

Chapter 11

The circulation of the Smart City imaginary in the Chilean context: A case study of a collaborative platform for governing security

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11.1 Introduction

Over the past few years, the concept of the Smart City has become an important part of urban discourses and practices in Santiago, the capital of Chile (Tironi and Valderrama, 2018a; Tironi, 2019), inserting it in management patterns developed in other world capitals (Campbell, 2012; Greenfield, 2013; Kitchin, 2014). Although there is more than one definition of the concept of Smart City,

the notion of *smartness* is reconfiguring ways of understanding the relationship between citizens, services, and urban governance (Marvin et al., 2015). Regardless of the level of development and geographic location, the basic premise is that the development of Big Data, algorithmic automation and the ubiquitous internet of things will make cities capable of managing life in a more efficient and coordinated manner, thus improving issues of sustainability, urban growth, security, participation, and innovation (Campbell, 2012). Smart urbanism offers increasingly automated and intelligent management protocols through applications, sensors, platforms, and algorithms. By virtue of these protocols, multiple stakeholders such as local governments, companies, and citizens can make more and better informed decisions (Yesner, 2013) in such diverse areas as mobility, security, citizen participation, energy, and climate change.

In this chapter, we will understand the concept of Smart City as a sociotechnical imaginary (Jasanoff and Kim, 2015), that is, as a set of visions sustained by infrastructures, practices, and more or less shared meanings of social life which in turn reveal futures that are desirable for a society (Jasanoff and Kim, 2015, p. 4). In this sense, the notion of Smart City mobilizes certain sociotechnical imaginaries that, on one hand, indicates what is desirable through the use of technology and, on the other hand, informs us of how cities should be managed. As we will show, the introduction of the term Smart City in Santiago is due to its nature as a floating and ambiguous signifier. Sometimes the concept is associated with sustainability or technological innovation, enterprises or creative urban spaces, data-driven decisions, or e-citizenship. In other words, it's not only a way of referring to solutions in the city, but it's also a form of adding value to certain urban projects in a context that some call "platform capitalism" (Srnicek, 2017), which seeks to produce and refine the data generated by citizens themselves.

In this context, the goal of this chapter is to show how the sociotechnical imaginary of the Smart City has been translated into the city of Santiago. Ranked first in Latin America in the 2019 list of the smartest cities in the region (by IESE Cities in Motion), over the past few years, Santiago has become a laboratory of Smart initiatives. The "cultural circuit" of the Smart City in Santiago has been configured through a network of heterogeneous actors, converting the ambiguity of the concept into a resource for articulating different visions and interests. Beyond the defined and uniform vision of the city, we show that the Smart City emerges as a catalyst of innovations and enterprises, articulating public-private partnerships in diverse areas. As such, the smart imaginary is not only accompanied by technologies, but also includes discourses about desirable futures, circulation networks and significance, organizational models and knowledge production and several seminars, competitions, and fairs that provide visibility/legitimacy to the services and expectations associated with this new way of conceiving cities.

This chapter is organized into four sections. The first section presents a review of the discussion around the term "smart urbanism," exploring the concepts of the platform and sociotechnical experiments. In the second section, we

describe the trajectory of the concept of Smart City in Chile based on a dozen interviews with various stakeholders involved in exploring this concept. Although the actors identified three ways of operationalizing the notion of Smart City (civic, business, and state), we will show that the concept mainly functions as a container of multiple visions and that its content is filled ad hoc, based on the stakeholders' needs. In the third section, based on a multisituated ethnography, we explore the case of the SoSafe platform, a private software company, whose app has been called "the Waze of security." The goal of this company is to sell access to a platform that allows governments to manage reports and visualize them with geolocalization. Thus, municipalities could "create safer neighborhoods" by connecting with citizens, services, and institutions—police stations, firefighter's companies, and some private health-care centers to optimize response times in case of emergencies reported by residents.

Through an analysis of institutional coordination processes and the description of *back end* work that programmers do to code the large amount of data produced by users, we will show the urban implications of governing security through platforms. Finally, we conclude with some reflections on the scope and limits of the expansion of the idea of platform urbanism.

11.2 The emergence of the idea of smartness

Over the past few years, a growing distrust has emerged which questions acquainting modern *urbanization* with *urbanity*. Megacities have become paradigmatic spaces of environmental and social unsustainability, characteristics associated with pollution, congestion, overcrowding, insecurity, and anonymity. The increasing concentration of population in cities (according to the UN, each month nearly 200,000 people move to urban areas) and the impact that this has on the quality of life have given rise to approaches designed to build more "resilient," "intelligent," and "friendly" territories that are environmentally sustainable. The inability to continue to act under the canons and formulas that we have always used has generated the need to experiment with new urban paradigms, to respond and organize the complex and growing demands of contemporary cities.

The emergence and circulation of the Smart City must be understood in this context (Luque-Ayala and Marvin, 2015). Pilot projects and different types of experimentation are currently proliferating, with programs and strategies developed in different geographic locations oriented toward creating the idea of a city connected by sensors and data. The notion of the Smart City has been used since 2005 by large companies in the information and communications technology (ICT) industry such as Siemens, Cisco Systems and then IBM in 2008 with its "Smarter Planet" initiative. For the latter, making cities more intelligent would consist of introducing digital sensors and devices to capture data on multiple urban variables, the application of complex information systems that process these data in an integrated or interconnected manner and with it,

the optimization of processes, operations and services of urban infrastructure (Harrison and Donnelly, 2011). Thus, the Smart City concept identifies the city as a potential market for the development of technological solutions, both at the level of management of urban infrastructure as well as at the level of resident services (Söderström et al., 2014).

One of the most important presumptions of the Smart paradigm is that the boom of digital data would be presenting us with a new era in the ways of making decisions (Shah et al., 2012; Mayer-Schönberger and Cukier, 2013). This new way of governing the city would have repercussions in the immediacy of the decision-making process (Beer, 2016), and in the ways of designing and making urban policies. In the same way, digital mediations through platforms, smartphones, and other digital tools promote the automation of different functions of the city, contributing to a more efficient urban coordination. Rabari and Storper (2014) argue that sensors embedded ubiquitously in the city are creating a “digital skin” that transforms the city and its multiple components into a source of Big Data. Through this datafication of urban space, some academics argue the emergence of digital citizenship (Isin and Ruppert, 2015) in which citizens become data sensors and then provide useful information for decision-making, allowing new forms of participation (Goodchild, 2007). In this sense, the Smart City not only focusses on introducing new technologies in the city, but also looks to create new networks of collective collaboration and intelligence—civic apps and platforms—that allow for better coordination between institutions and citizens.

In response to these visions, several authors have begun to denounce the technocratic and corporatist nature of datafication processes that accompany the notion of the Smart City (Hollands, 2008; Vanolo, 2014; Söderström, 2014; Shelton et al., 2015). Experiments of cities designed almost completely based on business agendas would end up lacking urban vitality and spontaneity. There is also a criticism of the excessive regulatory and technologically oriented burden, that promotes a technocratic model of urban government (Greenfield, 2013; Hollands, 2008, 2015; Morozov, 2013; Vanolo, 2014; Kitchin, 2014; March and Ribera-Fumaz, 2016; Sennet, 2012). In these journals, the authors argue that many of their solutions ignore the specificities of local contexts, and for this very reason, risk encouraging a process of homogenization of the urban space. This focus on technological solutions before urban planning precipitates forms of depoliticization and neoliberalization of the city (Hollands, 2008). Therefore, the city is governed by a technocratic logic that uses the supposed neutrality of data and technological instruments. This would be at the expense of public vocation and participation in cities (Vanolo, 2014; Sennet, 2012; Lombardi and Vanolo, 2015). Likewise, Gabrys (2016) warns that this form of government seeks the regulation of behaviors and relational flows of individuals through programming and coding of urban environments, which is a process that the author calls *environmentality* (p.187). Some scholars have questioned the new forms of information asymmetry that are generated in

platform societies (Van Dijck et al., 2018) between citizens and major telecommunications companies, between the majority that generates data and a minority that enjoys the access, ownership, and tools necessary to process that data (Andrejevic, 2014). In this way, this pretended “citizenship” of smart cities can establish in practice new passive forms of frictionless and effortless citizenship (Tenney and Sieber, 2016).

11.3 Being and doing smart through experimentation and pilot projects

One of the characteristics that require special analytical attention in the context of the sociotechnical imaginary in Chile that we are analyzing is related to the experimental approach to the city (Tironi and Criado, 2015; Tironi, 2019). Under the Smart City imaginary, the experimental practice or the idea of governing by pilots or trials becomes an increasingly common form of urban intervention (Evans et al., 2016; Tironi and Valderrama, 2018a; Tironi, 2019). That is, experimentation is seen as a legitimate way to confront the challenges of cities and to transition to the Smart City. Based on the need to innovate in different ways of facing the future challenges of large cities, experimentation provides an alternative to direct these changes and move toward smarter cities. This leads the spokespeople for smart solutions to present their services, products, or solutions as experimental activities or pilots. The city is an entity that can be intervened, tested, and calculated under the logic of a controlled laboratory. It is no accident that most of the stakeholders who seek access to the smart cities market use a semantics associated with this experimental logic of trial and error customarily found in laboratories, articulating their discourses around terms like the urban lab, living lab, pilot projects, open innovation, future labs or lab governance.

Some authors have called this mode of intervention and urban governance test-bed urbanism (Halpern et al., 2013), a form of intervention and urban governance where cities—and those who live in them—are subjected to the logics of trial and error on a large scale. For instance, in response to the need to move toward sustainable cities, China and India are promoting an extremely ambitious politics based on the development of Smart City pilots and experiments in which states and transnational corporations work together (Karvonen et al., 2018). On the other hand, in Latin America, Santiago de Chile has recently become a showcase for experiments and interventions in the field of services and policies focused on promoting a pretended Smart City (Tironi, 2016; Tironi and Valderrama, 2018b;). These pilot and experimental initiatives are not conceived as closed and stabilized solutions, but as “learning” laboratories where it is demonstrated that certain changes are feasible (Tironi and Valderrama, 2018a). As we will see, using this logic of generating scalable and coordinated changes, Smart City initiatives implemented in Santiago combine logics of market, state, and citizenry.

Above all, there are at least three characteristics of smart experimentations that are important to highlight in the case of the Chilean Smart City circuit:

- First, they are protocols that outline areas, niches, or spaces of intervention. For example, a citizen's monitoring device focused on environmental pollution will outline the spatial and temporal limits of its test to explore solutions in a specific urban reality, and from there determine its scaling (Tironi and Valderrama, 2018a). This outlining allows the possibility of controlling the results, and then finds a way to scale them.
- Second, these experiments tend to base their legitimacy on the fact that they involve citizens or users (this aspect is evident in the case of SoSafe). This resource serves to emphasize the fact that this type of project is open to feedback from ordinary people or "normal" citizens (Harrison and Donnelly, 2011). This tends to be invoked as an added value of Smart City experiments because their forms of production of knowledge are no longer based on abstract models produced in closed laboratories.
- Third, Smart experiments are conceived as creative spaces and innovation spaces in forms of urban governance and planning. They are conceived of as spaces in which it is possible to facilitate certain changes or models that "push" transition actions (Bulkeley and Castán Broto, 2013). For example, one distinctive characteristic of these forms of "urban innovation" is their interest in connecting private companies and public institutions with experiences and needs of everyday urban life (Evans et al., 2016).

11.4 The circuit of the Smart City in Chile: An ambiguous and polysomic catalyst

In the pages that follow, we explore the main discourses and meanings associated with the Smart City discourse in Chile, to characterize the modes in which the concept has been operationalized and translated by local stakeholders.^a Three main areas were identified in which the concept is invoked and utilized: business, citizen, and state. These stakeholders co-produce the Smart City circuit in Chile, appropriating multiple approaches and promoting dynamics of collaboration and coordination. Thrift (2005) uses the term "cultural circuits" to examine the network of stakeholders and entities that allow for the dissemination, legitimation, and visibility of capitalism. The interesting thing is that this "cultural circuit" of capitalism is not only constituted by a hard corpus of scientific knowledge and technologies of production, but also by "soft" elements including discourses, competitions, seminars, and business schools among others which constitute "soft capitalism." Then, we will show that in Chile the notion of the Smart City

a. The findings presented here are based on a study conducted in 2016 and 2017 in order to understand the varied definitions of the concept of the Smart City in Chile. This study was based on interviews with different stakeholders and the development of a survey around the use of the concept of Smart City between 2014 and 2017.

is a soft concept that is in constantly becoming. Stakeholders mobilize it ambiguously and rhetorically, operating in a significant vacuum: its content and specific qualities are filled in by stakeholders based on their agendas and needs.

11.4.1 The Smart City as technological enterprise and innovation in the city

The notion of the Smart City began to circulate with relative strength among local stakeholders in 2011, when the cities of Valparaíso and Antofagasta agreed on a collaborative alliance with IBM's Smarter Cities Challenge program. The program consisted of strategic advising with experts from the multinational corporation. Together, they provided an assessment about different urban problems, and a projection of possible technological solutions in areas such as energy, water, and transportation, among others. Although this collaboration didn't lead to the implementation of smart infrastructure, it did identify the need to incorporate a Smart City vision into the planning of urban life.

However, one of the main forms of utilizing and signifying the notion of the Smart City is connected to the world of technological enterprises and innovation. The great majority of Smart City initiatives present a strong demonstrative and pedagogical character, that is, make visible digital technologies and innovations that can be implemented in the city, and at the same time these initiatives are validated as smart initiatives by integrating them into different projects. On the other hand, there are numerous conferences and seminars^b organized around the concept which usually combine demonstrations of products and success stories, awards, and sessions with national and international experts who discuss the challenges of the city in the digital era. These seminars have played a fundamental role in the evangelization and construction of local storytelling (Söderström et al., 2014) around how the notion of Smart City is narrated and packaged, and its meaning. Most of the time, these seminars are founded by leading national or international corporations in the area of ICTs and focus on validating and celebrating this type of development. They tend to have an important emphasis on the competitiveness of cities in terms of Smart City rankings, revealing the aspects that are required to turn a city into a more intelligent space. To that end, they tend to display spectacular productions held in important convention spaces or hotels. As mentioned by one of the hosts of these events: "In the Smart City ecosystem, everyone has to know what it is about or how to get in and develop a project in this area... So, we have to be able to help ensure that there is no information asymmetry through seed capital incentives in order to be able to generate that type of initiative and motivate entrepreneurs to be able to develop them."

In addition, with these seminars the circulation of the concept of Smart City has been more precisely defined and disseminated through technological

b. City Do Smart City; Smart City Summit, Arica; Smartcity: The Second Innovation and Enterprise Summit; the Smart City Conference in Pucón, 2017, Grand Prix Wit City, and others.

enterprise competitions, which are mainly generated by universities, companies, and government entities.^c In these cases, the concept refers less to a vision of the city and more to a business and innovation opportunity to capture more clients through the development of new technologies. In this sense, and as one of the individuals responsible for the competitions points out, “entrepreneurship is one of the main drivers of the development of the Smart City; it is what allows it to be introduced in the city.” It is important to note that the entrepreneurship competitions are very important in the Smart City ecosystem because they certify what is or is not Smart. The contest “[Temuco Smart City 2016](#),” illustrates this manner of understanding the notion of the Smart City as an opportunity for entrepreneurship and business, “Promoting and strengthening the development of technological undertakings in the early-stage with global potential from the Araucanía Region through the technical-commercial validation of solutions based on ICT tools focused on solving real problems posed by various stakeholders in the city of Temuco” ([Temuco Smart City, 2016](#), p. 2.).

11.4.2 A Smart City with a citizen air

At the same time, the deployment of these instances connected to the validation and signification of the concept of Smart City has expanded over the past few years into a “participatory,” “citizen,” or “bottom-up” component in the Smart City interventions. In Chile and elsewhere in the world there are discussions regarding how the “smart citizen” aspect can be incorporated into the implementation of Smart Cities ([Tironi and Valderrama, 2018a](#)). In this way, and creating a distance from a technologically oriented definition, various stakeholders (NGOs, foundations, collectives) begin to utilize the notion of Smart City for the development of their own projects. While Smart City projects used to focus on the “triple helix” of government, academia, and industry, these stakeholders seek to expand the definition of the concept, incorporating the role of citizen participation that has begun to be highly valued as an indicator of a city’s intelligence. As one interviewed stakeholder stated, “Although the concept of smart city has strongly technological components in the market and in industry, we are saying that a smart city is mainly comprised of human capacities.”

Under this citizen understanding of the notion of Smart City, one of the concerns is how to incorporate people into urban policy design processes, trying to move citizens from a position of client to one of co-designer. If the definition is associated with entrepreneurship, the Smart City provides feedback between data produced by users and businesses that capture these data to improve services, but the “smart citizen” concept uses the notion of citizens involved in their surroundings. FabLab Santiago has been one of the main supporters of this concept and has developed various projects using the Smart Citizen Kit. This is

c. Muevett; Desafío metropolitano; Valparaíso Smart City; Torneo de Emprendimiento tecnológico Temuco Smart city; Subsidio Semilla: Ciudad e Industria Inteligente—Araucanía, among others.

a digital platform for generating citizen participation processes in the collection of environmental data through digital sensing devices. As one of the FabLab Santiago directors explains, “The Smart Citizen Kit offers a profound critique of the corporate vision of the Smart City, that centralized data collection unit. We bring that to the people, seeking to democratise and distribute knowledge to the people. The sensor was very successful due to this, because it was the first technological object linked to the smart city that placed people at the center.” Another interviewee from a tactical urbanism organization stated, “Our goal is to improve cities through citizen participation. We are not interested in focusing on technologies. Our objective as an organisation is to try to build the city collectively.”

Many of the practices of these Smart City collectives are articulated around imaginaries linked to free exchange and free software, collaborative economy, the use of technologies like Arduino, 3D printers, Linux, TechShop, RepRap, etc., and the proliferation of discourses on the “fourth industrial revolution,” hacker culture, Do It Yourself (DIY), Do-ocracy, etc.

The distance that exists between the business sector and the citizens, locates the notion of Smart City in a dual ambivalence. On one hand, we find the technologized city that locates the citizen in the role of citizen-sensor, providing information to a large data cloud; on the other hand, there is the bottom-up city of innovation that generates its own solutions on the margins of other institutional bodies in a DIY logic. At the same time, they are aware that a large part of their ability to develop projects with public impacts depends on alliances with these private or public stakeholders. In this way, many of their practices and disruptive discourses regarding the institutional structure and the company are absorbed and capitalized by more canonical concepts of the Smart City.

11.4.3 The Smart City from the state

From the state, the notion of Smart City has found extraordinary resonance with a diversity of funds and agencies responsible for supporting initiatives under the rhetoric of Smart Cities. In response to the fear that the concept has been monopolized by private stakeholders, the state has sought to position itself as a leading actor in this “cultural circuit” of the Smart City in Chile, promoting different strategic lines.

One of the most patent tests of the introduction of the smart concept in the state at the urban level can be seen in the creation of the Transportation Ministry’s Smart City Unit, which is designed to generate smart solutions for mobility. The initiative that best reflects this need to develop Smart City projects on the part of the state is the “Sé Santiago” platform. Created in 2015 and promoted by the Production Development Corporation (CORFO), the program has a heterogeneous board comprised of representatives of civil society, technological industry, and academia. From this instance, they define the concept of Smart City as “an urban strategy in the use of social innovation technologies and tools to improve quality of life in the city.” The strategy is to develop social and technological

capital, transforming the Santiago Metropolitan Area into a Smart City focusing on three priority areas: Smart Mobility, Public Safety and Environment.

The performance of Sé Santiago is based on a process called “gap identification” in the areas mentioned above in which program members, often accompanied by external efforts, discuss priority problems. The multisectoral nature of the program recognizes different dimensions of urban problems. As one of the program hosts noted in an interview, “The first thing we had to do was identify the gaps that exist in the city. In order to do so, we had to coordinate the perspectives of different stakeholders.” Once these gaps and challenges were identified, Sé Santiago issued calls for NGOs, companies, and entrepreneurs to provide specific solutions. One of the managers of the agency explains, “In the first competition, we had 30 entrepreneurs with Smart City solutions on mobility, environment and security issues. Nobody had ever used CORFO seed capitals with a Smart City approach and in three areas—it was unprecedented within the State.”

These different forms of approaching the Smart City concept reveal that more than a precise definition, the different local stakeholders use the concept based on their respective interests. Although no stakeholder in this local circuit claims to have the key to the operation of Smart Cities, all of them are looking to become “a mandatory stop” for others, trying to position themselves based on diverse methodologies and agendas, languages, and emphases, protocols and visions.

11.5 Platform-based ecosystem of security: The Case of SoSafe

Below we will address the case of SoSafe, a digital platform created under the Smart City imaginary that is currently one of the most popular Chilean applications, being used in 27 municipalities throughout the country. The goal of SoSafe is to improve urban safety through a platform that connects municipalities, neighbors, and services, decreasing response times in emergency situations.

The logic behind SoSafe could be understood as “Platform Capitalism” in which “platforms are digital infrastructures that enable two or more groups to interact” (Srnicek, 2017, p. 43), and use digital datafication processes to activate various functions of exchange, information or services. Generally, platforms designed to manage urban spaces like SoSafe have become very popular because they are mainly designed as “algorithm machines” capable to address a diverse set of tasks automatically, quickly, and efficiently (Gillespie, 2012). Thanks to these programming capabilities, SoSafe has been highlighted as a social innovation in the Chilean cultural circuit, being presented as a technological solution and becoming an important part of the storytelling of Smartness, in events such as Sé Santiago by CORFO, DoSmart, and SmartCityValpo 2018, among others.

In the paragraphs that follow, we seek to open the SoSafe’s “black box,” exploring the different sociotechnical aspects that orbit around this platform and the type of urban coordination that they display. This platform must satisfy strong expectations held by municipalities and users in a context where the

market provides services that used to be only managed by the state (Cardullo and Kitchin, 2019). For this case, it is urban security.

11.5.1 SoSafe: A platform for coordinating urban safety

In 2013, Cristian, one of the founders of SoSafe began to think about a prototype for one of the most popular Chilean digital platforms. One single event triggered his need to develop a new smart platform (see Fig. 11.1) to manage urban safety in Santiago de Chile. One day, he received a phone call that he did not answer. Minutes later, his sister told him that their home was being robbed. He remembers that it took him 30 min to return home and at the same time the police were arriving.

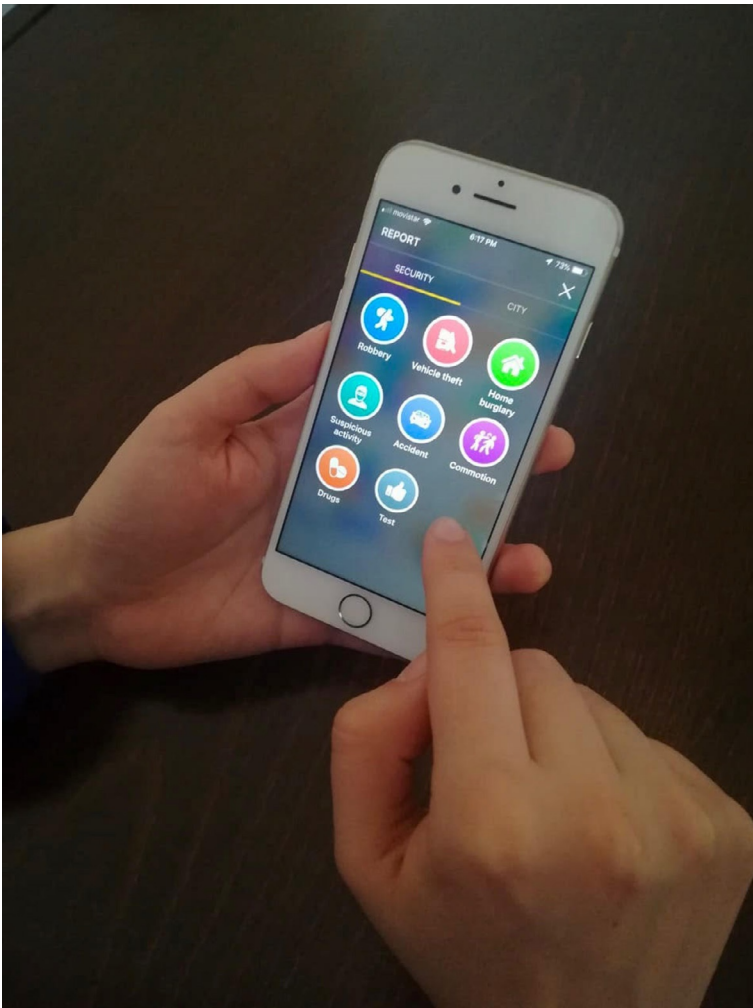


FIG. 11.1 User browsing through report categories.

After this experience, he began to identify problems in his neighborhood: the residents did not know each other and were not aware of emergencies occurring in the area. As such, they were unsure whom to contact in case of emergency. Cristian thought it would be possible to create a Smart security system that could be used “even if the mobile phone is destroyed [during an emergency], using pre-loaded information that remains stored,” he explains.

He created SoSafe in 2014 with a business partner, following the Minimum Viable Product (MVP) logic, which creates a simple base for a product on which different iterations can be programming to update it over time. This MVP allowed him to create a *panic button* in which was possible to save 10 contacts, and in case of emergency, these contacts assigned by the user received an alert. Initially, the interface and functions were minimalistic. There were no report categories and users decided which events deserved to be reported. However, this allowed developers “to see with data” (Jasanoff, 2017), for which events were reported and the interface was modulated based on this data visualization. In later updates, a security category was created that includes: robbery, vehicle theft, accidents, commotion, home burglary, and other events. With these initial functionalities and a group of local governments that were interested in the app, gradually, the concept of security was redefined based on diverse requirements. For instance, it was determined that a traffic light problem and damaged lighting could be “unsafe situations.” In this way, The Neighborhood category was created—and the current interface was designed—to make it possible to report malfunctioning streetlights, abandoned vehicles, damaged bus stops, trash, no manhole cover, among others.

The SoSafe ecology can be summarized as follows:

- A report is generated through the app by selecting a category and adding a brief description.
- An automated response is generated by municipal staff.
- The user is contacted by phone to request more detailed information.
- Security personnel are dispatched to the location. If the report goes beyond the scope of municipal management, the company that provides the service is contacted (i.e., in case of a power outage).
- Finally, security agents close the report by describing the status of the event.

Finally, SoSafe as a private software company uses the business model of Software as a Service (SaaS). In this model, Sosafe as an external provider, hosts its services (application and dashboard) in a cloud and makes them available to municipalities and citizens through an internet connection. Municipalities pay an annual income, which is calculated by section of inhabitants, starting at US\$22,000 for a territory with 50,000 inhabitants (SoSafe, 2018). In this way, security personnel can access to a dashboard that allows responses to citizenship alerts and have access to various tools such as heatmaps and daily report statistics. Paying a fee eliminates ads in the app, enables the app to be free of charge

for citizens, and the platform can sustain the company's human and technological resources. SoSafe has become widespread, with commercial and technical executives (CEO and CTO), customer support, programmers, and designers.

11.5.2 Programmers' work: Projecting urban life

SoSafe defines itself as a "social network of citizen collaboration" and a great deal of its developers' work consists of condensing various requirements related to events that occur in the city within the app. The CEO states that the notion of Smart City is too focused on "installing sensors and lots of hardware" and one of its main components has been forgotten: "the human one, which are the citizens who live in the city."

In general, SoSafe operates as a receptacle of ideas that emerge from urban life. Programmers see diagrams or possible features that are waiting to become a reality in the office and have ongoing conversations in "code" that allow them to speculate on certain urban scenarios that could result in new features and how this could be used by the citizens.

In this form of distance management, the goal is to make visible and modulate the user's behavior, sustained by continuous flows of information and data that must be encoded. The CEO explains that the act of projecting and materializing an idea in the app "has implications" in the urban world, so what is done in the SoSafe "laboratory" will always resonant in the urban space. Furthermore, the constant feedback received from municipalities and users forces programmers to test new improvements.

One of the developers stated that feedback "is a box of unique ideas, and a box of people's ideas." If users recurrently ask for a feature and it is a good idea, SoSafe tries to implement it. This collaborative work logic between programmers, municipalities, and users is a sort of corporatist practice of working with code rather than an experimental practice. "Successful products have adopted the same methodology that we have adopted of testing, reviewing, adjusting, adding new things and taking them out if they don't work. If users ask for something, we look at how to add it, test it and see if it works. It's a matter of continuous improvement" (CEO SoSafe interview, our translation).

For example, it was suggested to generate more interaction between citizens, which means that a geolocalized alert was issued to the area when a report was made. But several elements were needed for this: first it was necessary to know where people lived, so the users could indicate it. Thus, the programmers also needed the specific geographic coordinates, but these also must be visualized on a map. In this "work layer," iOS/Android developers came together to code for their respective platforms. Furthermore, a designer proposed an interface that would be easily accessible to the user. Finally, the new features of SoSafe are tested on the staff's smartphones, and then with some users. Once the feature was launched, an overview of the performance of the new characteristic was developed, including whether users could report whatever they wished.

11.5.3 Negotiation with municipalities

According to the local security manager, ~35,000 of SoSafe's active users^d live in the municipality of Las Condes. In the Citizen Security Department, safety and surveillance technologies are monitored: alarms, security cameras, surveillance balloons, and staff who respond to SoSafe reports. The municipality reports that crime dropped 11% in 2017; this implies that there were 330 less crimes in comparison with the year before (and at the same period) (Cooperativa, 2017). SoSafe is the latest acquisition of this package of technological measures, and the mayor of this municipality believes that the application could help to further reduce crime rates.

On the other hand, and as it's described by programmers, the municipalities also have requirements for the platform. "We have made various changes based on the items and the municipalities' needs," one programmer explains. For example, they removed the "Other" pin, which programmers used to observe which other events were reported and thus, improve the reports' specificity. This item was problematic in regard to management and one municipal security manager said that it implied "an open door to residents to report people in the neighbourhood for hanging towels out to dry" thus generating reports about nonemergency situations that did not correspond to the purview of security personnel.

Specifically, this type of situation has been one of the main issues of the platform because a large part of the negotiation between municipalities and SoSafe takes place during the deliberations to define which sorts of events can be reported and how to address them. In general, the app's buttons are the same for all municipalities. However, not all municipalities present the same issues or the same management capacity. In this regard, one of the developers described a unique situation. He explained that cars are frequently abandoned in the city of Iquique due to their low cost, as a Free Economic Zone. Residents purchase cars and then abandon them after a few years. When SoSafe began to be tested in Iquique, he explains, "people started to report abandoned cars and the city was full of abandoned cars. They uploaded pictures... this one block had a pin and they uploaded four photographs of different cars. That's when they realized there was a problem." Municipal security personnel determined that it would have been better not to see this option, because the problem of abandoned cars could not be managed by the municipality, and potentially involved allocating resources to a problem that was not urgent. However, the option to report it will always be available for users. The discussion about what is visible in the app is not only limited to the program's capabilities, but to how a pin could work based on district's specific conditions.

11.5.4 The users: What happened with my report?

At 3:35 am, I receive a notification for an incident that has occurred close to where I live. The notification contains a security report: "someone is being

d. Estimates suggest that there were ~300,000 active users on the platform in mid-2018.

beaten in a car, at the intersection of Pocuro and Pedro de Valdivia.” At 3:36 am, in the report chat, security of the Municipality of Providencia answers, “A security operator has just accepted your request and will contact you by phone. Please don’t use the phone line.” At 3:37 am, the municipality answered again: “Thank you for your report. Security is sending staff to the area. You may provide relevant information or an image via chat. We will be monitoring the situation.” After this comment thread, no more interactions appear until someone asks, “What happened?.” Two other users also reported the situation, generating more alerts and comment threads (see Fig. 11.2).

“What happened with my report? Does the application work?” These are popular questions among users. According to the developers and municipal staff, a “closing message” is being developed for reports. Failing to “close” the report causes uncertainty and constant doubt. In addition, notifications generate a sensation of “extended panic” according to interviewed users.

The municipal safety department staff claims that it is not always entirely clear to users if a case is actually closed, because reports have a set duration, so even if a problem has been fixed, the alert will still appear on the map: “it is difficult.... An event was created, and the neighbors start to chat about it. So, there are questions and complaints based on that chatter.” In general, the constant dialog via chat prevents users from determining whether a process was closed. It may be closed for the municipality because the necessary steps were taken, or a patrol car was sent to the area, but that doesn’t mean that it is closed for the user. It is common to see comments in the report chat that try to provide new information, with users stating that they saw the thief or someone with similar characteristics. The report reinforces itself, but through uncertainty rather than a solution. One user says, “The notification often stays there. Something very odd happened—there were people locked in the pharmacy on the corner because there were criminals.” The user claims that people kept asking “What happened? What didn’t happen? Are they okay?” hours later.

On the other hand, according to one of the Executive Directors, the application requires a certain amount of know-how because users frequently report errors. A security department operator explains that “in some cases [residents] do not use it well because people who have installed or activated the application for the first time say, ‘I’m going to try it’ and issue a security alert.” The problem is that if that alert is emitted in a very high traffic area, everyone who has SoSafe within range will receive an alert. Programmers, security executives, and users recognize this discontinuity in the use of the application. For now, the solution has been to monitor users’ behavior, particularly users who generate alerts by accident. In addition, security personnel try to explain how it works: “There is a test option [in the app], try it, and no safety alert will be issued, and your neighbors will not be notified.” Finally, various strategies have been adopted to address these interruptions, such as establishing a community guide that seeks to regulate user behavior and demonstrate “proper use” of the platform.

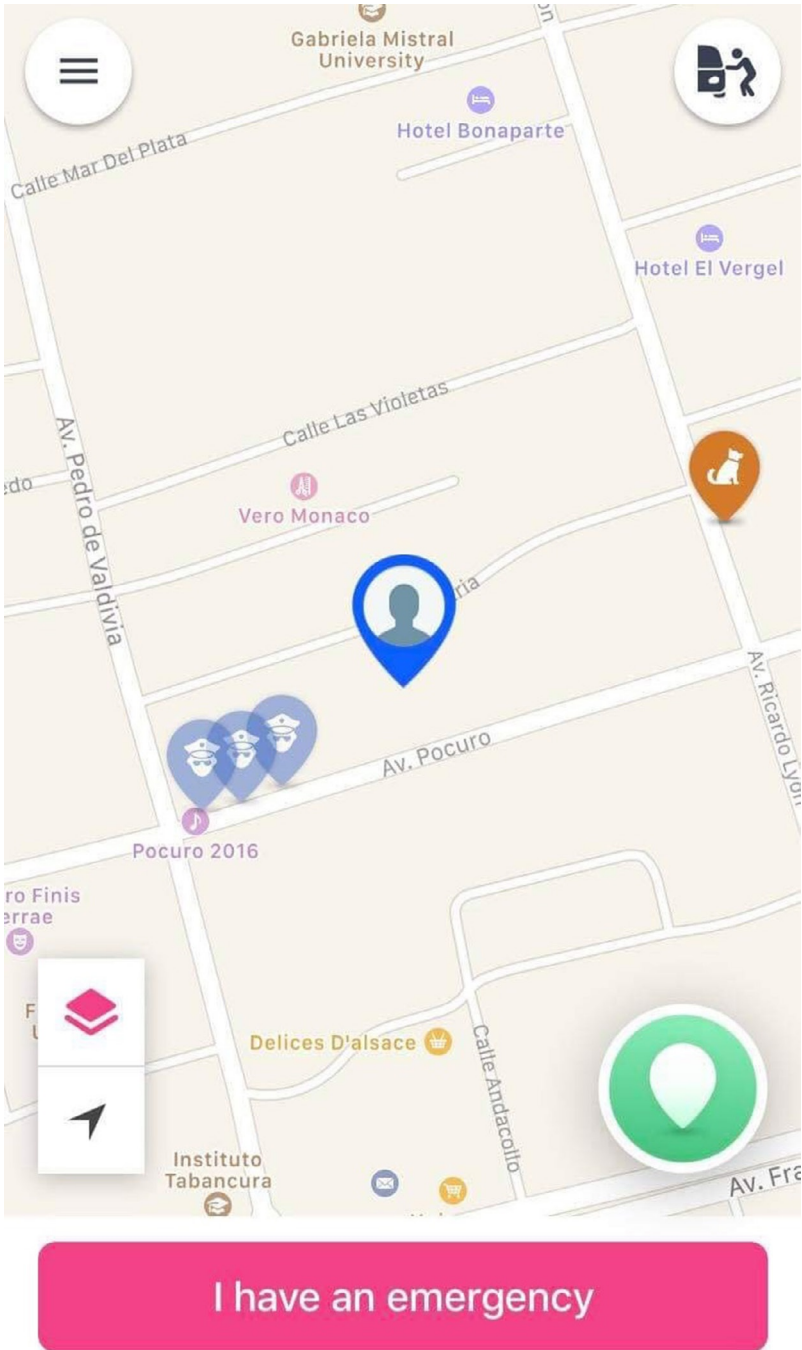


FIG. 11.2 Screenshot of the three reports generated based on the same event.

11.6 Final remarks: The emerging of platform urbanism?

In this chapter, we have shown how the concept of Smart City has been translated by the Chilean reality, identifying stakeholders, practices, and discourses that have configured the smart urbanism ecosystem. As a sociotechnical imaginary (Jasanoff and Kim, 2015), the concept of Smart City has functioned as an articulating category that enrolls (Callon, 2007) different sensitivities and definitions of what a smart city is. We believe that the success of the concept is explained by its diffuse and floating nature: This condition has allowed the creation of a cultural circuit comprised of heterogeneous agendas and narratives that include matters connected to entrepreneurship and technological intervention, citizen participation, and planning, enterprise and competitiveness. In other words, the term Smart City provides the glue that holds together a varied set of expectations and future imaginaries of the city. In this process in which each stakeholder seeks to activate and signify the notion of Smart City in a unique way, a dynamic coexistence that is constantly being redefined by different narratives of what this paradigm means emerges, creating what many interview participants call the “Smart City ecosystem in Chile.”

Here it is important to mention that this coexistence of narratives is not exempt from frictions or problems when it materializes the suppositions of smart urbanism. The different stakeholders that orbit around the idea of the Smart City in Chile have objectives that are often very dissimilar, but that need to be linked in the smart circuit, so their projects find legitimacy. In this way, their projects gain legitimacy. Industry, which plays an increasingly important role in the definition of urban spaces (Graham and Marvin, 2002; Hollands, 2008), will seek to create users or clients who are “compatible” with their technologies, products, and innovations. Public administration and citizen collectives appeal to other considerations such as the democratization of information, social inclusion, the exchange of knowledge, enterprise, and innovation in the city. The concept of Smart City thus becomes a space of convergence and disputes regarding how to integrate technologies, innovations, the city, and its citizens. In other words, the concept of Smart City places into circulation technological strategies of management of the city as well as modes of collaboration between different visions, narratives, and stakeholders, installing a diffuse and forceful cultural circuit comprised of elements that go well beyond the technological.

In addition to describing the emergence of this Smart ecosystem, in this chapter we have shown the development of the SoSafe platform and its technical-territorial innovation in the work of “creating safer neighborhoods.” The specificity of the success of SoSafe over other platforms that have sought to offer the same sort of service in Chile, like Waze or Airbnb, works based on a cogenerative platform logic (Van der Graaf and Ballon, 2019), that is nourished by users feeds (Desouza and Bhagwatwar, 2012) and allows codification to be modulated such that it adjusts to the developers’ observations as well as the

users' needs. In a certain way, it becomes necessary to highlight the fact that users are the nucleus of these modulations, a source of data and ideas that allow for connections among people, tools, and available infrastructure.

Immersed in the platform logic proposed by [Srnicek \(2017\)](#), in an urban context, the modes of organizing city services pose a challenge and they mainly operate based on the extraction and processing of data. This space of interaction is not only sustained under the need to generate and obtain new data on the urban, but also through the opportunity to re-direct the action. In this regard, [Bratton \(2015\)](#) states that the desire to manage and coordinate the ethereal nature of cities, which he calls "content management," forces the city "to open and close, to centralize and decentralize" (p. 39) to direct the various stakeholders and interfaces that it contains. [Gates \(2019\)](#) also emphasizes the live nature of these platforms, as they are in "a perpetual logistical exercise in construction" (p. 67) in which they not only process data but also update the platform's functionality based on the changes that these data suggest.

In this context, SoSafe could be understood as a manifestation of platform urbanism in which the digital is transformed into a resource that can be used to connect people to services. Through the deliberation with diverse stakeholders in its ecosystem, SoSafe co-builds the idea of a safe city that is watched by its own inhabitants. Thanks to the digital mediations and data, it would no longer be necessary to have patrols constantly policing the streets of Santiago. This work is now done by residents in their own homes, as they report on events and suspicious happenings in situ. The platform allows citizens to become urban sensors, extending the omnipresence of surveillance. At the same time, these citizen-sensors are data and information that are processed with purposes that are not always transparent.

Another key point to remember is that SoSafe reveals incidents that without the app, would only be known by residents who were present when they occurred. From this perspective, we must consider the fact that "technologies like apps are not value-free and impact the way people perceive and negotiate the urban space" ([Van der Graaf and Ballon, 2019](#), p. 2), which may lead to an increase in atmospheres of insecurity ([Tironi and Valderrama, 2019](#)). Along these lines, SoSafe not only creates opportunities for the authorities to manage the urban space more efficiently. It also installs specific practices among citizens thanks to its ubiquity, amplifying its opportunities to co-participate in the management of safer spaces. The idea that citizens become sensors implies a turn in surveillance in which it is not only deployed from public spaces—through cameras or balloons—but is always also used from the privacy of the home by just one click. This interconnected network of users, application, reports, and surveillance makes it difficult to find spaces of disconnection or digital silence that would allow citizens to define themselves beyond what they communicate through their digital data.

While the idea of the city as a platform has only recently begun to take shape in Chile through the various sociotechnical networks such as SoSafe, it is important to ask how the platforms reconfigure the relationship that

citizens create with their surroundings. Specifically, it is important to ask about the type of *intelligence* that we draw on when we develop technologies based on machine learning or the internet of things and what place citizens occupy in these innovations. Therefore, it is important to recognize the counterarguments to the idea of urban intelligence-based exclusively on logics of optimization, efficiency, and technological automation and demonstrate the need to observe practices that emerge from people who are involved in redesigning the city.

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