

Impacts of Chico's Public Safety Approach to Homelessness: Initial Analyses

Jennifer Wilking
Department of Political Science
CSU, Chico

Susan Roll
School of Social Work
CSU, Chico

David Philhour
Department of Psychology
College of BSS
CSU, Chico

Peter Hansen
Department of Geography
Geographic Information Center
CSU, Chico

Holly Nevarez
Department of Health and Community Services
CSU, Chico

Introduction

Municipalities around the country are increasingly concerned about a rise in homelessness. While there are various approaches to this issue, many cities are using public safety laws and resources to mitigate the effects of a growing homeless population. In a 2016 report, the National Law Center on Homelessness & Poverty released a 10 year study of 187 cities across the US demonstrating that indeed there has been a substantial increase in laws and local regulations aimed at mitigating the effects of a growing homeless population. Chico City Council has followed suit, by passing ordinances such as Sit- Lie (November, 2013)¹ and Property Storage (September, 2015).²

The public safety approach in Chico was motivated by several factors, including concerns about costs and lost revenue to local businesses, as well as costs to the city to clean up public property and waterways. For example, in a 2012 survey of downtown businesses, over a majority of responding businesses reported challenges such as individuals loitering and deterring customers, or having to clean up business entrances, at least once a month. Respondents overwhelmingly identified the homeless and transient population as responsible for these behaviors, and identified the city and police as being responsible for addressing the challenge.³ Additionally, the clean-up of homeless encampments and other property was cited as a motivation for the 2015 property storage ordinance.⁴

Despite the ordinances, homelessness remains a salient issue in Chico, and several stakeholders frequently call for more data and information in order to effectively address this issue. In this context, and in partnership with the Chico Police Department who provided valuable data, this report provides initial analyses to understand the law enforcement implications of Chico's public safety approach to homelessness. Specifically, the report explores how arrest rates and the geography of arrests have changed after enforcement of the sit-lie ordinance. We also estimate the costs to the City of Chico to police the homeless community.

Measuring and assessing the implications or costs of a public policy is a formidable challenge, and several limitations should be kept in mind. First, the analyses contained in this report focus exclusively on the implications and costs borne by the City of Chico's Police Department. Other agencies, such as the Butte County Sheriff's Office also incur substantial costs entailed with policing the homeless population, but these costs are not borne specifically by the city. Future research should assess costs to the county, and costs to agencies beyond just law enforcement, such as the municipal and county courts. Additionally, the analyses likely underestimate

¹ <http://www.chicoer.com/article/ZZ/20131106/NEWS/131109326>

² http://chico-ca.granicus.com/MetaViewer.php?view_id=2&clip_id=587&meta_id=46347

³ Nevarez, Holly C. "Concerns of Downtown Chico Businesses." Survey. 25 January 2012.

See Appendix for more detailed survey methodology and results.

⁴ <http://www.chicoer.com/government-and-politics/20150913/chico-property-ordinance-to-crack-down-on-personal-items-left-throughout-city>

contacts (and thus costs) between law enforcement and the homeless population, as officers regularly give warnings and assists to individuals that are not recorded in the data.

This report provides initial analyses. We hope to continue to partner with the Chico Police Department as well as other community organizations and agencies to better understand homelessness in Chico in the hopes of uncovering costs, benefits and solutions moving forward.

Recent City Council Actions regarding Homelessness

The City of Chico has taken numerous approaches to homelessness over the past twenty years. Increasingly, the approach has been oriented around public safety. To that end, several ordinances have been enhanced to provide enforcement agencies additional tools to address the homeless/transient population, especially with regard to promoting a clean and safe downtown area. For example, prior to 2012, the ordinance on panhandling (9.54.040) was amended to prohibit aggressive panhandling and restrict panhandling locations, and individuals were prohibited from being in the downtown plaza between the hours of 2 and 5 am (CMC 12R.04.370).

More recently, in November of 2013, the City Council passed the “Sit-Lie” ordinance, restricting individuals to sit or lie in public sidewalks, curbs or streets adjacent to commercial properties (CMC 9.44.015). In September of 2015, several codes were added or expanded to enhance the existing law enforcement tools to address the homeless population. Specifically, the “sit-lie” ordinance was expanded to include entrances to public buildings (9.44.018), the code on camping was expanded to prohibit the storage of private property in public places (CMC 9.20.050), and chapters were added to the municipal code regarding protection of waterways (9.50) and definition and regulation of the civic center (9.43). Chapter 9.5 of the municipal code includes a specific ordinance prohibiting camping in waterways (9.50.030).

The analyses contained in this report examine the costs of these ordinances, as well as other implications, such as the geography of arrests. In the analysis, we focus on the sit-lie ordinance and its implementation (December 19, 2013), mainly due to the high level of public and media attention surrounding the ordinance.

Implications of Public Policy Changes

To understand the law enforcement implications of a punitive approach to homelessness, we employ a natural experiment comparing law enforcement data preceding and following enforcement of the sit-lie ordinance. Specifically, we explore arrests and citations data between Jan. 1, 2010 and June 30, 2016, with enforcement of sit-lie occurring on December 19, 2013, roughly bisecting this period.⁵

Citations data is examined in order to understand the direct implications of the ordinances – specifically, how many infractions have been written for each recently passed ordinance. It is necessary to examine infractions data, as these infractions do not appear consistently or comprehensively in the arrest record data. Unfortunately, it is not possible to determine from the infractions data whether the individual receiving a ticket is homeless or housed, as address of the cited individual is not recorded (though this information is recorded for arrests).

The arrest record data is most comprehensive, and is used in the majority of the analyses.⁶ The arrest record data takes each arrest as the unit of analysis, and thus a single individual may appear in the data multiple times. Additionally, each arrest can include multiple charges. For the purpose of estimating costs, we created a variable which provides the number of charges associated with each arrest. Critically, the arrest data includes the address of the arrestee, and when the individual is homeless, the data includes terminology such as “homeless” and “transient”. Individuals were coded as homeless if the address is given as a homeless shelter, or if terminology relating to “homeless” or “transient” appears in the address column. Over the specified period, the arrest data include 29,060 observations. 26.5% of the arrests in the data are associated with individuals experiencing homelessness.

⁵ The “pre sit-lie” period in this analysis extends from January 1, 2010 to December 18, 2013 and includes 1448 days. The “post sit-lie” period extends from December 19, 2013 to June 30, 2016 and includes 925 days. We control for the uneven number of days across the two periods where necessary.

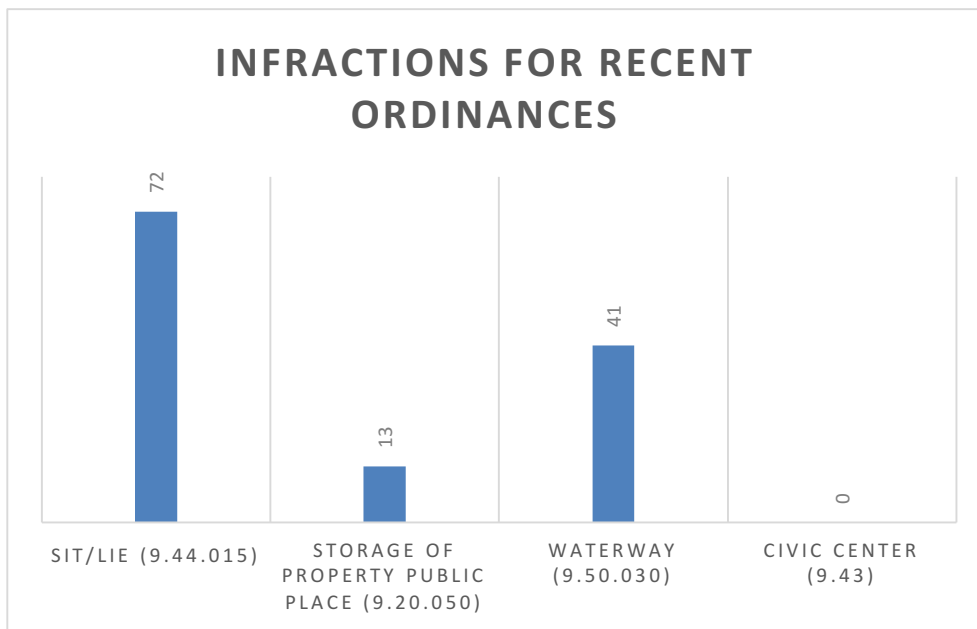
⁶ The method used to prepare the arrest data for analysis can be found in the appendix.

Citations

Most directly, the ordinances passed in 2013 and 2015 allow law enforcement to write citations for the relevant offenses. However, as the Police Department has noted in several public forums, sit-lie citations are written minimally, and often occur as a last resort.

A count of infractions written for the new ordinances bears this out. Between December 2013 and June 30, 2016, a total of 126 infraction citations were written with respect to the ordinances described in the previous section (see Figure 1). For the Sit-Lie ordinance, this amounts to .08 citations written per day between December 19, 2013, and June 30, 2016. Similarly, per day, .04 citations were issued for the expanded camping ordinance and .14 citations were written daily for the protection of waterways ordinance. No citations were written for the Civic Center ordinance during the specified period (September 15, 2015 – June 30, 2016).⁷

Figure 1

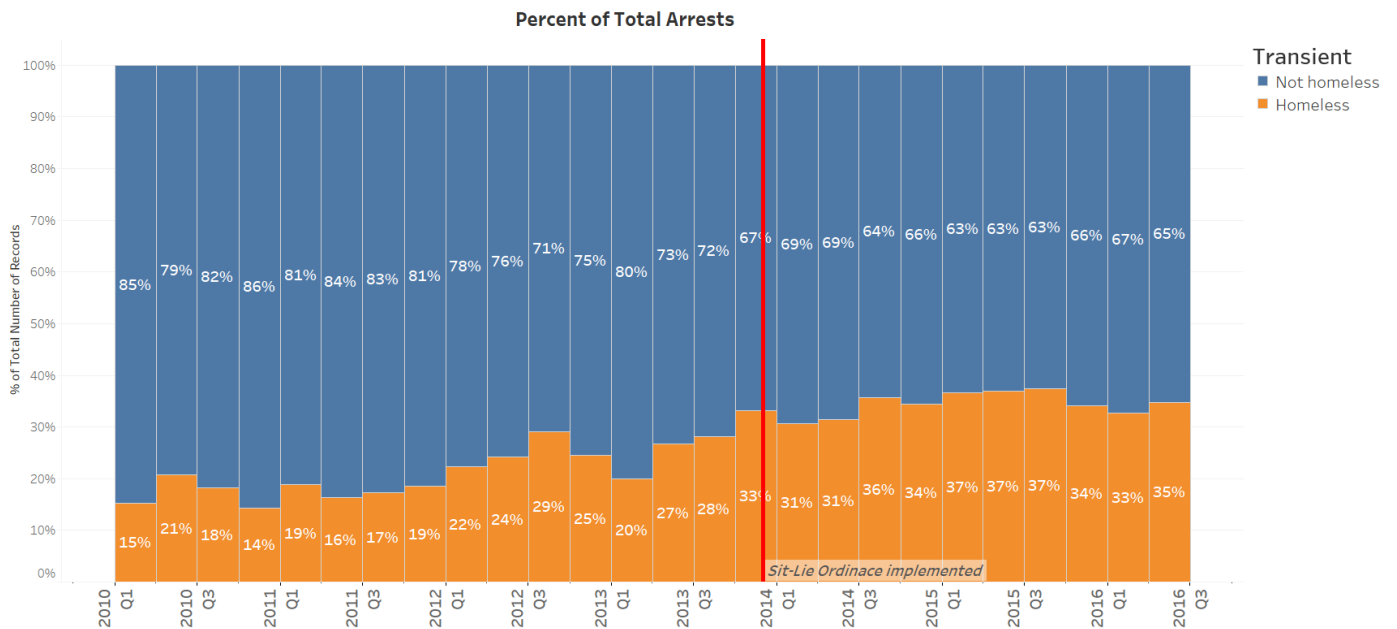


⁷ The period of investigation for the storage of property, waterways, and civic center ordinances extends from September 15, 2015 to June 30, 2016 and includes 289 days.

Arrests

While the citation data suggests that recently passed ordinances were rarely used, it is possible that passage of sit-lie had indirect effects on the policing of the homeless community, so that with the passage of sit-lie, general policing of the homeless population increased. To explore this possibility, we examine arrests of homeless versus housed individuals in the pre and post sit-lie periods. Figure 2 presents the data graphically, with the red line indicating the enforcement date of sit-lie. The data suggest an increase in arrests of homeless individuals relative to housed individuals over the period of review.

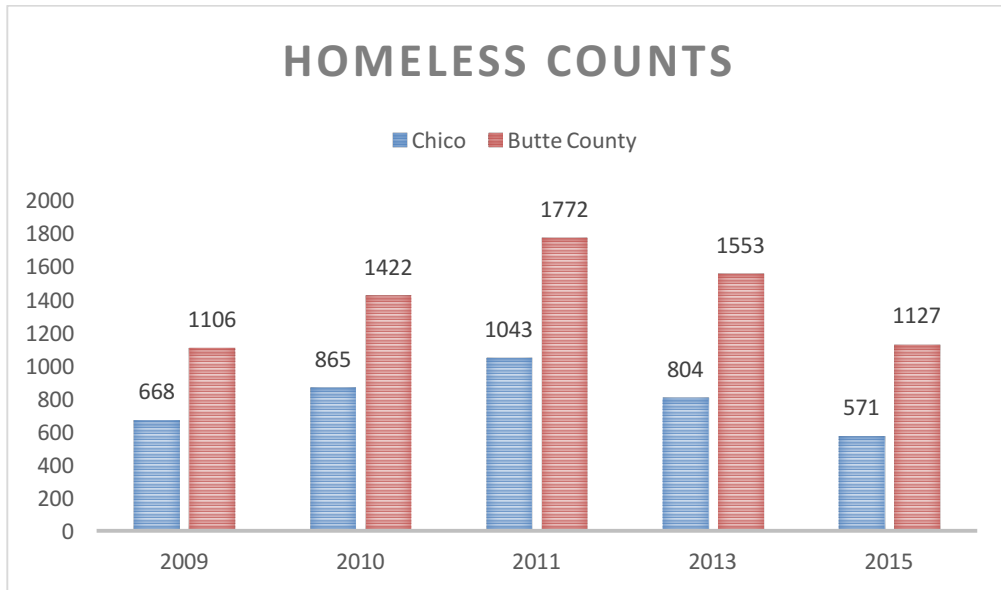
Figure 2



The plot of % of Total Number of Records for Arrest Dat Quarter. Color shows details about Transient. The marks are labeled by % of Total Number of Records.

It is possible that the increase in arrests of homeless individuals is due to an increase in the homeless population in Chico. However, the mandated counts of homeless individuals (Point in Time surveys), do not suggest this is the case. Rather, Figure 3 suggests the trend in homelessness both in Chico and Butte County is moving in a different direction than the trend in homeless arrests. According to the PIT surveys, homelessness peaked in Chico and Butte County in 2011 and declined in 2013 and 2015.⁸

Figure 3



⁸ http://buttehomelesscoc.com/reports/pit/butte_coc_2015_homeless_census_survey_report.pdf. The 2017 PIT was conducted on January 25, 2017. At the time of writing, the 2017 PIT results were not yet public.

To further investigate this trend in arrests, we explored whether there was a statistically significant increase in the number of arrests of homeless individuals after sit-lie went into effect. Table 1 presents a cross-tabulation of arrests by housing status before and after sit-lie. Prior to sit-lie, 21.6% of the arrests were of homeless individuals, and after sit-lie, this increased to 34.4%. To understand if this is a significant difference (testing the null hypothesis that arrests by homeless status were independent across the two periods), we conducted a Chi-Squared test. This test showed that this was a statistically significant difference, at high levels of significance.⁹ The difference in arrests of homeless individuals before and after sit-lie, may be more meaningful if seen in terms of arrests per day. In the pre sit-lie period, 2.7 homeless individuals were arrested per day. After enforcement of sit-lie went into effect, 4.1 homeless individuals were arrested daily.

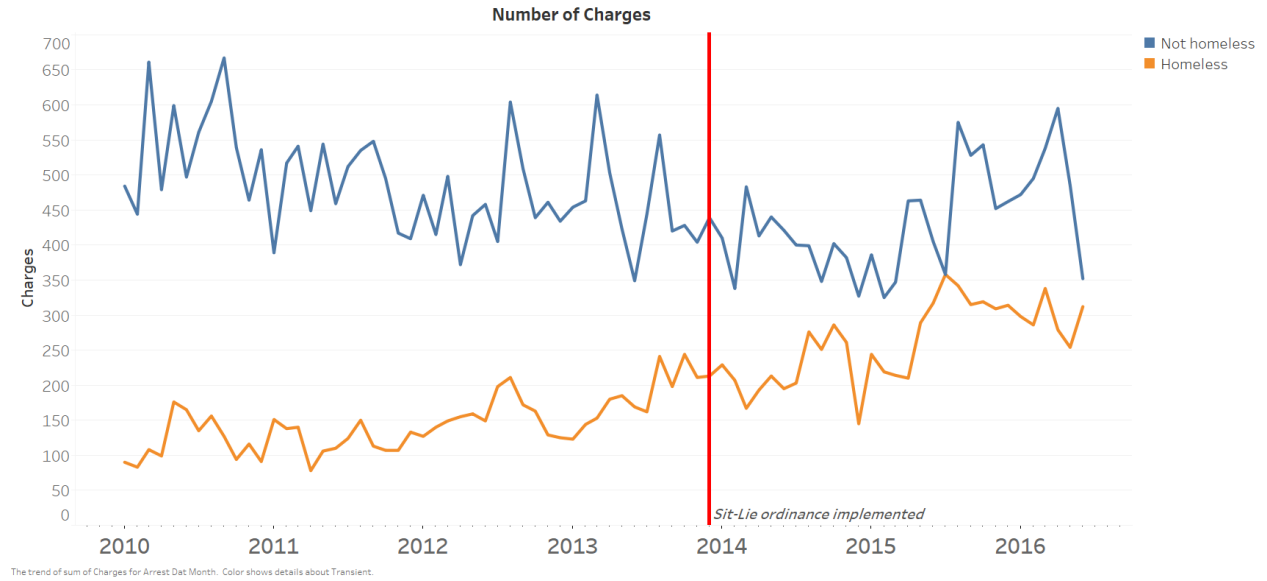
Table 1: Arrests Pre and Post Sit-Lie

| | Pre-Sit/Lie | Post Sit/Lie | Total |
|--------------|-------------|--------------|-------|
| Not Homeless | 78.4% | 65.6% | 73.5% |
| Homeless | 21.6% | 34.4% | 26.5% |
| Total | 100% | 100% | 100% |

⁹ The Pearson Chi square statistic is 578.21, and is statistically significant at high levels of confidence, demonstrating a significant increase in arrests of homeless individuals in the post-sit-lie period, relative to the pre sit-lie period.

Additionally, it is possible for an individual to be charged with multiple crimes during each arrest. Figure 3 graphs the number of charges per arrest across the two periods, by housing status. Similar to arrests, the number of charges for homeless individuals also appears to increase over time.

Figure 4

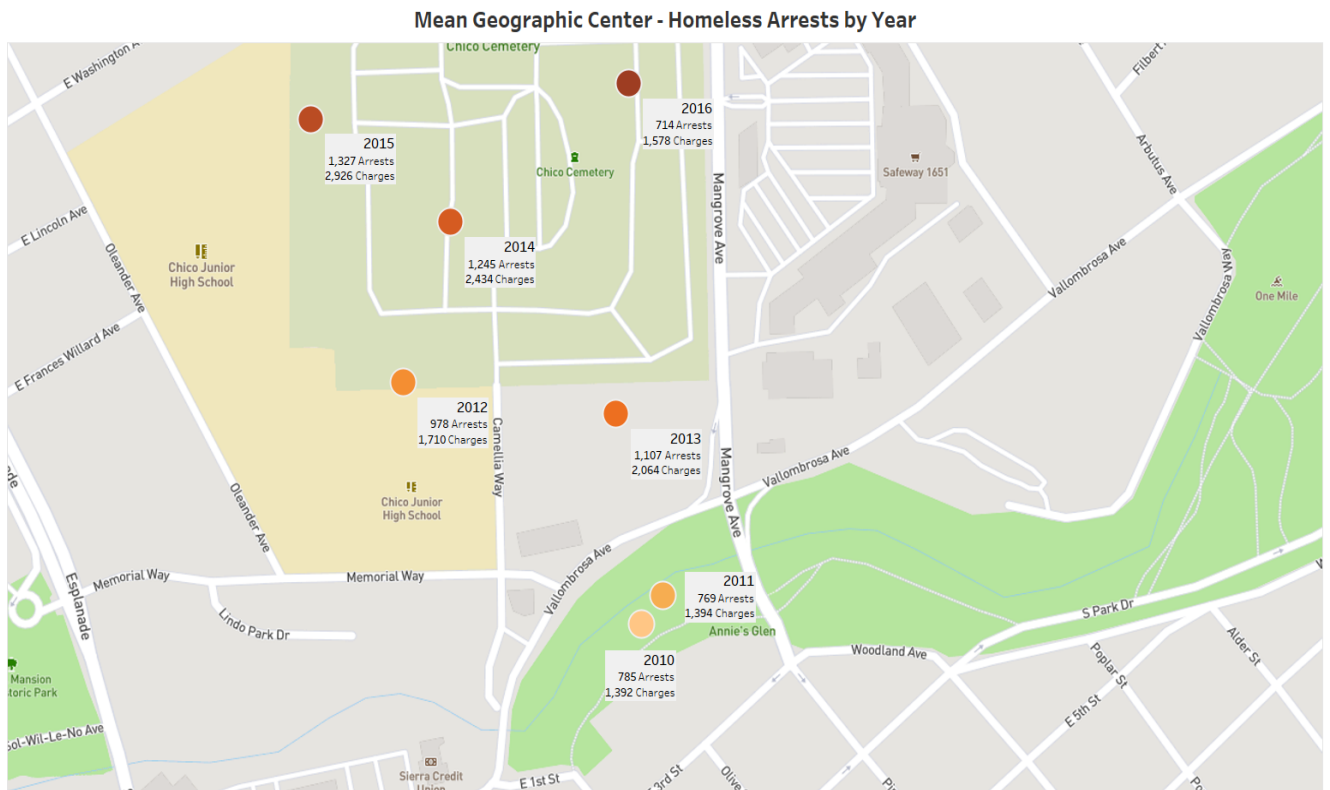


Location of Arrests

In addition to affecting the level of policing of the homeless community, it is also possible that sit-lie influenced where homeless individuals stay. We examined this in the arrest record data with a geographic analysis, geo-coding arrest locations.¹⁰

The spatial analysis, presented in Figure 5, suggests that the geography of arrests of homeless individuals has changed over time. Figure 5 presents the mean location of arrests of homeless individuals, by year. A clear trend can be detected; the mean location of arrests moves gradually north over time.¹¹

Figure 5



Map based on average of X and average of Y. Color shows details about Arrest Dat Year. The marks are labeled by Arrest Dat Year, sum of Charges and sum of Number of Records. Details are shown for Arrest Dat Year. The data is filtered on Neighborhood and Transient. The Neighborhood filter excludes Null. The Transient filter keeps Homeless.

¹⁰ Information on this methodology is available in the appendix

¹¹ Note, the dots identifying mean arrest location for 2012, 2014, 2015 and 2016 are located in the Chico Cemetery. This does not mean that homeless individuals are frequently being arrested in the cemetery, but rather the average latitude and longitude of arrest locations for homeless individuals in those years falls in the cemetery.

Costs of Policing the Homeless Population

To this point, the discussion of implications has focused on trends in policing the homeless before and after the sit-lie ordinance went into effect. As mentioned in the introduction, though, part of the motivation behind the passage of sit-lie and other public safety ordinances around homelessness, is financially motivated; to address concerns of downtown business owners regarding lost revenue, as well as costs to the city in clean-up of property.

In order to fully assess the impacts of the public safety approach, it is also important to know the costs of law enforcement. To this end, using arrests and citation data of the period January 1, 2010 to June 30, 2016, as well as estimates of police time and costs provided by Lt. Merrifield for the 2016/17 Grand Jury Report, we estimate the costs of arrests, citations, and dispatch for the homeless population.

This estimate includes activity of public safety personnel related to responding to, citing or arresting law breakers, recognizing that police activity varies widely and that any estimates need to be understood with this limitation in mind. Specifically, these estimates do not include all of the contacts between homeless individuals and public safety personnel that did not end in a citation or arrest, and also excludes Target team activity outside of arrests and citations, such as clean-up of homeless encampments.

Lt. Merrifield estimated that it took dispatch an average of 5 minutes/call. He also estimated that a citation issued to an individual took approximately 30 minutes of two officer's time. According to Merrifield, arrest times can be assumed to take anywhere from 90 – 120 minutes. Finally, booking costs can be attributed to one hour of an officer's time. These estimates are outlined in Table 2, attributing 90 minutes of time for an arrest that resulted in one charge and 120 minute of time for an arrest that resulted in two or more charges.

Table 2: Time & Cost Estimates of Public Safety Activity

| Activity | Personnel | Number of Personnel involved | Hourly pay rate | Total time spent (in minutes) | Cost attributed |
|----------|--------------------------------------|------------------------------|-----------------|-------------------------------|-----------------|
| Dispatch | E Step Public Safety Dispatcher II | 2 | \$22.34 | 5 | \$3.72 |
| Citation | C Step Patrol Officer | 2 | \$30.32 | 30 | \$30.32 |
| Arrest | C Step Patrol Officer | 2 | \$30.32 | 1 charge = 90 | \$90.96 |
| | | | | 2+ charges = 120 | \$121.28 |
| Booking | E Step Community Services Officer II | 1 | \$21.29 | 60 | \$21.29 |

Based on these estimates of average time and costs to law enforcement for dispatch, citations, arrests and booking of homeless individuals, we estimate costs of these activities to be \$882,065.00 for the period January 1, 2010 to June 30, 2016. Tables 3 and 4 detail how these costs were calculated for the arrests dataset (including misdemeanor citations), as well as for infractions.

Table 3: Cost of Public Safety Activity, January 1, 2011 – June 30, 2016

| Activity | Number of Occurrences | Cost | Total Cost |
|-------------------------------|-----------------------|--|--------------|
| Citation | 1,243 | Dispatch (\$3.72) + 2, C Step Patrol Officers for 30 minutes (30.32) | \$42,311.72 |
| Arrest with 1 Charge | 3,453 | Dispatch (\$3.72) + 2, C Step Patrol Officers for 90 minutes (90.96) + 1, E Step Community Services Officer II (21.29) | \$400,444.41 |
| Arrest with 2 or more charges | 3,003 | Dispatch (\$3.72) + 2, C Step Patrol Officers for 120 minutes (121.28) + 1, E Step Community Services Officer II (21.29) | \$439,308.87 |

| | | | |
|--|--|------------|--------------|
| | | Total Cost | \$882,065.00 |
|--|--|------------|--------------|

Table 4: Number of Infractions and Cost, by Violation – January 1, 2010 – June 30, 2016

| Description | CMC Violation | Number of Infractions | Estimated Cost/infraction | Estimated Cost |
|-----------------------------------|--|-----------------------|---------------------------|----------------|
| Camping | 9.20.030 | 77 | \$30.32 | \$2,334.64 |
| Park/No Camping or Overnight Stay | 12R.04.030 | 346 | \$30.32 | \$10,490.72 |
| Store Property in Public Place | 9.20.050 | 13 | \$30.32 | \$394.16 |
| Waterway/Camping | 9.50.030B | 31 | \$30.32 | \$939.92 |
| Waterway/Store Personal Property | 9.50.030C | 10 | \$30.32 | \$303.20 |
| Sit/Lie | 9.44.015 | 72 | \$30.32 | \$2,183.04 |
| Panhandling | 9.54.020 9.54.020 (K) 9.54.020 (J) 9.54.020 (L) | 103 | \$30.32 | \$3,122.96 |
| Total | | 652 | | \$19,768.64 |

Based on these estimates of average time and costs to law enforcement for dispatch, citations, arrests and booking of homeless individuals, we estimate costs of these activities to be \$882,065.00 for the period January 1, 2010 to June 30, 2016. However, non-misdemeanor citations (infractions) are also written to homeless individuals. As has been discussed, the infractions records do not include housing status of the individual. Instead, we count and associate a cost with infractions that are most likely to be written to individuals experiencing homelessness - \$19,768.63. With infractions and costs associated with arrests, we estimate policing the homeless population has cost the city \$901,833.64 for the period under review. Per year, this equates to \$138,743.64.

It is necessary to put this net cost in more context. Our estimates are notably higher than the police department estimates for a similar period. In the Grand Jury report, the police estimated the costs of policing homelessness between July 2015 and December 2015 to be \$47,612. Our estimate for the same period, based on the arrest record data and excluding dispatch costs, is nearly double the police estimate at \$87,541.

Table 5: Costs of Arrest Pre & Post Sit/Lie

| Time Period | Number of Days | Total Cost of Arrests | Average daily cost |
|-------------------------------|-----------------------|------------------------------|---------------------------|
| Jan. 1, 2010 - June 30, 2016 | 2373 | \$882,065.00 | \$371.71 |
| Jan. 1, 2010 – Dec. 18, 2013 | 1448 | \$457,166.92 | \$315.72 |
| Dec. 19, 2013 – June 30, 2016 | 925 | \$424,898.08 | \$459.35 |

For additional context, we calculate the costs of arrests pre and post sit-lie. Consistent with our finding that arrests of homeless individuals increased after sit-lie, the costs estimate shows an increase in costs associated with policing the homeless population in the post sit-lie period.

Policing the Homeless Population – Additional Information

The analyses above attempt to understand the law enforcement implications of Chico’s public safety approach to homelessness. Specifically, we have explored how the sit-lie and other ordinances affect the arrest rate and charges of homeless individuals, the location of arrests, and the costs of policing the homeless population. In some cases though, the analyses raise additional questions. In this section, we attempt to address two common questions.

First, given the findings that the public safety approach has increased the policing of the homeless population, we further explored who is most frequently arrested by the Chico PD.

Figure 6

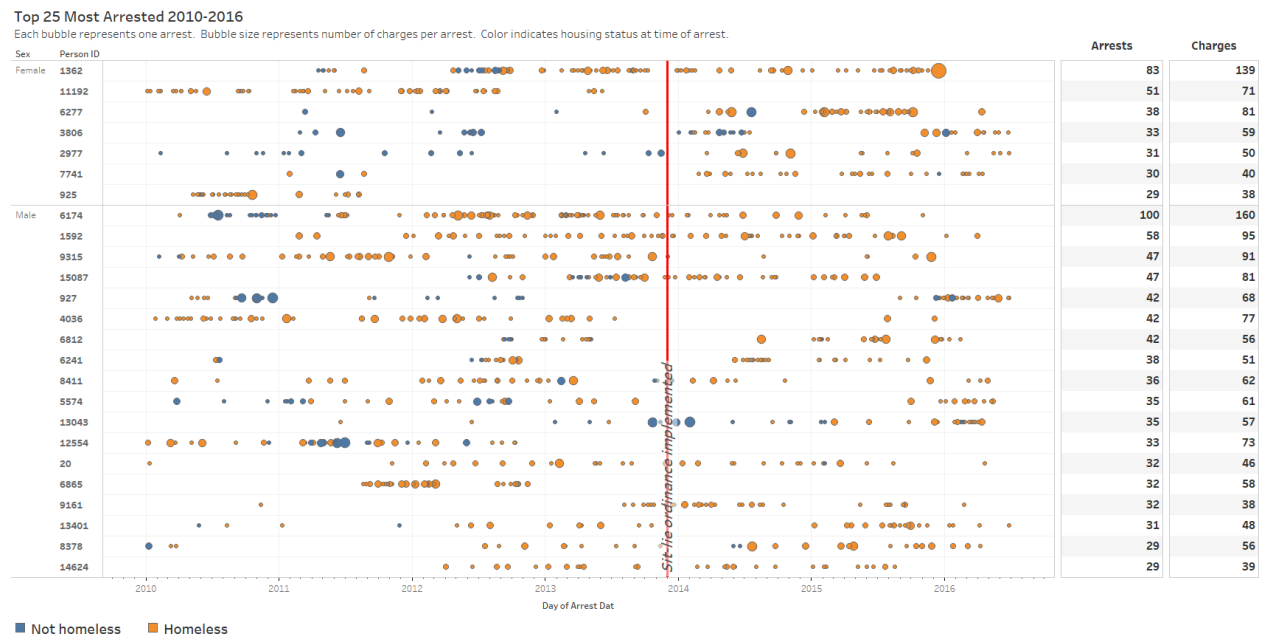


Figure 6 demonstrates that, during the period under review, the 25 individuals with the most arrests in the dataset were homeless (either all or part of the 6.5 years covered). This suggests that just as there are homeless individuals who frequently access emergency medical services, there are also those who have more frequent contact with law enforcement. The top 25 arrestees ranges from 83 to 29 arrests. If we put this into the context of the cost analysis above, and assume a conservative one charge per arrest, the individual who has been arrested the most over the period of review has cost law enforcement \$9,625.51, just for arrests. This excludes costs to the jail of housing the arrested individual.

In addition, it is important to know what crimes individuals are committing. We can only do a preliminary description of the type of crimes committed at this point, as the description of offenses or statutes in the arrest data includes many redundancies that need to be re-coded and consolidated. As a first step, Table 6 lists the top ten most common charges by housing status. Note, these numbers may shift as the statute data is cleaned and like offenses are combined.¹²

Table 6

| Top 10 Most Common Charges by Housing Status | | | | |
|---|--|-------------|--|-------------|
| Housed Population | | | Homeless Population | |
| | Charge | % | Charge | % |
| 1 | Disorderly Conduct – Under the Influence | 12.6 | Bench Warrant Misdemeanor | 16.7 |
| 2 | Bench Warrant/Misdemeanor | 7.6 | Disorderly Conduct – Under the Influence | 11.9 |
| 3 | Driving Under the Influence of Alcohol | 6.2 | Outside Warrant/Misdemeanor | 6.6 |
| 4 | Outside Warrant/Misdemeanor | 4.4 | Violation of Probation/Misdemeanor | 4.2 |
| 5 | Petty Theft | 3.2 | Outside Warrant/Felony | 3.8 |
| 6 | Driving with a Suspended License | 2.8 | Disorderly Conduct – Lodging without Permission of Owner | 3.0 |
| 7 | Violation of Probation - Misdemeanor | 2.8 | Possession of a Controlled Substance | 2.9 |
| 8 | Minor in Possession | 2.8 | Failure to Appear in Court | 2.3 |
| 9 | Driving without a License | 2.4 | Violation of Parole | 2.2 |
| 10 | Possession of Methamphetamine/Felony | 1.9 | Possession of Methamphetamine | 1.8 |
| | TOTAL % Covered by Top 10 | 46.7 | Total % Covered by Top 10 | 55.4 |

For both the homeless and housed population, prior criminal records or law enforcement contacts, clearly lead to additional interaction with the criminal justice system (e.g. bench warrants, outside warrants, violation of probation and misdemeanors). Additionally, for both populations, drug and alcohol related offenses appear in the top ten. For the homeless population, it is notable that the fourth most common offense, disorderly conduct - lodging without permission of owners, likely stems directly from living without shelter.

¹² For example, 647 (F) PC, a common offense for both the housed and homeless population is disorderly conduct – under the influence of alcohol. The statute code may also be entered as 647FPC, in which case it is not included in the table above. Re-coding or cleaning the Statute variable is a time consuming task that will hopefully be undertaken with the help of student assistants.

Additionally, this analysis is based on a second data set created from the arrest record in which each charge is the unit of analysis, rather than each arrest.

Discussion

The initial analyses detailed in this memo suggest there have been clear impacts of a public safety approach to homelessness in Chico. This has many implications and also leads to more questions.

Most broadly, we need to explore whether the community is benefiting from the ordinances discussed herein. This report has shown that police work with regard to the homeless population is costing the city significantly more than was estimated in the grand jury report. While one of the central drivers of the ordinances was downtown business, a recent survey conducted by the DCBA in cooperation with Chico State suggests that local merchants have not seen a significant reduction in problems they associate with the homeless population.¹³

The Department of Housing and Urban Development (HUD), after making statements against public safety laws as a means to reduce homelessness,¹⁴ has begun asking Continuums of Care to “describe how they are reducing criminalization of homelessness” indicating that there may be a reduction in points on funding requests for communities who utilize these strategies.¹⁵ Butte County benefits from approximately \$500,000 of funding from HUD each year.

This report estimates that 30-40% of those arrested by the Chico Police officers are individuals experiencing homelessness, entailing approximately \$138,000 per year policing the homeless population. We recognize that this involves fixed costs, and do not advocate reductions in police staff or equipment. With this consideration in mind, this finding raises two questions. First, what public safety concerns are not being addressed due to this use of resources? Second, how could police time be used more effectively to move homeless individuals into supportive services? This is especially pertinent given that the results suggest police regularly interact with a small sub-set of the homeless population.

Finally, the report has shown that arrests of individuals have moved northward. This may indicate that the sit-lie ordinance has been effective in moving homeless individuals out of the city center. However, what are the implications of this movement on businesses and neighborhoods outside of downtown? Also, this northward movement also likely has implications for helping those experiencing homelessness access services which are mostly in the downtown and south Chico areas.

¹³ Nevarez, Holly C. “Concerns of Downtown Chico Businesses, Follow-up Survey.” Survey. November 2016.

¹⁴ Oliva, A. (2014). SNAPS In Focus: The Case Against Laws That Criminalize Homelessness - HUD Exchange. Retrieved from <https://www.hudexchange.info/news/snaps-in-focus-the-case-against-laws-that-criminalize-homelessness>.

¹⁵ FY 2016 Continuum Of Care (Coc) Program Competition: Funding Availability – HUD Exchange. Retrieved from <https://www.hudexchange.info/e-snaps/fy-2016-coc-program-nofa-coc-program-competition>.

Next Steps

Additional studies can address some of the questions outlined above, but the community also needs to discuss how we can use public funds most effectively to address the pressing issue of homelessness in our community.

As discussed above, the cost analysis is incomplete in that we focus only on law enforcement costs borne by the Chico PD. In order to have a more complete understanding of law enforcement costs, additional analysis should include the costs of detaining homeless individuals in Butte County Jail, and the costs borne by Park Rangers in policing the homeless community in Chico's Parks.

More broadly, there are many implications of a public safety approach, beyond those relating to law enforcement. Specifically, the analyses above suggest that some homeless individuals are contacted multiple times by law enforcement, and this has implications for the individual as well as the broader criminal justice system. For example, a citation for sit-lie may become a failure to appear, an arrestable offense, if the individual does not pay the ticket. Paying tickets and appearing in court are certainly more burdensome for individuals in poverty and without access to reliable transportation. The implications for the judicial system as well as homeless individuals involved in the system will be explored in a next project.

Community leaders continually call for more data to better understand how to approach the problem of local homelessness, and we hope that this on-going project can speak to this call. Additionally, it is our aim to conduct the project *in collaboration* with community partners.

To that end, we are very grateful for the cooperation of the Chico Police Department thus far. Chico PD has been an essential partner in providing the arrest and citation data necessary to conduct the analyses discussed above. Our partnership is on-going, and this report is the first but not last result of this partnership.

Again, and most importantly, this report and the analyses contained herein were undertaken with community partners in order to collaboratively move forward on the issue of homelessness in an effective manner.

Appendix

Description of Downtown Business Survey

In early 2012, the Downtown Chico Business Association, with Holly Nevarez at CSU, Chico conducted a survey of downtown businesses regarding behaviors of concern to downtown business owners. The survey was sent to 350 businesses within the downtown business district, and yielded a 44% response rate.

Several behaviors were identified as concerns for the downtown businesses including people sleeping outside the business, and having to clean up outside of the business front. Respondents indicated that “People sleep outside of their business” several times a day (3.5%), daily (17.9%), and weekly (19.3%). “You or employees have to clean the area outside your business front in order to open for the day happened daily for 32.7% of businesses and weekly for another 19.1% of businesses. The concerns of “dog or human waste outside your business requiring you or an employee to clean it up” was reported several times a day (3.4%), daily (6.5%), weekly (22.1%), and monthly (26.2%). The respondents perceived this behavior as the result of people who seemed to be homeless, transients, and/or panhandlers.

The survey also asked “who should help to manage the consequences of the behavior to support your business?” The police and the city were identified by 77.5% and 73.9% of the respondents respectively. These results demonstrate a high level of concern by business owners about these behaviors of the homeless, transient and panhandling population. In addition, these results indicate an ordinance or punitive response since the businesses are requesting help primarily from the city and police.

In December 2016 follow-up data was collected from the downtown businesses. The follow-up survey was another collaboration between the Downtown Chico Business Association and Holly Nevarez at CSU, Chico. The intention of this survey was to determine any change among downtown businesses in regards to the behaviors that concerned them and who conducted these behaviors. This survey also gathered data on related programs and ordinances that had been implemented since 2012. The response rate for the follow-up survey was 24% (83 of 350).

Using the questions from the pre-test, respondents identified the same behaviors as concerns for the downtown businesses. The follow-up survey responses regarding the frequency of behaviors indicate frequency at or greater than reported in the initial survey. Respondents indicated that “People sleep outside of their business” several times a day (5.06%), daily (22.78%), and weekly (27.85%). “You or employees have to clean the area outside your business front in order to open for the day happened daily for 31.65% of businesses and weekly for another 15.19% of businesses. The concerns of “dog or human waste outside your business requiring you or an employee to clean it up” was reported several times a day (3.8%), daily (5.06%), weekly (22.78%), and monthly (45.57%). The respondents still perceive this behavior as the result of people who seemed to be homeless, transients, and/or panhandlers.

These percentages are either comparable to or higher than the 2012 data. This indicates that businesses remain concerned about the same behaviors regardless of the implementation of many programs and ordinances.

Data Preparation Process

Chico PD Arrests data preparation:

1. Electronic monthly arrest records were delivered on DVD/CD to the research team.
2. The data were exported from the PDFs to Excel Spreadsheets using Adobe Acrobat.
3. Given the method of collection by CPD, Visual Basic Macros were employed to fill down information for a single arrest with multiple charges to fill in missing data to complete the matrix.
4. There was a problem in the translation of ARREST DATE from PDF to Excel which necessitated manually changing the date format for the first 12 days of the month Jan. 2nd will read as "02/01/20xx" in the Formula Bar correct the date to read "1/2/20xx").
5. Data were visually scanned to see if any arrests were duplicated. Often arrests on the first day of the next month were included in the report for the previous month. All duplicate records were deleted.
6. The completed Excel spreadsheets were then merged into a single spreadsheet containing all of the arrests (and charges) from January 2010 through June 2016.
7. Based on the ADDRESS of the Person Charged a determination was made if said person was (transient = 1) or (non - transient =0) based on reports as "homeless" or "transient" or having given the address of a homeless shelter.
8. A concatenated variable of NAMEDATE was created to indicate a single arrest for person on a specific date. A second concatenated variable called NAMEDOB to be later used in indicating persons arrested under different variations of their name (e.g. JOE SMITH, JOE P. SMITH or JOSEPH P. SMITH)
9. The Spreadsheet was then converted into an SPSS datafile (CHARGES) and frequencies on NAMEDATE were computed to determine how many charges were filed for that person on that particular arrest.
10. The results of the frequency count were entered into a sub-set of the larger dataset named ARRESTS which now indicated how many charges were filed with each arrest.
11. Using NAMEDOB in an SPSS dataset based on the ARRESTS file a count of the number of arrests for a particular name/DOB combination was computed and then entered into a further sub-setting of the data to create a file called PERSONS.
12. Once the three datasets had been created in Excel the data needed to be purged of data that would possibly identify an individual: NAME, DOB, OCCUPATION, HOME_ADDRESS, but first a 5-digit unique identifier needed to be assigned to each person based on NAMEDOB. Based on similar names with identical DOBs, Heights, and weights, those individuals were assumed to be the same person and assigned the same unique identifier (PersonID).
13. All three versions of the spreadsheet were purged of the above mentioned variables before conversion into SPSS and stata datasets for analysis.

Geocoding Methodology for Changes in Arrest Location over Time

Of the 29,060 unique arrest records, 1,983 records did not have any arrest location information. Therefore they could not be assigned a latitude and longitude. All other arrests with valid location information were given a latitude and longitude value by using a process called geocoding. The geocoding process allows address information to be pivoted to a point location on a map.

Methods for geocoding included utilization of ESRI ArcGIS technology, Google Maps API, and manual placement. The ESRI and Google geocoders together combined to place 26,288 records automatically matched. Each of these matches were vetted for accuracy through a manual scan comparing the police report location to the geocoded location response. The vast majority were determined to be correct, with some requiring manual adjustment. These mostly occurred on records that stated a specific block stretch of road (eg 800 block E. 1st st.)

Of the records that did not match during the initial process, 586 were non-street type locations (eg Caper Acres) that reoccurred more than once within the data. Records like these were added to the geocoder so that a location could be assigned to the arrest records on re-run when that location was noted again. 52 additional non-reoccurring, wholly unique, non-street type locations were placed manually at the correct location (eg “across from Morning Thunder”)

135 records with vague descriptions that required a more extensive manual review. After close review of these descriptions, 62 records were able to be placed with confidence of accuracy. Examples include lack of clarity on east vs. west streets, or streets vs. aves. The remaining 73 points had descriptions that were either too vague to place (eg. A long linear feature with no cross reference, “Esplanade” or “Lindo Channel”, or did not exist within Butte County.

Resulting arrest geometry is 92.93% matched.

PD Beat, and Census Tracts/Neighborhood

Using the geocoded arrest records, PD Beat number and Census Tract identifiers were added to each arrest point to allow for data aggregation and to connect census derived socio-economic statistics.

Spatial Statistics

One method used to explore whether homeless arrests were transitioning beyond the downtown core and into the surrounding neighborhoods was to calculate a mean and median spatial center of all arrests, grouped by year. Therefore, each year had a single point that was the mean or median latitude and longitude of all geocoded arrests. This was completed for each year and calculated only with arrest records from the homeless group. The three years of

data prior to sit-lie implementation showed very little movement relative to each other. However, the subsequent years post sit-lie show the median center moving increasing further north as the years progress, suggesting that more homeless arrests are happening north of downtown than pre December 2013.

Additionally, as a proxy for determining distance within other non-spatially enables statistics programs, each point was defined as being a certain distance from the downtown core, in quarter mile intervals.