

Advances, Setbacks, And The Use Of Technology For Citizen Security In Latin American Police Institutions

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Summary:

The purpose of this article is to analyze and expose the most relevant advances and best practices in the field of policing in various Latin American countries. Particular attention is paid to the strategies for the adoption and incorporation of technological innovations, as well as to the institutional development processes that accompany them. To this end, a comparative method is used, based on sources of information of a mainly governmental nature, as well as academic and newspaper sources, which allows the identification of particularities in each context at the national level. At the same time, the article examines a series of criticisms and questions that have arisen around the operation, structure, and management of police institutions in the region. These observations are fundamental, as they show the tensions between the demands of technological modernization and the institutional, political, and social limitations faced by security forces. Finally, special emphasis is placed on the social impacts of these transformations, as they reflect not only changes in police practices, but also in the relationship between the security forces, the State, and citizens.

Keywords: Citizen Security, Latin America, Colombia, Technological Use, Police.

Introduction:

Latin America shares many structural problems, including; poverty, corruption, unemployment, inequality, economic backwardness and little technological development which lead to issues of insecurity. Thus, in a world immersed in the process of globalization, the use of technology brings with it advantages and disadvantages for everyone. Currently, the use of technology is developed and

used by both law enforcement and criminals, which puts in check the traditional models used by the police in the Latin American region (Casas, González, & Mesías, 2018, p.23).

In Latin American countries, the persistent public distrust of the police institution, accompanied by numerous cases of corruption, is worrying. In addition, there is evidence of a lag in the adoption and implementation of modern technologies. However, it is relevant to note that in some regions new efforts are being made and there is greater political will to improve security, through the implementation of comprehensive policies. Illustrative examples of this dynamic are the cases of Uruguay and the city of Medellín, Colombia, where significant measures have been adopted in this area.

Therefore, in the region, it has become necessary not only to think about the section on technological use to fight crime, but also on the need to frame institutional, cultural, regulatory, economic, and public policy structures (Casas, González, & Mesías, 2018, p.23). This in order to improve the security situation in the countries of the region; which so far, in some cases have evidenced the inability to reduce crime and police abuse that has led to various civil demonstrations in countries such as Mexico, Colombia, Chile and even in the United States (where in 2020 former President Donald Trump had to deploy the National Guard in Wisconsin to control the protests who demanded justice for the case of Jacob Blake¹ and George Floyd²).

On the context of insecurity in the Latin American region

In the Latin American context, both advances and setbacks are observed. On the one hand, there has been an improvement in the organizational structures and professional training of police officers, who sometimes receive training from military forces. However, the period between 2019 and 2021 was marked by protests in several countries in the region, which showed that structural problems persist and that a repressive and reactive mentality on the part of the police forces continues to predominate in Latin America, without achieving a transition to true citizen security. Although many government ministries and secretariats adopt the concept of citizen security, in practice repression and the use of coercive measures are still resorted to.

For some time now, academics have addressed the issue of insecurity and violence in the region. Among them, Gino Costa mentions some of the main factors why the insecurity section is so strong in the region (2012, p.133):

1. Drug trafficking is closely linked to high rates of homicidal violence
2. The increase in the use of firearms
3. The levels of perception of insecurity and victimization are high, with a greater relationship towards property crimes
4. An institutional weakness, which is expressed in distrust of all justice institutions, including the police
5. Human rights violations
6. Abandonment of prison systems
7. The privatization of security
8. The recurrent use of the military for citizen security tasks

On the other hand, it is also necessary to point out some advances that impact security and justice institutions in Latin America, among these advances (Costa, 2012, p.133-134):

¹ Jacob Blake, an African-American who was shot eight times in the back by police in the state of Wisconsin (BBC News Mundo, 2020).

² George Floyd, an American, who was killed at the age of 46 by the Minneapolis police, after being immobilized by police officers while trying to make a payment with a counterfeit bill, later the officer who subdued him put himself on Floyd's neck to exert pressure for approximately eight minutes, until he died (Barrera, 2020).

1. Police reform and modernization
2. The implementation of comprehensive public policies
3. The growing involvement of municipalities
4. Criminal justice reform
5. Strengthening the system for cooperation in combating transnational organized crime

Although these advances and setbacks have occurred in a differentiated way in our Latin American region, a very important element must be taken into account when addressing insecurity in our Latin American context, which is urban growth. Since it shows a lack of planning and planning. In this regard, Carrión has mentioned that the issue of insecurity is closely related to the transformations in urban planning in Latin America, as (2002, p.13):

(walling of the city, new forms of residential segregation), in the behaviour of the population (anguish, helplessness), in social interaction (reduction of citizenship, new forms of socialisation) and in the militarisation of cities; in addition to the reduction of the quality of life of the population.

In fact, the aforementioned has a visible effect on the issue of security, since most violent conflicts are generated in urban areas. In other words, the issue of insecurity is concentrated in a specific territory, such as the city. According to Carrión, 76 percent of the region in Latin America has a degree of urbanization (2002, p.20).

The consequences of neglect of violence and security issues are very clear in the cities of the countries of the region. Some of these are (Carrión, 2002, p.28):

- Erosion of citizenship
- Deterioration of social coexistence (since self-defense mechanisms are created that modify daily behaviors)
- Change in usual schedules
- Restriction of social relationships (everyone you know is suspicious)
- Reduction of personal harm (weapons, dogs, alarms, etc.; or self-defense is learned).

That is to say, along with the structural issues of poverty, inequality, little economic development, among others; The region has more specific problems that aggravate the situation, among the first being drug trafficking, trafficking and increase in the use of weapons, low results in solving crimes, among others.

There is, therefore, a great need to work on structural aspects in the region, while generating new public policies that consider cultural and social aspects, and not only economic and political development. At least to make progress, the Latin American region needs to dismantle military traditions in the police institution; a reform from the base of the models of organization and institutional culture of the police; to improve their regular relationship with society and other State organizations (Casas, González, & Mesías, 2018, p.29); as well as to integrate the use of technology and democratization into the police structure.

In the current decade, the technological updating of the police in Latin America is necessary, particularly in the face of the beginning of a growing use of Artificial Intelligence and large-scale data management (Big Data). Criminality shows a progressive trend towards sophistication in the application of technological tools, which poses a significant challenge for security institutions. In this context, police forces in the region need to resort to better and more advanced technological tools that strengthen their operational, analytical and intelligence capacities. However, this process must be under the consolidation of police forces with a democratic and civilian character, which are separated from the military structure and logic, aimed at responding in a transparent and responsible manner to the citizenry, rather than to a president or a military hierarchy.

World Police and Homeland Security Index in Latin America How are we doing?

This work is based on understanding what is happening in Latin America, an approach that was made prior to the performance of the police worldwide, such as the WISPI (the Global Policing and Internal Security Index), in 2016 and later in 2023. However, it should be noted that over the years there have been important changes in Latin America, which are still underway; such as, for example, the case of the National Police in Colombia, which with a new president elected in 2022, proposes a transformation of the police institution in terms of restructuring functions, budgets and mission (of a force oriented towards coexistence and human security), trying to detach the police from a vision militarized (García and Ortíz-Ayala, 2022); and that it seems that it has had a setback in the progress they had made in security issues in the country.

The index (WISPI) has tried to measure four aspects and an overall score score, among which it is rated, is the following: capacity, which refers to the level of resources that the country has to respond to security issues; the process, which refers to the ability to use the challenges effectively; legitimacy, referring to public trust in the authorities, the issue of corruption and the behavior of institutions, and finally the results, which calculate real and perceived levels of crime and violence (Yagoub, 2016).

Table 1 presents the Latin American ranking according to the WISPI for countries in Latin America in 2016 (including its position in the world ranking of 127 countries). **Table 2** shows the variations corresponding to 2023. When comparing both periods, it can be seen that Uruguay, Chile and Jamaica consistently remained in the first three places on the list. Mexico managed to improve its score during the six-year term of Andrés Manuel López Obrador, while Colombia, although it maintains a relative position, experienced a significant decrease in its results and score, a situation that coincides with the change of government in 2022 headed by Gustavo Petro. For its part, Venezuela continues to rank last in terms of security in the region, and in 2023 it even has the lowest scores and results in Latin America.

Table 1 - Ranking of Latin American countries according to the 2016 World Police and Internal Security Index (WISPI)

Ranking of Latin American countries according to the 2016 World Police and Internal Security Index (WISPI)							
World Ranking	Position A.L.	Country	Score	Capacity	Process	Legitimacy	Results
35	1	Uruguay	0.719	0.926	0.698	0.728	0.575
43	2	Chile	0.699	0.794	0.672	0.689	0.665
65	3	Jamaica	0.573	0.846	0.465	0.469	0.583
67	4	Trinidad and Tobago	0.571	0.860	0.417	0.535	0.544
73	5	Panama	0.551	0.700	0.469	0.545	0.529
77	6	Argentina	0.542	0.615	0.453	0.565	0.554
79	7	Ecuador	0.530	0.820	0.358	0.572	0.441
81	8	Guyana	0.516	0.722	0.355	0.521	0.518
86	9	El Salvador	0.497	0.699	0.421	0.474	0.443
87	10	Costa Rica	0.495	0.518	0.442	0.493	0.533
94	11	Brazil	0.479	0.527	0.525	0.418	0.457
95	12	Rep. Dominicana	0.473	0.736	0.292	0.429	0.503

96	13	Colombia	0.458	0.774	0.397	0.416	0.324
99	14	Nicaragua	0.453	0.587	0.298	0.420	0.540
105	15	Peru	0.434	0.622	0.343	0.390	0.429
107	16	Guatemala	0.426	0.444	0.370	0.474	0.420
113	17	Paraguay	0.405	0.653	0.348	0.435	0.247
114	18	Bolivia	0.403	0.557	0.264	0.359	0.472
116	19	Honduras	0.399	0.461	0.382	0.423	0.375
118	20	Mexico	0.394	0.780	0.246	0.264	0.384
119	21	Venezuela	0.381	0.676	0.191	0.360	0.372
		Countries with the highest score					
		Countries with the lowest score					

Source: Authors, with WISPI data from 2016.

Table 2 - Ranking of Latin American countries according to the 2023 World Police and Internal Security Index (WISPI)

Ranking of Latin American countries according to the 2023 World Police and Internal Security Index (WISPI)							
World Ranking	Position A.L.	Country	Score	Capacity	Process	Legitimacy	Results
41	1	Uruguay	0.630	0.720	0.700	0.690	0.450
53	2	Jamaica	0.550	1.000	0.350	0.470	0.490
58	3	Chile	0.530	0.550	0.450	0.610	0.520
59	4	Costa Rica	0.530	0.520	0.460	0.690	0.450
64	5	Argentina	0.500	0.760	0.270	0.520	0.520
70	6	Trinidad and Tobago	0.490	1.000	0.260	0.410	0.420
79	7	Guyana	0.440	0.760	0.180	0.410	0.490
82	8	Panama	0.430	0.600	0.250	0.510	0.420
85	9	El Salvador	0.420	0.600	0.170	0.480	0.480
90	10	Paraguay	0.410	0.600	0.160	0.400	0.520
92	11	Mexico	0.390	0.910	0.090	0.310	0.390
93	12	Brazil	0.390	0.540	0.160	0.470	0.410
94	13	Colombia	0.390	0.780	0.090	0.440	0.320
95	14	Ecuador	0.380	0.630	0.090	0.470	0.400
97	15	Peru	0.370	0.600	0.110	0.380	0.450
98	16	Rep. Dominicana	0.370	0.600	0.140	0.410	0.370
101	17	Guatemala	0.360	0.470	0.120	0.470	0.420
102	18	Nicaragua	0.350	0.360	0.130	0.390	0.520

103	19	Bolivia	0.340	0.600	0.080	0.260	0.500
106	20	Honduras	0.330	0.450	0.080	0.400	0.430
113	21	Haiti	0.310	0.350	0.100	0.370	0.430
125	22	Venezuela	0.190	0.260	0.050	0.190	0.280
		Countries with the highest score					
		Countries with the lowest score					

Source: Authors, with data from WISPI 2023

Uruguay – National Police:

Uruguay tops the first country on the list of the best police forces in Latin America, according to the WISPI of 2016 and 2023. The progress that this Latin American country has made refers to the changes adopted since 2010 (when security policies in the country began to be reviewed) and 2015 (with the enactment of the new Organic Police Law), which brought advances in the institution and modernization of the police (Ministry of the Interior, 2019, p.4-6). The main characteristics of the police reform carried out by the Uruguayan government have to do with an approach to citizen security policies.

The reforms that Uruguay has been working on have tried to go in a comprehensive way since the changes in the structure; the search for police democratization; police training and salary improvements; equipment; the search to systematize the use of data; the use of comprehensive policies and inter-institutionality, and the adoption of gender policies.

Among the improvements that the structure of the police in Uruguay has had are: the implementation of a system of control over fuel consumption, the installation of biometric clocks to verify personnel attendance and the creation of some Directorates, such as: the Republican Guard, Police Education, and Police Planning and Strategy; established in the Management Commitments (Ministry of the Interior, 2019, p.7). That is, the implementation of programs and software that allow greater controls of the personnel and the operation of the institution itself.

Uruguay's police have promoted the improvement of the institution by relying on technologies, either through systems, which allow them to improve their information to respond more effectively; or through technological equipment. The results of the use of technologies (such as new information systems) have favoured rapid response to emergency situations, improved response to complaints, and optimisation of the quality of information and investigation of crimes (Ministry of the Interior, 2019, p.8).

Likewise, the use of computer programs has made it possible to support a new patrol system for the case of Uruguay, which they have called PADO.³ This program combines systematic criminal analysis based on information and evidence on criminal behavior, cross-referenced with georeferenced data on the places where crimes occur (and which even allows calculating distances between police officers and the facts). As well as the incorporation of video surveillance and aerial patrol systems and high-tech investment for the Scientific Police (Ministry of the Interior, 2019, p.9). In other words, the resources allocated to the police in Uruguay are being allocated to the development of police intelligence. Not in obtaining cutting-edge technology that has high costs, but technology that supports police intelligence in order to develop better capabilities and improve results.

The Uruguayan National Police has also modernized the police in terms of technology, the following actions have been carried out (Ministry of the Interior, 2019, p.10-42):

³ The High Operational Dedication Program (2016), this program uses the knowledge of hot spots in the city to create maps that help identify conflict points, in order to determine where corners and intersections patrols should be intensified and more troops should be placed (Ministry of the Interior, 2019, p. 39). Such patrols also work as a way to deter criminals.

- The Air Unit of the National Police incorporated vehicles on the ground and in the air, such as planes, helicopters and drones, which have been destined for air patrol.
- The National Directorate of Scientific Police added technology in three key areas for the identification of people: in the Criminal Identification Computer Department, in the National Genetic Fingerprints Laboratory and the National Forensic Ballistics Laboratory.
- The use of body cameras added to the uniforms of traffic police.
- The purchase of call interception systems.
- The extension of the TETRA (radiocommunication) communications system.
- Video surveillance networks in several cities in Uruguay (3,250 cameras operational in Montevideo, Canelones and San José and with a projection of 1,700 more cameras).
- In land vehicles: patrols with LED bars, high-security armored vans and armored trucks.
- The Montevideo Response Units (URPM) have tablets to take complaints in situ, with the aim of bringing the police closer to the victims of crime and reducing the black figure.
- The digitization of complaint records for the entire national territory through the generation of a system, called "Public Security Management System" (SGSP).
- The creation of the Unified Command Center to receive complaints and emergencies through 9-1-1 (which also works with a mobile application for citizens).
- The Criminal Analysis Unit uses advanced tools to georeference crimes and determine hot spots, thereby creating new strategies in specific territories.

The technological improvement of the Uruguayan National Police is not so different from that of the rest of the Latin American countries; but it is in terms of analysis and intelligence, since they show investments in the Criminal Identification Computer Department, the National Genetic Fingerprinting Laboratory and the National Forensic Ballistics Laboratory; which allows them to improve the data and with them later the criminal analysis. In the same way, the improvement in radio communications, the use of georeferenced criminal analysis, statistical work and call interception, which are tasks more developed by intelligence institutions such as the FBI (Federal Bureau of Investigation) or the CIA (Central Intelligence Agency).

In the case of Uruguay, institutional improvements and modernization have allowed it to be the best-qualified police force in Latin America. Institutional changes made it possible to make a paradigm shift towards a police force with comprehensive and citizen security policies, which also include improvements in the dignification of police salaries, certain anti-corruption measures and a larger police budget. Likewise, the issues of police modernization have allowed it to develop prevention and police intelligence strategies.

Chile – Carabineros de Chile

In Latin America, one of the countries that has managed to strengthen the police institution is precisely Chile. The exercise and results of the Carabineros de Chile are related to the institutional mission that they have set themselves and that they are trying to carry out. In this mission, one of the most important parties indicates the intention to develop "police services that respond to local realities and to an approach of joint production and co-responsibility with citizens, organizations and authorities at each level" (Carabineros de Chile, 2020, p.8). In other words, the joint work with authorities and citizens in the locality helps to strengthen the approach to citizen security that has been proposed, understanding that security is a co-responsibility of the State and citizens.

Among the changes that have taken place in the group of carabineros, it is possible to see that they have developed a preventive police role, by carrying out a series of prevention actions through community presence, this is their main role as a police officer that identifies them as a preventive police (Carabineros de Chile, 2020, p. 16). It must be remembered that the Chilean police have historically been linked to the military regime, even before the dictatorships, but in some periods they have managed to separate themselves a little. The lack of efficiency, coverage, resources, and the

participation of the military in power have allowed this institution in some periods to depend on the Ministry of Defense (Jimenez & Turizo, 2011, p.119).

Some of the advances that the group of carabineros has adopted to improve police work are the following:

➤ Tactical Police Operation System (STOP)

It is a system developed by the Chilean police for crime prevention that uses criminal information to allow for focused police action, obtaining a co-production of security by working with other actors (Carabineros de Chile, 2020, p. 18).

➤ Tactical Crime Analysis System (STAD)

This strategy has made it one of the best practices developed in Latin America, and consists of meetings between the heads of Carabineros units and above, where crime patterns are reviewed from a Territorial Information Analysis System (S.A.I.T.)⁴ which allows the Chilean police to map crimes and cross-reference data with the Integrated Management Control System (it works with information from victimization surveys) and the Quadrant Plan for Preventive Security⁵ (which informs surveillance resources). With this information, it is possible to establish effective strategies and tactics to confront crime in precise places and times in order to optimize resources and police processes (Dammert, 2015, p.16).

The scheduled meetings of the STAD have the following objectives (Dammert, 2015, p.16):

- Develop police strategies to make them more effective
- Motivate and direct the heads of the police stations to seek to reduce crime
- Development and use of good practices between units
- Generate and promote positive leadership in the organization
- Inter-institutional work with other actors with responsibilities for public security, with other government actors with responsibility for public security.

➤ Communications Centers (CENCO)

Through these CENCO exchanges, the Carabineros de Chile group attends to police emergency calls with 28 centers nationwide, for which due operation is supported by the following software (Carabineros de Chile, 2020, p.27):

- For Police Procedures Administration (CAD)
- For Caller ID and Procedure Control (ANI)
- For Automatic Incident Location (ALI)
- Fleet control via GPS network (AVL)

As far as the Chilean police are concerned, the adoption of technology has to do mainly with the development and use of computer systems that allow the exchange of information, intelligence work and the creation of more accurate analyses. Of course, this is a support for all the changes that the

⁴The S.A.I.T. is a technological platform (specifically a web cartographic viewer) in which georeferenced information in the territory is found; among these: educational establishments, headquarters of public agencies, police cases, etc. Its main objective is to spatialize the database of the Police Unit Automation System (AUPOL) that is used for Criminal Analysis and Institutional Management (Pontificia Universidad Católica de Chile, 2016). The data entered in AUPOL are based on crimes, misdemeanors, traffic violations, controls on people/vehicles, and inspections and infractions of the Alcohol Law (Carabineros de Chile, 2020, p.13).

⁵It covers 150 communes of the 346 communes that exist in Chile by 2020, involving 413 barracks that operate with the strategy of the Quadrant Plan for Preventive Security to cover 88.4% of the national urban population in Chile according to 2019 projections (Carabineros de Chile, 2020, p. 11)

Chilean police have undergone in the institutional area and for the improvements in the work of inter-institutional cooperation.

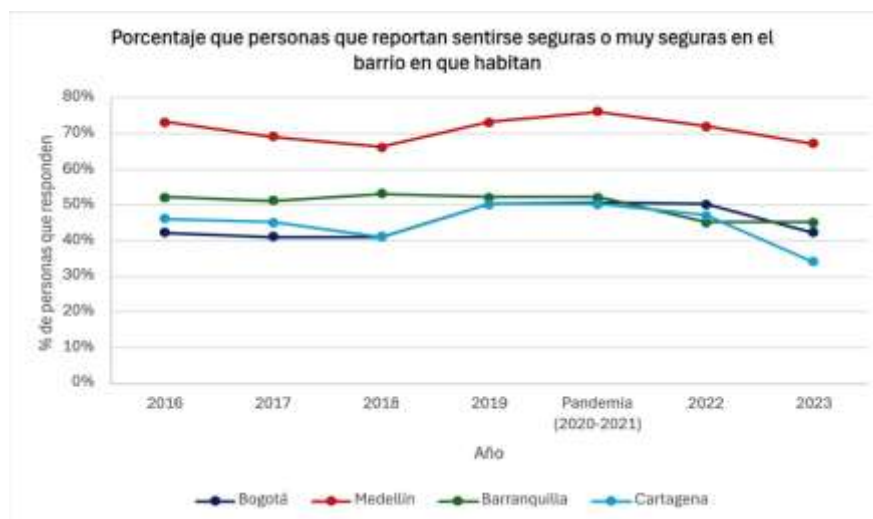
Although the advances and improvements made in the Chilean police group, which have made this police institution one of the best in Latin America, like the police in the region, is strongly related to the military strategy and with it there is still a lack of democratization in the police institution. "Security issues, not only from the perspective of citizen public security, but also from the private perspective, as their operational scope and analysis in the police and defense forces are recognized" (Díaz & Díaz, 2022. p.3)

This is of significant relevance in the current context, especially after the 2019 protests in Chile, where the Carabineros' response was perceived as an application of coercive measures. The social outbreak in Chile not only reflected the rejection of police action, but also the unrest due to the high cost of living in the country. It is important to note that the Chilean Constitution, drafted during the Pinochet era in the 80s, establishes a model of "Subsidized State" that does not guarantee basic social services such as health, housing, and education, leaving the responsibility for these aspects in the hands of the private sector (Pichel, 2020). This approach has even influenced police reforms in many countries, where private companies have been allowed to participate in areas that are traditionally the responsibility of the state.

Colombia – National Police

In Latin America, the composition of the police and justice structures mainly obeys the directives taken by the governments of each country. For this reason, within some countries of the region, there is a legacy of a police force with military features, due to numerous military dictatorships. This has also been the case of the Colombian National Police, regarding security it was reported according to a government report, "According to the Ministry of Defense, in 2023 there were 13,555 homicides in Colombia; for its part, Legal Medicine reported 14,033 cases of homicides in 2023, and the Attorney General's Office reported 12,935 cases" (Security Observatory – National Trade Union Council, 2024, p.6), the changes in the Colombian National Police have made it a case with visible improvements in Latin America, at least until its change of government in 2022, Where a change in security issues was manifested, which to date has partial results, this is reflected in the growing problem of insecurity, according to perception measurements of the year 2023, in the following graph we can locate the main cities measured by the Security Observatory:

Graph 1



Source: Security Observatory National Trade Union Council. Own calculations with information from "How are we doing" surveys. In original Spanish language

And in the global measurement and in the region, Colombia ranks 88th in 2024, the newspaper La República.

Graph 2



Note: In original Spanish language

Colombia is currently going through a situation of uncertainty in social and citizen security, according to Rankia Colombia consulted citizens about the perception of security in the main cities, with Pereira being the city with the highest perception of security, with the city of Barranquilla going down, and closing, Quibdó, with the lowest perception measurement in 2024.

Table

3

Stand	City	Sure
1	Pereira	26,6%
2	Tulua	26,0%
3	Floridablanca	21,0%
4	Giron	18,0%
5	Provinces of Santander	17,0%
12	Santa Marta	12,6%
13	Cucuta	11,5%
14	Bucaramanga	11,5%
17	Barranquilla	9,3%
20	Cartagena	8,1%
22	Cali	5,4%
23	Bogota	4,1%
24	Buenaventura	3,3%
25	Quibdo	2,2%

Source: Rankia Colombia

The perception of loss of territorial control, added to urban and rural crime, leaves among the governmental operation of the central government, at critical times that the country is experiencing, the little investment in technology, the investment in equipment for the armed corps, the lack of leadership in the firmness and ability in the response capacity of the President of the Republic to make decisions regarding the security of the territory. With this headline from the BBC, News Mundo reports the current situation in Colombia, "An attack with explosives against a military base and the downing of a police helicopter leave at least 19 dead and dozens injured in Colombia" (Cueto, 2025). Regarding the investment in drone technology for use by the public forces, this puts armed groups at an advantage in the face of the law, to carry out attacks and intelligence with these devices, in the following journalistic note of the newspaper *El Colombiano* it is issued as follows: "Some drones would have intimidated the helicopter in which the governor of Antioquia was traveling in Yarumal. The case, attributed to FARC dissidents, warns of new security risks in the region (Tobón, 2025). Likewise, a special case can be highlighted, the city of Medellín, which, after a process of urban violence between the 80s and 90s, increased investment in technology and digital surveillance systems synchronized with information technology for control and surveillance in citizen security. The local government announced, "Medellín will seek to take technology at the service of security to the next level and for this reason it will build the C5, the new control center that will be built in the center of the city and that will have new generation technology and infrastructure to reduce the margin for crime. Tools such as artificial intelligence and big data will be used in this new space" (Tobón, 2025), this city is a benchmark in Colombia regarding urban security, also, it seeks to strengthen the surveillance circuit with drone technology and data science, as published by the newspaper *El Colombiano*, "There will also be surveillance with drones, which will have a vertiport so that these devices can land, which will also be used for overflights in the main sectors of the city and thus have greater coverage in the subject of surveillance. To this will be added intelligent video surveillance, data analytics and a hybrid TIER 3 data center to operate with electrical redundancy and optimized connectivity all the time" (Tobón, 2025), the case of the city of Medellín is *Sui generis*, compared to other cities in Colombia, including in Latin America. After having faced urban warfare in the past, even in municipalities near the same city, today it can be one of the benchmarks for effective citizen security throughout the region.

Medellín, located in northwestern Colombia, is the capital of the department of Antioquia, has a population projected by DANE as a source, by May 2025, of 2,630,000 inhabitants; making it the second most important city in the country. In its past, death figures reached 6,810 people in 1991, it was the central issue to change the security paradigm that was developed until then. Bombs in public places, murders of leftist leaders and human rights defenders, kidnappings, murders of drug addicts, sex workers and street dwellers, massacres of young people, terrorist attacks and explosives; they are part of the memory of Medellín (Centro Nacional de Memoria Histórica, 2017, p.17-18). The work of the Metropolitan Police of the Aburrá Valley⁶ (MEVAL) has been crucial, since it has had to face historical stages of relevant conflicts and work on new instruments of public security policy in the city. Currently, the institution has very high levels of institutional trust (which differs from many other regions of Colombia) with 44%, the Antioquians surveyed in 2013 said they had confidence in the institution, which is generally not the case, since citizens distrust State institutions (Dávila & Casas-Casas, 2015, p.325). The city has allocated significant resources for safety and coexistence,

⁶The Medellín Metropolitan Police does not have an exclusive police service, but acts in the territory through a commander of the National Police who provides the service in the metropolitan area, having a unified command and budget; and he obeys orders to the superior command in Bogotá, but in turn to the mayor of Medellín who is by constitution the highest authority of the police (Dávila & Casas-Casas, 2015, p.323).

such as the Business Improvement Districts funds⁷, the Competitive Funds⁸, the Safe Zone Funds⁹, and the zonal security committees that have a common fund to provide complementary public-private security services (Mayor's Office of Medellín, 2010, p.8-28). However, there is a deficit according to this journalistic note, "the international standard is 300 police officers per 100,000 inhabitants, but in the city that average is 114 police officers per 100,000, according to the Ministry of Security" (Colorado, 2025) which has increased institutional trust, has launched the PNVCC trying to involve the community in the security governance process (trying to appropriate the concept of police close to the community) and has improved the stimuli towards the police (Dávila & Casas-Casas, 2015, p.323-334).

On the technological issue, Medellín has also opted to integrate technology into the management of citizen security, through the management of data, software, private participation, mobile applications, aerial surveillance and improvements in communication and video surveillance. Many of these innovations have been integrated into Medellín's security management, but they are becoming part of the "Smart City" paradigm that Medellín wants to become. So far, they have managed to develop certain advances, such as the Strategic Plan for Information Technology (PETI 2021-2024), focused on developing initiatives aimed at modernizing public management and new initiatives to improve the quality of life of the city's inhabitants. Likewise, Medellín is currently developing the Strategic Plan in Information Technology and Telecommunications for Security and Coexistence, which seeks to make technology the main ally of the National Police to guarantee security in the city.

In the case of Medellín, technological innovation is being adopted, as Ramió pointed out, of smartification and the use of artificial intelligence in the management of public administration. In turn, this technological paradigm is taking up the principles of good governance (transparency, accountability, citizen-focused, participatory) and citizen and human security, that is, focusing the services of the police institution on prevention and collaborative work with citizens. Now, although the case of Medellín is taking into account the technological potential, it is clear that they still have work to do in integrating the use of technology for security with other intergovernmental institutions and hard work to reduce corruption and impunity in the police institution.

In summary, the case of the city of Medellín is paradigmatic because the advances in citizen security issues intersect with the city's political, educational, social, cultural, and economic policies. Improvements are intertwined with safety issues, community engagement, and improvements for the majority. Despite the fact that urban life in Medellín is a daily life, there are still many challenges to continue working on the issue of security, the violent experience of the past and the current situation in which it has become one of the safest cities in Latin America, is a good example of a comprehensive public policy of citizen security. To this day, the city is immersed in other problems such as the structures of sex tourism, gentrification, and the impact of tourists who settle in the city, this forced native citizens to move to the municipalities on the outskirts of the city.

Final conclusions

Advances in policing in Latin America are not limited only to the technological field, which strengthens police and intergovernmental management capacities; but also great progress is being made in the democratization of the police forces. That is, they have moved from a referential framework of institutions with authoritarian and military visions, to a search to integrate a vision of

⁷Financing services co-sponsored by users and the local government for the creation of a common fund that provides complementary services to private security within a specific area (Alcaldía de Medellín, 2010, p. 8).

⁸These are strategies such as the Local Fronts for Citizen Security, in Medellín and Bogotá; which resemble the strategies of Chile: Safe Commune, where public-private micro-alliances arise to create violence prevention programs (Medellín Mayor's Office, 2010, p.9).

⁹Where entrepreneurs in commercial, industrial, hotel, tourist and educational areas create funds with resources destined for security, which allows them to take very active roles in the design and strategies of security in the area (Alcaldía de Medellín, 2010, p.25-26). This allows them to be the first to benefit from improving security in their area.

citizen security, using technology to develop intelligence, investigation and territorial security management capabilities.

The cases of Chile and Uruguay show a different approach to security, achieving better results through the implementation of more comprehensive policies. These policies contemplate the formation of alliances between government institutions and various social actors, through initiatives aimed at inclusion, the improvement of working conditions and the strengthening of coexistence. In other words, these countries are promoting a perspective of intergovernmental management and strategic planning, which allows them to coordinate efforts and optimize resources in order to reduce the incidence of crime.

In the case of Colombia, security policies have shown good results in increasing their military and police intelligence, in part thanks to the support received from the United States, despite having been considered heavy-handed policies. This is because the budgets allocated to the military and the National Police are the highest in the Latin American region, and because they have sought to strengthen the framework of security institutions. However, they have also approached working under a citizen security approach, as in the emblematic case of Medellín, which can be a benchmark for security management in a municipality under the directive of democratic governance and comprehensive evidence-based public policies.

Table 4 comparatively addresses some of the institutional and technological improvements that Uruguay, Chile, and Colombia have made.

Table 4 - Institutional and technological improvements in Uruguay, Chile and Colombia

Type of Upgrades	Uruguay	Chile	Colombia
Institutional			
Police Modernization	★	★	★
Adoption of Citizen Security Policies	★	★	★
Adoption of gender policies	★	★	
Adoption of comprehensive policies	★	★	★
Adoption of problem-solving policing strategies	★	★	★
On-site complaint collection (via tablets)	★ (URPM)		
Inter-institutional alliances (improvements in G.I.)	★	★	★
Accompaniment and work with social policies (neighborhood programs)	★	★	★
Decision-making meetings		★	
Technological			
Systematization of data use	★	★	★
Programs and software for greater controls of police personnel and operations	★		
GIS software, to encourage intelligent patrolling	★ (PADO)	★ (SAIT)	★(SIGPONAL)
CCTV Systems	★	★	★
Air patrol (planes, helicopters and drones)	★	★	★

Investment in criminal identification, genetic fingerprinting laboratories and forensic ballistics	★		
Use of bodycams	★		
Call interception systems	★		
Radio communication systems	★ (Tetra)	★	★
High security ground vehicles	★		★
Public Safety Management System	★ (SGSP)	★(SICG)	★ (SIEDCO)
Unified Command Center	★ (9-1-1)	★(CENCO)	★ (SECAD)

Source: Authors, David Díaz 2023.

With regard to the progress observed in the countries of South America, it can be pointed out that, for the most part, they have managed to consolidate single-command police forces, which has favoured the construction of more homogeneous national police models (with a few exceptions) and with a distribution of material resources and personnel proportional to their population. Likewise, there is a gradual transition from a conception of public security focused exclusively on the state apparatus to a citizen security approach. Although this change has not yet been fully consolidated, there have been significant advances both in conceptual appropriation and in its incipient operationalization. This approach seeks to promote greater citizen participation and strengthen intergovernmental management, with the purpose of improving security management in the main cities of the region. Similarly, technological tools (security technologies) have begun to be incorporated into police tasks to strengthen institutional capacities, mainly those of intelligence and criminal analysis, seeking prevention strategies, trying to distance themselves from a trajectory based on a heavy-handed vision. This approach seeks to prioritize prevention over reaction, through the use of data analytics and community involvement in safety efforts.

To conclude, with regard to the technological aspect, it is crucial to underline the need to advance in the development of crime analysis systems as a fundamental tool to optimize both the investigation and the prevention of crime. In this sense, the use of technology must be oriented towards obtaining, managing and analyzing data, in order to strengthen citizen security and anticipate possible criminal scenarios. This implies, among other aspects, the optimization of patrols and the improvement of the operational management of police corporations. In essence, the incorporation of technology in police institutions can generate substantive advances in their management capacity. As Ramió puts it, the creation of subsystems based on artificial intelligence and Big Data offers the possibility of perfecting crime prevention and analysis strategies. The implementation of these systems, in coordination with the strengthening of the professional capacities of the police forces, will make it possible to move towards a modernized and strengthened institution, with greater levels of efficiency in the execution of its functions and, consequently, with better results in terms of citizen security.

Declarations

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This article supports universal principles such as decency, truthfulness and honesty, fundamental characteristics as professionals in the human and social sciences, and meets criteria specific to the disciplinary field.

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