective results. Therefore, if Sacramento were to consider this alternative, city leaders would need to identify an entity or body of individuals that would have the power to get multiple agencies across various specialties to come to the table and strategize how best to work with one another to achieve a common goal. While gathering impacted agencies is not impossible, it may be extremely difficult and time consuming. For the reasons outlined above, I assigned this alternative a raw score of 2 for this criterion.

Political Acceptance

It does not appear that there would be difficulty obtaining political acceptance of this program because it is evidence-driven and takes a wholistic approach at addressing the impacts of homeless encampments. This system uses a tracking application to coordinate efforts with a homeless encampment response team, organize cleanups, and introduce preventative strategies to decrease the amount of trash being found in public urban spaces. Once the program is officially functioning it will be easy to provide current and ongoing results for the program to publish for public consumption.

The primary challenges for political acceptance are time and money. It would likely take months if not years to get the program fully up and running due to its complex nature. The cost of implementation and time or effort it may take to find or create funding for this program will also make it difficult to get political acceptance. There are various ways in which government entities can collect funds, but they are generally collected through levying taxes or charging individuals for specific services to be provided (Denhardt et. al., 2014). If Sacramento were to consider imposing a fee on residents in order to implement a plan such as this one, the city should consider the same concerns mentioned for Alternative #3. Residents are generally unsupportive of

additional fees unless substantial evidence can show that the funding will be beneficial to them. I believe this program would be one of the most difficult programs to implement due to the need for interagency collaboration and unidentified funding. For the reasons outlined above, I assigned this alternative a raw score of 2 for this criterion.

Table 5- Alternative #4 Outcomes Matrix						
	Cost	Equity	Implementation Viability	Political Acceptability	TOTAL	
Raw Score	2	4	2	2	10	
Weighted Score	.7	1.4	.4	.2	2.7	

Please see Table 6 to view how I rated each alternative compared to one another using their weighted scores.

Table 6- Criteria Alternative Matrix (CAM)						
	Alternatives					
		Cost	Equity	Implementation Viability	Political Acceptability	TOTAL
	Alternative #1: "There's A Better Way Program"	1.4	1.75	.8	.4	4.35
ia	Alternative #2: "Community Clean Up Program"	1.4	.7	.4	.4	2.9
Criteria	Alternative #3: "Alternative Revenue Clean Community Fee"	1.05	.7	.4	.2	2.35
	Alternative #4: "Direct Discharge Trash Control Program"	.7	1.4	.4	.2	2.7

Overview of the Findings

In this chapter, I discussed the probable outcomes of the alternatives, and provided an analysis of each based on the four identified criteria: cost, equity, implementation viability, and political acceptance. The analysis was influenced by Chapter II's literature, and interviews conducted with county and city employees. After each alternative's criteria analysis, I provided a quantitative raw and weighted score. I used the weighted score in the CAM analysis to compare the alternatives to one another. In Chapter V, I provide a discussion of the results and recommendations for further research.

Chapter Five

ANALYSIS AND CONCLUSION

In this Chapter, I conclude my application of the Bardach method (2012) by discussing the eighth step: tell your story. In this thesis, I used a CAM analysis to evaluate four alternatives that I identified through the literature to mitigate the environmental impacts of homeless encampments in public urban spaces within Sacramento County. I identified the alternatives through existing programs cities are implementing to address the same issue. The ultimate goal of this analysis is to provide policymakers with insight on the chosen alternatives and guidance for future research.

Results of CAM Analysis

In Chapter IV, I provided an analysis of the alternatives by discussing the probable outcomes and evaluating how each would fair against the criteria. I assigned each alternative a weighted score. In this section I discuss the results of the CAM analysis by discussing the scores of each. As discussed earlier, the CAM process is subjective. Results from the CAM analysis are dependent on the analyst assigned and the information that is available at the time. Regardless of these limitations, the CAM serves as a useful tool for policymakers to evaluate alternatives using multiple lenses to consider the potential outcomes. The CAM allows decisionmakers to view all of the alternatives transparently against one another with the intent of finding the best solution to meet the specified goals.

I assigned the final total weighted scores as follows: Alternative #1 scored 4.35 Alternative #2 scored 2.9, Alternative #3 scored 2.25 and Alternative #4 scored 2.7. With the highest possible score being a 7, Alternative #1 scored the highest and Alternative #3 scored the lowest. These scores were based on how each alternative met the standards for each criterion outlined in Chapter III. Cost and equity were weighted at thirty five percent, implementation viability was weighed at twenty percent and political acceptability was weighed at ten percent.

Alternative #1 is Albuquerque, New Mexico's "There's A Better Way" program. This alternative scored highest on equity based on the services provided to the homeless and the potential for positive outcomes for participants. The alternative scored equally among cost, implementation viability and political acceptance criteria. Based on the CAM analysis, this alternative would be a promising option for Sacramento County to consider implementing to mitigate the environmental impacts of homeless encampments. Similar programs are being introduced throughout the city. For example, programs like the Parks Grove Cleanup have been successful in increasing the amount of trash collected throughout the city.

Alternative #2 is Redding, California's "Community Clean Up" program. This alternative scored highest in terms of cost and political acceptability. This program is similar to Alternative #1 in that it deals with hiring a group of people to clean up the trash and debris left from homeless encampments. Cost mechanisms differ but overall cost efficiency for this program is high compared to the other alternatives presented. This alternative scored lowest in equity because it does not explicitly discuss treatment of the homeless. It is unclear how abatement procedures will take place or if any resources will be provided to the homeless as an alternative to living outside.

Alternative #3 is Austin, Texas' "Alternative Revenue Clean Community Fee." This alternative scored highest on cost because the nature of the program is to generate funds to pay for cleanup costs within the community it serves. The alternative scored the lowest on equity, primarily because it does not particularly impact the homeless, and therefore has no effect on equity. The scoring of equity was based on the fact that there was no information from the program on policies and procedures regarding the abatement process. This program could have scored higher in this field if it indicated a mechanism for providing services to the homeless before abatement occurred.

Alternative #4 is Fremont, California's "Direct Discharge Trash Control Program." This alternative scored highest in terms of equity. This alternative consists of the city designing a complex plan to address various areas of environmental impacts of homeless encampments by promoting an interagency model that addresses the needs of the homeless while integrating both preventative and proactive measures to decrease the amount of trash found in public urban spaces. The alternative scored lowest on political acceptability mostly due to the high cost and complex nature of coordination required for implementation. The technology involved in this program far exceeded the cost of any of the other alternatives and therefore would not be politically feasible compared to the rest of the alternatives. There were also foreseeable challenges with getting multiple agencies to agree to work together collaboratively to confront the issues.

Each of these alternatives took a different approach to addressing the issue. There were few commonalities between the four alternative's criteria scores. There was not one criterion on which all of the alternatives scored either very high or very low.

Study Limitations and Implications for Future Research

It is worth noting research limitations that make these study findings preliminary in nature. I was not able to get in contact with any organization referenced in the Homeless Encampment Reference Guide created by CalRecycle's Illegal Dumping Technical Advisory Committee (IDTAC) which was referenced in Chapter III. Further, I faced challenges in contacting representatives from all of the alternatives presented in this study, which would have provided more insight on the current status of the alternative programs. Additionally, without direct contact with a representative from each of the alternatives, I was unable to obtain current data on the results of all of the alternative programs.

Since there is little to no academic literature on this topic it is very important that more agencies receive the resources to conduct research to identify the most impacted areas and consider what strategies are most effective for each specific region. Since agencies are facing difficulties in identifying origins of trash and debris, more research should go into the environmental impacts created by homeless encampments so that government officials can decide where resources are most needed. I believe more data and evidence can lead to a more effective allocation of funding to address the issue.

Conclusion

In Chapter I, I introduced the environmental issues created by homeless encampments in public urban spaces. Since this is such a complex issue, I started by providing background on housing issues in California. I then discussed the conditions of the unsheltered homeless, the environmental risks associated with homeless encampments, and the growing budgetary challenges created by cleanup costs.

In Chapter II I provided a review of the literature. After conducting research, I found that there was very little academic literature published on the environmental impacts of homeless encampments. I relied heavily on white papers, agency reports and media articles to get information on the topic. In order to provide a wholistic perspective of the issue from various points of view I provided information on common population characteristics of the homeless. I discussed current initiatives being implemented in Sacramento and then I introduced four alternatives from different city models designed to address the environmental impacts of homeless encampments. In Chapter III, I described my methodology for this paper. For the purposes of this paper I used the literature in Chapter II and city and county employee interviews I conducted as guidance for creating weights for the criteria used to evaluate the alternatives. In this chapter I further described how the criteria would be evaluated for the analysis.

In Chapter IV, I used a CAM analysis to evaluate the alternatives. I based my evaluation of the alternatives on cost, equity, implementation viability, and political acceptability. I assigned each of the alternatives a raw score and a weighted score to represent how well they met the criteria standards.

The purpose of this paper is to provide policymakers with insight on potential alternatives to consider that can mitigate the environmental impacts of homeless encampments in public urban spaces. I used a CAM analysis to present four alternatives. Regardless of limitations, I believe this is the most effective tool to use for policy decisions. The CAM allows users to consider the outcomes, review and compare the alternatives based on a set of chosen criteria. Interviewees suggest the number of homeless encampments is not predicted to decrease any time soon. Confronting the need to provide more affordable housing options and address the ongoing environmental impacts of homeless encampments will continue to be an issue that localities must address. Based on the interviews I conducted, a reoccurring theme among all representatives was the need for increased interagency collaboration to address the issue. It is my hope that through this paper, people will recognize this as a growing issue that deserves attention and immediate action. State and local agencies need more academic literature on the topic and continued research on innovative mitigation strategies that can lessen the environmental impacts of homeless encampments in a strategies that can lessen the environmental impacts of homeless encampments in a strategies that can lessen the environmental impacts of homeless encampments in the topic and continued research on innovative mitigation strategies that can lessen the environmental impacts of homeless encampments in Sacramento and throughout the State of California.

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