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Disclaimer

The author conducted this study as part of the program of professional education at the Frank Batten School of Leadership and Public Policy, University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgments and conclusions are solely those of the author, and are not necessarily endorsed by the Batten School, by the University of Virginia, or by any other agency.

Acknowledgments and Dedication

I would like to express my sincere appreciation to the individuals who supported me throughout the development of this Applied Policy Project. I am especially grateful to my professors for their valuable feedback, guidance, and direction in shaping the focus and depth of this report. I would also like to thank my family for their constant emotional support during this process. Finally, I want to acknowledge my football coaching staff for their flexibility, motivation, and mentorship throughout my academic journey.



Executive Summary

The Charlottesville Downtown Mall has experienced a steady rise in crime over the past few years, with no signs of slowing down. As one of the city's most popular attractions for both residents and visitors, the Downtown Mall serves as a key cultural and economic hub. Charlottesville's overall crime rate is currently 60% higher than the national average, with the Downtown Mall identified as one of the primary hotspots for criminal activity (Charlottesville, 2023). Since 2020, the upward trend in crime has sparked growing concern among local businesses, residents, and community members, many of whom are urging the Charlottesville Police Department to take meaningful action.

Beyond the public safety concerns, businesses are experiencing financial setbacks as the area becomes less appealing to potential visitors. The community is looking to the police department for leadership, and as the agency with jurisdiction over the area, it must act quickly and effectively to address the problem.

To identify a solution, three policy alternatives were selected and evaluated based on past literature and proven results. These alternatives include: increasing police-community engagement, strengthening on-site security at the Downtown Mall, and upgrading the existing surveillance system. Each alternative was assessed using four key criteria: feasibility, cost-effectiveness, total cost, and implementation timeline. These criteria were chosen because they reflect both community concerns and the operational priorities of the police department. The criteria were weighted by importance, with feasibility ranked highest and timeline lowest.

Based on this evaluation, increasing police-community engagement emerged as the recommended alternative. This option scored consistently well across all criteria, particularly in feasibility and community support. The implementation strategy includes launching two community outreach programs: Midnight Basketball and an Anti-Violence Initiative.

The initial phase involves fundraising through existing foundations, preparing the department to run the programs, and acquiring the necessary resources. The programs will be rolled out in stages—three months per year during the first two years, expanding to six months in years three and four, and running for nine months in the fifth year. Throughout the implementation, the police department will monitor crime data, collect feedback from both officers and participants, and make adjustments as needed to ensure the program's success.



Introduction

The Downtown Mall in Charlottesville, Virginia, has become increasingly unsafe compared to years past, with a noticeable rise in overall crime in the area. Customers, residents, and business owners have voiced growing concerns, submitting numerous complaints in hopes of prompting action. This issue goes beyond public safety—it is also having serious economic consequences, as declining foot traffic and heightened concerns are negatively affecting local businesses and the broader community.

This report begins by identifying the client and outlining why they should be concerned about the problem. It then explores the key factors contributing to increased safety risks and a shrinking customer base at the Downtown Mall. The assessment proceeds to review evidence-based alternatives for addressing the issue, defines evaluation criteria, presents a recommended solution, and concludes with an actionable implementation plan.

Problem Statement

The Downtown Mall in Charlottesville, Virginia, has a crime rate that is 60 percent higher than the national average (Charlottesville, 2023). Since 2020, crime in Charlottesville has risen significantly compared to the national average, with no indication of slowing down (City Journal, 2022). This increase has left residents and visitors feeling unsafe, prompting the Charlottesville Police Department to take action.



Client Overview

My client is the Charlottesville Police Department. Operating under the jurisdiction of the city government, the department is responsible for creating a safe and secure environment through empathetic and accountable policing practices (CCG, 2024). Ensuring safety at the Charlottesville Downtown Mall falls within the department's responsibilities. In addition to enforcing laws, the police are also tasked with deterring potential criminal activity through various policing strategies. By doing both, the Charlottesville Police Department helps support the local economy and foster trust within the community by maintaining public safety and order.

An immediate solution is needed to prevent the situation from worsening. Organizations such as the Friends of Cville Downtown have formed coalitions with local business owners to lobby city officials for action. This growing sense of urgency stems from declining business profits, reduced foot traffic, and growing concern over the future safety of the Downtown Mall (Hemphill, 2024). Figure 1 below illustrates the various stakeholders involved in the issue and how they are interconnected.

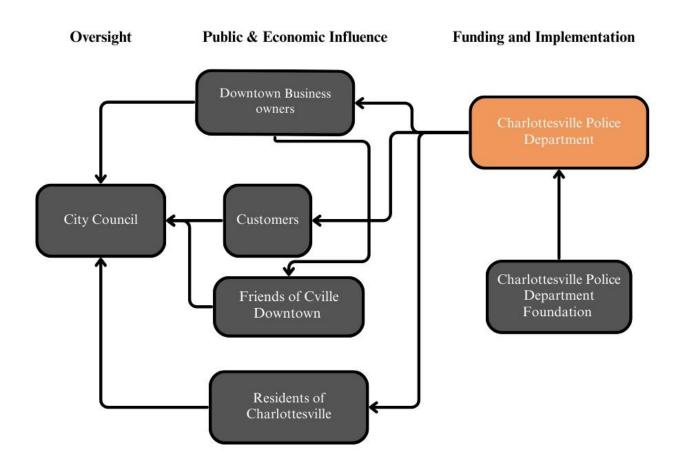


Figure 1: Governance Map of the City of Charlottesville



Background

Charlottesville is home to the University of Virginia and several popular attractions that draw visitors from across the country. Many come to explore the UVA campus and experience local favorites, such as the historic Downtown Mall. Opened in 1976, the Downtown Mall features more than 120 stores, small shops, and restaurants that have long served as a cultural and commercial hub for generations of UVA graduates and local residents. In addition to offering a vibrant shopping experience, the mall functions as an entertainment and community gathering space, with its pedestrian walkway attracting both tourists and locals (Visit Charlottesville, 2024).

However, in recent years, this cherished destination has seen growing dissatisfaction among residents and customers regarding safety and crime concerns. Foot traffic has declined, and local businesses are beginning to feel the impact. A key factor contributing to this drop in visitation is the area's rising crime rate, which has led to heightened safety concerns and a diminished sense of security at the Downtown Mall.

From 2021 to 2022, the crime rate in Charlottesville increased by 17%, pushing the city even further above the national average. When examining data from 2019 to 2022, there has been a notable rise in both violent and property crimes, contributing to the overall increase in crime and leading many shoppers to feel unsafe in the area (City Journal, 2022).

As shown in Figure 2, Charlottesville's violent crime rate was closely aligned with the U.S. average in 2020, at 228 violent crimes per 100,000 residents. However, that number has since risen significantly to 317 per 100,000, while the national average has slightly declined. A similar, yet even more dramatic, trend can be seen in property crime. As illustrated in Figure 3, Charlottesville's property crime rate nearly doubled in just two years, increasing from 138 to 249 property crimes per 100,000 residents.



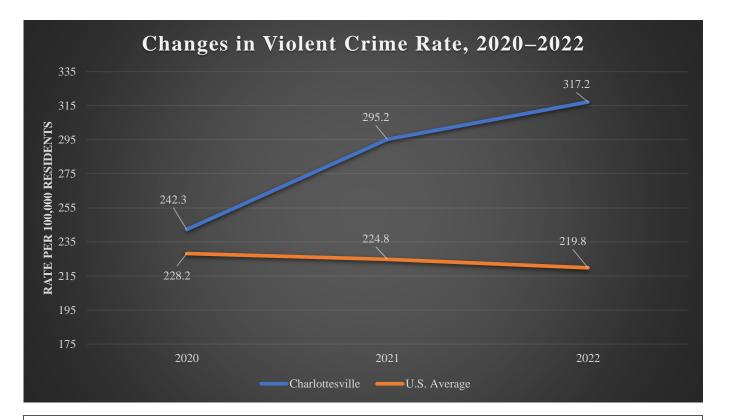


Figure 2: Violent Crime Rates in Charlottesville vs. U.S. Average, 2020–2022 (City Journal, 2022).

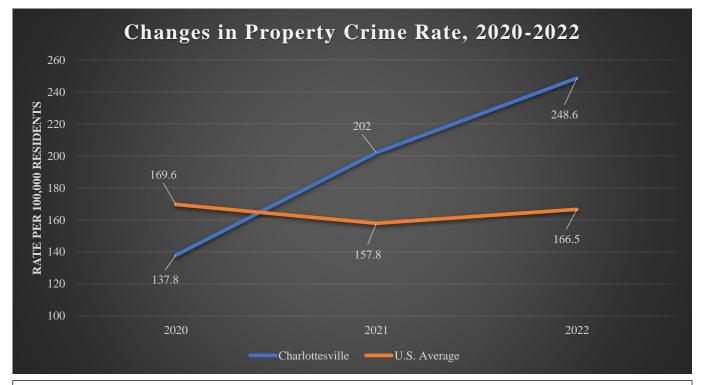


Figure 3: Property Crime Rates in Charlottesville vs. U.S. Average, 2020–2022 (City Journal, 2022).



A closer look at the significant rise in property crime reveals that theft is not only the most common property crime, but also the most frequently committed offense overall in the city of Charlottesville. Theft—including auto theft—accounts for nearly 80% of all reported crimes in the city (City Journal, 2022). As theft rates increase, they have a considerable influence on Charlottesville's overall crime rate.

Figure 4 presents a breakdown of crime by type, showing the percentage each offense contributes to the city's total crime, as illustrated in a pie chart. Figure 5 compares theft rates per 100,000 residents between Charlottesville and the U.S. average. Notably, over the past three years (2020 to 2022), Charlottesville has experienced a sharp rise in theft, while the national average has remained relatively stable.

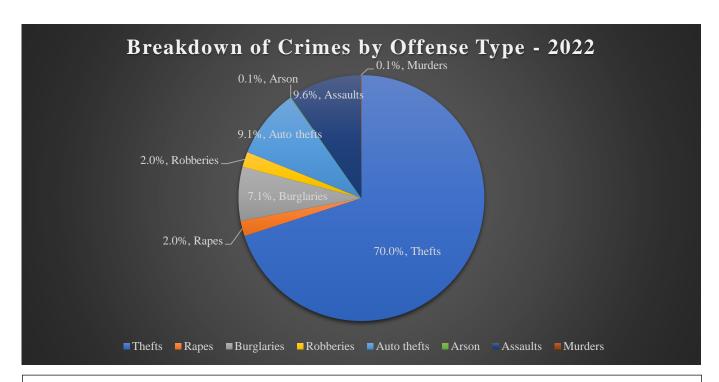


Figure 4: Crimes by Type in Charlottesville, 2022 (City Journal, 2022).



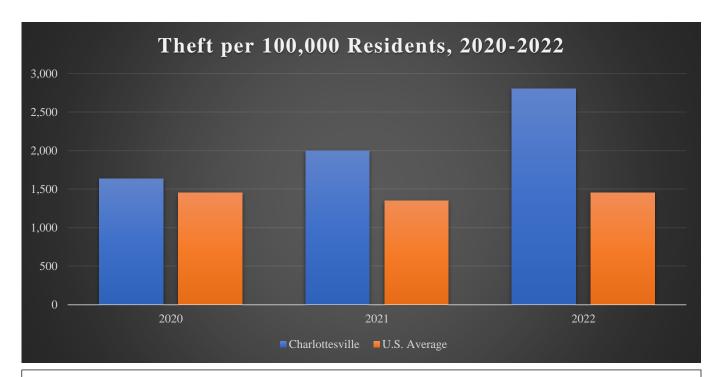


Figure 5: Theft per 100,000 Residents in Charlottesville vs. U.S. Average, 2020-2022 (City Journal, 2022).

Data shows that urban areas—such as cities—tend to have higher crime rates on average than suburban or rural locations (Anderson, 2022). Therefore, the fact that Charlottesville's crime rate is slightly above the national average is not, in itself, alarming. What is more concerning is how Charlottesville compares to other U.S. cities. In 2022, Charlottesville had a higher crime rate than over 90% of cities across the country (City Journal, 2022).

Even more troubling is how quickly that gap has grown. As shown in Figure 6, the separation between Charlottesville's crime rate and the national average has widened significantly over the past two years. There was a sharp increase from 2020 to 2021, followed by a similar rise from 2021 to 2022—while the U.S. average remained steady or even declined slightly during the same period.



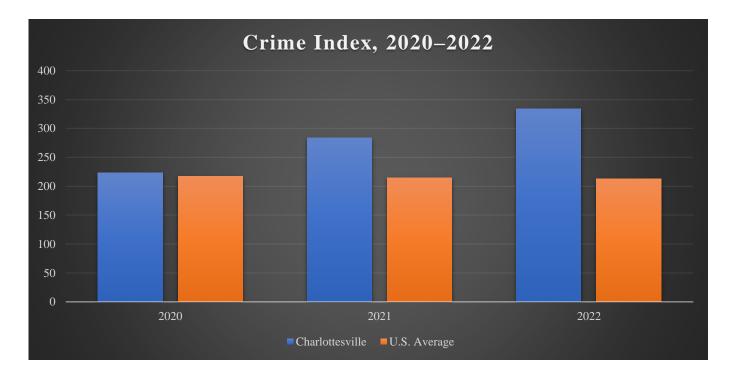


Figure 6: Crime Index in Charlottesville vs. U.S. Average, 2020-2022 (City Journal, 2022).

What could explain the increase in the crime rate when the overall crime rate in the United States has remained relatively stable? Research shows that poverty significantly increases the risk of criminal behavior (Northwest Career College, 2024). In 2022, the national poverty rate was 11%, while Charlottesville's poverty rate was a staggering 23.6% (USCB, 2022). This high poverty rate in Charlottesville is largely the result of a lower average household income combined with a higher cost of living compared to the national average. The U.S. average household income in 2022 was \$77,540—more than 15% higher than Charlottesville's average of \$67,177 per household (USCB, 2022).

In addition, the cost of living in Charlottesville is 3% higher than the national average, with housing prices 9% higher (RentCafe, 2024). Both the higher cost of living and lower household incomes contribute to the elevated poverty rate, which, as noted earlier, has a direct effect on the city's crime rate. Crime tends to rise with poverty due to factors such as economic pressure, limited employment opportunities, and broader social challenges (Northwest, 2025). As a result, the increased crime rate has made the Charlottesville Downtown Mall feel less safe than in the past. Locals and visitors are now more likely to avoid its stores, shops, and restaurants to steer clear of the area's perceived risks.



Consequences

The rise in crime in Charlottesville—particularly at the Downtown Mall—has had significant consequences for both the community and the local economy. Shoppers and residents increasingly report feeling unsafe, which has led to a noticeable decline in foot traffic at what was once a vibrant public attraction. This reduction in visitors has negatively impacted local businesses, resulting in decreased revenues and growing economic concerns. In addition, the increased crime has placed greater pressure on public safety resources, which could lead to higher long-term costs for the city to maintain adequate protection and community trust.

Insights from Literature on Potential Interventions

To help the Charlottesville Police Department address the rising crime rate at the Downtown Mall and throughout the city, three alternatives have been reviewed through prior studies and a broader literature review. These options are supported by case studies, relevant data, and comparable solutions implemented in communities similar to Charlottesville. The three alternatives include: increasing police-community engagement opportunities, strengthening security in high-crime areas, and upgrading video surveillance systems in targeted locations.

Increase Police-Community Engagement Opportunities

A strategy to combat high crime in a community is to offer engagement opportunities. Providing police community engagement opportunities would ideally build trust among locals, business owners, and visitors to the mall. The trust and strong relations built would help police directly pinpoint the cause of the issue. Furthermore, the relationship between the youth and local law enforcement is crucial in lowering the crime rate in the future. There have been numerous cases where this alternative has been applied, and the results were positively correlated with lowering overall crime in a given community.

One case where a community outreach program proved effective in reducing crime was the pilot of C3 Policing in Massachusetts. The program involved consistent engagement between police officers and local residents to build personal relationships and foster trust. By developing closer ties, the police department became more approachable, encouraging residents to take a more active role in reporting crimes rather than remaining passive. This shared sense of responsibility helped the community work alongside law enforcement to address crime. As for the results, the study reported a notable decrease in violent crimes and gang activity (IACP, 2025). However, the evidence presented is correlational, lacking a rigorous methodological approach to establish direct causality.

An anti-violence program in Baltimore was launched with the goal of reducing violence in the city by addressing its root causes. The program supports and engages individuals who may need help dealing with poverty, substance abuse, or a sense of hopelessness. It offers various resources to those identified by police as being at higher risk of committing crimes. If an individual continues down a path of criminal activity, law enforcement may pursue an investigation and potentially make an arrest. Since its launch in 2022, the program has been linked to over 350 arrests. It has also been associated with a 23% reduction in homicides compared to the previous year (Skene, 2025). However, the main limitation of this case is the lack of a clearly defined methodology to determine whether the anti-



violence program directly caused the reduction in crime, or if other contributing factors played a role that were not discussed in the case.

Another police community outreach program launched in the late 1980s was Midnight Basketball. The purpose of Midnight Basketball was to provide young people with an activity during times when crime was most prevalent. During these late-night basketball games, police officers and other community members would participate. Bonding over sports helped build strong relationships between young men and law enforcement. While basketball was a good distraction for the younger generation, it also served as a time for mentorship (Hartmann, 2006). Having a mentor at a young age makes a significant difference for many young people who may have otherwise lacked direction. Midnight Basketball was implemented in numerous cities with varying levels of success. In Glenarden, Maryland, the city saw a 30% reduction in crime after implementing the program (Niesen, 2017). Another location that experienced effective results was Fort Worth, Texas. Reports indicated that on nights when Midnight Basketball was held, crime dropped by 89% (Hartmann, 2006). A program similar to Midnight Basketball, called Fit Zone, was created in East Palo Alto, California, with the same goal. This initiative resulted in a 27% reduction in shootings compared to surrounding areas (Tublitz, 2014).

I am suggesting a mix of two of these community outreach programs to achieve a noticeable difference. These programs serve as a way for the department to connect with the community by building relationships with people throughout the area. Whether it is redirecting a troubled individual or giving community members a sense of responsibility for their city, outreach programs provide lasting benefits.

Strengthen Security Presence at Downtown Mall

Increasing security by adding additional officers to the Downtown Mall is an alternative worth considering, based on past evidence of its effectiveness. Strengthening security at this specific location could be approached in two similar ways. The first option is to increase the number of officers working at the location at any given time. Depending on the department's budget, this could be achieved by hiring two more officers to work specifically at the Downtown Mall.

Evidence supporting the correlation between increased police presence and lower crime rates is demonstrated in a natural experiment analyzed by Princeton University. The study used a regression discontinuity design across multiple cities with similar baseline characteristics. Cities that scored above a certain threshold on an application received additional policing, while those below did not. The experiment compared cities just above and just below the threshold, assuming they were similar enough for meaningful comparison. Results showed that cities receiving additional officers experienced a 3.2% increase in police force size, which led to a 3.5% decline in victimization-weighted crime (Mello, 2018). These differences between the control and treatment groups were statistically significant at all levels.

The Charlottesville Police Department currently has 117 officers (DOJ, 2024). Assuming less than 15% of the force is deployed to the Downtown Mall at any one time, adding two more officers would increase police presence beyond the levels demonstrated in the study. While additional officers can reduce crime, they may also result in more arrests. A study conducted by the University of Pennsylvania found that for each additional officer hired, approximately 22 more low-level arrests occurred (Berger, 2021). With the proposed hiring of two officers for the Downtown Mall, an estimated 44 additional low-level arrests could be expected.



The second method for increasing security is through hot spot policing. This strategy focuses on areas with the highest crime rates by reallocating resources to assign more officers to these hot spots while reducing deployment in low-crime areas. Although similar to the first method, it is data-driven and aims to improve efficiency by using existing officers more effectively—rather than leaving officers in areas with minimal activity. For the Charlottesville Police Department, this approach would still require hiring two additional officers, as the department is currently understaffed and does not have enough officers to reassign (Higgins, 2024).

Hot spot policing is particularly effective when crime is highly concentrated in specific locations. A review of 65 studies on hot spot policing showed the most significant impact occurs in areas with dense crime activity. For instance, in Minneapolis, 50% of crimes were committed in just 3% of locations (Sherman, Gartin, & Buerger, 1989). In another study from the United Kingdom, 72 hot spots were divided into two groups—34 in the treatment group and 38 in the control group. The treatment group received two additional ten-minute patrols daily. Results showed a 39% reduction in crime in the treatment group compared to the control, using difference-in-differences analysis (Ariel, 2016).

Applying hot spot policing in Charlottesville would likely involve deploying two officers to high-crime areas, such as the Downtown Mall, from lower-crime areas. Since this strategy involves hiring two additional officers specifically for this purpose, it is unlikely to negatively impact policing efforts in areas with lower crime rates.

Upgrade Mall Video Surveillance System

Upgrading the public surveillance system at the Downtown Mall would aim to reduce crime through a higher clearance rate and by being visible to those potentially committing crimes. You may ask, how is the clearance rate related to reducing the crime rate? Having a low clearance rate can increase total crime because those who commit crimes and are not caught are far more likely to offend again. Furthermore, the community will lack trust in local law enforcement if those who commit crimes are not brought to justice (Baughman, 2020).

Focusing solely on the visibility aspect, the goal would be crime prevention. An analysis of visible surveillance systems in urban areas was conducted in Katowice, Poland. The findings revealed that modern security cameras reduced crime by 27%. Public safety continued to improve as more cameras were installed and regularly monitored (Socha, 2020).

When focusing on the clearance rate for past crimes committed, a study conducted in Dallas, Texas, examined the effectiveness of public closed-circuit television (CCTV) cameras. The study revealed that cases occurring closer to surveillance cameras had higher clearance rates (Jung, 2021). In other words, crimes committed near security cameras were more likely to be solved using video evidence. Another study conducted in Milwaukee, Wisconsin, examined the effects of an optimized surveillance system on clearance rates for the Milwaukee Police Department. The implementation of the new surveillance system resulted in a reduction in violent crimes by 82% (Robin, 2007).



Policy Alternatives and Evaluation Criteria

Alternatives

To address the increasing crime rate, the Charlottesville Police Department should consider the following alternatives: increasing police-community engagement opportunities, strengthening security presence at the Downtown Mall, upgrading the mall's video surveillance system, or maintaining status quo.

Criteria

The police department is tasked with creating a solution to the rising crime rates in Charlottesville over the past few years. It is important to find a solution that is not only feasible in Charlottesville but also within the budget for the coming years. Moreover, it's critical that the solution is effective relative to the cost and delivers results in a timely manner. Given the department's values and proposed solutions, a list of criteria has been created to evaluate each alternative. The criteria are total feasibility, cost-effectiveness, total cost, and timeline. All of these were strategically selected but are not all equally weighted when choosing an alternative.

Feasibility is the most important criterion, as no alternative can be implemented without political support and sufficient available resources. Without feasibility, any proposed program would strain the department's budget without producing meaningful results.

Cost-effectiveness is the second most important criterion, as the department aims to achieve meaningful results relative to the financial investment. Operating within a limited budget, the police department must allocate resources efficiently. If a significant portion of the budget is dedicated to an initiative that does not produce a substantial reduction in crime, the program is unlikely to be sustained. Cost-effectiveness will be calculated by dividing the total cost of each alternative by its estimated crime rate reduction over a five-year period. It is important to note that, for the purposes of this analysis, alternatives are assumed to achieve a reduction in crime during the first year of implementation, with that lower crime rate maintained for the remaining four years. In other words, an alternative that reduces crime by 10% in the first year is not expected to continue reducing crime in subsequent years but to sustain that 10% reduction over the full five-year timeframe. This assumption applies specifically to the alternatives evaluated in this analysis and may not extend to other strategies not included in the evaluation.

Total cost is the third most important criterion, as the department must operate within a limited annual budget. One of the proposed alternatives is expected to draw from the city's existing \$1 million public safety budget, which also supports other ongoing initiatives (OpenGov, 2024). If a project is too expensive, regardless of its potential impact, it is unlikely to receive approval. It is important to distinguish total cost from cost-effectiveness. While a project may offer strong results relative to its cost, it can still be impractical if the overall expense exceeds what the department can afford. Total



cost will be evaluated over a five-year period to reflect the long-term financial commitment required by each alternative.

The fourth and final criterion is the project timeline. Ideally, the sooner a reduction in crime is achieved, the better. An alternative that delivers immediate or near-immediate results is especially valuable to the police department, as it allows for faster evaluation and decision-making—whether to continue the program or shift to another approach. The timeline criterion also reflects the urgency of addressing rising crime in Charlottesville. Swift results not only support the department's strategic planning but also provide timely relief to the community, which cannot afford to wait for long-term solutions.

To clarify how each alternative will be evaluated with differently weighted criteria, a specific weight is assigned to each criterion. The alternatives will be given a score of 1 to 5 for each criterion, with 5 being the highest possible score and 1 being the lowest. After scoring the alternatives for the four criteria, each score will be multiplied by the weight assigned to that criterion, and the totals will be summed to calculate the final score. Each alternative should have a score within the range of 1 to 5. The highest-scoring alternative should be selected as the solution.

Feasibility

Feasibility is weighted at 0.35, reflecting its significance in the evaluation process. It will be assessed by examining potential political constraints, the availability of officers, and other resources within the department. This evaluation will consider past attempts to implement similar alternatives, the current political climate in Charlottesville regarding the proposed option, and historical data on both public and institutional support for its implementation. If there are no concerns about the department's ability to implement an alternative, the score will reflect this with a 5.

Cost-Effectiveness Analysis

The weight assigned to the cost-effectiveness analysis is 0.3. When determining a score for the analysis, the total cost of the alternative will be divided by the total crime rate percentage drop, based on past data provided.

Total Cost

Total cost is weighted at 0.2 in the evaluation. This criterion accounts for the full expenses of each project from initiation to completion over the five-year period. The scoring for total cost is based on the following metric, with figures drawn from the city's annual \$1 million public safety budget. These estimates consider the long-term nature of the projects and acknowledge that other, unlisted costs also contribute to the overall budget:

- **5**: Alternative < \$200,000
- **4**: Alternative < \$350,000
- **3**: Alternative < \$600,000
- 2: Alternative < \$850,000
- 1: Alternative > \$850,000



Timeline

The time required for the alternative to be implemented and start producing results will be weighted at 0.15. The timeline is not evaluated based on the duration of the project but is determined by the implementation time.

Analysis of Alternatives by Criterion

Increasing Police-Community Engagement

The first alternative we are evaluating is an increase in police-community engagement. In this approach, the police department would implement a combination of Midnight Basketball and an anti-violence program. The purpose of Midnight Basketball is to provide young adults or late teens with a late-night activity that keeps them off the streets during peak crime hours. Involving police officers in the basketball games fosters mentorship and builds relationships between law enforcement and the youth.

The anti-violence program differs from Midnight Basketball in that it is more focused on addressing the root causes of crime. It provides resources for individuals who may be struggling with poverty or substance abuse and are at a higher risk of committing crimes. The program offers support and intervention, but if an individual continues down the wrong path, they would be subject to arrest and legal consequences. It serves as an opportunity for some to receive necessary resources while being held accountable for their actions. The combination of these two programs would increase accountability, provide essential resources, and strengthen community-law enforcement relationships to ultimately reduce crime in Charlottesville.

• Feasibility: Charlottesville actively encourages police-community engagement through an existing program called the Community Police Academy. This academy educates non-police community members about police training and daily procedures. Participants receive instruction from the police chief and other staff members, depending on the topic being taught. The program is offered free of charge to any community member over the age of 18. Its primary goal is to build trust with the community by involving residents in police training and operations. In addition to fostering trust, it encourages young adults to participate in police training, helping them better understand law enforcement's role in society (CharlottesvilleGov, 2025).

Another independent initiative, the Charlottesville Police Department Foundation, also works to strengthen ties between law enforcement and the community. This foundation provides additional resources to the police, enabling them to engage with residents in positive ways beyond traditional patrols, which some community members may find intimidating (CvillePoliceFoundation, 2025). Both existing programs demonstrate that Charlottesville supports new community outreach initiatives. Engagement efforts such as midnight basketball would not only receive approval but also financial backing from the Charlottesville Police Foundation. Political feasibility would not be a concern when rolling out new community engagement programs. Regarding staffing, a community outreach program would not



necessarily rely solely on police officers. The department could involve volunteers or non-officer personnel to participate in community engagement efforts. Given the available programs and resources supporting this cause, expanding police-community engagement is entirely feasible. The only concern regarding feasibility is that donations from the foundation are not 100 percent guaranteed. While we can make an educated guess that the police department would receive donations with these programs in place, it is not a certainty. Based on this analysis, increasing police-community engagement receives a score of 4 out of 5.

Total Cost: The total cost of implementing community outreach programs varies depending on which initiatives the department selects. If they choose to create an antiviolence program alongside a midnight basketball program, the total cost would be \$568,505 over the fire year time frame. This was determined by breaking down each program's expenses and factoring in additional funding from existing programs. For midnight basketball, we must consider the cost of renting a basketball facility. A local venue large enough to host games is the Herman Key Jr. Recreation Center. According to the recreation center's website, renting the gym after 6 PM costs \$90 per hour (CharlottesvilleGov, 2025). The program would run twice a week, from 8 PM to 1 AM, for a duration of three months. Refer to Callout Box 1 for the total cost of the Midnight Basketball program over a threemonth period.

The total cost for gym rental is calculated as *follows:* 90×5 (hours per session) $\times 2$ (days per week) × 12 (weeks) = 10,800. The equipment cost is minimal. If 40 pinnies are purchased to distinguish teams, along with five basketballs, the total cost for equipment is estimated at \$600. The cost of paying five officers to manage the program is \$33,000. This is calculated by compensating each officer at \$55 per hour, including overtime pay (1.5x)standard wage) (Indeed, 2025). 55×5 (officers) \times 5 (hours per session) \times 2 (days per week) \times 12 (weeks) = 33,000. The final expense is referee fees. *If two referees are paid \$30 per hour, the total cost* is \$7,200. 30×2 (refs) $\times 5$ (hours per session) $\times 2$ $(days\ per\ week) \times 12\ (weeks) = 7,200.\ This\ brings$ the total cost of the midnight basketball program to \$51,600.

Callout Box 1

For the anti-violence program, the police department would likely work with 50 participants, based on Charlottesville's size. According to an existing program, Healthy Communities for Youth, providing necessary aid costs between \$700 and \$1,600 per individual, making the estimated total cost \$57,500 (Pan, 2024). If the program runs concurrently with midnight basketball, meeting three times a week for two hours per session, it would require 10 officers. See Callout Box 2 for the total cost calculations of the anti-violence program.

At \$55 per hour, the total cost for officer wages is \$39,600. 55×10 (officers) $\times 2$ (hours per session) $\times 3$ (days per week) $\times 12$ (weeks) = 39,600. Combined, the total cost for the anti-violence program is just under \$100,000.

Callout Box 2

Given the goal of increasing police-community engagement, implementing both programs is recommended. The estimated total cost for the three-month duration is \$150,000. With both programs being new, we are going to pilot them for three months annually in the first two



years. Then, in years three and four, the programs will be offered six months per year. Finally, in the fifth year, they will be available for nine out of twelve months, following a January-March, May-July, and September-November schedule. The Charlottesville Police Department Foundation donated \$60,000 last year to support department initiatives (Instrumental, 2023). If both programs were presented to the foundation, it is reasonable to expect a \$75,000 matching donation in the first two years, covering 50 percent of the program's cost. This would not be a strict increase in donations; rather, it would involve a reallocation of donations to support police community engagement programs, along with an increase in total funding from these foundations. The increase in funding is expected, as these programs demonstrate significantly more initiative by the police department compared to the past—when it still received \$60,000 annually despite not having a future plan to engage with the community under the status quo.

For years three and four, we anticipate that donations will increase to match rising program costs, with both reaching \$150,000 per year. However, this level of donation is not guaranteed, which is why it is discussed in the feasibility section. In the final stage (year five), the goal is to

increase donations to \$225,000 per year. To achieve this, ongoing meetings with foundations will be necessary to secure the additional funding. The police department would not incur any fundraising costs, as it already has strong relationships with foundations that continue to donate without the need for additional fundraising efforts—only periodic check-in meetings are required. To calculate the total cost, we subtract the projected donations from the annual expenses and then apply a 5 percent discount rate to adjust for inflation. The costs presented in Callout Box 3 account for the assumption that annual donations have already been subtracted from the total yearly expenses. With a five-year total cost of \$568,505, as shown in the callout, this alternative receives a score of 3 out of 5.

The equation is: $(75,000/(1.05)^1) + (75,000/(1.05)^2) + (150,000/(1.05)^3) + (150,000/(1.05)^4) + (225,000/(1.05)^5) = $568,505 cumulative cost for the five-year program.$

Callout Box 3

• Cost-Effectiveness: Based on past studies of other cities that implemented Midnight Basketball, Charlottesville can expect roughly a 28% reduction in crime while the program is running. For reference, Cincinnati experienced a 31% reduction, Fort Myers 27%, Kansas City 25%, and Fort Worth 28% in the areas surrounding their Midnight Basketball programs (Hartmann, 2006). This reduction occurred while the program was active, but the effects remained notable even when the program was not running. The impact does not simply turn on and off when the program is in session or during inactive periods. While the effects are more pronounced during active periods, the relationships and mentorships built through the program have lasting benefits.

Since the program will launch and expand in duration throughout the five-year span—growing each year in size and participation beyond the case studies analyzed—a 28% reduction in crime is a reasonable estimate. Assuming the police department runs a combination of two programs under this alternative, the impact should be even greater. However, the marginal impact of an additional program is significantly lower because the sensitivity of crime reduction to additional programs decreases. For this reason, I recommend that the department implement only two community outreach programs, as adding more would yield minimal additional benefits.



The addition of the anti-violence program alongside Midnight Basketball is estimated to reduce crime by 35%. Notably, adding the anti-violence program contributed only about one-fourth of the impact of the Midnight Basketball program. If a third program were added, crime might drop by only a few additional percentage points, while costs would increase significantly. Refer to Callout Box 4 for the cost-effectiveness calculation. This represents an efficient use of department funds, earning a score of 4 out of 5.

To calculate the cost of reducing crime by 1% over five years, we divide \$568,505 by 35, resulting in a cost-effectiveness analysis (CEA) ratio of \$16,243 per 1% reduction in crime.

Callout Box 4

• Timeline: The timeline for implementing new community outreach programs would vary depending on the chosen initiative. If the police department decides to replicate an existing program such as Midnight Basketball or an anti-violence program, planning would take approximately three to six months. The planning process includes recruiting volunteers, securing funding, and organizing logistics. This timeline is based on past case studies with similar factors. After the planning phase, a program like Midnight Basketball would run for three months (BuildingBridges, 2025). Results would become identifiable about a month after launch. This sets the total timeline at four to seven months, earning a score of 3 out of 5.

Strengthen Security Presence at Downtown Mall

The next alternative being evaluated is increasing security at the Downtown Mall in Charlottesville. This would be done by increasing the number of officers stationed at the mall at any given time through hot spot policing or by hiring two additional officers specifically for the mall. Hiring extra officers would increase police presence, deterring those who commit crimes out of fear of being caught and leading to more arrests, which could lower crime over time. Another method is hot spot policing, which involves reallocating officers to areas with higher crime rates based on historical data. This approach maximizes the efficiency of existing resources by concentrating officers where crime is most prevalent. By enhancing security through these methods, the department aims to reduce criminal activity and improve public safety at the Downtown Mall while maintaining efficient use of personnel.

• Feasibility: To strengthen security presence at the Downtown Mall, the police department could either implement hot spot policing or hire two additional officers to patrol the area. Hiring two additional officers would be feasible both politically and logistically, especially given the department's ongoing staffing shortages. In 2023, the Charlottesville Police Department had 109 officers but faced 30 sworn vacancies. By 2024, the number of sworn officers had decreased to 103, exacerbating the staffing issue (Higgins, 2024). Hiring additional officers is no longer just a recommendation—it is a necessity for the safety of Charlottesville, particularly the Downtown Mall. Given the department's difficulty in filling vacancies, there is unlikely to be political resistance to hiring more officers, whether to replace those who have left or to fill the 30 vacant positions. However, while the need for additional officers strengthens political and resource feasibility, it also raises concerns about the availability of qualified candidates. If the department has struggled to hire officers despite persistent vacancies, there may be a shortage of qualified applicants willing to work in the city.



When considering hot spot policing, reallocating two officers from another location could be challenging, given the department's existing staffing shortages. Politically, the police department may face community backlash for concentrating more officers in certain areas. Charlottesville has historically made national news for its issues with racial tensions. One of the most notable incidents was the Unite the Right Rally in 2017, where law enforcement faced criticism for its response. More recently, in 2022, the People's Coalition accused the ACPD of racial profiling (Quigley, 2022). Deploying additional officers to a high-traffic area like the Downtown Mall could be perceived negatively by local officials, the city council, or community organizations. Given the difficulty of hiring more officers and the risk of political backlash, the feasibility of this approach scores a 3 out of 5.

Total Cost: If the police department were to implement hot spot policing, it would come at no additional cost to the department, as it would simply involve relocating two officers to the Downtown Mall. However, due to the ongoing officer shortage, it is more likely that two new officers would need to be hired. In this case, the cost would include base salaries, benefits, training expenses, signing bonuses, and equipment. Refer to Callout Box 5 for the total cost of the strengthening security alternative. With this being a higher cost, it results in a score of 2 out of 5.

The base salary for a new officer is \$55,000, with an additional \$16,000 in benefits (CPD, 2025). The training cost is approximately \$106,500, broken down as follows: \$6,500 for Police Academy and \$100,000 for on-ground training (FPPTA, 2018). Equipment costs would be around \$10,000, and the signing bonus would be approximately \$4,000 per officer. The total initial hiring cost and first-year expenses for two officers would amount to \$383,000. After the first year, the annual cost would decrease to \$142,000 for both officers. Adding the first-year cost and the following four years with a 5% discount rate, the total cost would be $(383,00/(1.05)^{\Lambda}1) + (142,000/(1.05)^{\Lambda}2) + (142,000/(1.05)^{\Lambda}3) + (142,000/(1.05)^{\Lambda}4) + (142,000/(1.05)^{\Lambda}5) = $844,310$.

Callout Box 5

 Cost-Effectiveness: To address the shortage of officers in the department, we plan to hire two additional officers who will either be assigned directly to the Downtown Mall or utilized in the hot spot policing alternative. This approach ensures that our calculations remain consistent and accurately reflect the department's

needs. Based on a similar case study, adding two more officers to the Downtown Mall is expected to reduce crime by approximately 40%. This estimate comes from a past difference-in-differences analysis, where two additional patrols were added, resulting in a 39% reduction in crime. The exact population size and crime rate for the study were not readily available; however, it included 72 hotspots, with 34 randomly assigned to the treatment group and the remaining 38 to the control group. This ensured the study was conducted over a large and diverse sample, capturing a range of population sizes and crime rates (Ariel, 2016). Refer to Callout Box 6 for the cost-effectiveness calculations. The cost of increasing security is less efficient compared to other alternatives, resulting in a score of 3 out of 5.

With the total cost of this alternative amounting to \$844,310 over five years, we divide it by 40 to obtain a cost-effectiveness analysis (CEA) ratio of \$21,108 per 1% reduction in crime.



• Timeline: The timeline for relocating two officers from another location within Charlottesville should take no more than a couple of weeks. Hiring new officers, however, could take longer depending on the approach used. If hiring were to begin immediately, the entire process would likely take close to six months to complete. It is reasonable to assume that the police department already has officers in the hiring pipeline due to the number of existing vacancies, but for the purposes of this evaluation, we will assume they are starting from the beginning of the hiring process. Given this, it is reasonable to estimate that bringing on two new officers for the Downtown Mall would take about seven months. Once this alternative is implemented, results would be immediate. While the overall process is not very fast, it is necessary-earning a score of 3 out of 5.

Upgrade Mall Video Surveillance System

The third alternative is upgrading the public surveillance system at the Downtown Mall. It aims to reduce crime through both prevention and increased clearance rates. The presence of visible security cameras would deter potential offenders by increasing the perceived risk of being caught. Additionally, an improved surveillance system would aid law enforcement in solving crimes more efficiently by providing video evidence, leading to higher clearance rates. A low clearance rate allows repeat offenders to continue criminal activity and can erode community trust in law enforcement.

• Feasibility: Feasibility regarding upgrading the surveillance system at the Downtown Mall is complicated. The primary concern with upgrading the cameras is not a lack of resources, but rather political opposition from the city council. Many council members fear that adding more cameras or enhancing surveillance technology would constitute government overreach. This issue has been debated in city council for nearly 20 years. The proposal to install new cameras at the Downtown Mall was first introduced in 2007 by Tim Longo, then police chief of the Charlottesville Police Department, before his transition to UVA's police chief in 2019. At the time, city council members argued that adding more police officers would be a better deterrent than cameras, despite Longo demonstrating that cameras would be a one-time expense, whereas officers require ongoing salary payments. The proposal ultimately lost support over concerns that it violated privacy.

Three years later, the proposal resurfaced but was rejected again. In 2011, business owners at the Downtown Mall discussed funding the cameras themselves, but this effort did not result in their installation. In 2014, a city council member mentioned revisiting the proposal, but no action was taken until 2018.

During the spring of 2018, the city installed seven cameras at a total cost of \$54,000 (CvillePedia, 2018). However, this was not the comprehensive plan that Longo originally proposed, and the small-scale improvements were insufficient to significantly impact the overall crime rate (CityData, 2024). In conclusion, political feasibility remains a major obstacle to installing an upgraded surveillance system, resulting in a score of 1 out of 5.



• Total Cost: A full surveillance system upgrade at the Downtown Mall, including additional costs and discounted over a five-year period, is estimated to cost approximately \$226,199. Please refer to Callout Box 7 for the total cost calculations. Given its relatively lower cost, this alternative receives a score of 4 out of 5.

To estimate the number of cameras, I divided \$54,000 by 7 cameras to determine the cost of installing one camera. Using this figure, I then divided \$300,000 by \$7,700, finding that the Downtown Mall would install approximately 38 surveillance cameras. While inflation is a factor to consider when comparing camera prices from 2018 to 2025, the cost of the cameras being used has decreased as technology has become more affordable. Instead of cameras costing \$7,700 to install, they now cost \$6,200 per installation. The installation cost itself is now \$400 per camera (Eufy, 2024). The high-end cameras being used are pan-tilt-zoom (PTZ) cameras, which cost \$5,800, bringing the total cost per camera installation to \$6,200, or \$234,600 for all 38 cameras (B&H, 2025). The energy cost for 38 cameras is calculated based on average energy consumption per camera. Most PTZ cameras consume 15 watts per hour (HoneyOptics, 2025). Multiplying 15 watts by 38 cameras results in 570 watts per hour, or 0.57 kWh. Since the cameras operate 24/7, this totals 410 kWh per 30-day month. To determine the electricity cost, we multiply this by the average electricity rate in Virginia, which is \$0.13 per kWh (Dominion Energy, 2025). This results in an estimated monthly electricity bill of \$53 or \$640 annually—a minimal cost increase after installation. Adding the electric bill to the initial installation cost and applying a discount rate, the equation is as follows: $((234,600 + 640)/(1.05)^{1}) + (640/(1.05)^{2}) + (640/(1.05)^{3}) + (640/(1.05)^{3})$ $(640/(1.05)^4) + (640/(1.05)^5) = $226,199.$

Callout Box 7

• Cost-Effectiveness: To evaluate the effectiveness of surveillance, we need to determine how much it will reduce crime. A study conducted in Katowice, Poland, examined the impact of installing surveillance cameras on crime rates. The results showed a 27% reduction in crime a year after installation (Socha, 2020). Refer to Callout Box 8 for the cost-effectiveness ratio of the surveillance system upgrade. This alternative stands out as the most cost-efficient option. As a result, it earns a score of 5 out of 5.

If Charlottesville experienced similar results, we would calculate the cost-effectiveness analysis (CEA) ratio by dividing \$226,199 by 27, resulting in \$8,378 spent per 1% reduction in crime.

Callout Box 8

• Timeline: If city council approved a full upgrade of the mall surveillance system, it would take time to assess the area and evaluate the current technology in place. From there, the next step would be to hire a contractor to install the new cameras. Once the contractor is hired, they would need to install the cameras over a set period. Evaluating the Downtown Mall's surveillance system and determining what is already in place would take a few business days.



Hiring a contractor and waiting for their arrival would take about a month. The final step—installing the cameras—would take the contractor approximately one week. A one-week installation period is a reasonable estimate, assuming each camera takes a few hours to install and wire. The impact of the cameras would be visible shortly after implementation, similar to the increased security alternative. The total timeline for this alternative is approximately two months, earning it a score of 4 out of 5.

Maintain Status Quo

The fourth and final alternative is to maintain the status quo. This is not to oversimplify the situation, but the police department has not implemented and is not in the process of implementing any new measures to address the rise in crime over the past half-decade. As a result, we can expect the crime rate to continue following its current trajectory.

- Feasibility: While maintaining the status quo may seem attractive when considering current resources, it fails in political feasibility. The city has received numerous complaints about rising crime and has recently faced pressure following two university lockdowns in a single week (Saunders, 2023). While part of the responsibility falls on UVA Police, the Charlottesville Police Department was also involved in both situations. Additionally, UVA is located in Charlottesville and experiences the same rise in crime as the rest of the city. With no initiative to address the issue, the community and lawmakers are unlikely to support maintaining the status quo. Due to its low political feasibility, this alternative receives a score of 1 out of 5.
- Total Cost: The total cost criterion is the most compelling reason to support this alternative. Unfortunately, other alternatives heavily outweigh cost considerations due to the urgency of the issue. Maintaining the status quo receives a score of 5 out of 5 for total cost, as it does not require any additional funding to continue as things are.
- Cost-Effectiveness: While the cost is zero, this alternative offers no effectiveness. In fact, crime will continue to rise, as it has in the past year, by 11 percent (Saunders, 2023). Based on past data, it is reasonable to expect crime to increase by approximately 10 percent each year, with an average annual increase of 10 percent since 2020 (CityData, 2025). Due to its negative impact on crime reduction, this alternative receives a score of 1 out of 5.
- Timeline: Since maintaining the status quo requires no time to implement, this alternative receives a score of 5 out of 5.



Recommendation

Outcome Matrix

Alternatives & Criteria	Feasibility	Cost-Effectiveness Analysis	Total Cost	Timeline	Total Score
Weight Associated to Criteria	0.35	0.3	0.2	0.15	Sum of weighted score
Increasing Police- Community Engagement	4	4	3	3	3.65
Strengthen Security Presence at Downtown Mall	3	3	2	3	2.8
Upgrade Mall Video Surveillance System	1	5	4	4	3.4
Maintain Status Quo	1	1	5	5	2.4

Figure 7: Outcome Matrix

After evaluating all the alternatives using the weighted criteria, increasing police-community engagement emerges as the recommended option. It outperformed both strengthening security and maintaining the status quo by a wide margin and was closely competitive with the surveillance system upgrade.

In terms of feasibility—the most heavily weighted criterion—this alternative stands out. It is politically viable, enjoys strong community support, and has promising prospects for funding, earning a score of 4 out of 5. The only reason it did not receive a perfect score is that the funding is not fully guaranteed.

This option is also reasonably effective in reducing crime relative to the cost required for implementation, scoring a 4 in effectiveness. Although it did not match the surveillance system upgrade in terms of impact or speed of deployment, it consistently performed well across all evaluation areas. Notably, police-community engagement scored lower than the surveillance system in every category except feasibility. However, because feasibility plays a crucial role in determining whether a strategy can actually be implemented, it was weighted most heavily in our evaluation.

While the timeline for launching these programs is slightly longer—by a few months—than implementing a surveillance upgrade, this tradeoff is justified. The consistency of this alternative's performance across multiple criteria makes it the most well-rounded and practical option for achieving lasting reductions in crime.



Implementation

To successfully implement the alternative of increasing police-community engagement, the Charlottesville Police Department must create a Midnight Basketball program along with an Anti-Violence program. The department must work with organizations like the Charlottesville Police Foundation to secure necessary funding for both programs. I have provided a bullet-point list of all necessary groundwork, steps to properly set up both programs, the initial rollout, and the follow-up instructions. Furthermore, the cost of each step is provided in the total cost section of the alternative.

Laying the Groundwork: Program Development & Officer Readiness

- Introduce both projects to partnering foundations early on. This will help them understand the goals and potentially provide the upfront funding needed to support the planning phase. While fundraising may take time, it is anticipated that the \$75,000 required for the first two years will be met. To ensure continued support, fundraising efforts for subsequent years should begin at least one year in advance.
- Secure funding by allocating a portion of the budget and emphasizing the importance of foundation donations. The goal is to cover 50% of the total cost through donations from foundations. The Charlottesville Police Foundation has supported numerous community outreach initiatives in the past and is likely to contribute again if approached strategically (CPF, 2025). The two proposed programs should take priority over previous donation uses, given their expected effectiveness. In the past, donations were generally given to the department without a specific focus, but they would now be directed toward two proven, impactful programs.
- Present both the Midnight Basketball and Anti-Violence programs to the Police Department to demonstrate their mission and expectations. Offer courses for interested officers on how to interact with community members in these programs.
- Promote these programs to the community. Reach out to Charlottesville City Public Schools to
 assist with promotion. Additionally, advertise the programs through social media, public
 service announcements, and door-to-door engagement with individuals who may benefit from
 them.

Midnight Basketball: Strategy, Scheduling & Officer Involvement

- Reach out to the Herman Key Jr. Recreation Center to establish time slots for the basketball games. The preferred rental time for the gym is 8 PM to 1 AM on Tuesdays and Thursdays. For the first year of Midnight Basketball, the program will run for three months (12 weeks).
- Purchase penny jerseys and basketballs for the games.



- Plan a schedule outlining the number of teams involved, how many games will be played per night, a playoff bracket toward the end of the three-month program, and the duration of each game.
- Recruit volunteers and assign officers to mentorship roles within the program. Both volunteers
 and officers will participate in games and serve as coaches. Assign five officers to act as team
 mentors. If the department is unable to provide five officers, community volunteers will be
 used to fill the mentorship roles.
- Hire referees to officiate the games. This can be done by recruiting volunteers with prior refereeing experience or by hiring local basketball referees. If the department is unable to schedule referees for late-night games, community volunteers will be used to officiate as needed.

Anti-Violence Program: Outreach, Mentorship, and Resource Allocation

- Reach out to Charlottesville City Public Schools to secure a few classrooms for approximately 50 program participants. Sessions will take place on Monday, Wednesday, and Friday from 6 PM to 8 PM. CCPS will provide classrooms free of charge, as they aim to incorporate law enforcement more into the education system (CCS, 2025).
- Identify 50 individuals in the community who would benefit from the program. These should be individuals ages 14–24 who are in need of resources and may have a history of personal or social challenges. Ideal candidates can be identified through the school system, social services, and housing shelters—particularly those considered at risk due to prior involvement with the justice system, school disciplinary actions, or housing instability. Individuals currently enrolled in city programs, as well as those referred by Charlottesville City Public Schools, housing shelters, or previously known to the police department, should also be considered.
- Select officers who are available and well-suited for the program. The recommended number of officers is 10. Preference should be given to those with prior experience working in youth engagement, community programs, or mentorship roles.
- Identify the specific needs of each participant and provide targeted support (Skene, 2024). Resources may include academic support such as tutoring, job training programs, assistance with housing planning, substance abuse counseling, or other individualized services based on each participant's situation.

Sustaining Success: Program Rollout, Assessment, and Future Growth

• Launch both programs in the same week while continuing to promote them.



- Schedule meetings to check in with officers. Gather initial feedback on what the program is doing well and identify areas for improvement. These meetings should take place every two weeks while the program is in session. Schedule a time that works for all officers.
- Provide an opportunity for anonymous surveys for participants. Reflect on feedback from officers and program members to assess whether improvements should be made.
- Following the initial pilot of both programs, conduct a department-wide analysis to assess their impact on crime reduction.
- Evaluate the overall effectiveness of the programs to determine whether the outcomes justify the costs. This step is essential to ensure that resources are being used efficiently and that the initiatives are contributing meaningfully to reducing crime in Charlottesville.
- After the second year of the program, expand its duration to six months per year and to nine months after the fourth year.

Recap of Implementation

The initial implementation phase will take the department approximately three months. The next phase, which involves launching the programs and collecting feedback, is also expected to last three months. While the two programs are ongoing, it is critical that the department continuously evaluates their effectiveness—determining whether the benefits justify the costs and identifying potential improvements to better meet crime reduction goals. The final phase, expansion, will begin two years after the initial launch and continue through the end of the five-year dual-program timeline. Since the police department can begin collecting crime reduction data one month after the programs launch, the estimated timeline for seeing initial results is around four months. Although the implementation process is extensive, it is expected to be worthwhile, ultimately providing evidence-based validation of the programs' effectiveness and feasibility in reducing Charlottesville's crime rate and creating a safer Downtown Mall.



Conclusion

The rise in crime at Charlottesville's Downtown Mall in recent years has negatively impacted public safety, local businesses, and community trust. As the agency responsible for ensuring the safety and vitality of the area, the Charlottesville Police Department must take a proactive, evidence-based approach to addressing the issue. This report evaluated three alternatives: increasing police-community engagement, strengthening on-site security, and upgrading surveillance systems. After assessing each option using the criteria of feasibility, cost-effectiveness, total cost, and implementation timeline, increasing police-community engagement emerged as the most consistent and effective solution—ranking highest in the most important category, feasibility.

As crime continues to rise, timely action is essential not only to slow its growth but to begin repairing the damage done in recent years. The implementation of this alternative, coupled with ongoing evaluation of crime data and program effectiveness, is crucial for long-term success. Ultimately, this evidence-based recommendation aims to restore safety and vibrancy to the Downtown Mall while also rebuilding community trust and fostering stronger relationships between law enforcement and the public.



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Appendix

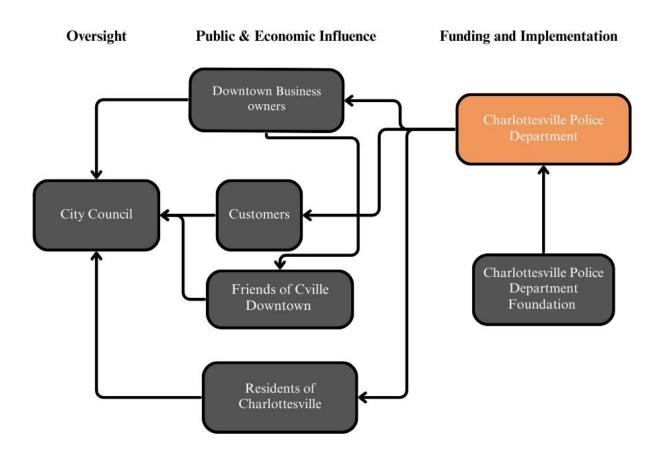


Figure 1: Governance Map of the City of Charlottesville



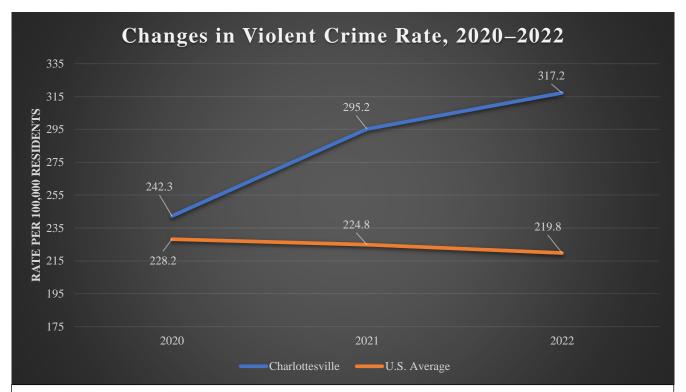


Figure 2: Violent Crime Rates in Charlottesville vs. U.S. Average, 2020–2022 (City Journal, 2022).

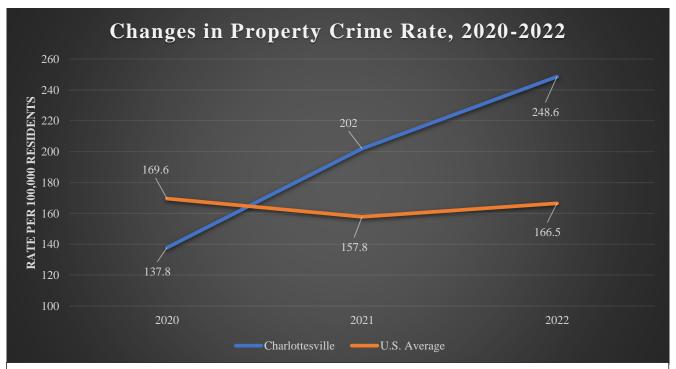


Figure 3: Property Crime Rates in Charlottesville vs. U.S. Average, 2020–2022 (City Journal, 2022).



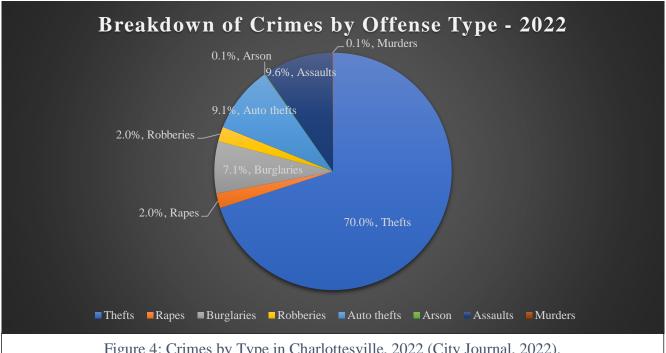


Figure 4: Crimes by Type in Charlottesville, 2022 (City Journal, 2022).

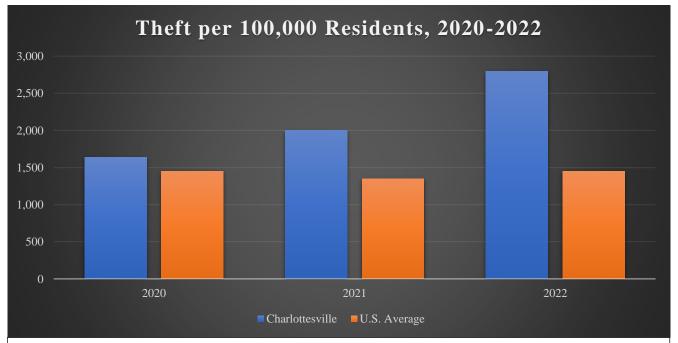


Figure 5: Theft per 100,000 Residents in Charlottesville vs. U.S. Average, 2020-2022 (City Journal, 2022).



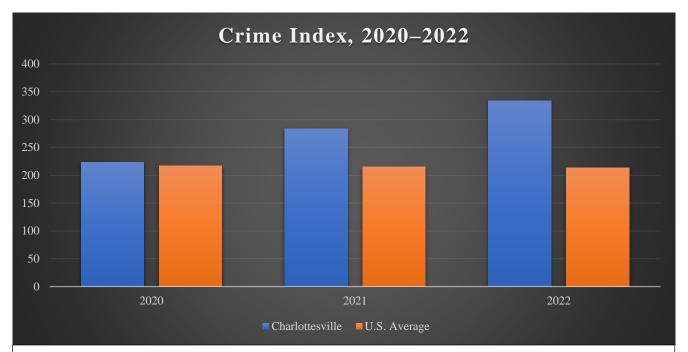


Figure 6: Crime Index in Charlottesville vs. U.S. Average, 2020-2022 (City Journal, 2022).

The total cost for gym rental is calculated as follows: 90×5 (hours per session) $\times 2$ (days per $week) \times 12$ (weeks) = 10,800. The equipment cost is minimal. If 40 pinnies are purchased to distinguish teams, along with five basketballs, the total cost for equipment is estimated at \$600. The cost of paying five officers to manage the program is \$33,000. This is calculated by compensating each officer at \$55 per hour, including overtime pay (1.5x standard wage) (Indeed, 2025). 55×5 (officers) \times 5 (hours per session) \times 2 (days per week) \times 12 (weeks) = 33,000. The final expense is referee fees. If two referees are paid \$30 per hour, the total cost is \$7,200. 30×2 (refs) $\times 5$ (hours per session) $\times 2$ $(days\ per\ week) \times 12\ (weeks) = 7,200.\ This\ brings$ the total cost of the midnight basketball program to \$51,600.

Callout Box 1

At \$55 per hour, the total cost for officer wages is \$39,600. 55×10 (officers) $\times 2$ (hours per session) $\times 3$ (days per week) $\times 12$ (weeks) = 39,600. Combined, the total cost for the anti-violence program is just under \$100,000.

Callout Box 2

The equation is: $(75,000/(1.05)^{1}) + (75,000/(1.05)^{2}) + (150,000/(1.05)^{3}) + (150,000/(1.05)^{4}) + (225,000/(1.05)^{5}) = $568,505 cumulative cost for the five-year program.$



To calculate the cost of reducing crime by 1% over five years, we divide \$568,505 by 35, resulting in a cost-effectiveness analysis (CEA) ratio of \$16,243 per 1% reduction in crime.

Callout Box 4

The base salary for a new officer is \$55,000, with an additional \$16,000 in benefits (CPD, 2025). The training cost is approximately \$106,500, broken down as follows: \$6,500 for Police Academy and \$100,000 for on-ground training (FPPTA, 2018). Equipment costs would be around \$10,000, and the signing bonus would be approximately \$4,000 per officer. The total initial hiring cost and first-year expenses for two officers would amount to \$383,000. After the first year, the annual cost would decrease to \$142,000 for both officers. Adding the first-year cost and the following four years with a 5% discount rate, the total cost would be $(383,00/(1.05)^{\Lambda}1) + (142,000/(1.05)^{\Lambda}2) + (142,000/(1.05)^{\Lambda}3) + (142,000/(1.05)^{\Lambda}4) + (142,000/(1.05)^{\Lambda}5) = $844,310$.

Callout Box 5

With the total cost of this alternative amounting to \$844,310 over five years, we divide it by 40 to obtain a cost-effectiveness analysis (CEA) ratio of \$21,108 per 1% reduction in crime.



To estimate the number of cameras, I divided \$54,000 by 7 cameras to determine the cost of installing one camera. Using this figure, I then divided \$300,000 by \$7,700, finding that the Downtown Mall would install approximately 38 surveillance cameras. While inflation is a factor to consider when comparing camera prices from 2018 to 2025, the cost of the cameras being used has decreased as technology has become more affordable. Instead of cameras costing \$7,700 to install, they now cost \$6,200 per installation. The installation cost itself is now \$400 per camera (Eufy, 2024). The high-end cameras being used are pan-tilt-zoom (PTZ) cameras, which cost \$5,800, bringing the total cost per camera installation to \$6,200, or \$234,600 for all 38 cameras (B&H, 2025). The energy cost for 38 cameras is calculated based on average energy consumption per camera. Most PTZ cameras consume 15 watts per hour (HoneyOptics, 2025). Multiplying 15 watts by 38 cameras results in 570 watts per hour, or 0.57 kWh. Since the cameras operate 24/7, this totals 410 kWh per 30-day month. To determine the electricity cost, we multiply this by the average electricity rate in Virginia, which is \$0.13 per kWh (Dominion Energy, 2025). This results in an estimated monthly electricity bill of \$53 or \$640 annually—a minimal cost increase after installation. Adding the electric bill to the initial installation cost and applying a discount rate, the equation is as follows: $((234,600 + 640)/(1.05)^{1}) + (640/(1.05)^{2}) + (640/(1.05)^{3}) + (640/(1.05)^{3})$ $(640/(1.05)^4) + (640/(1.05)^5) = $226,199.$

Callout Box 7

If Charlottesville experienced similar results, we would calculate the cost-effectiveness analysis (CEA) ratio by dividing \$226,199 by 27, resulting in \$8,378 spent per 1% reduction in crime.



Alternatives & Criteria	Feasibility	Cost-Effectiveness Analysis	Total Cost	Timeline	Total Score
Weight Associated to Criteria	0.35	0.3	0.2	0.15	Sum of weighted score
Increasing Police- Community Engagement	4	4	3	3	3.65
Strengthen Security Presence at Downtown Mall	3	3	2	3	2.8
Upgrade Mall Video Surveillance System	1	5	4	4	3.4
Maintain Status Quo	1	1	5	5	2.4

Figure 7: Outcome Matrix