Crime Rate in Caracas: Alternatives to improve the lives of those in vulnerable communities



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Acknowledgments and Disclaimer

Before I mention the acknowledgments, I would like to use that word in a different context. Let's acknowledge that this work was only done because many citizens in Venezuela are suffering. The structural damage Venezuelans, especially kids without fault, have experienced in the last decade cannot be entirely eradicated by isolated programs. These programs require to go in hand with governmental policies purposely designed to improve sustainably the social welfare of a nation. However, because those decisions are out of our control, this research intends to alleviate the situation of Venezuelans in vulnerable positions regardless of the institutional environment.

I am grateful for what I have learned over the last three years, and I couldn't think of a better way of ending this stage than by giving back a grain of academic sand to the country that has given me everything. That said, my acknowledgments go beyond those who helped me during the APP. They also involve many people who helped me get here – accomplishing these degrees includes many years of support. But because of space limitations, I will only mention those who were present during this analysis.

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Executive summary

For the last decade, Caracas has been ranked as one of the most dangerous cities globally, impacting the integral development of its citizens. To end this trend, the government implemented policies focused on generalized extermination in high poverty areas while accepting civilian armed groups in conflicting zones and purposely halting other security interventions (BBC, 2015).

These actions, however, have not stopped the insecurity in the city, making it the second worldwide in terms of murder rate per 100,000 inhabitants in 2020 (Statista, 2021) and deteriorating the life quality of the vulnerable communities. To outweigh these trends, the following project presents three policy alternatives that could be implemented by Mi Convive – a stablished and recognized NGO focused on making an impact in crime reduction and its subsequent effects:

- Modifying the built environment by working with the local government and the community
- 2) Create a program that aims at supporting and incentivizing those involved in crime to change their lifestyle
- Create a youth guidance program, providing cognitive behavioral therapy and developing stronger social skills

To recommend the best of these alternatives, the outcomes from each policy option were evaluated by utilizing the following criteria:

- 1) Administrative and political feasibility
- 2) Financial cost
- 3) Effectiveness
- 4) Cost-effectiveness
- 5) Equity

After understanding the tradeoffs across the alternatives, the best option for Mi Convive would be to create a youth guidance program, providing cognitive behavioral therapy and developing stronger social skills. Although it is financially expensive relative to the other two options and has some equity concerns, this policy is more politically and administratively feasible than the rest.

Further, the nature of the proposed policy alternative has fewer external validity challenges when it comes to applicability and outcome predictability. While the opportunity cost of not committing a crime in Venezuela remains relatively low for citizens in high poverty areas, developing cognitive and non-cognitive abilities in children could help create the necessary behavioral awareness before those moments appear in their lives.

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Problem Statement

For the last decade, Caracas has been ranked as one of the most dangerous cities globally, impacting the integral development of its citizens. To end this trend, the government implemented policies focused on generalized extermination in high poverty areas while accepting civilian armed groups in conflicting zones and purposely halting other security interventions (BBC, 2015). These actions, however, have not stopped the insecurity in the city, making it the second worldwide in terms of murder rate per 100,000 inhabitants in 2020 (Statista, 2021) and deteriorating the life quality of the vulnerable communities.

Client Overview

Founded in 2013, Mi Convive is a non-profit organization dedicated to promoting leadership, community organization, and citizen participation in Caracas' vulnerable communities to make an impact in violence reduction, human rights respect, and coexistence. Given the institutional deterioration of the country and the lack of traditional mechanisms for citizen participation, the organization proactively decided to satisfy these unmet needs.

Mi Convive designs and implements social intervention projects oriented toward promoting personal integrity. These projects include registering transparently violent deaths within the Metropolitan Area of Caracas, placing young people at risk in the labor market, identifying and transforming concentration points of criminal acts, condemning human rights violations, and investigating the impact of violence in the communities. To achieve its goals, the organization focuses on strengthening the social capabilities of the community by developing trusted relationships with its members, combining their collective intelligence with the organization's academic knowledge. Specifically speaking, Mi Convive's projects are the following:

- Monitor de Víctimas: together with Runrunes an independent Venezuelan media research platform – Mi Convive analyses homicide data in three of the most dangerous cities of the country, including Caracas. This initiative combines citizen participation with investigative journalism to get the most accurate data on homicides.
- Talleres de Prevención a la Violencia: it's a tool to deepen the understanding of violent behavior, sharing with the communities what factors are associated with it and promoting local leaders who elaborate initiatives to build safer ecosystems.
- Espacios: after diagnosing the hotspots, Mi Convive works with the community to recover those spaces until they are transformed into safer and more sustainable ones. Making them more functional, the organization aims at reducing the likelihood of committing a crime and increasing the well-being of the community, which will utilize the recovered land.

- Vamos Convive: this program focuses on facilitating workshops for vulnerable youths to help them become labor capable. By enhancing their skills, Mi Convive partners with businesses that have vacancies demanding these abilities.
- Cuéntame Convive: it's a safe space dedicated to raising awareness across communities, so its members become promoters of change and act to face their challenges.

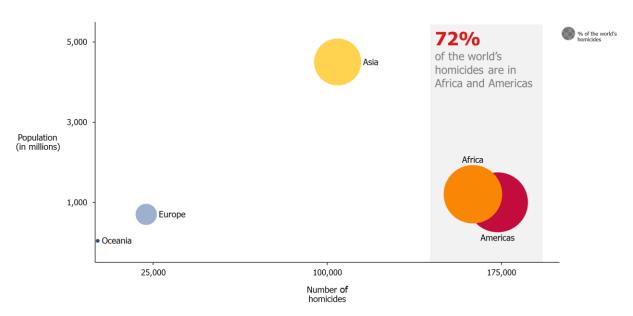
Background

Crime statistics and its perception

The risk of becoming a homicide victim varies across the world. However, while only having 30% of the world's population, Africa and the Americas are the regions with the highest crime rates, as shown in figure 1. Specifically, in 2017, the Americas accounted for 37% of the global crime, and the region only represented 13% of the world's population (United Nations, 2019).

Figure 1





To add another layer of complexity, not all the homicides are officially registered. Victimization surveys have become a default alternative to discover the *true* values of crime, especially in Latin America, where approved registration could also include inaccurate records. Within this region, surveys have multiple challenges before serving as a perfect complement for official data (Lagos & Dammert, 2012). Their costs are a significant hurdle, given that governmental entities have limited public investment. Also, these public bodies analyzing the collected information may perceive its future use as a political-oriented one, diminishing the likelihood of allocating resources toward that goal.

On the other hand, measured as the percentage of the population for whom crime is their primary preoccupation, insecurity perception is another critical component to understand crime. This variable includes components such as trust in the police, mediatic coverage, and availability of statistical information – demonstrating the importance of official numbers. Other important factors influencing that perception are individuals' economic circumstances and education, with the latter having an inverse relationship and the former a positive one (CAF, 2014).

Regarding its relationship with actual crime, studies have found that the effects of crime over insecurity perception dilute over time, potentially because citizens create strategies to handle the challenge (Maris & Ortega, 2013). Still, insecurity perception continues to grow in Latin America, where it increased by around 20 percentage points from 1994 to 2010 (CAF, 2014).

Factors contributing to committing a crime

As presented in figure 2 (CAF, 2014), there are two variables and five factors that directly influence the probability of a criminal event. Regardless of the likelihood of developing a criminal habit, people respond differently to multiple situations (opportunity cost) in which committing a crime is an option – denoting one part of the left side of the equation.

Figure 2

Individual Criminal Propensity X Criminalistic exposure Situation (environment in a given time) Physical space and social domain X illegal markets X Criminal Justice Criminal event (?)

Within the *situation* variable shown in the equation, the first component is the physical and social space, which has been determined as having a strong relationship with crime. A disproportionate number of crime events occur in specific spots – places that are unique in their characteristics – and during specific timeframes. Typically, these spaces have physical disorders, such as empty lands and grounds full of trash, but, on the other hand, they may have a distorted ecosystem – including violent discussions and alcohol consumption on the streets.

The second element is illegal goods that are still demanded but not eradicated. Usually, disputes among participants in these illicit markets are solved through violence because of the rents they generate, affecting those involved and the rest of the surrounding population. In fact, it is estimated that in Colombia, between 1994 and 2008, 25% of homicides were a direct consequence of drug trafficking (CAF, 2014).

Finally, the third factor is the judicial system, incorporating the probability of getting caught by the police and of receiving a jail sentence. The effectiveness of the judicial system will directly influence criminal activity because it will determine the severity of any prison term, affecting the opportunity cost of committing a crime for the individual.

Moreover, the infrastructure of the penitentiary system will also affect the propensity to solve problems violently (CAF, 2014).

These three scenarios would condition future propensities of executing a felony, but it is important to understand individuals independently – the other variable on the left side of the equation. The probability of individuals committing a crime is determined by their criminalistic propensity and exposition. The former relates to the intrinsic values of an individual – such as self-control, values, and beliefs – while the latter represents other factors that expose the person to those situations, such as education level, age, and hometown. These considerations that affect the propensity and exposition require independent analyses to understand the severity of each of them.

Unemployment

Although it intuitively could be considered to have a strong association with crime, a reduction in the unemployment level may not have a strong relationship with a decrease in criminal activity (Imrohoroglu, Merlo, & Rupert, 2001). An analysis of US State data showed a strong relationship between unemployment and property crime rates, but the relationship between unemployment and violent crime rates is weaker (Raphael & Winter-Ebmer, 2001). In contrast, a study in England and Wales suggests that a drop in relative wages of unskilled men and an increase in unemployment in these two countries act as incentives to engage in criminal actions (Witt, Clarke, & Fielding, 2010).

These studies imply that the labor market, the type of crime, and other segmented variables influence the sensitivity between the unemployment rate and violent crime. Further, given that not all unemployment is equal, age becomes an important determinant of this relationship. Although employment itself doesn't determine crime, a study found that youth unemployment is consistently positively related to crime – suggesting that the relationship between these two variables remains inconclusive (Chioda, 2016).

Inequality

Another common analyzed driver to understand crime rate trends is inequality, which could be considered the state of not being equal, especially in status, rights, and opportunities (Nations, 2015). Compared again to Europe, a working paper done in Sweden concluded that the proportion of relatively poor – that 10% below the median income – is associated with a substantial effect on the crime rate (Nilsson, 2004). However, when that range is dropped from 10% to 20% below the median, the relationship between violent crime and income range becomes insignificant. Interestingly, the author mentions that the only factor that could affect violent crime is the proportion of men aged 15-24.

A US study that controlled for poverty, race, and family composition effects indicates that the impact of inequality on crime is high, suggesting that disadvantaged members of society face pressure and incentives to commit a crime in high-unequal zones (Kelly, 2000). But another study challenges those effects. When controlling for poverty, inequality itself may not be a strong driver of high crime rates, implying that it is confounded by poverty (Pridemore, 2011).

Education

From a broader perspective, based on a study that utilized US Census Data, completing high school is associated with a decrease in the probability of incarceration. This research estimated that finishing high school reduces the probability of incarceration by 0.76 percentage points and 3.4 percentage points for white and black citizens, respectively (Lochner & Moretti, 2001), complementing the study mentioned in the income section. Given the elasticity of crime over wages, the effects of education over crime are through an increase in future wages.

Two other studies, one in Australia and another one in Turkey, concluded that there is a strong relationship between an increase in education and crime reduction. The Australian one, however, mentioned that even though there is a decrease in violent crime, the significant reduction comes from property crime (Beatton, Kidd, Machin, & Sarkar, 2016). In contrast, the findings in Turkey suggest that the more education levels an individual obtains, the less likely that person will commit a crime (Yildiz, Ocal, & Yildrim, 2013).

Childhood and youth development

Analyzing children and youths as an independent variable is fundamental to understanding the crime rate. Many studies have focused on researching the impact of early stages of life on future crime, suggesting that specific life stages are more important than others in influencing the propensity and exposition to criminal actions.

Given that the peak frequency of physical aggression occurs between 24 and 42 months, children learn ways to control their behavior. However, those who fail at self-regulating and exhibit high levels of aggression and conduct problems in primary school are at higher risk of negative behavior in the near future (Chioda, 2016).

A study indicates that the typical age to start criminal activity is between 8 and 14 years old and the range of exit tends to be between 20 and 29 years old (Piquero, Farrington, & Blumstein, 2007). It also concluded that a small portion of the population commits the vast majority of the delinquencies, suggesting consistent results with their analysis that determined that only 8% of the youths at risk commit more than 50% of the felonies. Within Latin America, a survey demonstrated that 85% of the victims said they were harmed by criminals younger than 35 years old, while the activity peak for these offenders is before they turn 20 years old (CAF, 2014). Yet, the most complex part of these facts is determining what biological or non–biological factors are possible to influence after early childhood to twist the undesired consequences.

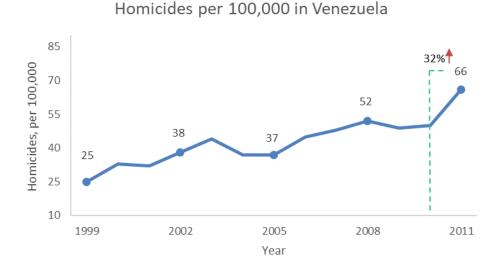
A randomized housing-mobility experiment in the US indicates that families with the opportunity to shift away from lower-poverty neighborhoods reduce violent criminal behavior by teens from 30 to 50% of the arrest rate (Ludwig, Duncan, & Hirschfield, 2001). Although the mechanisms by which these outcomes are achieved remain uncertain, it may be that teens change their behavior after this transition, suggesting that a new, positive environment to develop young life could help reduce crime rates among them. Among disadvantaged youths, the level of education might also boost committing a crime. Because they will have a lower probability of getting employed than those educated, young non-educated citizens have a low opportunity cost of crime,

indicating that a combination of the previously mentioned variables may affect this selected group (Freeman, 1991).

Venezuelan situation and crime in Caracas

Through the 00', Venezuela had a steady growth in the murder rate per 100,000; however, after 2010, that growth became exponential (Violencia, n.d.). Figure 3 shows the spike at the start of the new decade (Albáñez & Ferreira, 2013). Interestingly, the country was reducing its GINI coefficient, and it was economically growing during this same period (United Nations, 2013), but it couldn't reduce its crime rate – validating the results of the studies understanding the relationship between inequality and crime rate. A possible explanation for this phenomenon is how Venezuela has remained as one of the most perceived corrupt countries for the last decade (Transparency International, 2022), mitigating the effectiveness and legitimacy of institutional actions.

Figure 3



Given those circumstances, in 2013, the Venezuelan government created a policy called *Zonas de Paz*. José Vicente Rangel Ávalos – the Vice-minister for Citizen Security at that time – believed that the armed groups operating in high crime rate areas wanted a change (F, 2021). Because of that reason, he created this program with the hope that it could turn around the imminent issue. *Zonas de Paz*, which had Miranda State as a pilot zone, had as its objective to make a treaty with the criminal gangs living in high crime rate areas by exchanging their arms with economic and infrastructure resources, hoping to cease the violence, at least, in those zones (Risquez, 2015).

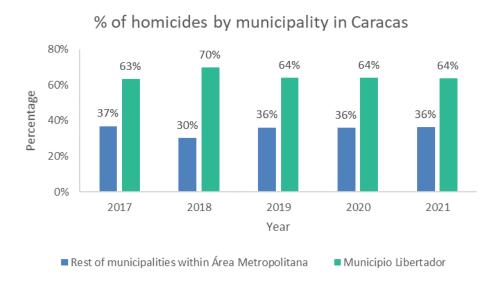
Government failure and Caracas' situation

Rather than following the agreement, these groups utilized the monetary resources to acquire more arms and increase criminal activities (Risquez, 2015). Meanwhile, the government created *Operación Liberación del Pueblo* because *Zonas de Paz* wasn't achieving the desired outcome. In fact, three years after the implementation of *Zonas de Paz*, the crime rate jumped from 79 homicides to 91.8 per 100,000 people (F, 2021).

This second attempt was more direct – National Army guards entered high crime rate areas to eliminate the most known criminal groups. However, the problem didn't disappear. Even Tarek William Saab – the Citizens' defender and an important member of the government's party – recognized that there were police excesses, such as arbitrary detentions and innocent civilians' murders (F, 2021). The government insisted on negotiating with the groups without success, letting Caracas, the capital of Venezuela and the country's most insecure place, become the city with the second-highest worldwide crime rate in 2020 (Statista, 2021).

Data from 2017 to 2021 collected by *Monitor de Víctimas* indicates that approximately 65% of homicides in Caracas have been committed in Municipio Libertador, with a constant trend for the four years and a half – as pointed out in figure 4. Although these homicides don't have a strong pattern in terms of time and day (Mi Convive, 2022), almost 70% of them occur in a public way, followed by home crime accounting for just above 23% of the total numbers.

Figure 4



Within Municipio Libertador, 34% of the homicides during this timeframe were committed in four parishes that, as shown in figure 5, are adjacent to each other – Santa Rosalía, El Valle, La Vega, and Coche – parishes with more than 90% of their population below the poverty line (Economía Hoy, 2021). This information is consistent with general crime trends in that they are concentrated in specific areas of cities and repetitive environments.

Figure 5

Área Metropolitana de Caracas map



Finally, it is worthwhile mentioning that the government's security institutions committed 38% of the total homicides and that they utilized over 95% of the time a firearm, while 95% of the victims were identified as civilians. This relationship fits the government's narrative coherently – generalized extermination in high-poverty areas as a policy alternative to satisfy their objectives. However, based on Mi Convive's research, around 50% of these actions have taken the lives of innocent citizens, critically affecting the lives of those directly related to the victims and all the neighbors who live with fear in the surrounding areas.

With a GDP decrease of around 80% over the last eight years (Portafolio, 2021) and hyperinflation for more than 48 months (EFE, 2021), Venezuela seems to have the ideal environment in which the causes of crime could arise. Although Caracas has been placed as one of the most dangerous cities worldwide for over a decade, other Venezuelan cities, such as Ciudad Guayana and Valencia (Statista, 2021), have also seen a high violence rate in global and relative terms. As violence keeps this pace in the capital and the country, it threatens to eradicate the development of the young population, especially in high-poverty areas, by posing direct and indirect costs to society as a whole.

Costs and consequences associated with crime

Beyond human life – which is the most important cost – crime involves other high costs for society, and they could be separated as direct and indirect ones. Directly, the costs are associated with a shorter life expectancy; psychological and physical damages of the affected people; public and private spending associated with crime prevention and control and the judicial system; and the property goods lost and destroyed because of a felony. Expenditures around adapting to a new insecurity perception, for example, would represent indirect costs, but these are more complicated to estimate and determine (CAF, 2014).

From another perspective, insecurity also causes collective harm. Citizens change the way they build social links, their relationship with the community, and the space in which they interact – altering their behavior and increasing the likelihood of self-exclusion. They also abandon public spaces, pushing for the privatization of common zones, such as parks and squares. These patterns may hamper the development of the community and the social fabric (United Nations, 2013).

Overall, it is estimated that for Latin America, the cost of crime related to medical attention and years of life lost is equivalent to 2% of the region's GDP, while those linked to security expenditure and justice have a 3% equivalency (CAF, 2014). Furthermore, 35% and 40% of the Venezuelans have limited their shopping and recreation places, respectively, because of insecurity (United Nations, 2013) – diminishing their mobility freedom and their accessibility to more goods and services.

Potential policy solutions

After understanding what could potentially cause an increase in the crime rate and its costs and consequences, the research analysis turns into policies that help solve the problem. Interestingly, some of the policies may also affect the evaluated causes.

For example, if a policy to reduce the crime rate consists of changing criminals' behavior and providing them labor opportunities, it could help reduce both current and future crime rates. Some interventions, such as increasing police activity, only focus on the existing crime and not on its causes.

For that reason, solutions can be divided into non-governmental and purely governmental initiatives, with the caveat that the non-governmental ones – although created by independent organizations – may require some government involvement to some degree. Besides that distinction, going back to *Figure 2* (the equation framework) helps separate the solutions into those that directly involve individuals and those that influence the existing environment.

Situation solutions

Changes to the built environment

Modifications to the built environment, such as reducing the number of alcohol stores, locking unused houses, and zoning rearrangements, could work as preventive measures around high crime neighborhoods. This theory of change comes from the idea that a decline in violence is not simply originated from a reduction in the number of offenders and individuals prone to violence – but that it could also be driven by changing the nature of public and private spaces (Sharkey, 2016).

A study performed in Ohio determined that there was a significant association with crime reduction around areas with contractor-greened lots. Another analysis indicates that, in Pennsylvania, street lighting, illuminated walk/don't walk signs, and other mechanisms are associated with at least a 76% decrease in the odds of a homicide (Kondo, Andreyeva, South, MacDonald, & Branas, 2018). Some of the changes also occur in existing public spaces that have deteriorated. In Chile, a program that

recovered public squares found a 10% reduction in the frequency of assaults and robberies reported by neighbors in the area (Braun, Gallego, & Soares, 2016). There are also indirect changes, such as transit expansion, that may help reduce crime by altering other features of the environment (MacDonald, 2015).

The other two factors associated with the *situation* variable – illegal markets and criminal justice – are related to purely governmental policies. There is a strong field of research behind solutions for challenges around those two components, but since Mi Convive cannot execute those programs by itself, they are out of the scope of this analysis.

Individuals' solutions

Criminalistic exposure

From the perpetrators' perspective, living in high crime areas keeps incentivizing them to commit a crime, regardless of how strong their propensity for this action is. These areas where they operate are small in territory, and also, the number of criminals operating is very small. For example, a study in Chicago found that 70% of all nonfatal gunshot victims were in social networks of co-offending people, which are less than 6% of the total city population (Papachristos & Kirk, 2015).

However, police deterrence in those neighborhoods may not solve the root cause of the challenge – it omits developing individuals at the center of these violent communities by overfocusing on law enforcement. Some studies have determined that these policies could effectively reduce gun violence but not reach the most dangerous individuals in the communities, excluding solving a potential root cause of the challenge (Braga, et al., 2019).

Organizations, such as Advanced Peace, have developed new theories of change to help criminals shift their default mindset, investing in their growth, health, and healing through different mechanisms. Specifically speaking, these programs neither share their work with law enforcement institutions nor inculcate antiviolence norms throughout the community. Rather, they focus on reaching out to individuals through a management action plan, recognizing trauma and providing positive mental health and emotional regulation support (Coburn, Boggan, & Muttaqi, Advance Peace & Focused Deterrence: What are the differences?, 2020).

These efforts have increased community peace, reduced gun crime, shootings, and injuries, and promoted a healthier community, helping prevent between 16 and 41 potential shootings which might have resulted in deaths (Coburn, Boggan, & Muttaqi, Advance Peace & Focused Deterrence: What are the differences?, 2020).

Criminal propensity

As discussed previously, the propensity for individuals to commit a crime is related to their intrinsic values. Given how much early childhood is linked to cognitive and behavioral development, investments during this phase of children could be the main determinants of lifetime outcomes. Because better academic achievements and higher cognitive standards don't necessarily represent correct behaviors, programs aiming at

creating a solid foundation of personality traits, such as agreeableness and conscientiousness, may help reduce crime (Chioda, 2016). To create a robust psychological impact that reduces the propensity to commit crime, programs, like BAM (Becoming a Man), focus on supporting the normative adolescent development process, building new social and emotional capacities, and influencing youth's sense of control over their own lives (Jiffy & Rapoport, 2016).

To develop the necessary values that reduce that propensity in the future, the BAM program emphasizes on acknowledging and recognizing fear, doubt, and uncertainty. Further, it also pushes recipients to persist through challenges by realizing the importance of self-reflection and help-seeking (Jiffy & Rapoport, 2016). These core values – which are part of the program's structure – influence participants' identity development, providing essential traits for future life.

A study comparing the effects of cognitive and non-cognitive traits on social performance and economic success demonstrated that non-cognitive ones could be more critical in determining those two outcomes (Heckman, Strixrud, & Urzua, 2006). Furthermore, it shows how traits such as motivation, persistence, and self-esteem also influence the decision to stop school studies, suggesting how relevant these non-cognitive factors are.

Beyond these personality traits, BAM creates a strong sense of control and belonging within its community through different group activities, pushing beneficiaries to develop relationship trust and identity exploration (Jiffy & Rapoport, 2016). In this way, adolescents build emotional intelligence and empathy towards the rest, while practicing decision-making skills over group processes. Additionally, these types of programs, including Advance Peace and READI Chicago, have had positive effects by offering CBT (cognitive-behavioral therapy) to their beneficiaries.

A study that analyzed two randomized controlled trials of the BAM program in Chicago, which provides cognitive behavioral therapy on weekly visits during the school day, concluded that it reduced violent-crime arrests by 45%-50% and increased graduation rates by 12%-19% (Heller, et al., 2015). The researchers from this study consider that behavioral interventions make youths react less automatically in high-stakes situations, decreasing the propensity to commit a crime. Also, READI Chicago reported a 79% decrease in arrests and involvements from their participants (Readi Chicago, s.f.).

Alternatives and criteria

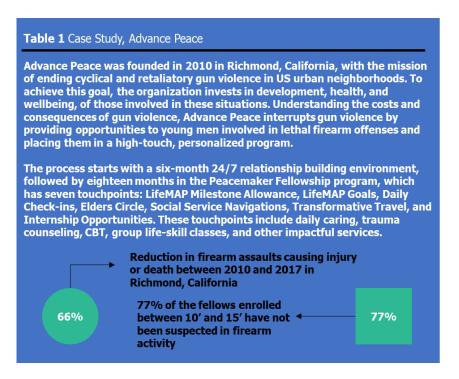
The following alternatives represent personalized and synthesized policy options derived from the previously analyzed solutions. This step required selecting what component of each policy approximates the most to Mi Convive's mission to improve its value proposition. It also includes understanding rigorously what research contains the most rigorous methodology and which outcomes are the most aligned with the desired goal of reducing the crime rate in Caracas. Finally, it is also important to highlight that the previously presented solutions are not mutually exclusive themselves – for example, some existing programs offer cognitive and non-cognitive workshops for their beneficiaries.

Overview of each alternative

1) Modifying the built environment by working with the local government and the community: as explained in the solutions section, this alternative focuses on changing or rearranging the built environment of selected places. It differs from Mi Convive's Espacios in that this policy doesn't necessarily look to transform spaces into utilized ones.

This program aims at reducing the number of areas with a high likelihood of crime incidence and creating the maximum public awareness through different mechanisms, complementing what Mi Convive proposes. The organization could implement four possible options: rearranging or increasing bus stops' locations, incorporating more street lightning in specific spots, adding walk/don't walk signs across the neighborhoods, and greening vacant land. For this task, Mi Convive would also have to work with local government officials and community leaders to implement these urban planning changes.

2) Create a program that aims at supporting and incentivizing those involved in crime to change their lifestyle: from relationship-building tools to job opportunities, this alternative would implement an end-to-end plan that provides offenders with multiple skills to introduce them to the workforce and guide their progress through follow-up schemes. In the US, some organizations offer a similar proposal, as shown in table 1 (Advance Peace, s.f.) (Coburn, Boggan, & Muttaqi, 2021). Given that this alternative would represent an entirely new proposition for Mi Convive, the organization would have to introduce a different organizational structure to manage it.



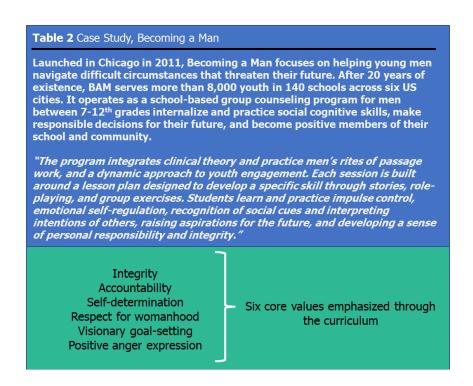
In detail, this proposal would be a year and a half intensive program, which would be split into a year of relationship-building, psychological therapy (CBT and trauma counseling), and life goals strategy. During this period, the treated group would receive two sessions per week for each of the three areas mentioned, with relationship-building being performed in a group setting and the other two rotating one week alone and one week in the group. At the end of this year, there will also be a weekend retreat, in which they will bond through group activities and discuss their experience in the program.

After that year, the program focuses on six months of workforce skills development, and it will be covered by two sessions per week dedicated to professional training, having the same dynamics as the life goals strategy. The group will be exposed to personal and professional conversations with guest speakers throughout these six months, emulating the elders' circle that Advance Peace applies. Also, leveraging the partnerships Mi Convive has with some businesses (Convive, 2022), the recipients will perform a four-week internship. Because of financial reasons, Mi Convive would not include the Advance Peace's allowance in its program. Nonetheless, to incentivize beneficiaries, Mi Convive would reward those who have accomplished the life goals strategy milestones during the program by letting them select their preferred internship company. Finally, this proposal would also include a one-year follow-up with weekly check-ins.

3) Create a youth guidance program, providing cognitive behavioral therapy and developing stronger social skills: This alternative focuses on enhancing human components, such as emotional intelligence and self-control, of the young population – specifically those who are not the victim but are at risk of developing discouraged behavior. Going beyond CBT– an essential component in alternative two – is crucial because factors such as conscientiousness and persistence could also reduce crime and school dropout. Mi Convive has applied workshops that include some of these efforts. However, the target population and program structure are new for the organization, requiring a partial organizational adaptation.

As indicated in Table 2, similar programs cover a range of six years (Becoming a Man, n.d.). Still, given the financial constraints that non-profits have in Venezuela, this alternative would present a scenario that encompasses a five-year gap. It would provide one weekly meeting for each area – CBT and personality traits. As designed for the second alternative, CBT would be applied in a group setting, and the personality traits would rotate for a week alone and a week in a group.

These weekly meetings will have check-ins to understand how the previous week unfolded. Also, the extracurricular activities and events would strongly link with the program's values, so beneficiaries apply the lessons learned in their sessions in more practical settings (Jiffy & Rapoport, 2016). Lastly, it will also include a one-year follow-up with monthly check-ins.



Overview of each criterion

1) Administrative and political feasibility: this criterion measures the expected difficulty of implementing the alternative from both a public and organizational perspective. From the former standpoint, it pursues to answer to what extent the local government would be interested in collaborating and facilitating any legal hurdle that may appear. Moreover, it would also represent the tension between a local government-held institution and the country's executive power – the local government may not have an independent voice, and perhaps it might have to discuss the proposal with the central authority before emitting a decision.

Regarding administrative feasibility, it seeks to respond to how Mi Convive can implement any proposed alternative. In the case of the organization, the implementation mainly focuses on whether or not it is possible to execute the alternative as designed. Mi Convive would face challenges, such as difficulty reaching out to criminals and convincing them to attend a workshop, making some policies hard to implement and, therefore, partially blocking the alternative from reaching its desired outcome.

These sub-criteria will be evaluated qualitatively and independently, and then both analyses will be combined to obtain an overall measure of feasibility.

2) Financial cost: this criterion measures the total estimated costs of each alternative – an essential aspect for Mi Convive, given that it has limited monetary resources and depends on donors. To calculate them, I will adjudicate a dollar value to each variable related to the implementation process to have a yearly-basis cost. Those variables go from direct and indirect labor costs to workshop supplies expenses. It is

important to mention that I will rely on national and foreign numbers to obtain these figures, with the latter being indexed to a Venezuelan estimated cost through the respective assumptions. Finally, the yearly cost would be discounted to have a Net Present Value figure to understand the total cost of reducing crime.

- 3) Effectiveness: as probably the most vital criterion, effectiveness intends to capture to which degree each alternative will reduce the crime rate in Caracas. To calculate the effectiveness of each alternative, I will utilize data from research applied in other studies and extrapolate it to the Venezuelan case. By analyzing similar programs, I would estimate the effect of their implementation on crime reduction across a specifically determined period after the program is launched.
- 4) Cost-effectiveness: this criterion is a combination of two criteria, providing a broader understanding of the tradeoffs between resources and outputs. Because of the nature of NGOs, I will use resources (budget) as a constraint to determine how effective each alternative is, given a monetary restriction. Since NGOs don't publicly specify their funding, I will compare the cost-effectiveness across the three alternatives to assess the impact of the criterion for each policy option.
- 5) Equity: effective alternatives don't necessarily represent equitable ones a group may benefit more than another one in this crime reduction effort, which is why this criterion works as a two-way street. First, there is an equity concern in the selection process for three alternatives. Those who get selected may not be the ones who suffer the most, which in turn also creates a moral decision. But keeping it on an equity stance, the other component of this criterion is that some areas in Caracas may benefit more than others. The most optimal way to ensure equity would be by randomly targeting those citizens whose profiles demonstrate they live in the most vulnerable communities and are the ones with the highest risks.

Analysis of each alternative

Alternative 1: modifying the built environment by working with the local government and the community

1) Administrative and political feasibility – **medium**

From a political standpoint, the government is more manageable when the interactions only require local policymakers, suggesting that the permitting arrangements to proceed with this alternative may not be challenging. However, since Mi Convive has grown beyond Caracas, the organization has become more mediatic and, therefore, highly scrutinized by the national government. That said, the local government-held institution might not have independent decision-making, indicating that the necessary government involvement for permits could escalate to the national level and create some political frictions.

Moreover, in the World Bank rank for ease of doing business, Venezuela ranks third to last as one of the least business-friendly regulations and in the bottom 10 for the

number of procedures to register properties (World Bank, 2022). Although a non-profit organization operates differently from a for-profit one, these indicators demonstrate that the regulations tend to be a difficult hurdle to executing business contracts in public spaces, especially if you are not aligned with the government's party.

In terms of administrative feasibility, Mi Convive may not have difficulties executing this alternative because it's a one-time operation involving a high degree of outsourcing. Positively, the organization has important know-how behind these urban changes because of its experience with *Espacios*. Moreover, thanks to its involvement with community leaders, the organization has the research basis to provide insights into where to implement these changes.

Nonetheless, under the administrative feasibility, the organization might face some challenges from citizens. For the bus stop rearrangements, for example, there may be some pushback from users and drivers. To mitigate this potential threat, it would be essential to generate awareness so that the community perceives the future benefits of these changes.

2) Financial cost - low

Exhibit 1 presents the information and cost for one of each of the four rearrangements that Mi Convive could implement and their total cost, which is just over \$18,000. This financial cost would be the lowest among the three alternatives – mostly because it is a one-time expense and because some of the tasks are done in a short period, keeping labor costs low. Exhibit 2 shows the assumptions behind the construction process of these arrangements.

Besides the financial assumptions and assuming there will be only one of each arrangement type, the costs associated with this alternative are not higher for multiple reasons. First, although Mi Convive would have to outsource some technical labor, its relationship with community leaders has created a sense of collaboration among neighbors. This effect results in citizens contributing to more basic tasks, such as painting the road and adding light bulbs, reducing the overall financial cost of the alternative. Second, there are only a few areas within specific parishes where this policy could be implemented, given their operative land size and current infrastructure state. For example, in some of them, bus stops may not be abundant by default, and some streets may not fulfill the requirements to install more electric bulbs – also lowering the expenses of the alternative.

3) Effectiveness – **medium**

Multiple US studies have shown that this mechanism helps reduce the crime rate (Kondo, Andreyeva, South, MacDonald, & Branas, 2018), but those efforts produce an external validity concern. Changes in the built environment in the US seem to increase the opportunity cost of criminals, and therefore, their propensity for committing crime becomes more sensible. On the other hand, robust programs in Chile have also demonstrated positive effects (Braun, Gallego, & Soares, 2016), providing evidence that

in South America, this alternative could have a considerable impact. But, regardless of the geographic location, these shifts in behavior may also be associated with robust institutions backing those policies – institutions that are weak in Venezuela.

In Venezuela, criminals not only will adapt to these rearrangements, but their propensity may not change because they have less fear of future consequences. That said, this alternative may influence criminals' behavior, but the lack of investment in complementary policies could mitigate the effects in the long term. Further, as mentioned in the financial costs section, there are infrastructure barriers that may hamper necessary changes to the built environment. Although the presented alternative would be completely implemented, those factors may limit its reach.

4) Cost-effectiveness – high

Exhibit 3 shows this alternative's cost-effectiveness ratio – the lowest in considerable magnitudes relative to the other options. The assumption behind the 16% reduction in crime rate comes from a weighted average outcome from previous studies (Kondo, Andreyeva, South, MacDonald, & Branas, 2018), allocating a higher weight to more experimental outcomes (75%) over the case-control ones (25%).

Given that the changes in the built environment will persist beyond the year they are implemented, the same exhibit also indicates the ratio on perpetuity; however, as pointed out in the previous criterion, the effectiveness of this policy may dilute over time and have diminishing returns. From these numbers, alternative one demonstrates that it prevents a crime action per \$49 invested. To understand it on relative terms, there is around a 10% reduction in crime rate per \$11,368 spent in the year it would be built, although for future years there may be diminishing effects over the spending.

5) Equity – high

This alternative would be implemented in the areas with the highest crime rate within Caracas, contributing to the well-being of those living under vulnerable circumstances.

Alternative 2: create a program that aims at supporting and incentivizing those involved in crime to change their lifestyle

1) Administrative and political feasibility – **low**

Overall, Mi Convive would have two options to implement this alternative: request access to criminals in jail and a permit from the government to take them out or reach out directly to criminals who are not in jail.

From a political standpoint, reaching out to those in jail carries an enormous complexity. The channels and frequency of talks to observe the genuine interest in participating are almost non-existent because of Venezuelan jails' dynamics (Ocando, 2022), which also mitigate the possibility of applying this alternative as jails' visitors. Through the national entities involved in the criminal justice system, the government would have to allow some prisoners to be free, regardless of any condition it imposes on them. Further,

given that Mi Convive will not be with them during the whole day in its facilities, this alternative could also create moral hazard skepticism in the government.

Regarding administrative feasibility, Mi Convive would need to adapt to a new dimension, evolving in its capabilities and skills towards helping those who commit a crime. It would also have to implement an optimal structure that avoids dropouts after prisoners join the program. Also, even if the necessary guardrails are in place, the capacity to convince potential beneficiaries may be hampered by the program's lack of recognition and credibility.

Shifting to the other option – reaching out to criminals who are not in jail – Mi Convive would have easier access to the program recipients. Nonetheless, communications might be even more complicated because there is not an institutional intermediary – the organization could be perceived as a disguised group aligned with police forces. Although it seems administrative unfeasible, there are antecedents of an organization that have performed this action in Venezuela (Guimón, 2013), but Mi Convive won't be able to imitate that model because of multiple factors, such as space and budget to keep criminals inhouse.

Regardless of the two analyzed options, this alternative will confront implementation and sustainability challenges, given that it requires governmental and non-governmental involvement. Besides governmental support, this policy would require buy-in from other stakeholders, such as community organizations and social services agencies. Because developing relationships with these groups takes time, stakeholders may change their interest in the program long-term (Coburn, Boggan, & Muttaqi, Urban safety, community healing & gun violence reduction: the advance peace model, 2021).

2) Financial cost – **medium**

Exhibit 4 indicates the total cost per year of the program, the present value of the costs by year of the program, and the total present value of the costs as an eight-year program, with this last representing a total of \$260,271. Even though this financial cost is more than 14 times higher than that for alternative 1, it represents the cost of operating the program five times. For this alternative, direct labor embodies above 50% of the total costs – mainly driven by the key role that leadership professionals and psychologists play, as shown in the assumptions in Exhibit 5.

3) Effectiveness – **medium**

Analyses have found that similar programs in the US have also been successful in both magnitude and establishing the causal relationship with crime reduction (Readi Chicago, n.d.) (Corburn, Boggan, & Muttaqi, 2021). This alternative would go beyond reinserting these citizens into the workforce – it changes their lifestyle and mindset, influencing their long-term behavior.

However, in Venezuela, that transition may be more challenging. Besides the help they receive during the program, participants' behavior could also be influenced by external factors, such as the economic and social environment of the country. Although Mi Convive would help them find a job after completing the program, the beneficiaries may

fade away from the legal working path because of Venezuela's current conditions. That said, the follow-up piece will require to be robust to reduce that possibility.

4) Cost-effectiveness – **medium**

Exhibit 6 demonstrates that the cost-effectiveness ratio for this alternative is just below \$4,000. The first assumption in this outcome is that all the beneficiaries have been involved in a crime for any given year of the program. Second, the percentage of crime reduction (66%) comes from the eight-year outcome achieved by Advance Peace (Advance Peace, n.d.), emulating the program's effects to have a fair comparison across alternatives. The presented numbers show that alternative two could reduce 10% crime rate from the treated group per \$39,044 invested.

As pointed out, using US-based programs will bring external validity challenges; however, given that the program involves qualified professionals with skills universally replicable, the gap should shrink – at least from the offering side. It is also essential to recall that 85% of the crimes reported to Mi Convive include guns, which is the leading focus group of Advance Peace. Still, from the participants-side, the socioeconomic environment may decrease the effectiveness of the intervention, especially because it requires changing an already mature and established (adult) mindset, regardless of the dollars spent.

5) Equity – low

This alternative has profound equity implications. By nature, the selection process is challenging, and creating a set of criteria could be a way of determining it. Those criteria, however, would have subjectivity – and the consequences are high because the decision impacts who goes out of jail or from the criminal path. Further, the selection process would not be as transparent as others because of the lack of interaction with the potential participants.

Alternative 3: create a youth guidance program, providing cognitive behavioral therapy and developing stronger social skills

1) Administrative and political feasibility – **high**

From a political standpoint, Mi Convive should not face many drawbacks locally or nationally. Compared with the other two alternatives, the organization is neither altering a public space nor involving potentially highly scrutinized criminals – it would only work with those children at school. Given that this alternative would represent a new program for the organization, it would require some legal procedures, but they shouldn't represent a significant constraint. Further, if they appear, the organization can target students attending non-profit education systems, such as Fe y Alegría (Alegría, 2022), mitigating governmental pushback.

In terms of administrative feasibility, the challenges are bigger but manageable. Similar to alternative 2, this option would require Mi Convive to make structural changes in its operations and expand its organization's mission. It would need to improve its capabilities even further because it hasn't focused on developing these skills in youths,

even if it outsources most of the professionals. On the other hand, the selection process should be smoother than that of alternative 2 for multiple reasons. Children may be more willing to accept the proposal, and also, it is easier – and more transparent – to test that willingness through conversations with them and their parents. Further, the first reach doesn't require government presence.

If the organization decides to target public school students, it will have some administrative challenges, given that these entities manage their operational decision-making. In this case, Mi Convive may not have an independent implementation process through these partnership programs. However, the organization has developed good relationships with some of these schools, indicating that fair agreements could be reachable.

2) Financial cost – **high**

Exhibit 7 shows all the total and present value costs for the program during five years, with the total present value of cost being \$365,211. Even though this financial cost is almost 50% more than that of alternative two and substantially higher than that of alternative one, it represents a program helping 100 children. Exhibit 8 presents the assumptions behind the costs, indicating that the gap between the alternative two and this one comes from more than proportional direct materials expenses.

For this policy option, direct labor – which psychologists mostly drive – and rent represent around 49% and 10% of the total costs, respectively. However, there is room for making it substantially cheaper. Mi Convive has also created partnerships with respected organizations that provide psychological services to their targeted community (Cecodap, 2022) at negligible costs. Although their service may not be perfectly suitable for this alternative, this is a potential opportunity to reduce some financial costs. Moreover, in terms of rent and to provide its workshops, Mi Convive has established agreements with public schools located in treated neighborhoods, giving the institutions a gratuity fee for the space.

Given that this alternative requires a slightly higher level of professional expertise than what Mi Convive has outsourced, it is preferable to avoid underestimating the forecasted costs. Also, the operational scale of the proposed alternative would require more rented utilization time, suggesting that the fees may increase. That said, although the projected numbers may be high, they assume some financial planning conservatism.

3) Effectiveness – **high**

Studies in the US have analyzed the effectiveness of programs similar to this alternative. The results demonstrate that they have a direct causal impact – and with a high degree of magnitude – on crime reduction (Heller, et al., 2015). Moreover, this alternative would create positive societal externalities, such as a higher graduation rate, which could indirectly contribute to a lower crime rate in the long term.

Regarding the age of the targeted population, studies have demonstrated that the brain has a higher chance of developing skills proficiencies before the age of 25 (Building

Adult Capabilities to Improve Child Outcomes: A Theory of Change, n.d.). When the required effort increases exponentially (Harvard University, Center on the Developing Child, n.d.), these children would have a higher chance of disregarding the behavioral and cognitive learning acquired. The Venezuelan crisis is still a challenge because, for those ending the program, the opportunity cost of going into the university is high, pushing them to work informally or look for undesired routes. Therefore, the one-year follow-up program would be critical, especially for those who finish high school after the program ends.

4) Cost-effectiveness - high

Exhibit 9 demonstrates the cost-effectiveness ratio for this alternative, which is just below \$2,000. The initial assumption in this result is that 80% of all the beneficiaries are at risk of committing a crime in the future – meaning that 20% of recipients may not have needed the program. Second, the percentage of crime reduction (50%) comes from the findings that BAM, through Youth Guidance, has achieved (Becoming a Man, n.d.). This assumption allows comparing the ratios across alternatives, given that all use USA evidence-based studies and implemented programs. The presented numbers show that this alternative could reduce 10% crime rate from the treated group per \$73,042 spent.

This alternative may be the best one to mitigate the external validity challenges. Mi Convive will count on experts on the subject and will also have a higher margin of error when treating children than treating criminals. Children may have less psychological risk and temptation of dropping out of the program. Also, the spillovers among this age group could be higher as the dollars invested increase because the beneficiaries attend schools where they meet an untreated population (Jiffy & Rapoport, 2016).

Although this criterion ranks high, not all the studies behind BAM programs have demonstrated the same effects. Even though these analyzes come from RCT experiments, students characteristics, such as racial or ethnic background, or the school location may cause some variability in the results (Walker & Wilkinson, 2019). Because of that, the program should adjust some sessions based on recipients' needs.

5) Equity – **medium**

Selecting a group of children who will receive these benefits would leave out others who could also perceive this help. Mi Convive could create some criteria to mitigate this equity challenge, such as schools with the closest proximity to the most dangerous areas and children with the lowest household income. Still, many zones of Caracas will likely fulfill those parameters, leaving out potential beneficiaries. On the other hand, since this alternative involves having close contact with future participants and their parents, Mi Convive has a high probability of selecting an optimal group of recipients.

Recommendation

Exhibit 10 offers a summary matrix that helps understand the tradeoffs among alternatives from a high-level perspective. After evaluating the three policy alternatives

through the five selected criteria, the best option for Mi Convive would be to create a youth guidance program, providing cognitive behavioral therapy and developing stronger social skills on children. Although it is expensive relative to the other two options and has some equity concerns, this policy is more politically and administratively feasible than the rest. Further, the nature of the proposed program has fewer external validity challenges when it comes to applicability and outcome predictability. While the opportunity cost of not committing a crime in Venezuela remains relatively low for citizens in high poverty areas, developing cognitive and non-cognitive abilities in children could help create the necessary behavioral awareness before those moments appear in their lives.

Implementation

Challenges

As framed through the criteria, Mi Convive would need to improve its capabilities even further because it hasn't focused on developing these skills in youths. Given that all the current employees don't have the knowledge to approach this proposed program, integrating current employees and contract collaborators will be essential. Since Mi Convive won't have the resources to include all the addressable population, the challenge would be deciding the desired public or non-profit school that will receive the benefits. Further, more important than the common challenges, Mi Convive would have to exercise leadership internally and externally to advance in the implementation process.

Another potential problem as the project develops may be talent retention and talent quality. BAM, for example, has counselors with either a master's degree in a clinical field or a proven track of professional work experience with youth in underserved communities (Jiffy & Rapoport, 2016). These challenges may not appear initially, but they might hamper the alternative's future sustained implementation – given the low supply of skillful human capital in the country.

Stakeholders

Stakeholders are separated into two blocks: internal and external to the organization.

Internally, I believe the primary stakeholders are the current employees of Mi Convive. The organization requires some buy-in from them because they represent the human capital of its day-to-day operations. These employees are also important because they have a higher degree of informal authority than those who will work by contract, indicating that they will have a stronger voice in any decision-making opportunity, especially in situations involving government officials. Moreover, they have the capabilities to diagnose how the implementation is performing – and improve it in case it is needed.

On a secondary level, the by-contract collaborators are also internal stakeholders. As happens to the current employees, they would need to identify positive gains from this program, suggesting that the incentives would also have to be in place for them. However, this group doesn't play an important role throughout the initial phase of the

recommendation. In this sense, internally, the main focus during the implementation should be preparing current employees for it, providing them a clear path, timeline, and objectives of this process.

Finally, the donors who keep the organization running are also stakeholders from an internal standpoint. Although donors are not searching for challenging objectives because Mi Convive is a non-profit, they may want to visualize the organization's outcomes. The more effective the organization is in achieving its goals, the higher the likelihood of obtaining more funds.

Externally, there are multiple stakeholders, and all of them have a high degree of importance – even though they don't necessarily relate to each other.

The one that overlaps the most with the implementation is the government. Although Mi Convive acts as a non-political organization, the government might perceive it as a group solving its failures. Also, the government may worry that the achievements of this program could be capitalized through the political spectrum. Therefore, served vulnerable communities – even unconsciously – may start thinking negatively about the government as an underperformer entity. Besides the political concern, the government could also consider these policies like those displacing theirs at the local level.

Other critical external stakeholders are the beneficiaries. Initially, the only hurdle they may create is dropping after being accepted but before the program starts. That action could shift the focus during the initial implementation phase; however, it is not as big a concern as recipients dropping after the program was launched. From an organizational standpoint, it could distort the group activities, and from a behavioral perspective, it might create a waterfall effect. Since most – or all – the beneficiaries will study together at school, those who exit the program could negatively affect the rest because of multiple factors. Finally, within these beneficiaries, there are other stakeholders: their parents. They are not the directly benefited group, but they have control over those who are treated.

The last external stakeholder group is the community. Most of the positive externalities would be perceived by this group, including some spillovers from the beneficiaries' learning. Although it will not play an active role on a daily basis, the community may catalyze the ongoing implementation of the program through multiple mechanisms, such as encouraging it publicly.

Exercising leadership

Within the organization, it would be essential to generate a meaningful level of interaction between the employees and the contracted collaborators. Everyone needs to understand the role they play in the team. Moreover, the employees should collaborate, making the contractors feel included in the team. This inclusion may help reduce tension among peers and also create the sharing of responsibility through the program rollout.

Externally, it would be critical from the beginning of the implementation process to exercise leadership by going beyond obtaining regulatory permits – developing a not close but intelligent relationship with important government players. To take this step, Mi

Convive would require maintaining a collaborative zone of productive learning with the government, creating well-established channels of communication and pushing gradually for its objectives without surpassing the potential level of acceptance (discomfort) of its counterparts.

In terms of the beneficiaries -and their parents – it would be important to manage expectations. In this case, exercising leadership would set the optimal playing field at the beginning of the program implementation. This environment will make these external stakeholders understand how much room there is for growing and, more importantly, the time it takes to achieve the objectives. Constant feedback could also help accomplish this leadership task, creating a standardized way of interpreting the progress without disappointing at an unacceptable level the participants.

Finally, exercising leadership within the community could generate spillovers because of the recency effect. Making the citizens aware of the indirect benefits they receive promotes a higher likeliness of the program across the community.

Scenario Analysis and Conclusion

Figure 6 presents the detailed information behind the criteria, while exhibit 11 shows the roadmap Mi Convive would have to perform during the implementation phase. Some actions, such as the government neglecting a permit or a zero-retention rate, could completely freeze the program. These worst-case scenarios don't have a high likelihood of happening. Mi Convive already has a well-established reputation across vulnerable communities, and it probably has had to develop relationships with government bodies.

Criteria **Alternatives** Prevents a crime High Medium \$18,190 Medium action per \$49 invested Prevents a crime action per \$260.271 Medium Low \$3,943.50 invested Prevents a crime action per \$365.211 Hiah Hiah Medium \$1.826.05 Color legend indicates the performance of the criterion, with red < green

Figure 6

That said, rather than devoting extra energy to bureaucratic steps, Mi Convive should go beyond them and focus on exercising leadership across its stakeholders to secure an effective and efficient implementation plan. Another key component of the implementation plan would be adaptability to a new organizational environment and the relationship it will create across internal stakeholders. In that sense, it would require learning internally and externally to provide this new program for those in vulnerable situations.

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Appendix

Exhibits¹²

Total cost for Alternative 1	\$ 18,190		
1 Build/rearange new bus stop	s Y1 expenses	Adding and illuminating don't walk warnings	Y1 Expenses
Direct materials	\$ 5,710.00	Direct materials	\$ 590.00
Rented equipment	\$ 4,800.00	Rented equipment	\$ 400.00
Construction materials	\$ 250.00	Construction supplies	\$ 150.00
Infraestructure products	\$ 600.00	New signs	\$ 40.00
New road signs	\$ 60.00	Direct labor	\$ 120.00
Direct labor	\$ 2,880.00	Laborers	\$ 40.00
Laborers	\$ 1,920.00	Supervisors	\$ 80.00
Supervisors	\$ 960.00	Research analysis	\$ -
Outsourced design	\$ 300.00	Local permits	\$ 50.00
Research analysis	\$ -	Awareness campaign	\$ 100.00
Local permits	\$ 100.00	Miscellaneous	\$ 20.00
Awareness campaign	\$ 100.00		
Miscellaneous	\$ 100.00	Total expenses	\$ 880.00
Total expenses Incorporate street lightning	\$ 9,190.00 Y1 expenses	4 Greening vacant land	Y1 expenses
Direct materials	\$ 2,810.00	Direct materials	\$ 2,500.00
Rented equipment	\$ 1,280.00	Rented equipment	\$ 1,600.00
Lightning supplies	\$ 250.00	Construction and planting supplies	\$ 500.00
Direct labor	\$ 800.00	Plants and garden supplies	\$ 400.00
Laborers	\$ 480.00	Direct labor	\$ 960.00
Supervisors	\$ 320.00	Laborers	\$ 640.00
Research analysis	\$ -	Supervisors	\$ 320.00
Local permits	\$ 100.00	Outsourced design	\$ 300.00
Awareness campaign	\$ 100.00	Research analysis	\$ -
Miscellaneous	\$ 100.00	Local permits	\$ 200.00
		Other legal considerations	\$ 50.00
Total expenses	\$ 3,910.00	Awareness campaign	\$ 100.00
	φ 0,020.00	Miscellaneous	\$ 100.00
		Total expenses	\$ 4,210.00

¹ Red denotes assumptions made in the percentages selected, while italic represents the estimated desired outcome (exhibits 3, 6, and 9)

² The yellow-coded lines in the assumptions exhibit indicates that Mi Convive already has some of those skills inhouse

Build/rearange new bus stops	
Direct materials	
Rented equipment	Used for three months, five days a week for eight hours
Construction materials	
Infraestructure products	
New road signs	
Direct labor	
Laborers	Work for three months, five days a week for eight hours
Supervisors	Work for three months, five days a week for eight hours
Outsourced design	Work on a one-payment contract
Research analysis	Done by the organization, so the incremental cost is zero
Local permits	Fixed amount
Awareness campaign	Help citizens engage in the changes in their community
Miscellaneous	Other expenses, especially those related to the organization employees
Incorporate street lightning	
Direct materials	
Rented equipment	Used for one month, five days a week for eight hours
Lightning supplies	
Direct labor	
Laborers	Work for one month, five days a week for eight hours
Supervisors	Work for one month, five days a week for eight hours
Research analysis	Done by the organization, so the incremental cost is zero
Local permits	Fixed amount
Awareness campaign	Help citizens engage in the changes in their community
Miscellaneous	Other expenses, especially those related to the organization employees
Adding don't walk warnings	
Direct materials	
Rented equipment	Used for one week, five days a week for eight hours
Construction supplies	
New signs	
Direct labor	
Laborers	Work for one week, five days a week for eight hours
Supervisors	Work for one week, five days a week for eight hours
Research analysis	Done by the organization, so the incremental cost is zero
Local permits	Fixed amount
Awareness campaign	Help citizens engage in the changes in their community
Miscellaneous	Other expenses, especially those related to the organization employees
Greening vacant land	
Direct materials	
Rented equipment	Used for one month, five days a week for eight hours
Construction and planting supplies	
Plants and garden supplies	
Direct labor	
Laborers	Work for one month, five days a week for eight hours
	Work for one month, five days a week for eight hours
Supervisors	
Supervisors Outsourced design	Work on a one-payment contract
·	
Outsourced design	Work on a one-payment contract
Outsourced design Research analysis	Work on a one-payment contract Done by the organization, so the incremental cost is zero

Exhibit 3

	Year	
Description	1	Perpetuity
Total population of the improved area	2,082,000	2,082,000
Crime per 100K citizens	111.2	111.2
Total crime in Caracas	2,315	2,315
Crime prevented (%)	16%	16%
Crime prevented	370	370
Total cost of Alt. 3	\$ 18,190.00	\$ 18,190.00
Cost per crime prevented per year	\$ 49.11	\$ 49.11

Units of effectiveness	370	370

Cost effectiveness ratio	\$	49.11	\$	49.11
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PVC for Alternative 2 as an eight-year program	\$	260,271								
	Y1-p	program expenses	Y2	2-program expenses	Y	3-program expenses	Y4	-program expenses	Y!	5-program expenses
Individual materials	\$	1,440.00	\$	1,656.00	\$	2,164.72	\$	2,829.73	\$	3,699.02
Group materials	\$	1,080.00	\$	1,242.00	\$	1,623.54	\$	2,122.29	\$	2,774.26
Fixed assets expenses	\$	3,000.00	\$	-	\$	-	\$	-	\$	-
Other materials expenses	\$	1,800.00	\$	2,070.00	\$	2,705.90	\$	3,537.16	\$	4,623.77
Workshops materials	\$	7,320.00	\$	4,968.00	\$	6,494.17	\$	8,489.18	\$	11,097.05
Programs subscriptions	\$	720.00	\$	828.00	\$	1,082.36	\$	1,414.86	\$	1,849.51
Academic literature supplies	\$	800.00	\$	920.00	\$	1,202.62	\$	1,572.07	\$	2,055.01
Academic materials	\$	1,520.00	\$	1,748.00	\$	2,284.99	\$	2,986.93	\$	3,904.52
Direct Materials	\$	8,840.00	\$	6,716.00	\$	8,779.16	\$	11,476.11	\$	15,001.57
Leadership professionals	\$	12,000.00	\$	13,800.00	\$	18,039.36	\$	23,581.05	\$	30,825.15
Psychologists or related professionals in the field	\$	6,000.00	\$	6,900.00	\$	9,019.68	\$	11,790.53	\$	15,412.58
Vocational professionals	\$	1,800.00	\$	2,070.00	\$	2,705.90	\$	3,537.16	\$	4,623.77
Professional training	\$	500.00	\$	575.00	\$	751.64	\$	982.54	\$	1,284.38
Multitasking assistants	\$	2,700.00	\$	3,105.00	\$	4,058.86	\$	5,305.74	\$	6,935.66
Direct labor	\$	23,000.00	\$	26,450.00	\$	34,575.44	\$	45,197.02	\$	59,081.54
Extra academic activities	\$	200.00	\$	230.00	\$	300.66	\$	393.02	\$	513.75
Reaching out	\$	150.00	\$	172.50	\$	225.49	\$	294.76	\$	385.31
Follow up	\$	1,200.00	\$	1,380.00	\$	1,803.94	\$	2,358.11	\$	3,082.52
Guests speakers	\$	400.00	\$	460.00	\$	601.31	\$	786.04	\$	1,027.51
Rent	\$	10,800.00	\$	12,420.00	\$	16,235.42	\$	21,222.95	\$	27,742.64
Administrative	\$	1,800.00	\$	2,070.00	\$	2,705.90	\$	3,537.16	\$	4,623.77
Research analysis	\$	-	\$	-	\$	-	\$	-	\$	-
Other legal considerations	\$	200.00	\$	-	\$	-	\$	-	\$	-
Miscellaneous	\$	200.00	\$	230.00	\$	300.66	\$	393.02	\$	513.75
Other expenses	\$	14,950.00	\$	16,962.50	\$	22,173.38	\$	28,985.04	\$	37,889.25
Periods		0		1		2		3		4
Total cost for alternative 3, by year	\$	46,790.00	\$	50,128.50	\$	65,527.98	\$	85,658.17	\$	111,972.36
Present value of costs, by year	-	.,	Ś	43,590.00	Ś	49,548.56	Ś	56.321.64	Ś	64,020.56

	Assumptions
Individual materials	These materials include those that will be taken home by the treated to strenghten the work done and the ones they do at the workshops
Group materials	These materials include supplies required to implement group activities
Fixed assets expenses	Are those that last for more than one year, such as chairs
Other materials expenses	Basic supplies, such as pencils and pens
Workshops materials	
Programs subscriptions	Programs that are subscription-based and contribute with the workshops
Academic literature supplies	Books and other supplies for both the helped and the organizations
Academic materials	
Direct Materials	
Leadership professionals	Professionals who will help on the relationship-building and life goals; based on monthly contract
Psychologists or related professionals in the field	Professionals who will help on CBT and trauma counseling; based on monthly contract
Vocational professionals	Professionals who will help on the workforce sessions; based on monthly contract
Professional training	All professionals will receive training to enhance the required skills; would be once during the time frame of a program
Multitasking assistants	Professionals or qualified students who will assist the main professionals; based on monthly contract
Direct labor	
Extra academic activities	Activities that would help further develop the skills learned during workshops
Reaching out	Money spent on reaching out to future beneficiaries
Follow up	Money spent of following-up with those helped
Guests speakers	
Rent	Spaces where workshops will be held
Administrative	Employees who will manage the financials and operations of the program; those that are not part of the company will be outsourced
Research analysis	Done by the organization, so the incremental cost is zero
Other legal considerations	Permits related to operating the program
Miscellaneous	Other expenses, especially those related to the organization employees
Other expenses	

	Program-year												
Description		1	2	3	4	5							
Crime rate per num. of participants ex-ante (%)		100%	100%	100%	100%	100%							
Crime rate per num. of participants ex-ante		20	20	20	20	20							
Crime rate per num. of participants ex-post (%)		34%	34%	34%	34%	34%							
Crime rate per num. of participants ex-post		7	7	7	7	7							
Crime prevented (%)		66%	66%	66%	66%	66%							
Crime prevented		13	13	13	13	13							
Total cost of Alt. 3	\$	46,790.00	\$43,590.00	\$49,548.56	\$56,321.64	\$ 64,020.56							
Cost per crime prevented per year	\$	3,544.70	\$ 3,302.27	\$ 3,753.68	\$ 4,266.79	\$ 4,850.04							

Number of participants per cohort	20
PVC for Alternative 2 as an eight-year program	\$ 260,271
Units of effectiveness	66
Cost effectiveness ratio	\$ 3,943.50

PVC for Alternative 3 as a five-year program	\$	365,211								
	Y1 o	of program expenses	Y2	of program expenses	Y	3 of program expenses	Υ4	of program expenses	Y5	of program expenses
Individual materials	\$	7,200.00	\$	8,768.16	\$	10,677.87	\$	13,003.50	\$	15,835.67
Group materials	\$	4,800.00	\$	5,845.44	\$	7,118.58	\$	8,669.00	\$	10,557.11
Fixed assets expenses	\$	6,000.00	\$	-	\$	=	\$	-	\$	=
Other materials expenses	\$	3,000.00	\$	3,653.40	\$	4,449.11	\$	5,418.13	\$	6,598.19
Workshops materials	\$	21,000.00	\$	18,267.00	\$	22,245.55	\$	27,090.63	\$	32,990.97
Programs subscriptions	\$	720.00	\$	876.82	\$	1,067.79	\$	1,300.35	\$	1,583.57
Academic literature supplies	\$	5,000.00	\$	6,089.00	\$	7,415.18	\$	9,030.21	\$	10,996.99
Academic materials	\$	5,720.00	\$	6,965.82	\$	8,482.97	\$	10,330.56	\$	12,580.56
Direct Materials	\$	26,720.00	\$	25,232.82	\$	30,728.52	\$	37,421.20	\$	45,571.53
Leadership professionals	\$	7,200.00	\$	8,768.16	\$	10,677.87	\$	13,003.50	\$	15,835.67
Psychologists or related professionals in the field	\$	19,200.00	\$	23,381.76	\$	28,474.31	\$	34,676.01	\$	42,228.45
Professional training	\$	500.00	\$	608.90	\$	741.52	\$	903.02	\$	1,099.70
Multitasking assistants	\$	4,800.00	\$	5,845.44	\$	7,118.58	\$	8,669.00	\$	10,557.11
Direct labor	\$	31,700.00	\$	38,604.26	\$	47,012.27	\$	57,251.54	\$	69,720.93
Extra academic activities	\$	300.00	\$	365.34	\$	444.91	\$	541.81	\$	659.82
Academic activities outside of the scheduled program	\$	400.00	\$	487.12	\$	593.21	\$	722.42	\$	879.76
Selection process	\$	150.00	\$	182.67	\$	222.46	\$	270.91	\$	329.91
Reaching out	\$	150.00	\$	182.67	\$	222.46	\$	270.91	\$	329.91
Follow up	\$	1,200.00	\$	1,461.36	\$	1,779.64	\$	2,167.25	\$	2,639.28
Guests speakers	\$	400.00	\$	487.12	\$	593.21	\$	722.42	\$	879.76
Rent	\$	7,200.00	\$	8,768.16	\$	10,677.87	\$	13,003.50	\$	15,835.67
Snacks provided for participants	\$	200.00	\$	243.56	\$	296.61	\$	361.21	\$	439.88
Administrative	\$	1,200.00	\$	1,461.36	\$	1,779.64	\$	2,167.25	\$	2,639.28
Research analysis	\$	-	\$	-	\$	-	\$	-	\$	-
Other legal considerations	\$	200.00	\$	-	\$	-	\$	-	\$	-
Miscellaneous	\$	200.00	\$	243.56	\$	296.61	\$	361.21	\$	439.88
Other expenses	\$	11,600.00	\$	13,882.92	\$	16,906.62	\$	20,588.88	\$	25,073.14
Periods		0		1		2		3		4
Total cost for alternative 3, by year	\$	70,020.00		77,720.00	-	94,647.41	_	115,261.62	_	140,365.60
Present value of costs, by year			\$	67,582.61	\$	71,567.04	\$	75,786.38	\$	80,254.49

EXIIIDILO	
	Assumptions
Individual materials	These materials include those that will be taken home by the treated to strenghten the work done and the ones they do at the workshops
Group materials	These materials include supplies required to implement group activities
Fixed assets expenses	Are those that last for more than one year, such as chairs
Other materials expenses	Basic supplies, such as pencils and pens
Workshops materials	
Programs subscriptions	Programs that are subscription-based and contribute with the workshops
Academic literature supplies	Books and other supplies for both the helped and the organizations
Academic materials	
Direct Materials	
Leadership professionals	Professionals who will help on the personality traits activities; based on monthly contract
Psychologists or related professionals in the field	Professionals who will help on CBT and personality traits; based on monthly contract
Professional training	All professionals will receive training to enhance the required skills; would be once a year
Multitasking assistants	Professionals or qualified students who will assist the main professionals; based on monthly contract
Direct labor	
Extra academic activities	Activities that would help further develop the skills learned during workshops
Academic activities outside of the scheduled program	Activities that involve the academic framework, but are done out of the classroom
Selection process	Deciding which group of children will be the beneficiaries
Reaching out	Money spent on reaching out to future beneficiaries
Follow up	Money spent of following-up with those helped
Guests speakers	
Rent	Spaces where workshops will be held
Snacks provided for participants	Snacks given on both extra academic or outside-of-schedule academic activities
Administrative	Employees who will manage the financials and operations of the program; those that are not part of the company will be outsourced
Research analysis	Done by the organization, so the incremental cost is zero
Other legal considerations	Permits related to operating the program
Miscellaneous	Other expenses, especially those related to the organization employees
Other expenses	

	Year				
Description	1	2	3	4	5
Crime rate per num. of participants at-risk children (%)	80%	80%	80%	80%	80%
Crime rate per num. of participants at-risk children	80	80	80	80	80
Crime rate per num. of participants (%)	40%	40%	40%	40%	40%
Crime rate per num. of participants	40	40	40	40	40
Crime prevented (%)	50%	50%	50%	50%	50%
Crime prevented from each cohort	40	40	40	40	40
Total cost of Alt. 3	\$ 70,020.00	\$ 67,582.61	\$71,567.04	\$75,786.38	\$80,254.49
Cost per crime prevented per year	\$ 1,750.50	\$ 1,689.57	\$ 1,789.18	\$ 1,894.66	\$ 2,006.36

Number of participants per cohort (or per calendar year)	100	
PVC for Alternative 3 as a five-year program	\$ 365,211	
Units of effectiveness	200	
Cost effectiveness ratio	\$ 1,826.05	

	Criteria					
Alternatives	Political and aministrative Feasibility	Financial Costs	Effectiveness	Cost-Effectiveness	Equity	
Modifying the built environment by working with the local government and the	Medium	Low	Medium	High	High	
community	Mediam	2011	Mediani		6	
Create a program that aims at supporting						
and incentivizing those involved in crime to	Low	Medium	Medium	Medium	Low	
change their lifestyle						
Create a youth guidance program,						
providing cognitive behavioral therapy and	High	High	High	High	Medium	
developing stronger social skills						

Roadmap - alternative 3 implementation plan

Activity Description 1 Sharing the project with the employees 2 Iterate with the team to define the final details of the project 3 Fundraising private events 4 Start contacting government agencies that will approve any legal requirement 5 Complete any pending legal requirement 6 Select the beneficiaries 7 Reach out to the parents of the beneficiaries 8 Hiring process of the contract collaborators 9 Create team meeting sessions to involve both working groups 10 Promote publicly the new project 11 Create team meeting sessions to involve both working groups 12 Make public sessions with the community to share about the project 13 Search and sign a contract of the place where the program will run 14 Purchase the direct material