Evaluation of the Guadalajara Visor Urbano Commercial Permitting System's Effect on Corrupt Practices

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On behalf of Delivery Associates

Terminology and Translations

English	Spanish
Registry and Licenses	Padrón y Licencias
Rating	Giro
Activity	Actividad
Inspection	Inspección
Automatic Approval	Afirmativa Ficta
Urban Development Plans	Planes de Desarrollo Urbano, PDUs
Third-party license handler	Gestor, Coyote
NAICS (North American Industry Classification System)	SCIAN (El Sistema de Clasificación Industrial de América del Norte)
Mayor's Office	Alcaldía
Floor Area Ratio (FAR)	Coeficiente de Ocupación del Suelo (COS); Coeficiente de Utilización del Suelo (CUS)
Land Use	Uso del Suelo

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Introduction

Visor Urbano (VU) is a new business licensing and land usage system for the municipality of Guadalajara which was launched from 2018 onwards with the support of Bloomberg Philanthropies after winning the Mayor's Challenge competition.

The basic process of business licensing under both the new VU system and old system involves:

1. Establishing what type of commercial activity a business owner is conducting (or wants to conduct)
2. Confirming the business owner's identity and right to use land
3. Checking the business activity for compliance with municipal zoning ordinances
4. Finally depending on whether the business activity is considered high risk (for instance, intense industrial production or alcohol sales) the business may be inspected for compliance with regulations around that form of activity.
5. If the business passes each of these stages a license is issued and the business owner is allowed to conduct the approved commercial activity at their location. Business licenses need to be renewed annually.

The business licensing process is at risk of corruption because issuing or denying a business license can greatly affect the livelihood of business owners and so gives business owners a strong incentive to receive a license quickly. Bureaucrats' power over these licenses gives them something of value that can potentially transferred through illicit means.

The Visor Urbano business licensing system is an electronic system managing this process. The main changes that Visor Urbano makes are to:

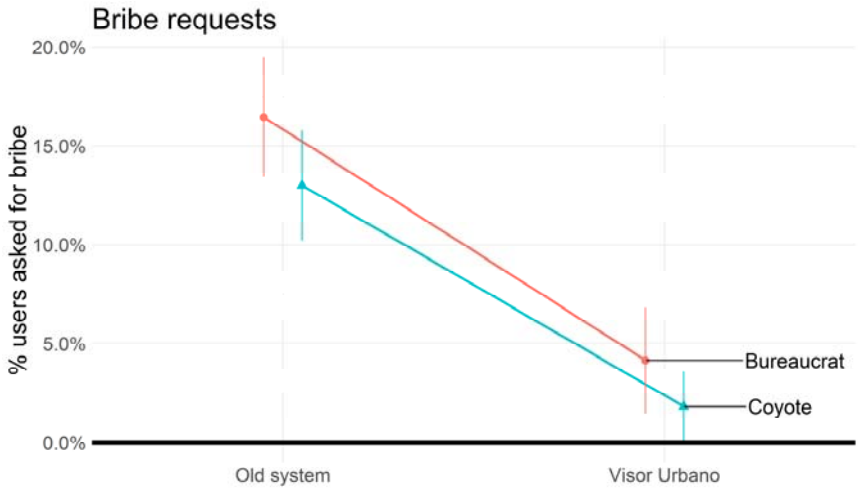
1. Standardize the list of business activities
2. Update and standardize the zoning maps
3. Make the zoning maps electronic and freely available online
4. Automatically decide whether an inspection is required based on transparent rules
5. Automatically issue business licenses if the business activity is allowed in the zoning area (subject to inspection if needed)

In each of these cases, Visor Urbano is designed to reduce bureaucratic discretion over the process and increase transparency. This reduced discretion and increased transparency reduces the leverage that bureaucrats possess to corruptly use. While most permits are still issued in municipal offices, all permits except for those issued in Guadalajara's Zone 2 are now processed through the Visor Urbano system and users have the choice to conduct the licensing process online from home.

Executive Summary

Headline: Our qualitative and quantitative evidence suggest there was stark reduction in the incidence of corrupt acts in Guadalajara commercial licensing processes after the implementation of Visor Urbano (VU).

The following figure shows that bribe requests by municipal agents fell by 74% and bribe requests by third parties (coyotes[1]) fell by 85% after the introduction of VU:



This lower rate of bribe requests appears to be linked to a fall in bureaucratic discretion that was reflected in dramatically lower rates of being passed from window to window, experiencing excessive requirements or costs, unexplained waits or being given incorrect information. It is also linked to a dramatic rise in user's ability to know where to go to check the decisions of the municipality from 39% under the old system to 67% in the new system.

Methodology

- Our evaluation of VU combined qualitative interviews and user surveys.
- Qualitative work:
    - Interviewed wide-range of actors involved in commercial and construction permitting
    - Discovered the set of conditions that enable corruption and the forms that corruption takes during permitting in Guadalajara
    - Identified the solutions that VU offers to these problems, and how these solutions close the pathways to corruption.

[1] *Gestores* are third-party middle men who are typically hired to manage a bureaucratic process with the government, such as processing a commercial permit, by a client. Among *gestores* there is a special class of professionals who are pejoratively referred to as *coyotes*. Like the eponymous scavenging animal, *coyotes* are middle-men that take advantage of the citizens that hire them or have a reputation for being willing to do whatever it takes to get something done at the municipality. Although there can be legitimate *gestores*, we use the term *gestor* and *coyote* interchangeably in this text since we are mostly dealing with actors involved in corruption.

- Quantitative surveys:
    - Used qualitative fieldwork to develop a questionnaire tracking corrupt acts and factors that enable corruption
    - Interviewed 223 VU users in person and 553 users of the old system using an automated phone survey

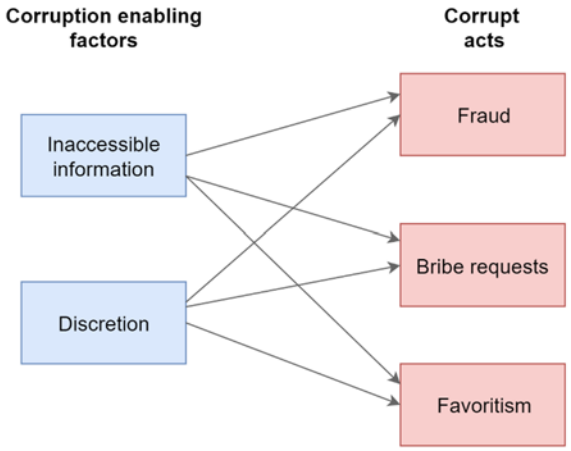
Forms of Corruption

- Our qualitative fieldwork suggested three major forms of corruption in licensing: fraud, extortion and favoritism. These three carried out by various actors. The forms and actors involved can be broadly summarized using an actor-target typology.
    - Government Against Citizen corruption: primarily bureaucrats requesting bribes.
    - Citizen Against Citizen corruption: primarily 3rd party "*coyotes*" exploiting users by claiming they could speed up the process through connections or bribes.
    - Citizen Against Government corruption: citizens exploiting errors, ambiguities or corruption in the licensing process to gain approval for inappropriate land use or development.

Factors enabling corruption

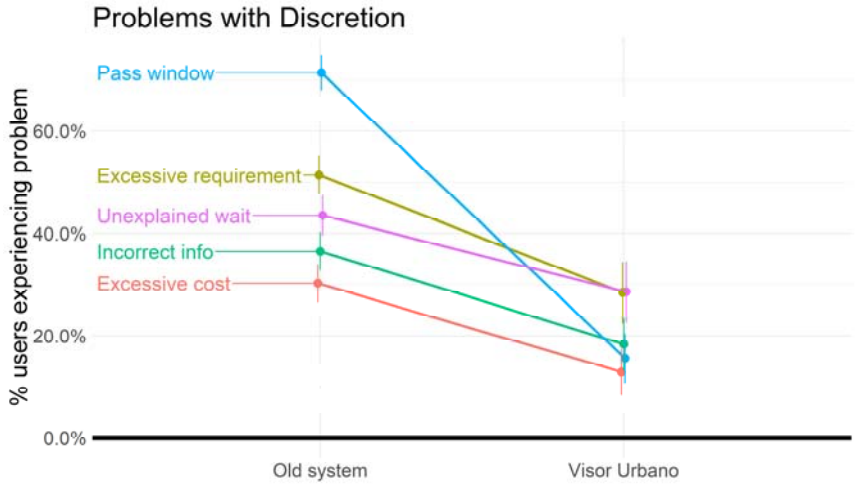
- Our qualitative work showed that the enabling conditions for corruption in municipal permitting are: 1) discretion and 2) lack of transparency.
- VU deploys three strategies to reduce discretion in the permitting process
    - Regulatory overhaul: Clarifying municipal regulations
    - Standardization: Standardizing procedures
    - Automation: Automating some municipal decisions

- VU deploys two strategies to increase transparency in permitting
    - Availability: Making more information related to the permitting process publicly available
    - Accessibility: Reducing the time and expertise necessary to access this information



- Surveys show VU has reduced incidence of some corrupt acts, most notably bribery:

    - Bribe requests by municipal agents fell by 74% and bribe requests by third parties (coyotes) fell by 85% after the introduction of VU.
    - Looking only at bribe requests occurring in the registry and licenses office or land use office (the stages most affected by VU) reports of bribe requests fell from 11% among users of the old system to 0% among VU users
- Surveys show VU has successfully reduced discretion in the permitting process:
    - VU users reported dramatically lower rates of being passed from window to window, experiencing excessive requirements or costs, unexplained waits or being given incorrect information, which are good proxies for discretion.



- The surveys also indicate that VU has increased access to information in the licensing process:
    - 67% of VU users say that they would know where to check whether there had been a mistake, compared to 39% of users of the old system.
    - The use of third parties in the licensing process is also lower under the simpler system, with the proportion falling from 49% in the old system to 26% in VU
- Reductions in discretion and inaccessible information suggest that VU's five strategies had a tangible impact on the conditions enabling corruption in commercial permitting.

Recommendations

- Other municipalities should consider adopting systems such as VU to reduce corruption.
- Implementation of systems such as VU should be prioritized in places where there is significant political will to reform municipal land use and implement digital processing simultaneously. Specifically in Mexico, where municipalities have an exceptionally strong mayor, and it is unlikely that VU initiatives would have been successful without mayoral backing.
- Beyond political support, the implementation of a digital platform and its accompanying regulatory overhaul takes time, so early adoption by an administration substantially increases the likelihood of success.
- The one major remaining area of corruption is during the inspections process where 4% of VU users reported being asked for a bribe (inspections were not covered by the VU reforms).

- This study shows the value of mixed-methods research combining a deep qualitative understanding of the organizational context with rigorous quantitative work to establish prevalence. Future work should consider adopting a similar approach.
- Future evaluations should begin before the new system is introduced to maximize comparability and reduce fieldwork complexity and should consider adopting random assignment in program rollout to more precisely determine the program's causal impact.

Overview of methodology

Our evaluation methodology proceeds in three parts: qualitative interviews to establish the mechanisms and process of corruption, process tracing based on interviews and documentation and a quantitative comparison of the experiences of users of the old and new business licensing systems.

We conducted in-depth qualitative interviews and ethnographic site visits for two weeks in Guadalajara to understand the processes of corruption (both acts of corruption and factors that enable corruption) during the permitting process and how Visor Urbano could potentially affect these processes. The qualitative fieldwork is designed to generate mechanisms through which corruption might act but cannot by itself establish the effects or prevalence of these mechanisms.

We conducted a careful process tracing of the old and new business licensing systems to assess the claims that Visor Urbano has mechanically reduced opportunities for certain types of corruption. This process tracing is based on interviews and our reading of the documentation of the old and new systems. Process tracing can establish where mechanical changes to the process reduce the opportunities for certain types of corruption. However, it does not in itself prove whether or not corruption actually falls.

Finally, we conduct quantitative fieldwork to assess the experiences of business owners under the new and old business licensing systems. These surveys were designed to measure the prevalence of the acts of corruption and enabling factors identified through the in-depth qualitative fieldwork. We conducted in-person surveys with Visor Urbano users after they had gone through the new process. Because the old system is no longer in effect, we used automated phone surveys to interview users of the old permitting system, asking them the same questions to compare the prevalence of corruption and factors that enable corruption.

Description of the Qualitative Methodology

To better understand how corruption operates on the ground in Guadalajara, as well as to better understand the mechanisms through which Visor Urbano has an impact on these mechanisms, fieldwork was conducted in Guadalajara for two weeks in the summer of 2019.

During this visit, the primary form of data collection was in-depth interviews with key actors in the municipal government, private sector, and civil society. Additional data was gathered through other qualitative means as well, including ethnographic site visits and focus groups.

For the most part, interviews and visits were scheduled and arranged by the liaison for communication at Visor Urbano, but once a connection was established on the ground, additional interviews were scheduled through referral. Overall, the goal of these activities was two-fold. First, to record respondent experience with corruption before Visor Urbano was implemented and after it went into effect and, second, to identify the range of ways and situations in the new and old permitting processes that are vulnerable to corrupt acts. We should be clear that the purpose of the qualitative work was not to ascertain the prevalence of actions that could be considered corruption – an unlikely proposition given that snowball sampling does not often lead to representative samples of populations. Rather, our aim was to leverage the strength that qualitative methods have to trace mechanisms and process to depict the breadth of the phenomenon at hand [@small2009]. Thus, our strategy was to interview the largest range of actors possible – city managers, workers at service windows, brokers, housing and building developers, small business owners and citizens – to piece together how the same process was being perceived by individuals and how it could be productively studied through quantitative methods. Furthermore, the identification of competing, contradictory or overlapping narratives between actors at different points in the actor-network allowed us to get a better grasp of where the biggest opportunities and threats for corruption exist.

In all, 19 interviews and fieldwork visits were conducted over 12 days in the field. 29 people covering Visor Urbano employees, municipal agents, civil society actors, developers and business owners were interviewed during this visit, 13 of whom were Visor Urbano users with no affiliation to the municipal government. Besides interview notes which were taken during conversations with respondents, the interviews yielded more than 30 hours of digital recording and 8 analytic memos (totaling 15,000 words) which synthesized the critical themes that emerged during the field work. The interview schedule was semi-structured, allowing us to adjust the line of questioning to the respondent's experience with the platform and ask probing questions about unexpected situations in permitting. Still, all respondents were asked a series of standard questions including inquiries about what corruption meant to them, whether they had personally witnessed corrupt acts, and how they expected Visor Urban to change the city of Guadalajara in the future. Although a formal IRB procedure was not undertaken for this study, confidentiality and anonymity was promised to respondents at the beginning of every interview so that our conversation about corruption could be open and honest. As a research team we felt comfortable promising confidentiality because we worked to guarantee that intellectual property rights over all recording and field notes produced during the course of this study would lie

exclusively with our two-man research team. As such, in the report that follows, anecdotes and respondent identities are anonymized such that only their general employment position (e.g. housing developer or municipal employee) is described.

Opportunities for Corruption

From the interviews it became apparent that two types of government situations are especially vulnerable to corrupt actions. First, situations where actors are given discretion in action are opportune for exploitation. Second, situations where access to valuable information is constrained or made inaccessible, either through complexity or through the placing of physical limits on its availability, also create opportunities for corruption. Of course, discretionary powers and limits on the availability of certain types of information are a normal part of a working government bureaucracy and there are many situations where discretion and limits on information are perfectly legitimate. For example, it would be uncontroversial to say that municipalities have discretion to deny construction permits to buildings that do not include fire exits in their development blueprints, or that municipalities have a responsibility to protect the sensitive information of citizens and their employees while working to operate transparently. However, this does not change the fact that any grant of discretion or lack of transparency creates the potential for illegitimate acts to occur. Our task was to identify the mechanisms by which these factors enabled corrupt acts to take place and if and how the implementation of Visor Urbano placed constraints on the illegitimate use of legitimate government functions.

The interviews revealed an impressive array of ways in which discretion and access to information laid the foundations on which corruption could flourish. The range and sheer creativity of ways in which the system could be manipulated to advance personal interest makes it difficult to create an exhaustive list of every possible pathway for corruption in Guadalajara's permitting system. Further, our interviews made it clear that corruption did not have to originate from the municipality, although it often did. Rather, a range of actors, including everyday citizens, developers and the courts could be involved, and in some cases, be the instigators of corruption. The targets of corrupt acts were equally varied and municipal actors could also find themselves at the receiving end of illicit acts.

In table B, we present a descriptive matrix that summarizes broadly the forms of corruption that were encountered during interviews. We describe these acts in further detail in the text below. For simplicity's sake, we organize these in an actor-target typology, which we believe offers that clearest exposition of the forms that corruption takes in permitting. In general, these can be said to take three forms: bribery or extortion; fraud; and favoritism. Bribery or extortion are the textbook cases that spring to mind for corruption – wherein a favor or money is offered or taken in exchange for an illegal act. In Mexico, the legal definition[2] makes specific reference to public servants, but in the fieldwork our respondents also spoke about extortion that did not involve government officials. Fraud is a criminal or wrongful deception that is carried out with the intent

[2] Artículo 222.1: Cometen el delito de cohecho: I.- El servidor público que por sí, o por interpósita persona solicite o reciba ilícitamente para sí o para otro, dinero o cualquier beneficio, o acepte una promesa, para hacer o dejar de realizar un acto propio de sus funciones inherentes a su empleo, cargo o comisión (Citation: Código Penal Federal 2017)

of personal gain. Finally, we define favoritism as giving special treatment to certain individuals in government processes. Although favoritism was mentioned in a few interviews, this was the least discussed of the three forms of corruption that emerged in the fieldwork.

Bribes on Every Folder: Municipality against Citizens

When discussing municipal corruption, the first thing that comes to mind is the use of bribes in the municipal permitting process. Our interviews suggest that this hunch has some merit – respondents could identify instances of bribery in all stages of the permitting process including interactions with staff at the service window, during land use determinations, during inspections and in interaction with management at higher levels of the municipal government. One respondent talked about a period in the past where every new application that came in through the window had a bribe noticeably paper-clipped to every folder.

With discretionary activities, municipal actors used many tactics that were within their authority to extract bribes. For example, actors at all levels had varying capacities to slow or speed up the processing applications. Points in the process where there was a high degree of municipal discretion in the determination of permit types, land use and inspections requirements were identified as particularly vulnerable for rent-extraction. To offer an illustrative example, prior to the implementation of VU, the master list of commercial uses was administered internally. This list had roughly 180 thousand entries and new categories could be added manually. Since each category of commercial use could carry a different price tag or inspection requirement, the discretion to set commercial rating and use (*giro* and *actividad*) created the space for municipal agents to ask for or be offered bribes in exchange for cheaper permit types or less onerous inspection requirements. Similar manipulations could occur in land use determinations, either in the licensing or public works office. These spaces for rent-extraction are partially enabled by vague or overly complex internal regulations, which besides creating the opportunities for errors by honest and competent municipal employees, could also be exploited by savvy actors looking to make a quick peso.

Outside of municipal offices, inspections were another area where discretion in the strict or lax application of permitting requirements could be used to extract bribes. A business owner recalled a situation where a random inspector threatened to shutter his business because his commercial activities also included “looking after cars” (*pensiones*) and he was only licensed to operate a parking garage (*estacionamiento* vs. *estacionamiento y pensiones*). In 16 years, no one had ever questioned the validity of this business owner’s license, which made him suspicious that this was an extortion attempt. He made a call to a contact in the municipality who assured him that the specification of the additional use was not necessary for his license type. He confronted the inspector with this information, and asked him for his name and badge number. This prompted the inspector to leave without identifying themselves. In all of these cases, the capacity to selectively apply, interpret or enforce permitting regulations created an opportunity for corruption.

Siloed information also created additional opportunities for bribery and favoritism. Since a lot of municipal requirements and regulations are arcane and complex, gaps in information can be

exploited by municipal actors for personal gain on behalf of friendships and relationships. These situations were most apparent in land-use rulings where stipulations about what can be operated in what kind of places are buried under layers of legalese and outdated maps. Under circumstances where getting access to the most updated information is extremely difficult even for experts, municipal actors told us that they could tell when users had been given special access at some point in the permitting process because their applications were too perfect. They had specifications that were an exact match to the most recent municipal requirements. Since these requirements were hard to find publicly, this was a sign that these numbers had likely been provided by a municipal actor as a special favor for someone or in exchange for a bribe.

It Takes Two to Tango & Avoiding 'Golazos': Citizens Against the Municipality

Lending credence to the saying it takes two to tango, everyday citizens were singled out as instigators of corruption just as often as were municipal agents. The literal phrase "it takes two to for there to be corruption" was repeated so often in interviews that it became a sort of platitude in conversations.

Most obvious were the acts that were the mirror image of municipal requests for bribes: citizens offering bribes to municipal officials in exchange for expediting, approving, ruling in favor or reducing costs. These could range from innocent and innocuous acts, as the case of the elderly woman who offered a small monetary "thank you" at the service window and which a municipal employee described as a relic of another time, to the bold and criminal, as the municipal actor who told me they were once offered a $250,000 MXN bribe by a developer in exchange for a favorable ruling (they declined). As with before, the opportunities for citizen corruption occurred where municipal agents had discretionary powers or access to information that was hard to access.

While these incidents of citizen-initiated bribery were of concern to the current and former municipal agents I interviewed, there was a type of corruption that they were far more concerned about: the misuse of *afirmativa fícta (AF).* AF is an administrative procedure which, roughly translated into English, means automatic approval. Originally this procedure was meant to limit indefinite delays in government processes by imposing strict guidelines on the amount of time—usually 30 days—that the government had available to respond to a citizen request. If this time period was exceeded, then approval would be automatically issued. AF could also be more generally applied to municipal errors, where if the municipality made an administrative mistake in processing a permit, approval could be automatically gained through litigation. While AF has increased the pressure on Guadalajara municipality to respond quickly and effectively to municipal requests, it has also created room for savvy citizens to exploit the system through litigation. This happens because, in practice, the AF rule made it so that administrative tribunals are effectively an additional site of discretion for municipal decisions. This situation is not unique to Guadalajara – there many places in other parts of the country where municipal planning decisions can be overridden by courts and tribunals (Davis *et al.*, 2016).

Interviews with municipal officials showed that the possibility of reversals in the tribunals opened the process to a whole host of exploitative practices that could be carried out by citizens. At its worse, citizens could initiate bogus lawsuits and bribe judges to instruct the municipality to issue a permit even if it was denied initially. AF was often used as a pretext for these decisions, as the smallest technicality could be used as grounds for a reversal. Judges did not always have to be in on the swindle. Users that knew that municipal decisions could be easily overturned in the courts would sometimes try to force municipal errors such that they could get a decision in their favor on a technicality in the tribunals. A particularly illustrative anecdote of this came from a respondent who told us the story of a wily developer that they knew. This developer had allegedly paid off the people working the municipal printer to make a favorable floor area ratio modification to a permit that was already in process and then succeeded in getting a director, who failed to notice the change, to sign off on the document. Although the municipality eventually caught the mistake and denied the permit, the developer decided to sue. The respondent told us that the developer succeeded in getting a full reversal of the decision and even received a permit with the specifications they had falsified at the court simply because this director had initially approved the document.

The depth of concern for situations like this by municipal agents was made apparent to us at a large inter-departmental meeting that we had an opportunity to observe in our visit to Guadalajara. The purpose of the meeting was to discuss the coordination and strategy for rolling out Visor Urbano to construction permitting. It was striking how much time was spent during this meeting on designing a process that could limit the possibilities of reversals on AF decisions, which they referred to as 'spectacular goals" (*golazos*) in jest. Such was their concern with defending against these spectacular goals, that the meeting stretched for hours as they explored the various ways in which they could re-design the construction permitting process through Visor Urbano so that an AF decision wouldn't always push a permit through to final approval. In fact, more than making processing times shorter, short-circuiting the potential for bribery or making the process more user-friendly, it became clear that primary goal for Visor Urbano and its municipal collaborators, at least at this meeting, revolved around avoiding AF.

Coyotes & Real Estate Terrorism: Citizens against Citizens

While corruption is typically thought of as occurring only in interaction with the government, our time in the field showed us that there were plenty of opportunities for citizens to take advantage of other citizens in business and construction permitting. Most of these opportunities are enabled by the common practice of hiring middle-men, *gestores,* to push permits through municipal offices. Since municipal procedures have been so onerous in the past, it has always been common for citizens to sign over power of attorney to a third-party and pay them to handle the paperwork and wait in line.

The quality of services that *gestores* offer range tremendously in quality. They can be professional operations, run out of real offices that are staffed by lawyers and accountants with ample experience with the permitting process. It is not uncommon for example, for housing developers to have a dedicated *gestoría* department in their business that handles all the dealings

with the government. However, *gestores* can also operate informally and without any professional training. These informal outfits seldom have offices, and are more commonly individuals who stand outside the municipal buildings and offer their services to anyone that might need help navigating the system. As we were given a tour of the Registry and Licenses Office in the municipal complex, our guide pointed out three such *gestores* sitting in benches or in the shade of the plaza outside the municipal complex.

Among gestores there is a special class of professionals who are pejoratively referred to as *coyotes.* Like the eponymous scavenging animal they reference, *coyotes* are middle-men that take advantage of the citizens that hire them or have a reputation for being willing to do whatever it takes to get something done at the municipality. Although the term *coyote* most often refers to the informal operations that take advantage of people—it has a lower-class connotation—it can also make reference to firms and consulting offices that have a reputation for corruption.

Instances of citizen against citizen corruption comprise the most varied acts, and showcase the myriad ways in which municipal permitting can be manipulated. As it was described to us, *coyoteo* – or the act of behaving like a coyote, could be a solitary operation or could implicate municipal officials. When municipal officials were involved, *coyotes* would act as intermediaries between citizens and corrupt officials, acting as the go-between through which bribes were exchanged and taking a cut of the action. Alternatively, *coyotes* that had personal relationships with municipal officials and knew they could leverage these relationships to gain favored treatment in processing, might charge clients a fee to activate these network ties. As with all other corrupt acts we have discussed before, these sorts of actions were made possible due to the existence of discretion and siloed information within the municipality.

Curiously, *coyotes* could just as easily ask for bribes or claim that they had close personal relationships without there being any real connection with people inside the municipality. *Coyotes* could easily take advantage of the government's reputation for corruption to claim that a bribe was necessary to get a permit through and pocket any bribe money they received. In this way, the perception of widespread corruption can actually enable further corruption by increasing the assumption that it will be effective. The client would be none the wiser, leaving with a permit in hand and the impression that an illicit transaction with a government official had taken place. The same sort of thing could happen with personal relationships. If the *coyote* could create the impression that they were close to employees in the permitting office, they could charge a premium to prospective clients for their services. This might happen independent of whether this coyote was actually friends with someone inside the office or not. A municipal employee told me that he had learned to be careful with how friendly he was with *gestores* outside the office. At first, he had been friendly with them, especially since he saw them just about every day. This went on until he realized that this courtesy was playing into the image that these *gestores* were trying to create about themselves, namely that they had a special relationship with municipal officials. It was precisely this image and allowed them to exploit citizens in need of services and was creating a reputation for corruption inside the municipality. Unwilling to

participate in the performance any longer, he started keeping them at an arm's length and avoided interacting with them to the degree it was possible.

Deceptions like these are great examples of how gaps in information create opportunities for corruption. In fact, it is the parts of the process that are the most opaque that lend themselves to the most pernicious, exploitative acts by *coyotes*. As a municipal official told us, if citizens feel like they cannot easily navigate municipal procedures or access the right information, they might turn to *coyotes* to start a process instead of going directly to the municipal offices. This gives *coyotes* the opportunity to exploit ignorance to charge unreasonable fees for relatively affordable municipal processes or trick clients into giving them money for information that is free and publicly available at the municipality. For example, several people told us that *coyotes* have been known to overstate how much a permit actually costs and keep the excess amount instead of returning it to the client. Others told us that *coyotes* had been known to charge clients for printing out a land use consultation, a process which Visor Urbano has made free and easily available online. In short, it is through deceptive strategies like these that *coyotes* were able to turn to a lack of transparency into a paycheck.

Unfortunately, until now, we have only referred to circumstance where *coyotes* could deliver on their promises to get licenses through. Municipal officials told us it was also more than common for coyotes to promise more than they could deliver—often deliberately so—just to hook in a client. After they received initial payment, usually an amount including the license fee and a bribe, the *coyote* would just disappear with whatever money they had gotten. These *coyotes* would sometimes reappear in the municipal offices months later, after the air had cleared and most people had forgotten about their theft, in search of another person to scam. Municipal staff had many stories where a *coyote* would be hired by a client and the *coyote* would come in and out of the office, insisting each time that municipal agents were asking for a bigger and bigger bribe to get the permit through. By the time the time these clients would confront municipal staff themselves about the extortion, the *coyote* would have disappeared with thousands, if not tens of thousands of pesos, of the client's money.

Next, municipal agents also reported a rise in a new type of fraudulent activity by *coyotes* in the wake of Visor Urbano's implementation: the falsification of licenses. Here the *coyote* would take money from a client and return later with a document which closely resembled the municipal document, but was not actually issued by the government. These could be acquired with or without the knowledge of the client. To their dismay, citizens that had been tricked by a *coyote* into thinking that their document was official would typically find out that they had been operating without a license if there was a surprise inspection or if they went to the municipality to request a renewal.

The final type of corrupt act we will discuss in this this section is quite different from the others and does not involve *coyotes* or *coyoteo*, although it does involve citizen to citizen extortion. It can best be described as a type of real estate extortion where neighbors, neighborhood groups or homeowners threaten litigation against developments in progress unless a bribe is paid to halt the legal action. Civil suits of this kind are an abuse of laws which exist to provide adequate compensation to property owners if new construction has undue or unexpected impacts, such as

increased congestion and blocked sunlight, on surrounding properties and their inhabitants. Abatement laws like this are not unique to Mexico – in fact, they are a fixture of real estate laws all over the world. However, according to the developers, consultants and municipal officials that we spoke to, the illegitimate and exploitative use of these laws in Guadalajara has been on the rise over the last 10 years. One developer even went as far as to call it *terrorismo inmobiliario* – real estate terrorism.

It works like this: the extorter finds a property for sale near the site of a new development, preferably a high density, high impact building that stands to have sizeable profit margins. After purchasing the property, the extorter files a lawsuit claiming that the adjacent development has caused damages to their well-being and property. In tandem with the lawsuit, these extorters will start a neighborhood group to agitate and put political pressure on the municipality, as well as serving as a legal entity to document the "damages" the new development has caused. As soon as the lawsuit is filed, the extorter will be in contact with the developer and offer to drop the suit in exchange for a payoff. If the developer refuses, they might proceed with litigation, hoping for intermittent construction stays that inconveniences the construction process, causes costly delays and might convince the developer to settle. Most of the time the goal of litigation is never to actually win the suit; since time is serious money in building construction, frequent delays can start to cut into the profit margins of building developers. These extorters' aim is to create enough disruption that developers will have to consider whether paying them off will just be cheaper than continued delays. On the off-chance they win litigation they will be entitled to sizeable payout; if they lose and fail to extract a bribe, they are only out time and legal fees. Ultimately, in this situation, the low costs for the extorter and the high potential payoff make this a prime area for illicit activity.

Although the arena for this type of extortion is primarily between private citizens, these acts are of concern to municipal officials because they are often roped into the litigation that serves as the vehicle for extortion. As extorters search for any grounds to file suit, municipal errors – no matter how small – receive additional scrutiny in tribunals and can provide justifications for lengthy proceedings in court. Additionally, municipal processes can be abused to bolster claims of land ownership which subsequently provide fodder to the fire of damage claims. As an example, a municipal employee told us that getting a business or construction license, even fraudulently on a property you did not own, was an excellent way to create grounds for challenging the legitimacy of a land title. In summary, even though municipal agents are not themselves passive agents in real estate extortion, the good, bad or complicated decisions they take in permitting shapes the possibilities for corrupt activities in private life later down the line.

More than a few people we interviewed made the case that avoiding this sort of real estate fraud, much more so than avoiding petty bribery in municipal offices, was what provided the initial political impetus for the creation of Visor Urbano. According to municipal officials we interviewed, a series of news articles that alleged corruption in the development of high-density towers in Guadalajara increased pressure to manage urban development more firmly. In these articles, the city was criticized because lax oversight had created opportunities for abusive behavior by both developers and third parties (Salcedo, 2015; Vargas López, 2017; Noticias con

Ciro Gómez Leyva, 2019). There is little the municipality could do to rein in the activity between actors in the private sphere, so instead city responded by working to clarify its own processes and working to limit the mistakes that enabled all sorts of corrupt acts. The results of this response culminated in the creation of Visor Urbano.

Theory of change

Discretion

One way that interviewees described the impact that VU has on corruption is that it places constraints on the discretion of actors at the municipal level. In particular, three mechanisms were claimed to limit corrupt acts that were enabled by discretion: – regulatory overhaul, standardization, and automation.

Regulatory overhaul has made commercial permitting laws much clearer. Some **regulatory overhaul** preceded the creation of VU and some was initiated by VU actors as part of VU's implementation. Municipal discretion is still allowed in some cases either because the details of a process are not set down in law or because the nature of the municipal activity requires bureaucratic discretion. In these cases, VU has still **standardized** government response to the degree possible. Finally, once requirements are met, **automation** moves citizen applications through the process without the need for additional municipal involvement. Together, these three mechanisms stand to substantially reduce the amount of discretion in commercial permitting.

We show a series of vignettes to illustrate how VU used these three mechanisms to change discretion that enabled corrupt acts. Each vignette does not focus exclusively on a single mechanism, but can illustrate instances of two or even all three. This overlap shows how complementary these three strategies are in reducing discretion. The vignettes are organized below under the heading they best stand to exemplify.

Regulatory Overhaul

One of the major ways that VU reduces discretion is through the regulatory overhaul it is a part of, as well as the regulatory overhaul it has sparked as part of its operation. The most important of these has been efforts by the municipal government to update the Urban Development Plans (*Planes de Desarrollo Urbano,* PDUs henceforth) that provide the legal foundations for the online platform. A crucial part of VUs legitimacy is drawn from its basis in current urban law, that is that the digital component is supposed to be a mirror image of current city codes and zoning maps.

Updating the PDUs in the city, which contain information on city zoning, land use restrictions, density and height parameters, among other information, was not a small accomplishment. It was part of a broader set of urban reforms started under the Enrique Alfaro administration (2015-2018), of which VU was only part. Most Mexican cities do not even have zoning codes that are regularly updated and many of the urban partial plans, the more specific district and neighborhood level urban development plans, in Guadalajara, had not been updated in over a decade before the most recent set were developed (a sizeable portion of the plans that were in operation date from 2004). The recency and level of detail of these urban plans makes it much harder for external actors to challenge municipal decisions on legal grounds. Under current law, land use decisions cannot be overridden by municipal tribunals when the urban development maps until the maps are more than 6 years old. Whether for corrupt purposes or legitimate complaints, the adoption of the partial

plans would deprive private sector actors, mostly real estate developers and neighborhood groups, from using the courts to circumvent or override municipal decisions.

It is not unprecedented that the courts would be implicated as key actors in corruption schemes involving urban development. Other studies in Mexican cities have documented the participation of courts in corrupting urban planning processes (Davis *et al.*, 2016), an argument that has also be made by journalists in Guadalajara (Salcedo, 2015; Vargas López, 2017; Noticias con Ciro Gómez Leyva, 2019). Nonetheless, we are unable to confirm this with the data that we collected. Since our time the field was limited, we did not have time to interview anyone that worked in the judicial system, nor is our field work able to trace corruption to particular processes in the judicial system. Finally, our quantitative analysis does not capture the prevalence of corrupt acts in the Guadalajara judicial system or the impact that VU had on these. Further research would need to be carried out with a focus on the judicial system to assess these claims.

It is certainly the case that groups within Guadalajara are concerned that the updated PDUs reduce their ability to override municipal decisions using the courts. In District 2, the PDUs have been provisionally suspended by the courts, making it the lone part of the city where VU is not in operation. The plans were suspended after four neighborhood associations filed suits and grievances against PDUs claiming damages against neighborhood life and breach of process. Our respondents all agreed that the updates to the district 2 PDU stood to drastically reshape the logic of urban development in the hottest real estate market in the city, with all the accompanying financial implications. Specifically, it would do this by putting limits on litigation against the municipality, and therefore reducing tribunal discretion in urban development decisions.

The implementation of VU itself has also had a direct impact on the regulation that governs permitting. The best illustration of this is the work the VU team carried out with the Department of Records and Licensing to changes the way commercial use ratings (*giros)* and activities (*actividades)* are determined. In business licensing, these categories exist to distinguish commercial activities that are low impact (such as a corner store) from those which are high-impact (like a gas station). These are rated as A, B, C or D with A representing the lower impact licenses and D the highest impact licenses. Activity is determined separately and is supposed to offer a more specific description of commercial use that resemble the real activity. As an example, a small bookstore would receive a rating classification of "A" and an activity classification of "establishment of low-volume book sales" (*Comercio al por menor de libros).* In practice, activity determinations are always made first, and subsequently placed conditions on decisions about inspections and ratings.

Under the old system, these determinations were subjective and discretional. Determining activities was governed by an ever-expanding database that was managed internally by records and licensing. This database was not administered according to official municipal codes, but on *ad hoc* determinations made by municipal staffers. The activity codebook that resulted from this internal system contained over 300,000 entries, many of which were redundant. Corner stores, for instance, were covered in 45 slightly different activity categories, all of which implied separate rating designations and inspection requirements. Under this system, corner stores, corner stores with hotdog sales, and corner stores with hotdog and hamburger sales, were all

considered sufficiently different to merit a distinct category. Furthermore, the activity codebook was a living document where a new activity could be created – with its accompanying rating and inspection requirements – if that specific activity did not exist.

The complexity and *ad hoc* nature of activity determination made the process highly susceptible to manipulation. Since activities could essentially be invented, municipal agents had *de facto* power to set the price (through a rating designation*)* and the number of inspections required for approval. This discretion could easily be exploited to extort applicants or offer special treatment.

VU has completely reorganized the nature of these decision by standardizing activity determinations. These now follow the North American Industry Classification System (NAICS), a well-established catalogue of economic activities widely used in NAFTA countries(US Census Bureau, 2018). Business activities in all commercial permits must now fall into one of the categories in this catalogue, which contains approximately 1,000 entries instead of the 300,000 in the old system. More importantly, as part of the implementation work, VU staff worked with the Mayor's office to get this classification standard approved by city council and written into municipal law. The Registry and Licensing Office no longer has discretion to make determinations about how it categorizes permits – it is now required by municipal law to classify permits according to the standards set by NAICS. If there are any changes the department would want to make to the code, these would require formal approval by city council. VU staffers argued that getting these requirements formally written into municipal codes was the only way to ensure municipal compliance with this new system. Municipal agents can now be held legally accountable for this particular decision, which was not the case before.

Standardization

The second way VU has had a direct impact on corruption in permitting is by standardizing municipal responses to citizen requests. This is best exemplified by the creation of a standardized urban development plan which is available publicly at https://visorurbano.com/mapa/. This map makes clear the terms and conditions under which a business in a given building or lot may operate. For example, the digital summary of a lot in VU contains information on land use, activity restrictions, and total useable space for commercial activity. While this information has always existed, it has never been available in a single accessible place like it currently is under VU. This information was often spread out over several reference manuals, municipal codes books and paper maps. Moreover, the reference materials did not always reflect the most updated version of municipal codes, nor were the same versions of these materials always used across departments.

The old system fostered ideal conditions for exploitation. VU lawyers, municipal officials and private developers told us that contradictory reference materials made it common for bureaucrats to rely on different information to make decisions across departments. Additionally, the complexity of these materials left ample room for interpretation – meaning that users could get entirely different municipal rulings from person to person. Interpersonal, interdepartmental variation in land use decisions were, therefore, quite common prior to VU. This created problems because it opened the door to both errors and corruption. Complicated statutes made it much

more likely that a municipal employee could make a mistake when ruling on land use, which made that decision vulnerable to reversal if a suit was filed. If a statute was sufficiently vague, any interpretation could fly. This did not clearly benefit the municipality over the user. From a user perspective, a vague statute meant that a favorable decision was contingent on the whims of the municipal official working that day. For the municipality, subjectivity increased the probability of reversals in the court system which both undermined the authority of municipal decisions and could lead to bad urban planning decisions.

These conditions can, of course, enable corrupt acts. Where statutes are too complex or open to interpretation, deliberate errors or favorable rulings can be bought for gifts or favors. This could happen either through bribery in municipal offices or through corruption in administrative courts which could overturn municipal decisions on appeal.

VU changes this situation dramatically. Since there is one reference map that is updated in real time, it is no longer possible for municipal errors to happen because of inconsistent versions of reference materials. Furthermore, since most information relevant to commercial permitting has been compiled into a single reference catalog that carries juridical authority, the need for bureaucratic interpretation of complicated statutes has been substantially reduced or completely eliminated. VU staffers gave us an example of this kind of change. For safety reasons, commercial establishments have to be a certain distance from power lines. Under the old system these decisions were taken manually – a municipal employee would have to dig up the tract map which included powerline boundaries and visually determine whether the proposed establishment was sufficiently far enough from powerlines to get a permit. VU has removed the need for this work. A determination of this sort is completely automated based on updated maps. Distances and the boundaries of commercial zones are calculated by algorithms on digital maps, meaning decisions are no longer subjective and have a smaller margin of error. A real estate developer described the scale of change to us, not only in terms of accuracy, but amount of work by comparing the time necessary to analyze urban plans in Guadalajara municipality and neighboring Zapopan. They told us that what takes two hours of work by a dedicated staffer on the Zapopan municipal plans, could now be done in minutes with a high degree of certainty in Guadalajara. In their telling, they have started not taking work in other neighboring municipalities because the work is so much easier for them in the municipality of Guadalajara.

Automation

The final way that VU could reduce corruption is by limiting the number of points in the permitting process in which municipal agents have any discretion. This occurs primarily through the automation of procedures that require agent action. To offer an example, prior to the implementation of VU, a window agent might have needed to attest that all necessary documentation had been received and physically pass the documentation to the next step in the process. This small amount of latitude created an opportunity for a corrupt window agent to slow down or speed up the process, insist falsely that additional documentation was required or misinform a user that they were unlikely to get a permit. These actions could be taken either to extract a bribe or offer special treatment to a personal relationship. VU eliminates that discretion by automating this step of the process. It provides a standardized list of necessary documents that

are needed for each permit, and moves it along to the next step in the process automatically, with no need for municipal agent involvement where it is not needed. This experience is supposed to be identical at the window or at home at the computer, as agents use the same system in the municipal office that they would use at home. This means, in theory, users can opt-out of interaction with people in the municipality at any step in the process. Being able to opt-out of interaction is a potentially powerful mechanism as the availability of an alternative path towards permit approval severely disrupts the ability of municipal actors to insist on bribes or offer special treatment.

Another important intervention that VU has made in commercial permitting is automating the relationship between *actividad, giro* and *inspección* determinations. As was mentioned above, these determinations were essentially three separate decisions in the old system (*actividad* followed by *giro* then *inspección).* This is a single decision under VU. Every activity in the NAICS catalogue automatically implies a specific rating (A, B, C or D) and a certain number of inspections. The single decision point is controlled by the license applicant who selects the commercial activity for which they are seeking a license from the dropdown menu, and automatically gets a rating and inspection determination which cannot be overridden by municipal employees. The only way this could be manipulated is if the user lied about the commercial activity they were establishing, but this is a minor concern for the municipality since user malfeasance creates automatic, legally justifiable grounds for a license to be revoked.

The automation of this decision tree had to be negotiated with all of the departments (like transportation and public safety) that carry out inspections for the municipality. With the support of the Mayor's Office, VU served as the coordinating entity for these interdepartmental meetings, which were contentious and argumentative according to our municipal respondents involved in the meetings. Several departments were unwilling to cede any discretion over their authority to conduct inspections or agree to any changes in the permitting procedure whatsoever, arguing that they had a legal obligation to operate the way they always had. Following an intervention from the Mayor's Office, an agreement was eventually reached and the final negotiated process was built into the algorithm of the online platform. Only VU staff can change this decision tree, and the staff we interviewed told us that they had actively refused departmental requests to make changes to what was originally agreed. They explained that they had taken this position because they did not want to set a precedent with municipal departments that decision tree was open to modification at a whim. They said the only way they would make changes would be if they were asked to do so by the Mayor's Office. In practice, this means departments no longer have discretion in the modification of permitting types since only issues of a certain gravity are likely to be escalated to the city chief.

VU Impact on Corruption Enabled by Discretion

In summary, the mechanisms through which Visor Urbano has an impact on discretion are regulatory overhaul, standardization and automation. These have different impacts depending on the agents involved in the undesired activity.

The effects are clearest on the opportunities municipal officials may have to engage in corrupt acts against citizens. Regulatory overhaul has eliminated many ambiguities in the permitting process, which reduces the possibility that vague regulations will be leveraged to slow, fast-track, manipulate costs, or otherwise create obstacles during permitting. Standardization makes it much clearer what a municipal response to applicant petitions should look, limiting the ability of officials to create obstacles that can be traded for bribes or special favors. Automation moves the procedure inter-departmentally without the need for municipal action, making it harder for officials to claim that unexpected delays are due to intake problems or because "documents got lost in the shuffle." Taken together, these changes have reduced the discretion available to municipal agents at many stages in the process, sometimes eliminating it entirely as exemplified by changes in license type determinations.

VU is also likely to have an impact on the ability of citizens to take advantage of the municipality. The combination of these three mechanisms should have reduced the chance that municipal agents commit errors in issuing permits or that they will reach inconsistent decisions depending on the day or municipal agent handling the permit. This limits the ability of savvy operators to try to game the system in order to gain favorable grounds for litigation. Furthermore, updated land use plans constrain the jurisdiction of courts, which limits the use of judicial processes to overturn municipal decisions. Several interviews, research in other Mexican cities, and journalistic accounts have signaled the courts as key agents in corruption related to urban development. Although we cannot verify these claims empirically through our study, changes in the discretion of the courts could short-circuit this avenue for corrupt litigation.

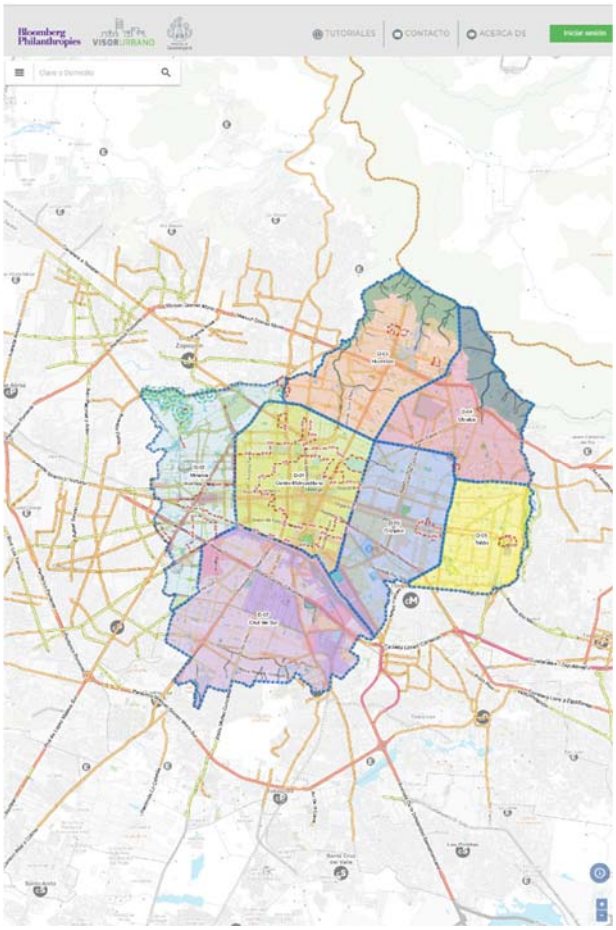
Finally, VU impacts citizen to citizen corruption by constraining the impact that external actors can have on municipal decisions. Most notably, VU disrupts the rationale for using third-party handlers or coyotes which have traditionally depended on a dense web of personal relationships or their ability to bribe municipal officials to push permits through quickly. Since municipal officials themselves have less latitude, *gestores* have less room to claim that they can get a permit approved faster and easier than the applicant themselves. This provides the basis for the *gestor* business model, and creates the space for unscrupulous handlers to exploit citizens that did not know better. In effect, making the process more efficient and reducing the need for specialized handlers, limits the possibility for citizen on citizen corruption.

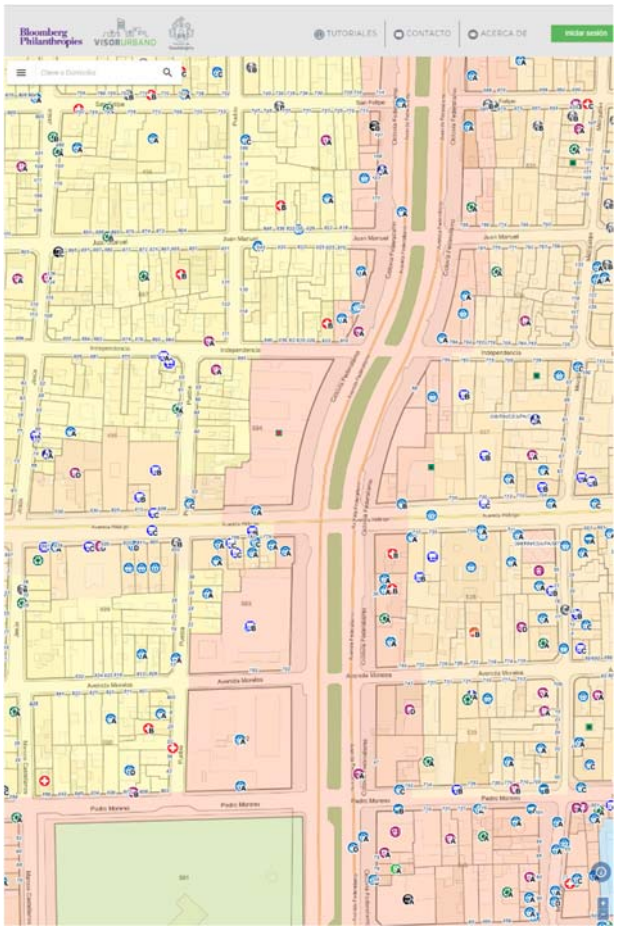
Inaccessible Information

VU has made major strides in bringing transparency to the permitting process. This much is obvious from a single visit to the VU website. In the course of our fieldwork, we found it useful to distinguish between two ways that VU has done this. First, it has made information on permitting more available to the general population. Second, it has also made this information far more accessible. By putting information that was once inaccessible within reach of the average citizen, VU can potentially limit information gaps that can be exploited for personal gain by those individuals that have been given special access by information gatekeepers.

Availability

It is difficult to overstate how much more information that VU platform has made available. The main map itself offers the user far more information that any user could ever need to apply for a business permit or construction permit. From a bird's eye view, you can see the cartographic properties of the entire city much like you could in Google Maps. The difference is that VU provides a map with a greater level of detail and information that is far more pertinent to permit applicants. By default, you can see the city's zoning, the Guadalajara land registry, the PDUs and

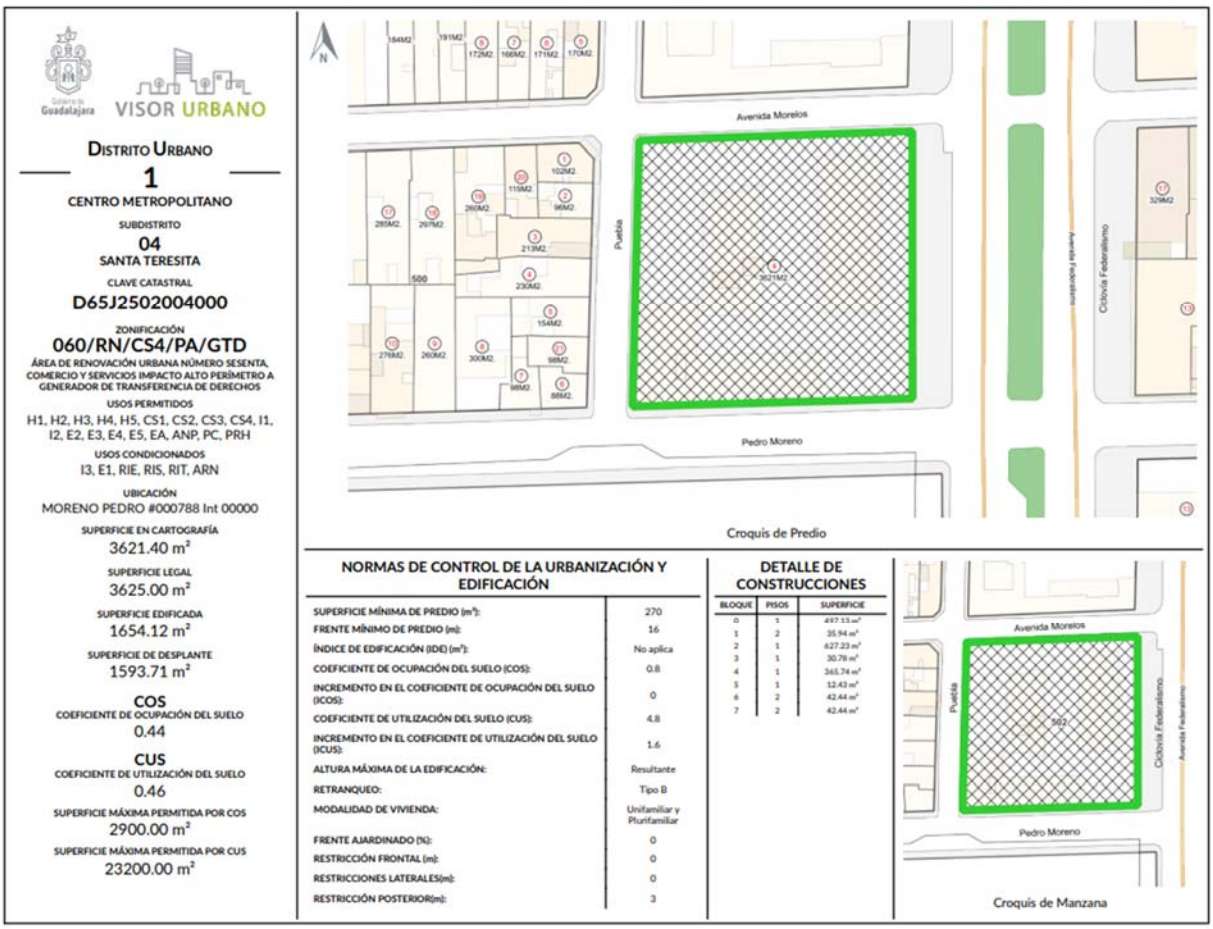




the boundaries of specific partial plans around the city.

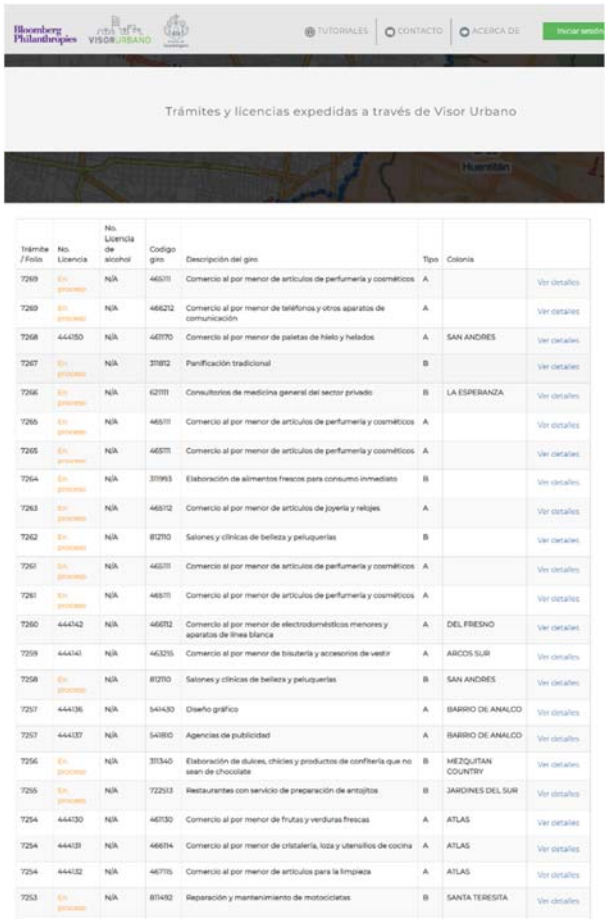
At a smaller scale, the detailed urban footprint of the city is available and the user can turn additional layers to see where business and commercial licenses are active all over the city. At its most granular, the user can click on a specific property and open a dialogue box which contains detailed property information, such as whether the lot has any active business or construction licenses or whether taxes have been paid on the property this year. The dialogue box even includes more technical information that might be of specific interest to permit seekers such as the zoning stipulations, the allowed Floor Area Ratio (*COS* and *CUS* in Spanish), building front

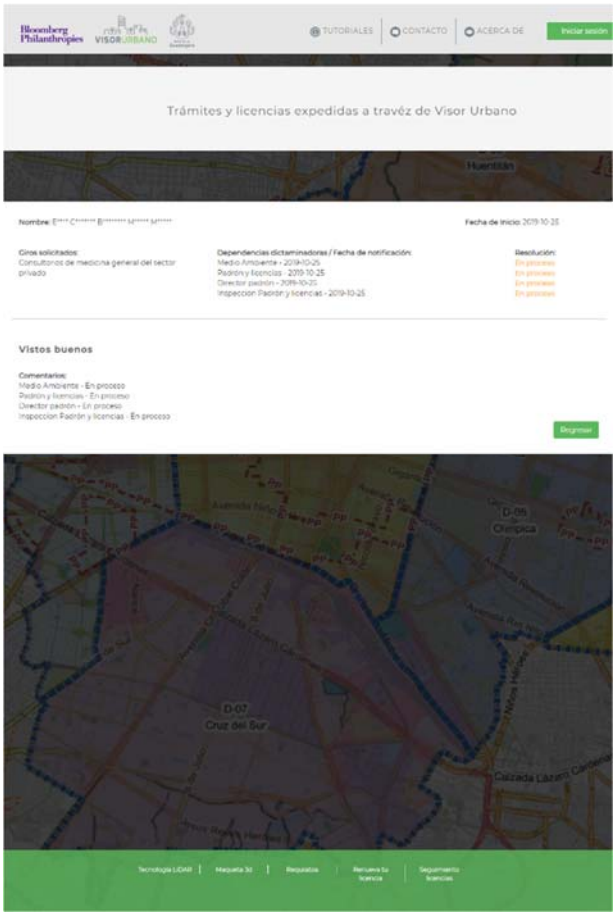
length, and lot size. If the user needs even more information, they can download an informational sheet which contains all this information and even more detailed technical specifications.



In principle, much of the information that VU makes available on the platform is already in the public domain. However, it also makes information that was not previously available open access. This is the case of information on property taxes and making it possible to check whether a particular property has an active license to build or operate a business.

Additionally, VU is now also actively producing information that did not exist before. Just one example is the license follow-up tab (*seguimiento licencias*) on the bottom right of the main landing page. This provides a live public tracker of all the licenses that VU is currently processing. Due to privacy concerns, it only reports minimal amounts of information; just the rating, activity, license status and the neighborhood location are reported. This was described to me as an accountability measure for the government, putting a public tracker for permitting processes. In theory, this tool also allows neighborhood residents to know what kind of business and construction applications are being proposed in their neighborhood. In fact, one neighborhood association we spoke to said they were using the tracker for exactly this purpose to ensure that no undesired commercial activities or construction projects appeared in the neighborhood.





Accessibility

At the same time that VU is making information more available, it is also making this information more accessible. It is reducing the barriers of entry, in terms of time, cost and expertise, to acquiring information necessary to the permitting process. This is not a minor accomplishment. As was just noted, much of the information that VU makes available is supposed to be open access. However, this is just in principle. This reality is that publicly available information usually had gatekeepers that controlled the flow of access, which enabled extortion or favoritism. The gatekeepers could be the municipal officials which could limit access to official registries, records and maps. Gatekeepers can also be experts that, beyond having the expertise to decipher complicated regulation, have the connections to get official interpretations quickly.

VU's commitment to making information accessible removes many of these gatekeepers. The applicant can now access the immense amount of non-identifiable information contained within official records within seconds and from their own home. This information is neatly summarized into a 1- or 2-page sheet that can be generated within the platform without needing to consult the various, disparate rulebooks related to urban development. As VU staff told us, this document

was designed to save the user time and diminish reliance on experts by synthesizing and automatically populating information contained in 7 different municipal codebooks that had to keep in consideration rules from up to 5 agencies (one of which is not municipal). This simple sheet diminishes the power that information gatekeepers might have over the process. Dense regulation documents that might have once only been available at municipal offices or were buried in long PDFs on websites are accessible in a one-stop shop on the VU platform. Since the relevant information is aggregated for the user, it is no longer as important to know exactly where the information is available in municipal codes, reducing the degree of expertise required to understand the permitting process and, therefore, the value that third-parties can bring to the process. Finally, it saves everyone time, which from the perspective of busy business owners and real-estate developers makes the process less intimidating and more manageable.

This is not to say the VU information sheet has eliminated the need for technical expertise altogether. Among the most common complaints that we heard about the VU technical sheet, especially among respondents not well-versed in urban law or real estate, was that it was unintelligible or overly technical. This was a sentiment that was also expressed often in additional comments of the exit surveys we conducted. Indeed, making some of the information VU provides more digestible to the average user is an area of improvement that should be given serious consideration for the future. However, this does not change the fact that having this information in the public sphere is an improvement to the way that information was siloed under the old system. Under VU, the most obvious value a third-party consultant brings is true expertise – an understanding of urban law and development – as opposed to the premium that connections or knowing who to bribe in order to access important information might have gained you in the old system.

VU Impact on Corruption Enabled by Inaccessible Information

In general, the mechanisms through which Visor Urbano affects corruption enabled by lack of transparency is by increasing the amount of information that is publicly available and making this information more easily accessible through a one-stop online platform.

As with corruption enabled by discretion, the impact of increasing the availability and accessibility of information are clear for municipal corruption against citizens. Making information available makes citizens more capable of verifying information they are given at municipal offices, or sidestepping the municipality entirely to get information that might be required to get a commercial permit. Making information accessible reduces the time and expertise required to verify or get information necessary to the permitting process. Altogether, increasing transparency in this way limits the leverage that “special” information carries, which can often be traded for favors or bribes, since this information is not only the domain of a select few.

VU is also good for the municipality. It has the potential to reduce citizen on municipality corruption by making the work of providing accurate information less of a challenge, and giving the municipality confidence that discretionary decisions are based on the latest information. This

is likely to reduce errors in municipal decisions that could lead to litigation and is closely connected to the automation and standardization discussed above.

Availability and accessibility inoculate against citizen on citizen corruption in a similar fashion. Transparency undermines the ability of third-parties like *coyotes* to claim that they are privy to insider information that will allow them to get a permit through faster or without the proper documentation. VU makes information about the entire process more available and easier to verify for the general population, concentrating this information in a single place that is convenient and requires less expertise to navigate. Of course, the platform is far from perfect, but is a significant improvement on the system that existed previously.

Quantitative Method

Our quantitative approach compares the experiences of business license applicants under Visor Urbano and the previous business licensing system. We interviewed 223 Visor Urbano users in person after they had received their licenses and 553 users of the old system using an automated phone survey. We describe the limitations of our approach in the appendix along with a description of how our approach could be improved for future evaluations. The full tables for each question are also shown in the appendix.

Exit interviews of Visor Urbano users

To interview Visor Urbano users, we hired two local interviewers to interview users as they finished the licensing process. These local interviewers were supervised by a locally recruited supervisor, Dr Jorge Garcia Castro (PhD University of Guadalajara). The surveys were conducted on tablets using Google Forms. The interviewers identified themselves as conducting the survey independently of the government to assess the performance of the Visor Urbano program sponsored by Bloomberg Philanthropies. In total, the interviewers completed 223 interviews, with a high response rate of 70.6%. The surveys were conducted over a period of 6 weeks.

Interactive voice response survey of users the previous permitting system

Because Visor Urbano has entirely replaced the previous permitting system and evaluation work only began after the Visor Urbano system was implemented, it was not possible to interview users of the old system directly after they had participated. However, the permitting system captured phone numbers for business licensing users so it was possible to conduct phone surveys with users of the old system to compare their experiences with users of the new system. We used interactive voice response surveys which interview phone users using a pre-recorded survey script. The use of automated calling and surveying greatly reduces the cost compared with traditional live-interviewer approaches.

We conducted the phone surveys using Viamo, a social enterprise founded in Ghana in 2012 which has extensive experience conducting IVR surveys around the world. Viamo has been used by many non-profit organizations including the World Bank, the Centre for Global Development and many international universities. Previous experience with Viamo is summarized in the paper *Do Mobile Phone Surveys Work in Poor Countries* co-authored by Dr. Jonathan Mellon (one of the authors of this report) along with colleagues from the Centre for Global Development and World Bank (Leo et al. 2015).

13275 respondents answered the phone when called, with 3234 answering at least one substantive question in the IVR survey. However, there was dropout throughout the survey, so only 553 respondents answered all the questions (a 1.7% response rate or 4.2% of respondents who answered the phone). The fieldwork finished after reaching the 600 response target (duplicated responses were removed during the cleaning process), so a somewhat higher response rate could have been achieved with more time and survey cost. While the sample size is modest, the differences we found in our analysis are large enough that statistical power is not a major concern and all differences we highlight were highly statistically significant.

Survey design

We designed both surveys to track ways acts of corruption and factors that enable corruption. Many of these questions were adapted from the ENCIG Survey (*Encuesta Nacional de Calidad e Impacto Gubernamental)* which was developed and field tested by the Mexican Census agency (INEGI, 2018). The acts of corruption we ask about are:

- Government against citizen bribe requests: bribe requests by municipal agents
- Citizen against citizen bribe requests: bribe requests by third party "*coyotes*"

One set of factors that enable corruption are factors that give bureaucrats discretion. These are not corrupt in themselves but the presence of these factors enable bureaucrats to extract bribes or give special treatment to associates. We examine:

- Being passed from window to window
- Being subjected to excessive requirements
- Unexplained waits
- Incorrect information
- Excessive costs

The second set of factors that enable corruption relate to the user's ability to navigate the system. The key indicator of this is transparency (that a user knows where to get information to check whether the right decision was made) and whether the user needed a third party in order to complete the process.

One major issue when asking about sensitive subjects such as corruption is social desirability bias (Tannenberg, 2017). We tackle this in two ways. First of all, the corruption enabling factors such as experiencing a long wait or being passed between windows are not incriminating to an individual user. It does not indicate any wrongdoing on the respondent's part if they experienced these. However, these corruption enabling factors give bureaucrats and others the opportunity to engage in corruption, so we should be able to measure corruption enabling factors even if respondents are concerned about talking about corruption directly. Second, where we do ask directly about corruption we make sure only to ask about corruption by the municipality and not by the respondent themselves. It is not illegal to be asked for a bribe but it is illegal to pay a bribe. We also make sure to ask about bribes only at the end of the survey once we have a built a level of trust with the respondents. Our qualitative research indicated that people were comfortable talking about corrupt acts by others including corrupt acts they had witnessed firsthand.

Quantitative Results

This section describes the results of our quantitative analysis of corruption under Visor Urbano and the old business licensing system. We first describe the dramatically lower prevalence of

bribery under Visor Urbano. We then look at users' experience of factors which enabled this improvement, both in terms of reduced bureaucratic discretion and increased transparency.

Corrupt acts: Bribery

Our qualitative fieldwork identified three main classes of corrupt acts: fraud, bribe requests and favoritism. Our quantitative fieldwork allows us to look at the prevalence of bribe requests in substantial detail.

The most important indicator of the effect that Visor Urbano has had on corruption is to compare the prevalence of corrupt acts between Visor Urbano and the old licensing system. The following figure shows that bribe requests by municipal agents fell by 74% and bribe requests by third parties (*coyotes*) fell by 85% after the introduction of VU (this difference is statistically significant):

95% confidence intervals shown

The fall in bribes is even more dramatic when we focus only on the stages of the business licensing process that the Visor Urbano platform and reforms most affected: Registry and Licenses, and Land Use. Across the 216 responses by Visor Urbano users, not a single respondent reported being asked for a bribe during either of these stages. By contrast, 11% of old system users reported that they were asked for a bribe during one of these stages. In other words, under the old system there are many instances of bribes being requested during the Land Use and Licensing stages of the process but zero reported instances under Visor Urbano.

This result is corroborated by a separate calculation of changes in bribe exposure. To calculate this, we asked exit survey respondents how many times they had applied for a license under the Visor Urbano and how many times they had been asked for a bribe under Visor Urbano. We then repeated the question but asking only about licenses applied for before 2018 when the new system was introduced. This analysis shows a statistically significant 3 percentage point fall in bribe requests between the two systems, from 5% under the old system to 2% under Visor Urbano.

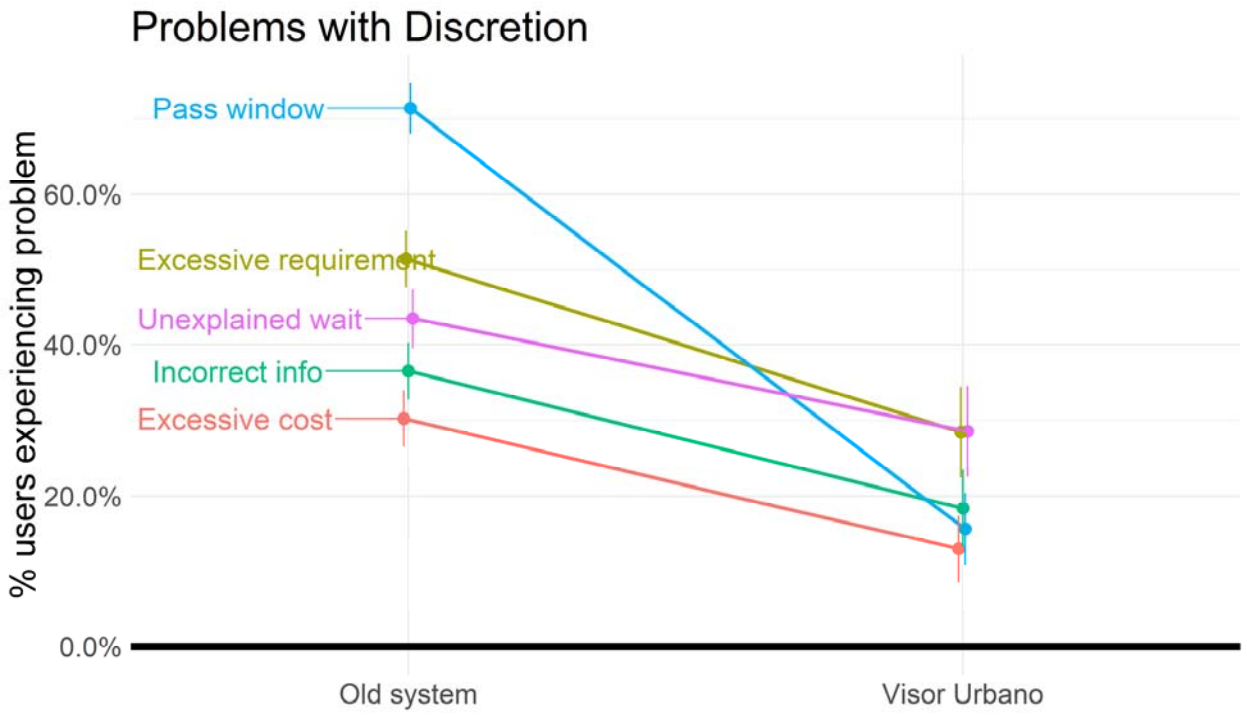
Taken together, the results from both analyses of bribe requests during the business licensing process provide strong evidence that the prevalence of bribe requests have fallen under Visor Urbano and that the drop is most substantial in the stages where Visor Urbano could make a difference.

The one remaining bribery problem in Guadalajara's business licensing process appears to be the inspections stage, where 4% of Visor Urbano users reported being asked for a bribe. The inspections process is not affected by the introduction of the VU platform, and does not seem to have experienced the same level of improvement as the rest of the business licensing process.

Corrupt factors: Discretion

In addition to changes in the prevalence of acts of corruption, we also asked respondents about respondents' experiences of problems that could potentially enable corruption as we discussed in

the qualitative section. The following figure shows the percentage point change in the prevalence of these enabling factors, with negative values indicating that the factor is less common in Visor Urbano compared to the old licensing system.



95% confidence intervals shown

Across the five indicators of bureaucratic discretion we tracked, the prevalence of these factors fell in all cases (all these changes are statistically significant): unexplained waits, being passed from window to window, being given incorrect information, experiencing excessive requirements and experiencing excessive costs. Each of these factors gives bureaucrats leverage that they can potentially use to extract bribes or favors from users and gives third-party *gestores* the ability to claim that they can work around these obstacles. They also create reasons (or pretexts) for users to challenge decisions in the courts because there is ambiguity over what should have taken place.

Interestingly, our survey showed that there was no change in the proportion of respondents who knew someone involved in the licensing process. 3% of Visor Urbano users reported that they knew someone involved in the process, a number little changed from the 4% of users of the old system. This was one corruption-enabling factor which our qualitative analysis did not suggest that Visor Urbano would affect. A null result in this case gives us further confidence in our overall analysis since our results corroborate the mechanisms we expected Visor Urbano to influence but does not show a change in indicators which Visor Urbano should not affect (such as knowing bureaucrats personally).

One place where we expected VU to function more efficiently was in the speed of processing. However, the following table shows that users of the older system were more likely to report that their permits were processed in one hour or one hour to one day. Further, users of the old system

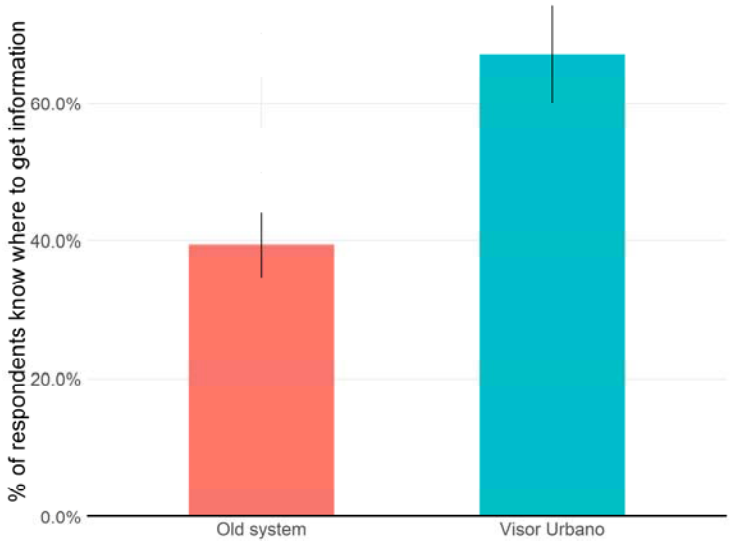
were also more likely to have experienced very long processing times. This suggests that users' experiences in the old system were more varied than Visor Urbano users. In fact, an analysis of the business licensing process by The Development Bank of Latin America shows that it should not have been possible to process a business license in under 1 hour under the old system (Rivera del Paso 2019). The presence of very short processing times could therefore be another indicator that bureaucrats exercised substantial discretion prior to the introduction of Visor Urbano and strongly suggests that rule-breaking was widespread under the old system. However, we do not put too much weight on this particular comparison, as an error in the year assignment meant that many respondents were shown the wrong year in the old system. This means that some respondents could potentially have misunderstood whether we were referring to renewals or the original permit. While this is a problem for this question, the respondents in the old system with very short processing times generally report fewer problems than other respondents, so in general, this error will lead to an underestimate of the improvement under Visor Urbano.

License Processing time for VU and old system users

	<1 hr	1 hr-1 day	1 day-1 week	1 week-1 month	1-3 months	>3 months
Old	193 (20.6%)	345 (36.8%)	219 (23.4%)	70 (7.5%)	40 (4.3%)	70 (7.5%)
VU	10 (4.6%)	49 (22.5%)	32 (14.7%)	66 (30.3%)	46 (21.1%)	15 (6.9%)
p	0.0000					

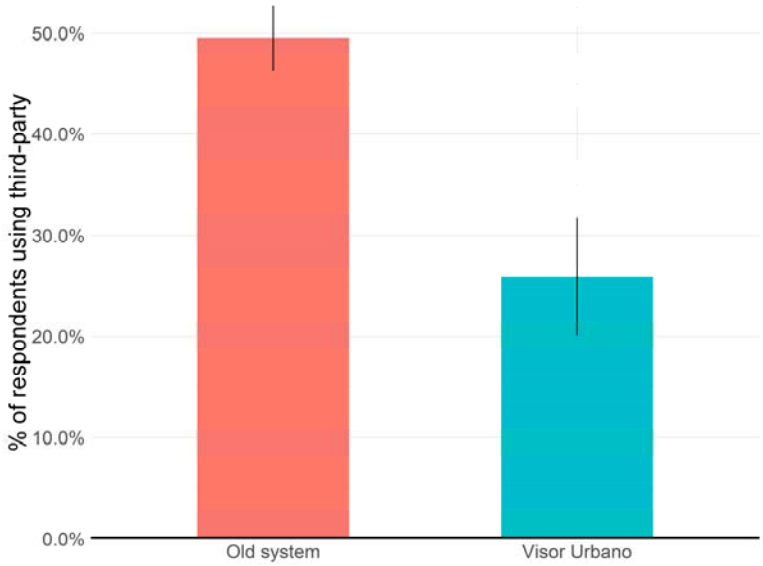
Corrupt factors: transparency

Visor Urbano also seems to have substantially improved applicants' ability to know where to get information if they thought that the municipality had incorrectly rejected their application. 67% of VU respondents said that they would know where to go, compared with only 39% of old system users (a statistically significant increase). The ability to independently check the decisions of the municipality substantially increases oversight over bureaucrats and makes corruption a riskier prospect.



95% confidence intervals shown

The increased ability for respondents to navigate the system themselves, also seems to have translated into less use of third parties (*gestores*) in the application process (a statistically significant fall). The results from these questions support the claims that Visor Urbano has reduced the need and use of *gestores* during the licensing process and is likely partially responsible for the substantial reduction in extortion by *coyotes*.



95% confidence intervals shown

Putting Visor Urbano into Context

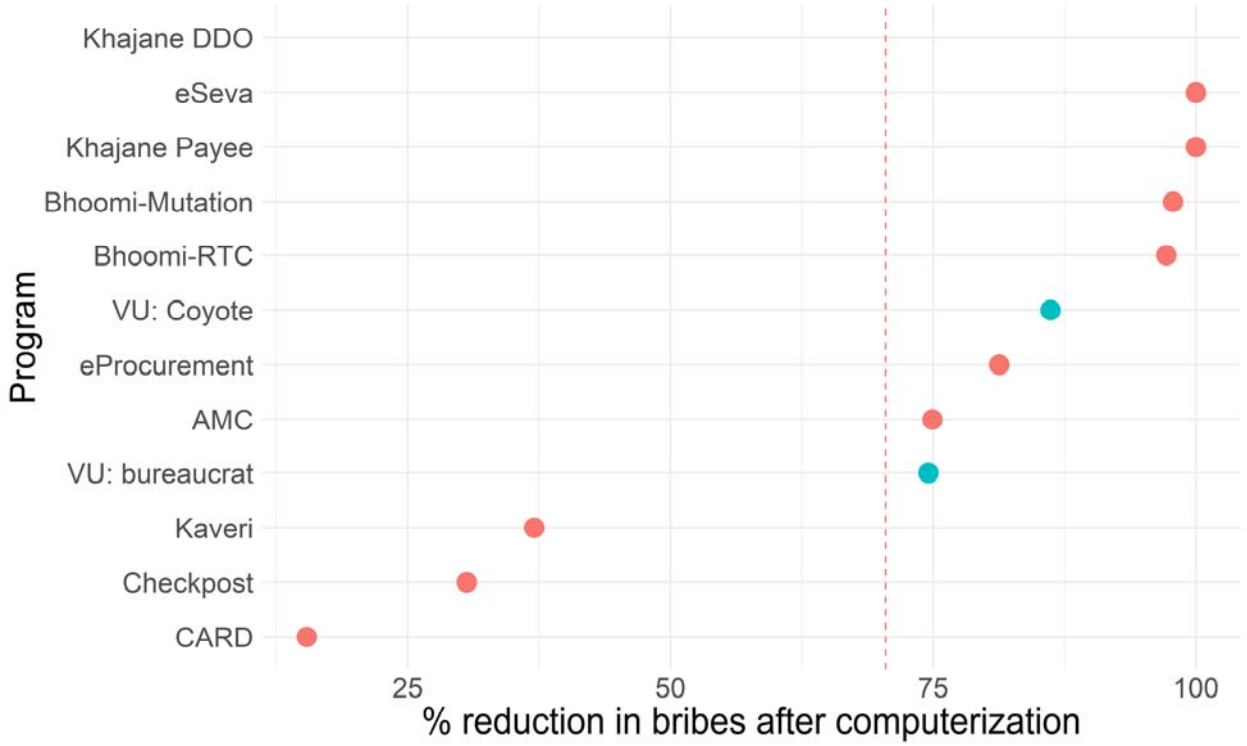
Reducing bribe requests from bureaucrats by 74% and from coyotes by 85% is a substantial reduction by any measure. However, it is useful to contextualize such effects where possible to understand how they compare to other interventions that have attempted to reduce government corruption.

In the case of corruption studies, there are very few which quantify the effect of anti-corruption programs on levels of corruption. Indeed a 2012 report on evidence for donor assisted anti-corruption programs found "no impact evaluations of donor-funded anti-corruption programmes" (Johnsøn, Taxell and Zaum, 2012).

A few studies look at the effect of introducing electronic platforms on corruption. However, most of these studies tend to be limited to analyzing the structure of reforms without presenting evidence of a reduction in corruption (Heeks, 1998; Pathak *et al.*, 2009; Sheryazdanova and Butterfield, 2017; De Sousa, 2018), focus only on perceptions of corruption (Bhatnagar, 2003; Akingbade *et al.*, 2012), or else rely on aggregate correlations between levels of e-government and corruption at the country level (Shim and Eom, 2008; Sari, 2017) which make it difficult to isolate the effect of e-government from every other factor that varies across countries and time.

There are a handful of studies which describe the development of e-government within Mexico, but these do not directly quantify the effects of e-government on corruption and instead describe the policy developments and goals of these programs (Kossick Jr., 2002; Lau *et al.*, 2008). One cross-sectional study in Mexico city found that e-government interactions reduced citizens' perceptions of corruption and increased their *perceptions* that the government was transparent and efficient (Valle-Cruz, Sandoval-Almazan and Gil-Garcia, 2016). To our knowledge, our study is the first to directly quantify the effect of e-government on corruption in the Mexican context.

Nonetheless, a handful of studies have quantified the effect of anti-corruption efforts in a way that is comparable to our approach. Most relevant is a study of 10 state-level government services in India which were computerized (Bhatnagar and Singh, 2010). Users of the systems were interviewed about their experiences of the service and corruption after the system was implemented as well as about their recollection of their experiences beforehand. The following plot shows the percentage reduction in bribes after computerization for the 10 programs (red dots), compared to our estimates of bribe reduction in Visor Urbano (cyan dots). Both reductions in bribe requests under Visor Urbano exceed the average fall in bribes for the 10 Indian cases (shown with the dashed red line).



This comparison shows that Visor Urbano has been highly effective at corruption reduction by international standards and also confirms that computerization of government interactions with citizens can reduce corruption substantially when embedded within a wider reform agenda. It is further worth bearing in mind that the Indian cases were specifically picked because they had been seen as successful cases over a sustained period of time. Internationally, well over half of e-government projects fail (Heeks, 2008), so Visor Urbano is likely even more effective when compared to the universe of attempted e-government projects aimed at tackling corruption.

Another relevant point is a field experiment in Indonesia randomized the rate at which government projects were audited. This reduced discrepancies between official and independent costs by 8 percentage points. (Olken, 2007). However, this is an exception as there are strikingly few high quality impact evaluations which directly measure reductions in corruption.

Conclusions and recommendations for future monitoring, assessment and service improvements

Our quantitative analysis corroborates the evidence from qualitative interviews that Visor Urbano has reduced discretion and increased transparency in the business licensing process. This has translated directly into a large decline in bribe requests by officials (74% reduction) and third parties (85% reduction) asking for a bribe to inappropriately influence the licensing process.

Guadalajara issued 8,825 business licenses in 2018. At that rate, we would expect around 2,294 fewer bribes to be extorted from Guadalajara business owners by bureaucrats each year due to Visor Urbano. This is meaningful not only in terms of the money saved by those business owners but also in terms of fairly determining land use and building confidence in government more generally.

There are other types of corruption that we do not directly observe: fraud, favoritism, and corruption within the judicial system. However, our qualitative work makes clear that the same factors that have reduced bribery should also limit these other forms of corruption, as all of these forms of corruption rely on discretion and lack of transparency.

Our research all points towards the conclusion that Visor Urbano has successfully and substantially reduced corruption in Guadalajara's business licensing process.

We have a number of recommendations based on our evaluation of Visor Urbano's effect on corruption. These split into three categories: recommendations for Visor Urbano, recommendations for future projects building on Visor Urbano, and recommendations for future impact evaluations.

Recommendations for Visor Urbano

Visor Urbano has been successful in its goal of reducing corruption and making information around business licensing and land use far more successful than it was previously. However, there are still a number of future improvements which Visor Urbano should consider.

First, the one remaining area where there is bureaucratic discretion within the Visor Urbano system is with the Visor Urbano staff. They are the only people who can edit definitions and maps and there is currently no system for systematically recording or publicly reporting such changes. While there are no indications that this system has been misused, it is a potential weakness, especially if the administration and staff are replaced over time. We recommend an automatic system that publicly reports any changes to maps or rules, so that they can be scrutinized. It should also be transparent who made the change and the reason why the change was made.

Second, the primary remaining area of corruption within the business licensing process is the inspections stage. This stage was not greatly affected by Visor Urbano and our qualitative and quantitative evidence strongly suggests that corruption by inspectors is still common. Inspections is a difficult stage to automate because it inherently involves a person physically going to a location and making a judgement call about compliance. Nonetheless, increased auditing of

inspectors' decisions and introducing better mechanisms for users to report corruption during the inspections process could go some way to improving the problem.

Third, while the land use interface in Visor Urbano provides a wealth of detail, not all users are well equipped to make use of such information. More thought should be given to designing this system so that it can easily be used by non-experts rather than relying on complicated activity codes (see example below). Making this part of the system more user-friendly would further reduce the need for third parties who can potentially exploit vulnerable users.

Additionally, we recommend that Visor Urbano and similar platforms record and publicly report as many indicators of efficiency and quality as possible. These could include average processing time, percentage of failed inspections and the number of complaints made. Such updated figures would give civil society another tool to monitor the system and detect improvement or backsliding.

Recommendations for expansion

Our analysis shows that Visor Urbano has been successful in its aims of reducing corruption and increasing transparency. Consequently, we believe that it shows a viable model for improving business licensing more generally, both in other Mexican municipalities and potentially in other countries around the world.

However, the success of Visor Urbano did not happen in a vacuum and our analysis suggests that implementing systems such as Visor Urbano should be prioritized where there is significant political will to reform municipal land use and implement digital processing simultaneously. This fits with international evidence that e-governance is only effective at tackling corruption when it is combined with broader institutional change (Heeks, 1998).

The Mexican system of regular transfers of power at the municipal level mean that programs such as VU should be adopted early by an administration, because implementation requires sustained political support that can be difficult if the administration changes before it is fully implemented.

Recommendations for future evaluations

This study shows the value of mixed-methods research combining a deep qualitative understanding of the organizational context with rigorous quantitative work to establish prevalence. Missing the former step would have prevented us from designing the most relevant questionnaire for the qualitative work. The qualitative work also provides triangulating evidence for our findings because we find the same patterns across both approaches. Future evaluation work should therefore consider adopting a similar approach.

However, there are a number of improvements that should be considered in future evaluations. Most vitally, future evaluations should begin before the new system is introduced to maximize comparability and reduce fieldwork complexity. Our quantitative analysis required conducting two different types of surveys which introduces methodological difficulties when comparing the results from them. Additionally, we have to rely on respondents' recall of experiences several years in the past. We describe these and other potential limitations in the appendix (table A). In all of these cases, the problem could be reduced or eliminated by conducting fieldwork before and after the new system is introduced.

Another improvement that could be made is randomly assigning program rollout and implementation to more precisely determine the program's causal impact. The practicality of doing this will depend on how widely the program is being implemented and how possible it is to randomize users to different systems or whether the randomized rollout has to be done at the geographic level (e.g. different districts). However, if randomized rollout is possible (especially at the individual level), it would further increase our confidence that the program is causally reducing corruption. However, such a randomized approach would suffer from the difficulties that even districts or individuals who are using the old system might be positively affected by the spillover effects of improved policy.

Limitations

There are a number of limitations to our methodological approach. We describe these in table A in the appendix, along with steps we took to reduce the impact of these effects. In every case, these problems could be substantially reduced if fieldwork had started before the new system was introduced in 2018, as any biases would be constant across the new and old systems. While these limitations are real, we do not believe that they are likely to be large enough to change our overall findings. However, for future evaluations we strongly recommend conducting initial fieldwork before a new program is introduced to make the pre-post comparison as clean as possible.

We considered using phone surveys to interview users of both systems in order to minimize mode effects and increase comparability. However, given the low response rates typical of IVR surveys, we were concerned that there would not be enough phone numbers of Visor Urbano users to ensure a reasonable sample size for analysis. Consequently, we decided to interview only users of the old system (of which there was a much larger sample of phone numbers) through phone surveys. We contracted with Viamo for 600 responses from a database of 33,294 phone numbers of users of the old licensing system.

Phone surveys in general and IVR surveys in particular suffer from low response rates, so we took several steps to increase response rates for the survey. First, we clearly identified the survey as being independent from the government and assessing permitting as part of a project sponsored by Bloomberg Philanthropies. Second, we had a native Mexican person speak the script to increase comprehension and trust. Finally, we minimized the complexity of questions on the survey to reduce user frustration. We also moved the most important survey questions to the start of the survey so that we would maximize the available data on the variables that were most important for our analysis.

We had hoped to conduct outreach to potential respondents in advance of the calls to explain the purpose of the survey to them. However, the budget and timetable did not allow us to do this via SMS message. We sent emails to potential respondents to explain the purpose of the survey and to tell them to expect a phone call. However, only a minority of potential respondents had an email address listed, so this only reached a limited portion of respondents.

The phone surveys of users of the old system were sampled from a database of old system license-holders. In the course of sampling these users, we inadvertently swapped the date initiated and date ended columns, meaning that we inserted the incorrect date for when the survey was issued into the survey. This causes two problems: first, respondents may have been confused about the license we were asking about and second, we under-sampled recent license-holders if their licenses had expired in 2018 or later. This latter problem limits our ability to separately compare users immediately before and after the change to Visor Urbano. However, it does not affect the overall before/after comparison between the two systems, which was the primary aim of our research design. This does not affect any of our main findings listed in the executive summary, but does mean that we are under-sampling licenses issued near the end of the old system.

We interviewed a total of 776 respondents across the two systems. This is a reasonable but not huge sample size for a quantitative analysis of this type. This sample size means that we have the

statistical power to detect medium to large statistical differences. In this study, this turned out to not be a major concern because the differences we found were substantively large in all cases and were therefore highly statistically significant. However, this design would be less good for detecting the effects of a program that had much smaller effects.

We checked the gap between the correct and listed year, and 75% of them fall within 5 years. This means that respondents could still reasonably be thinking of the correct license when they answered because the wording in Spanish refers to "around this year" rather than giving a definitive date to answer with. It is possible that some respondents could have misunderstood that we were asking about the original license rather than a renewal process. However, if this was the case, we would expect the bias to be towards finding less corruption in the old system because the renewal process is a much simpler process. However, as we note in the report, this may explain the odd number of very short processing times in the old system. While this error is the one major avoidable methodological problem we encountered, we do not believe it threatens the validity of the overall findings. However, we plan to institute further cross-checks in the sampling ahead of time in future evaluation to avoid similar problems in future.

Importantly, despite all the limitations we have discussed our quantitative results strongly support the independent qualitative interview and process tracing evidence that we collected. This gives us further confidence that the quantitative results represent real differences in the experiences of users under the two systems.

Appendix: Full quantitative results

This appendix gives further details on the results of the two quantitative surveys, including significance tests.

Corrupt act: Bribing municipal agents

We measured respondents' experience with being asked to pay bribes in two ways. First, we fielded the question "For this application, did a government employee insinuate or directly solicit a benefit (money, gifts or favors) to speed up or avoid procedures or fines?"[3] in the VU exit survey and Viamo IVR survey. This question was followed up with a question asking where the request for a bribe took place.

Respondents reporting requests for bribe (during any stage) between the old system and Visor Urbano

	Absent	Present
Old	487 (83.5%)	96 (16.5%)
VU	207 (95.8%)	9 (4.2%)
p	0.0000	

Respondents reporting requests for bribe (during land use or registry and licenses) between the old system and Visor Urbano

	Absent	Present
Old	525 (88.7%)	67 (11.3%)
VU	216 (100%)	0 (0%)
p	0.0000	

Exit survey respondents' reports of total licenses applied for under each system and how often they were asked for bribes

	Licenses	Bribes	Percent
Old system	413	22	5.3
Visor Urbano	854	17	2.0

Corrupt act: *Exploitative coyotes*

The second type of corrupt activity that our survey analysis was able to directly address is third parties claiming to applicants that they can influence the process. We asked about these attempts

[3] "Para este trámite ¿algún empleado del gobierno le insinuó o solicitó de forma directa algún beneficio (dinero, regalos o favores) para agilizar o evitar procedimientos o multas?"

directly by asking respondents: “For this application, did a third party or “*coyote*” insinuate or directly solicit a benefit (money, gifts or favors) on behalf of a government employee?"[4]

Only 4 VU users reported that a *coyote* suggested they could inappropriately influence the process (2%). However, inappropriate insinuations by *coyotes* were much more common under the old system with 13% of users of the old system reporting that a *coyote* insinuated that they could influence government employees with a favor. This difference is statistically significant and fits with the qualitative evidence that the simpler Visor Urbano system has reduced the ability of coyotes to exploit applicants.

Inappropriate coyote under old system and Visor Urbano

	Absent	Present
Old	488 (87%)	73 (13%)
VU	214 (98.2%)	4 (1.8%)
p	0.0000	

Because respondents may not necessarily be aware that they are being exploited by a third party, we also asked about usage of third parties in the application process more generally, with the logic that if VU reduces the use of *coyotes*, then it reduces the opportunities for exploitation by them. To see whether the respondent was a potential *coyote* we asked: “Is this permit for you or are you applying on behalf of someone else?” and to see whether the respondent might have hired a *coyote* we asked: “Did you hire another person to help you apply for this permit?”.

In the VU exit survey, 26% of respondents reported that a third party was involved (either that they were a third party or they had hired one). This rate was much lower than the 50% of respondents from the old system who involved a third party.

Use of gestores under the old system and Visor Urbano

	Absent	Present
Old	480 (50.5%)	471 (49.5%)
VU	163 (74.1%)	57 (25.9%)
p	0.0000	

The results from these questions support the claims that Visor Urbano has reduced the use of gestores during the licensing process.

Corrupt factor: Speed of permit processing

The first factor which may enable corrupt acts to take place is slow processing of permits. Slow processing times give bureaucrats opportunities to provide favors or demand bribes for faster processing. If processing times are uniformly fast, then this leverage is significantly weakened.

[4] Para este trámite que realizó ¿algún gestor o “coyote” le insinuó o solicitó de forma directa dinero, un regalo o un favor para algún empleado de gobierno?

In total, 62 (28.6%) of Visor Urbano respondents reported that they experienced an unexplained wait during the licensing process compared to 264 (43.5%) under the old system.

Respondents reporting they experienced an unexplained wait under old system and Visor Urbano

	Absent	Present
Old	343 (56.5%)	264 (43.5%)
VU	155 (71.4%)	62 (28.6%)
p	0.0000	

Corrupt factor: Costliness of permitting procedures

Another factor that can enable corruption is if the process is perceived as being excessively costly. High user costs give leverage to bureaucrats who can choose to waive fees or have users misclassify their activities as a personal favor or in exchange for bribes.

13% of VU users reported that they experienced excessive costs during the process. Again this was significantly and substantively lower than the 30% of users of the old system who reported the same. The reduction in unexpected costs is another piece of evidence that Visor Urbano has fewer opportunities for bureaucrats to leverage against users to extract bribes or favors.

	Absent	Present
Old	406 (69.8%)	176 (30.2%)
VU	189 (87.1%)	28 (12.9%)
p	0.0000	

Corrupt factor: Errors by municipal agents

Incorrect information is problematic for efficiency but also opens up opportunities for corruption to take place because municipal agents can exploit information asymmetries to extract payment.

Our surveys show that Visor Urbano has a lower rate of errors by municipal agents. As the following table shows, Visor Urbano respondents were significantly less likely to report that they had received clearly incorrect information during the permitting process than applicants to the old permitting system in Guadalajara (18% versus 37).

Respondents reporting they received clearly incorrect information during permitting under old system and Visor Urbano

	Absent	Present
Old	398 (63.5%)	229 (36.5%)
VU	178 (81.7%)	40 (18.3%)
p	0.0000	

Corrupt factor: Bureaucratic discretion

We can measure some symptoms of bureaucratic discretion. Visor Urbano respondents were significantly less likely to report that they were passed from window to window than users of the old permitting system.

Respondents reporting they were passed from window to window under old system and Visor Urbano

	Absent	Present
Old	195 (28.6%)	487 (71.4%)
VU	184 (84.4%)	34 (15.6%)
p	0.0000	

15.6% of VU respondents reported that they were passed from window to window compared with 71% of users of the old system. 28.4% of VU users reported that they were subjected to excessive requirements compared with 51% of users of the old system.

There is also evidence of bureaucratic discretion in the data on processing time under the new and old systems. 21% of users of the old system reported that their licenses were processed in under an hour. This is less than the minimum time that should have been possible and therefore indicates that bureaucrats were not always faithfully following the procedures.

License Processing time for VU and old system users

	<1 hr	1 hr-1 day	1 day-1 week	1 week-1 month	1-3 months	>3 months
Old	193 (20.6%)	345 (36.8%)	219 (23.4%)	70 (7.5%)	40 (4.3%)	70 (7.5%)
VU	10 (4.6%)	49 (22.5%)	32 (14.7%)	66 (30.3%)	46 (21.1%)	15 (6.9%)
p	0.0000					

Corrupt factor: Lack of transparency during the permitting process

VU users generally reported (67.1%) that they would know where to get information if they thought that the municipality had incorrectly rejected their application.

Respondents reporting that they would know where to get information under old system and Visor Urbano

	Absent	Present
Old	252 (60.6%)	164 (39.4%)
VU	57 (32.9%)	116 (67.1%)
p	0.0000	

A: Limitations to quantitative methodology

Problem	Description	Likely direction of bias	Steps to counter problem	Future recommendation
Recall bias	We are comparing the experiences of Visor Urbano users when they are fresh in the minds of applicants (when they have finished their application only minutes earlier) and users of the old system years after the fact.	Underreporting of routine problems with old system	Allow respondents to answer don't know	Conduct surveys of users of the old system before the new system is introduced
Mode effects	Answering surveys face-to-face might lead to different styles of respondent than by IVR	Lower quality responses for old system users and different answering styles for subjective scales	Asking about experiences in a binary way to avoid answering style effects.	Conduct surveys of users of the old system before the new system is introduced so that mode can be kept constant
Social desirability	We are interviewing Visor Urbano users in the permitting offices.	Underreporting of problems and corruption in new system	Make clear that we are unaffiliated with the government and that answer are confidential	Conduct surveys of users of the old system before the new system is introduced so that social desirability effects are kept constant
Non-response bias	There may be systematic predictors of respondents not answering the survey that are also correlated with their responses. This bias could vary across the high response rate exit survey and low response rate IVR survey.	Could potentially have effects either way.	No direct steps. Experiences of corruption are likely to be fairly constant across respondents so non-response bias may not be as large a problem	Conduct surveys of users of the old system before the new system is introduced so that both surveys are conducted through high response rate face-to-face surveys
Legal liabilities for asking certain questions	We did not ask questions about respondent behavior that would be directly criminal such as offering or paying bribes, as this would mean the data contained direct evidence of criminal liability and would open DA/Bloomberg to legal and ethical risk.	No direct evidence on user-initiated corruption.	No steps taken. Unlikely that respondents would systematically admit to criminality in interviews. Municipal-initiated corruption may be a proxy for user-initiated corruption as well. The lack of user-initiated corruption data also increases the need to analyze factors that enable corruption.	No additional recommendations.
Limited ability to measure rejected permits	People whose permits were rejected are not included in the data on old permits, so we have no ability to measure the experiences of those who permits were rejected	No direct evidence on corruption affecting rejected applicants. 12% of VU permits are rejected but 80% of rejected applicants appear elsewhere in the data (only around 2% of all VU applicants will be outside sampling frame). No equivalent data for old system.	No steps taken.	No additional recommendations. Would require very extensive additional fieldwork to measure systematically.
Misstatement of year of permit	The wrong year was used for sampling the old respondents, which meant an underrepresentation of newer permits in the old system	No likely bias, but limits over time analysis unnecessarily.	Checked data for biases, without finding any evidence for them.	Institute extra data validation steps in future

B: Opportunities and Types of Corruption Described by Respondents during Fieldwork

Cause	Agent	Agent 2[5]	Against	Form	How	How 2
Discretion	Citizen	**Municipality**	Citizen	Bribe	Cost	Coyote requests bribe money from citizen on behalf of municipal agent to reduce cost
		Municipality	Citizen	Bribe	Issue Permit	Coyote requests bribe money from citizen on behalf of municipal agent to issue permit
			Citizen	Bribe	Litigate opportunistically	Citizen litigates against other citizen unless bribe is payed
		Municipality	Citizen	Bribe	Speed up	Coyote requests bribe money from citizen on behalf of municipal agent to speed up process
			Municipality	Exploit	Litigate opportunistically	Citizen threatens litigation unless permit is issued
			Municipality	Exploit	Municipal error	Citizen intentionally forces a municipal error for litigation
		Courts	Municipality	Exploit	Rule in favor	Citizen bribes courts to rule in favor of citizen
		Municipality	Citizen	Favoritism	Cost	Coyote requests fee money to use personal relationship with municipal agent to reduce cost
		Municipality	Citizen	Favoritism	Issue Permit	Coyote requests fee money to use personal relationship with municipal agent to issue permit
		Municipality	Citizen	Favoritism	Speed up	Coyote requests fee money from citizen to use personal relationships with municipal agent to speed up process
	Court		Citizen	Bribe	Rule in favor	Court demands bribe to rule in favor of citizen

[5] As described in the narrative, some corrupt acts involved more than one actor. This column identifies the secondary actor involved in a particular form of corruption.

Cause	Agent	Agent 2	Against	Form	How	How 2
Discretion	**Municipality**		Citizen	Bribe	Cost	Municipal agent asks for bribe to reduce cost
			Citizen	Bribe	Issue Permit	Municipal agent asks for bribe to issue permit
			Citizen	Bribe	Rule in favor	Municipal agent asks for bribe to rule in favor in municipal determination
			Citizen	Bribe	Speed up	Municipal agent asks directly for bribe to speed up
			Citizen	Favoritism	Cost	Municipal agent reduces costs for personal relationships
			Citizen	Favoritism	Issue Permit	Municipal agent issues permits to personal relationships
			Citizen	Favoritism	Rule in favor	Municipal agent rules in favor for personal relationships
			Citizen	Favoritism	Speed up	Municipal agent speeds up favors for personal relationships
Information Gap	**Citizen**		Citizen	Exploit	Coyoteo	Coyote charges unreasonable middlemen fees for cheap municipal services
			Citizen	Exploit	Coyoteo	Coyote charges middlemen fees for publically available information
			Citizen	Exploit	False documents	Coyote charges a fee and delivers falsified document
	Municipality		Citizen	Bribe	Disclose Private Information	Municipal agent requests bribe to disclose private information
			Citizen	Bribe	Misinform	Municipal agent deliberately misinforms unless a bribe is paid
			Citizen	Bribe	Withhold Information	Municipal agent asks for bribe to provide necessary information
			Citizen	Favoritism	Disclose Private Information	Municipal agent discloses private information to personal relationships
			Citizen	Favoritism	Withhold Information	Municipal agent provides necessary information to personal relationships

C: VU Survey Instrument

ESPAÑOL	ENGLISH
Hola, estamos evaluando los trámites comerciales en el municipio de Guadalajara como parte de un proyecto financiado por el Mayors Challenge de Bloomberg Philanthropies. ¿Podemos hablar rápidamente contigo sobre tu experiencia con tu trámite? La encuesta es corta, de aproximadamente cinco minutos, todas tus respuestas son completamente anónimas y no vamos a recoger información de identidad personal.	Hello, we're here to evaluate commercial permitting in the municipality of Guadalajara as part of a project funded by Bloomberg Philanthropies' Mayors Challenge. Would you mind speaking to us briefly about your experience today? The survey is short, approximately 5 minutes, and all of your answers will be anonymous and contain no identifying information.
1. ¿La licencia que tramitaste es para una licencia nueva? * Sí No	1. Is this a new license? Yes No
2. ¿Cuál es el giro de la licencia que solicitaste? A B C D Prefiere no decir (NO LEER) No sabe (NO LEER) Other:	2. What license class is this? A B C D Refused (Do not read) Don’t know (Do not read) Other:
3. ¿En qué zona se ubica el negocio para el que solicitaste la licencia? 1 2 3 4	3. In which zone is the business you are applying for a license located? 1 2 3 4

5 6 7 Prefiere no decir (NO LEER) No sabe (NO LEER) Other:	5 6 7 Refused (Do not read) Don't know (Do not read) Other:
4. ¿Hiciste el trámite de licencia para ti o lo gestionaste para otra persona? Es para mi Para otra persona Prefiere no decir (NO LEER) No sabe (NO LEER) Other:	4. Is this permit for you or are you applying on behalf of someone else? It's for me For another person Refused (Do not read) Don't know (Do not read) Other:
5. ¿Contrataste a un tercero para que te ayudara a gestionar la licencia? Sí No Prefiere no decir (NO LEER) No sabe (NO LEER)	5. Did you hire another person to help you apply for this permit? Yes No Refused (Do not read) Don't know (Do not read)
6. Aproximadamente ¿cuánto tiempo te tomó realizar el trámite? Menos de una hora Entre una hora y un día Entre un día y una semana Entre una semana y un mes Entre un mes y tres meses Más de tres meses No pude terminar mi trámite	6. Approximately, how much time did it take you to apply for this permit? Less than an hour 1 hour to 1 day 1 day to 1 week 1 week to 1 month 1 month to 3 months More than 3 months I did not finish applying for my permit Refused (Do not read)

Prefiere no decir (NO LEER) No sabe (NO LEER)	Don't know (Do not read)
7. La corrupción es una práctica que sucede cuando un empleado de gobierno abusa de sus funciones para obtener beneficios personales como dinero, regalos o favores. Por lo que sabes, en los trámites comerciales en el municipio de Guadalajara estas prácticas son: Nunca se dan Poco frecuentes Frecuentes Muy frecuentes Prefiere no decir (NO LEER) No sabe (NO LEER)	7. Corruption occurs when a government employee abuses of their authority to obtain personal benefits like money, gifts or favors. As far as you know, these practices in commercial permitting in Guadalajara are: They never happen Very infrequent Frequent Very Frequent Refused (Do not read) Don't know (Do not read)
Instrucciones. En este apartado solo te estamos preguntando sobre el trámite que acaba de terminar. No nos estamos refiriendo a trámites que hayas hecho en el pasado.	**Instructions**: In this section we are only asking about the permit application that you just finished. We are not asking about other permits that you have applied for in the past.
8. ¿Te enfrentaste a requisitos excesivos para realizar el trámite de ESTA licencia? Sí No Prefiere no decir (NO LEER) No sabe (NO LEER)	8. Did you face excessive requirements when applying for THIS license? Yes No Refused (Do not read) Don't know (Do not read)
8a. ¿En qué etapa o etapas del proceso te enfrentaste a requisitos excesivos? Nunca me enfrente con requisitos excesivos Padrón y licencias Inspecciones Uso de suelo En otra	8a. In which phase or phases of the process did you face excessive requirements? I never encountered excessive requirements Registry and Licenses Inspections Land use In another place

9. ¿En algún momento de este trámite, te enfrentaste a que te pasaran de una ventanilla a otra? Sí No Prefiere no decir (NO LEER) No sabe (NO LEER)	9. At any time during this application, did they move you from window to window? Yes No Refused (Do not read) Don't know (Do not read)
9a. ¿En qué etapa o etapas del proceso te estuvieron pasando de una ventanilla a otra? Nunca me estuvieron pasando de una ventanilla a otra Padrón y licencias Inspecciones Uso de suelo En otra	9a. In which phase or phases of the process did move you from window to window? They never moved me from window to window Registry and Licenses Inspections Land use In another place
10. ¿En algún momento en este trámite, te enfrentaste a que te dieran información incorrecta? Sí No Prefiere no decir (NO LEER) No sabe (NO LEER)	10. At any time during this application, did anyone give you information that was incorrect? Yes No Refused (Do not read) Don't know (Do not read)
10a. ¿En qué etapa o etapas del proceso te dieron información incorrecta? Nunca me dieron información incorrecta Padrón y licencias Inspecciones Uso de suelo En otra	10a. In which phase or phases of the process did move you from window to window? They never gave me incorrect information Registry and Licenses Inspections Land use In another place

11. ¿Te enfrentaste a que hubieran tiempos excesivos sin explicación? Sí No Prefiere no decir (NO LEER) No sabe (NO LEER)	11. Did you face excessive application times without explanation? Yes No Refused (Do not read) Don't know (Do not read)
11a. ¿En qué etapa o etapas del proceso consideras que hubo tiempos excesivos sin explicación? Nunca hubo tiempos excesivos Padrón y licencias Inspecciones Uso de suelo En otra	11a. In which phase or phases of the process were there excessive waiting times? There was never excessive application times Registry and Licenses Inspections Land use In another place
12. ¿Te enfrentaste a que los costos fueran excesivos en este trámite? Sí No Prefiere no decir (NO LEER) No sabe (NO LEER)	12. Were costs excessive for this application? Yes No Refused (Do not read) Don't know (Do not read)
12a. ¿En qué etapa o etapas del proceso consideras que hubo costos excesivos? No considero que hubiera costos excesivos Padrón y licencias Inspecciones	12a. In which phase or phases of the process did move you from window to window? There were never excessive costs Registry and Licenses

Uso de suelo En otra	Inspections Land use In another place
13. Para este trámite ¿algún empleado del gobierno le insinuó o solicitó de forma directa algún beneficio (dinero, regalos o favores) para agilizar o evitar procedimientos o multas?: Sí No Prefiere no decir (NO LEER) No sabe (NO LEER)	13. For this application, did a government employee insinuate or directly solicit a benefit (money, gifts or favors) to speed up or avoid procedures or fines? Yes No Refused (Do not read) Don't know (Do not read)
13a. ¿En qué etapa o etapas del proceso te insinuaron o solicitaron de forma directa algún beneficio? Nunca me solicitaron algún beneficio Padrón y licencias Inspecciones Uso de suelo En otra	13a. In which phase or phases of the process did they insinuate or directly ask for a benefit? No one asked me for a benefit Registry and Licenses Inspections Land use In another place
14. Para este trámite que realizó ¿algún gestor o "coyote" le insinuó o solicitó de forma directa dinero, un regalo o un favor para algún empleado de gobierno? Sí No Prefiere no decir (NO LEER) No sabe (NO LEER)	14. For this application, did a third party or "coyote" insinuate or directly solicit a benefit (money, gifts or favors) on behalf of a government employee? Yes No Refused (Do not read) Don't know (Do not read)

14a. ¿En qué etapa o etapas del proceso el gestor o coyote le insinuó o solicitó de forma directa un beneficio para algún empleado de gobierno? Nunca me solicitaron ningún tipo de beneficio para algún empleado de gobierno Padrón y licencias Inspecciones Uso de suelo En otra	14a. In which phase or phases of the process did a third party or "coyote" insinuate or directly solicit a benefit (money, gifts or favors) on behalf of a government employee? No one asked me for a benefit on behalf of a government employee Registry and Licenses Inspections Land use In another place
14. Para este trámite que realizó ¿algún gestor o "coyote" le insinuó o solicitó de forma directa dinero, un regalo o un favor para algún empleado de gobierno? Sí No Prefiere no decir (NO LEER) No sabe (NO LEER)	14. For this application, did a third party or "coyote" insinuate or directly solicit a benefit (money, gifts or favors) on behalf of a government employee? Yes No Refused (Do not read) Don't know (Do not read)
15. Si hubieran rechazado tu trámite ¿consideras que existen los mecanismos para que tú mismo puedas verificar que el municipio no hubiera cometido algún error? Sí No Tal vez Prefiere no decir (NO LEER) No sabe (NO LEER)	15. If they had denied your application, do you believe that there are mechanisms that would allow you to check that the municipality had not made a mistake? Yes No Maybe Refused (Do not read) Don't know (Do not read)
Instrucción: Para las siguientes preguntas quiero que consideres los permisos comerciales que hayas tramitado antes de 2018 y después de 2018.	Instruction: For the following questions I want you think about all the commercial permits that you have applied for before 2018 and after 2018

16. ¿Cuántas veces has realizado trámites comerciales de 2018 a la fecha? Registra la cantidad correspondiente:	16. How many times have you applied for commercial permits from 2018 to the present? Quantity:_____
17. De las veces que realizaste este trámite ¿en cuántas ocasiones algún servidor público o empleado de gobierno intentó o se apropió de dinero, regalos o favores? Registra la cantidad correspondiente:	17. Of the times you have applied for these permits, in how many instances did a public servant or government employee try to or succeed in extracting money, gifts or favors? Quantity:_____
18. Antes de 2018 ¿cuántas veces realizaste trámites comerciales en este municipio? Registra la cantidad correspondiente:	18. Prior to 2018, how many times have you applied for municipal permits? Quantity:
19. De las veces que realizaste este trámite antes de 2018 ¿en cuántas ocasiones algún servidor público o empleado de gobierno intentó o se apropió de dinero, regalos o favores?	19. Of the times you have applied for these permits prior to 2018, in how many instances did a public servant or government employee try to or succeed in extracting money, gifts or favors?
20. ¿Cuál es el último año o grado que aprobaste en la escuela? Ninguno Primaria Secundaria Preparatoria o bachillerato Licenciatura, profesional o más que licenciatura Prefiere no decir (NO LEER) No sabe (NO LEER)	20. What is the last grade that you completed in school? None Elementary School Middle School High School College or More Refused (Do not read) Don't know (Do not read)
21. ¿Cuántos años cumplidos tienes? Cantidad:_____	21. How old are you today? Quantity:_____

22. Indicar la identidad de género del entrevistado (NO PREGUNTAR) Mujer Hombre No se sabe/Otro	22. Indicate the gender identiy of the respondent (DON'T ASK) Woman Man Don't know/Other
23. ENTREVISTADOR: Añadir cualquier nota adicional que brinde información adicional e interesante sobre la entrevista.	23. INTERVIEWER: Add any additional notes that offer interesting, additional insight into the interview.
24. ENTREVISTADOR: Añadir nota metodológica (p. ej. No prestaba atención la entrevistada etc.)	24. INTERVIEWER: Add additional methodological notes (e.g. Was not paying attention to the interview, etc.)

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