

Appendix

“Forbearance,” by Alisha C. Holland

Distributive Incidence Analysis

There is a tradeoff in incidence analyses between more basic and complete measurement strategies. Many scholars who study tax and benefit incidence look just at the direct benefits—also called the physical incidence—to those who pay taxes or receive transfers. For instance, recent efforts to calculate the progressivity of social expenditures do not measure indirect effects (Lustig, Pessino, and Scott 2014: 288). This approach generally is used for simplicity’s sake: there is little agreement on how to measure behavioral and equilibrium effects. Likewise, the simplest option in thinking about legal violations is to consider who violates the law and the direct benefits to them if unenforced. The article presents this approach in part because these benefits are easier to measure, but in part because they also are easiest for the public to understand and thus central to the politics of enforcement. Much work on regulation emphasizes that enforcement requires imposing a sanction on an individual, and that an individual’s economic status can matter deeply to how the public perceives enforcement actions. Nevertheless, a more thorough approach considers indirect effects—also called the economic incidence—to understand the distribution of benefits once market prices have adjusted. This approach gives a more nuanced view of the possible political coalitions around enforcement, but it also requires more assumptions about the direction and magnitude of indirect benefits.

Consider the case of illegal immigration. Economists who study the direct incidence of immigration find that it is tremendously progressive. If we think of the world as composed of a “rich” region where people earn roughly \$30,000 per year, and a “poor” region where people earn \$5,000 per year, the wage gains from migration are tremendous. Even if emigrants from the poor region have lower productivity and receive lower wages due to their illegal status, the simple earnings

gap upon emigrating may be on the order of \$15,000 per year (Clemens 2011; Weyl 2015).

Deportations threaten to remove these wage gains from low-income workers, as well as causing great personal upheaval. Now, the economic incidence of illegal immigration is less clearly progressive, especially if calculations are limited to national boundaries. Illegal immigration likely leads average wages to fall in the rich region, cutting into the earnings of the working class, and increases returns to capital, creating benefits to employers. But by the same logic, we should consider what happens in the sending economies. Illegal immigration would lead the average wages to rise in the poor sending country and the returns to capital to fall in the poor region, benefitting workers and harming employers there. How to calculate the overall economic incidence quickly becomes a mess.

There are a few circumstances when we may want to look at both the physical and economic incidence. First, immigration is a case in which the direct beneficiaries of forbearance cannot vote. Due to this fact, the indirect incidence may play a more important role in shaping the politics of regulation and enforcement. Second, scholars interested not only in enforcement politics, but how laws are set may want to look at both incidence calculations. As Ellermann (2009) argues, at the enforcement stage, the heavy costs to undocumented workers affected by deportations (the physical incidence) become salient. But the overall costs and benefits drive debates over what the formal regulation should be, even if the costs are most salient when laws need to be enforced. Low-income workers affected by increased labor competition (the economic incidence) have played an important role in how immigration law is crafted. Nevertheless, given the complexities of economic incidence analysis and the salience of enforcement costs to voters, my default position is to focus on the direct incidence. Scholars still may want to walk through the indirect incidence informally to identify additional players with a stake in enforcement, and they may want to do a complete analysis in cases

where the direct beneficiaries are nonvoters and the indirect incidence becomes primary to the politics.

Luckily, in many cases, the physical and economic incidences reinforce each other. To give one example from the article, consider the case of squatting. In Bogotá, most squatters come from the bottom third of the income distribution. But the poor rarely capture all the benefits because many must pay intermediaries to locate and subdivide land on which they build. In Bogotá, for instance, squatters pay an average of \$2000 for a lot in an informal settlement. The city government then pays the cost of service extension, which hikes the price of serviced lots to \$9,900 (Maldonado Copello 2009: 332). Therefore, even though intermediaries take a substantial cut, the largest benefit goes to the family who secures the lot, services, and eventual property title. While the evidence is only anecdotal, intermediaries rarely are wealthy; many actually are leaders of previous of informal invasions, who have knowledge of the land and ownership structure. The economic incidence also is progressive because squatters reduce competition for low-income housing and increase the developed land in a city, which should decrease housing prices, particularly for low-income properties.

The costs, including occupied state land, inefficient service provision, and urban sprawl, fall on the public at large. Some costs will fall on other poor individuals, who might see their property values decline or suffer direct harms, such as sanitation risks from new settlements that lack basic sewage or garbage collection services. Common concerns about squatting, such as the fact that squatters must live without basic services or run environmental risks (exposure to landslides, earthquakes, etc.), reduce the *size* of the benefit to those who violate the law. However, these additional risks actually may increase the progressivity of forbearance. The smaller the benefit, the more likely it is that only those in desperate need (or at very least, the most risk seeking) will engage in the activity. Therefore, in the case of squatting, the direct and indirect incidences both lead to the

conclusion that forbearance has progressive effects. The size of these effects is subject to dispute, and depends on the risks to which we believe squatters are exposed on average.

Case Study Methodology

These case illustrations are based on fieldwork carried out in Bogotá, Santiago, and Lima over the course of thirteen months between 2011 and 2013. I conducted an in-person interview with the director or sub-director of each office in charge of street vending and squatting issues in each district. I guaranteed anonymity to the bureaucrats that I interviewed, but I do report the names of politicians, unless they requested anonymity. This protocol was approved by Harvard University's IRB (F20401). All told, the project involved interviews with roughly 75 local politicians and 200 bureaucrats. The enforcement data and select questions from the survey of bureaucrats have been deposited on Dataverse.

Data Construction: Street Vending in Santiago

No off-the-shelf data are available to measure enforcement against unlicensed street vending. I therefore collected data from each district office in charge of street commerce. In Santiago, I conducted the survey in the 34 districts that comprise Greater Santiago (32 *comunas* in Santiago, plus San Bernardo and Puente Alto in the provinces of Maipo and Cordillera, respectively).¹ The precise office depended on the district's administrative structure—in some districts, the economic “rents” office (*rentas*) manages street vending; in others, an inspection's office handles vending issues.

As an indicator of sanctions, I measured the average number of enforcement operations conducted with the involvement of the police per month. Translated versions of the question used in the article are included here. To measure sanctions, I asked bureaucrats: “How many times has the district requested the assistance of the National Police to conduct an operation to control

¹ The metropolitan region consists of 52 sub-districts across six provinces; I study 34 sub-districts that form part of what is commonly referred to as Greater Santiago.

unlicensed street vending in each of the last three months?” To measure offenses, I asked: “How many unlicensed street vendors has the district counted in its last census or inspections?” In about half of cases, these records come from local vending censuses, and in the other half, they come from inspection team estimates. The total produced is very similar to the 47,595 unlicensed vendors numbers counted in a 2010 census by the Pontifical Catholic University of Chile and the Ministry of Transportation, and the correlation at the district level is 0.8.

For measures of hard crime, I use data on crime available from the 2011 National Statistics Institute (*Instituto Nacional de Estadísticas*, INE) Justice Report to examine criminal law enforcement (including crimes against order, morality, people, property, family, and misdemeanors). These data include records of calls that the police receive for crimes, as well as criminal apprehensions.

I code districts as low-income if the poverty rate is above the city average (11 percent). These statistics come from the 2011 National Socioeconomic Characterization Survey (*Encuesta de Caracterización Socioeconómica Nacional*, CASEN), compiled at the district level by National System of Municipal Information (*Sistema Nacional de Información Municipal*, SINIM). SINIM also provides measures of the municipal budget per capita, population, and commercial establishments in the district, which I use to estimate a simultaneous equations model.

Given the endogeneity between enforcement and vendors, it makes sense to run a simultaneous equation model consisting of “demand” and “supply” relationships for the joint determination of the amount of enforcement and street vending. The point of this structural analysis is not to test the theory but to interpret the data in light of the equilibrium framework. The specification allows for the inclusion of exogenous variables that may shape demand to work as a street vendor like the commercial density, unemployment, and district income, and separate exogenous variables that shape the government’s enforcement, like the budget and electoral competitiveness. However, the data demands for this type of model are high so I have limited

power to include a wide set of variables with such a small sample. In my theoretical model, I allow the impact of vending on enforcement to vary depending on features of the district. In other words, the slopes differ with the district demographics, as depicted in Figure 3 (with all the curves going through the origin). I therefore use the most important covariates and simultaneously estimate the following ordinary least square equations:

$$\begin{aligned} \mathbf{enforcement} &= \mathbf{vendors}(\beta_0 + \beta_1 * \mathbf{budget} + \beta_2 * \mathbf{poverty}) + \varepsilon \\ \mathbf{vendors} &= \beta_0 + \beta_1 * \mathbf{enforcement} + \beta_2 * \mathbf{population} + \beta_3 * \mathbf{commercial} + \varepsilon \end{aligned}$$

Table 1: Simultaneous Equation Models of the Enforcement-Offense Equilibrium

	Model 1	Model 2
DV	Operations	Captures
<i>Vendors</i>	1.452 (0.978)	
<i>Lower-Class District</i>	-1.575 (1.019)	0.005 (0.016)
<i>Budget</i>	0.0354 (0.040)	-0.001 (0.000)
<i>Crime Reports</i>		0.258* (0.011)
<i>R²</i>	0.240	0.928
DV	Vendors	Reports
<i>Operations</i>	-0.028 (0.017)	
<i>Population</i>	0.108* (0.013)	0.100* (0.049)
<i>Commercial (thousands)</i>	0.063 (0.043)	0.465* (0.132)
<i>Captures</i>		2.890* (0.263)
<i>R²</i>	0.518	0.943
<i>N</i>	34	34

Notes: * $p < 0.10$; standard errors in parentheses.

Table 1 presents the results. Model 1 largely confirms the basic relationships hypothesized for street vending: the number of street vendors is associated with more enforcement operations,

while the number of operations is associated with fewer street vendors (although the results are not statistically significant, most likely due to the small sample size). Low-income districts do fewer operations. Larger district size is associated with more vending activity. Measures of commercial density have no clear effect. Model 2 estimates the same model using the data on hard crime. The model looks quite different compared to the vending one: poverty is not related (or perhaps positively related) with the number of arrests. The number of crime reports—a proxy for offenses—strongly predicts the number of arrests, and vice versa. Commercial activity also predicts more reports of crime. Again, all these results must be treated with substantial caution given the very small sample size and demanding model. These estimates are used to produce calibrated supply graphs plotted on Figure 5. To do so, I plug in the average covariate values for a low-income district and a middle-income district, and plot the predicted supply curve as a function of the number of vendors.

I also asked directors questions about their perceptions of the enforcement process. In the text, I refer to a question that asked bureaucrats whether they believed mayors gained or lost political support when they enforced against street vendors. But I also asked a question about corruption that is useful to differentiate my account for those rooted in the idea that vendors bribe street-level bureaucrats. The question wordings are as follows, and the figures show the distribution of responses on these questions. The key point is that the perceived electoral costs reverse depending on the demographics of the district—bureaucrats, who tend to work closely with the mayor and the public, think that the mayor will lose political support through enforcement in poor districts, and gain support in nonpoor districts. Across district types, police corruption is seen to play little role, which was confirmed in interviews with street vendors.

Costs

1	2	3	4	5	6	7	8	9	10
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The mayor loses political support when he evicts street vendors.

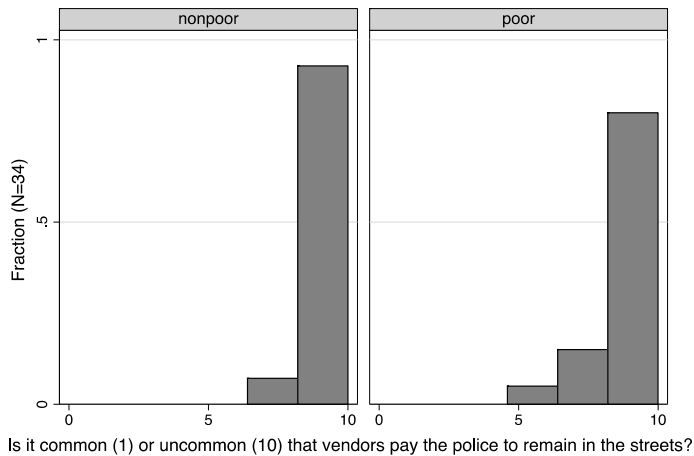
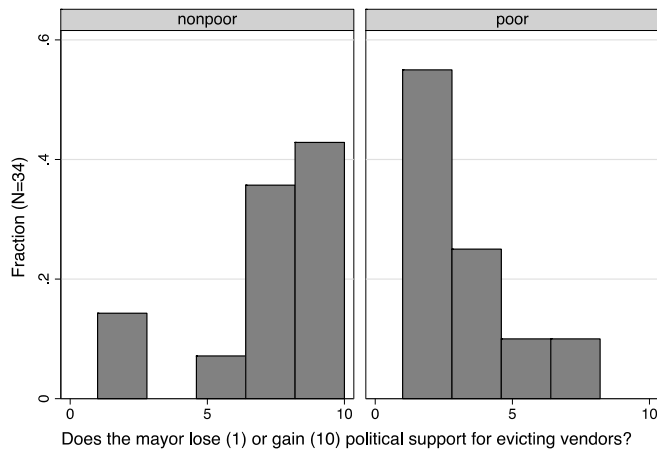
The mayor gains political support when he evicts street vendors.

Corruption

1	2	3	4	5	6	7	8	9	10
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It is common that street vendors pay the police to remain in the streets.

It is uncommon that street vendors pay the police to remain in the streets.



Data Construction: Squatting in Bogotá and Lima

Bogotá and Lima are similar cities in many respects. They are capital cities of fewer than ten million inhabitants in unitary political systems. Roughly similar populations alleviate concerns of different governance challenges that may arise in megacities or provincial capitals. Urban poverty rates, which might affect the demand for housing, also are loosely similar at 13 and 15 percent, respectively (ECLAC 2012). The geography does constitute a major difference between the two cities: Lima has expanses of open desert land, while the Andes mountains ring in Bogotá, limiting the available land for informal housing construction. Due to these differences in the geographic possibilities for squatting, enforcement process tracing is an ideal approach because it allows the researcher to see how governments respond to different underlying offense rates.

In Bogotá, the data used come from several different sources based on the step of the enforcement process. First, I calculated the underlying number of land occupations from temporary water connections by Bogotá's water company, *Empresa de Acueducto y Alcantarillado de Bogotá*. The water company refers to these as Cycle 1 connection, meaning that they are connections established in an area that never received water in the past. This method for measuring informal settlement expansions also has been used by the Observatory of the Informal Land and Housing Markets (see, Camargo and Hurtado 2013: 85). These statistics suggest that there were 23,024 new provisional connections within the Bogotá city limits from 2006 to 2011. If anything, I expect this estimate to overstate the number of illegal constructions, given that provisional water connections also can be granted to new formal constructions. Almost all squatters apply for a provisional water connection, and, following a Constitutional Court ruling in 2008, the government and private companies cannot deny water based on a household's legal status on the land.²

² See, Colombian Constitutional Court. Sentence C-1189/08, *Gaceta Corte Constitucional*, 3 Dec 2008.

To establish the universe of cases against which authorities could possibly enforce in Lima, I use the 2011 household survey, *Encuesta Nacional de Hogares* (ENAHO). ENAHO includes both questions about whether households acquired their land through a land invasion and whether they have applied for property title. I count illegal land occupations as those formed through an invasion without an application for property title. In 2011, the law permitted the assignment of property title only to squatter settlements formed before December 31, 2004 (Law 29320 modifying Law 28687). Invasions without property title thus most likely formed after the 2004 eligibility point and still could have been subject to administrative law proceedings. This estimate may overstate the number of land occupations because it includes households that formed prior to the titling deadline and applied for property title, but did not receive it. Yet, the number of cases in this category is likely to be small. A common criticism of the Peruvian titling program is that it granted title to households that did not meet the program's technical qualifications (for instance, see Webb, Beuermann, and Carla 2006); the titles also were provided free so the cost would not have deterred applicants.

For data on the number of illegal land occupations detected in Bogotá, I consulted reports from a special city agency in charge of monitoring, the Subsecretary for Inspection, Oversight, and Control within the District Housing Secretary (*Secretaría Distrital del Hábitat, Subsecretaría de Inspección, Vigilancia y Control*). There were important changes in the areas that they monitored in 2006, which means that only the data for recent years are comparable to examine changes in the growth of informal land occupations. The agency combines satellite imagery with teams of inspectors to estimate the land area and number of individual land occupations. Inspectors identify “polygons” of open land at risk of takings, but I only count actual occupation “points” (*puntos*) where a construction has occurred. These statistics again somewhat may overstate the number of squatters, given that some constructions are not for housing purposes.

In Lima, data on detection comes from the Ministry of Defense, the Superintendency for State Goods (*Superintendencia Nacional de Bienes Estatales*, SBN), and district governments. I also conducted interview with city-level officials, which revealed that they did not monitor new illegal land occupations.³ These data are approximate precisely because no single institution is assigned responsibility for monitoring land invasions.

The trickiest parts of the enforcement process to document are those controlled by local governments in Bogotá. To do this, I relied on my visits to each local housing office in the city to count how many administrative cases district officials had opened against illegal land occupations, and how many had resulted in a judicially approved demolition order. By law, courts should respond with their decision about a demolition order within six months (Lemus Chois and Lemus Chois 2010), but the average according to bureaucrats is closer to a year. Some of the fall off in this stage is due to nonresponse and slow proceedings by the courts.

In Lima, data on the number of open cases come from the Attorney General's Office. Estimating the number of occupations involved was tricky because each case involves multiple claimants; I reviewed a random subset of cases and determined that a typical case involves 25 lots, leading to the estimate of 4,500 illegal land occupations total. Given that cases take between five and ten years to complete, open cases roughly include those for the period examined. But there is some imprecision, given that cases can take far longer. An alternative approach to tracking government action against land invasions is to use the Attorney General's statistics on usurpation (*usurpación*) as sometimes done in the press and even congressional hearings.⁴ Although these

³ Author interviews with Carlos Escalante, Executive Director, Metropolitan Planning Institute, Lima, Peru, June 23, 2011; Alvaro Anicama Gonzalez, Director, Inspections and Control, Lima Metropolitan Municipality, November 20, 2011.

⁴ For examples of news reports that use usurpation statistics, see, "Mala aplicación de la ley permite trafica de tierras e impunidad de invasores," *El Comercio* 28 May 2007; "Poder Judicial atiende cada año unos 80 juicios por venta ilegal de terrenos," *El Comercio* 14 May 2007. In 2011, the Congressional Commission of Justice and Human Rights also used usurpation statistics in its

statistics are readily available, discussions with attorneys made clear that this category encompasses many different acts.

The final part of the enforcement process is the execution of a demolition order. In Bogotá, I asked housing officials how many eviction orders the municipality had active in each year, and how many the mayor had signed and executed. These statistics also are reported to Bogotá's Comptroller (*Contraloría de Bogotá*), which allowed for another check of the information provided. In Lima, most legal cases end with judicial resolutions to negotiate the land in favor of the squatters. Because legal cases drag on, courts find it impractical to order the removal of squatters. Unfortunately, I was unable to find statistics on the number of court cases that ended with an eviction order. This step of the enforcement process thus is missing for Lima. Officials from the Attorney General's Office and the Ministry of Defense reported that 212 evictions occurred through legal means. Evictions involved land owned by the Ministry of Defense, a private mining concession, and central city property reserved for the wholesale market.⁵ Evictions that required the cooperation with local mayors almost never proceeded.

As in Santiago, I asked bureaucrats in each district in Bogotá and Lima a series of questions about their perceptions of the enforcement process. Given that squatting almost exclusively occurs in low-income districts, I focused my interviews in poor districts where it was possible that bureaucrats would confront squatters and I therefore focus on the comparison between the two cities, rather than district types.⁶ In addition to the two questions reported above, I also asked

debates on land invasions. It found that the court in the northern cone of Lima (Corte de Lima Norte) had 2,888 cases of usurpation registered alone. See, Sesión de la Comisión de Justicia y Derechos Humanos, Congreso de la República de Perú, 17 Jan 2011.

⁵ This count also includes the case of the illegal land occupation of land reserved for a wholesale market in Santa Anita even though the invasion occurred in 2000. By the end, it only involved 70 households and took until 2007 to resolve.

⁶ In Bogotá, the districts included in the survey are Antonio Nariño, Bosa, Chapinero, Ciudad Bolívar, Engativá, Fontibón, Kennedy, Puente Aranda, Rafael Uribe Uribe, San Cristóbal, Santa Fe, Suba, Tunjuelito, Usaquén, and Usme; in Lima, they include Ancón, Ate, Carabayallo, Chacalayo,

whether resources or political interference posed the greatest challenge to enforcement. The translated questions, and responses are below:

Costs

1	2	3	4	5	6	7	8	9	10
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The mayor loses electoral support when he evicts illegal land occupations.

The mayor gains electoral support when he evicts illegal land occupations.

Corruption

1	2	3	4	5	6	7	8	9	10
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It is common that squatters pay bureaucrats or the police to remain on the land that they have occupied.

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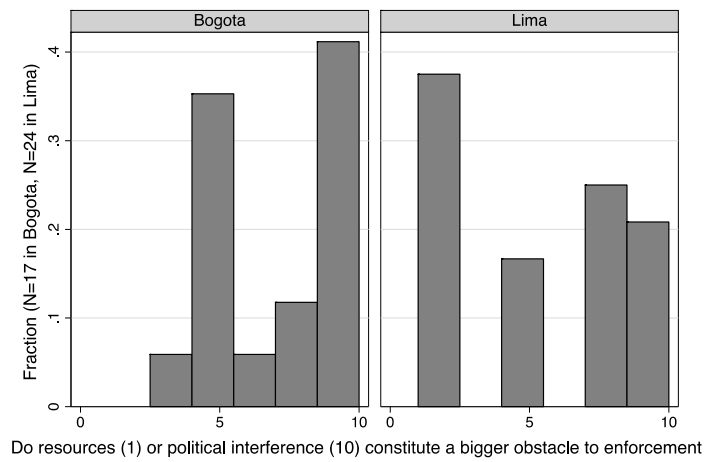
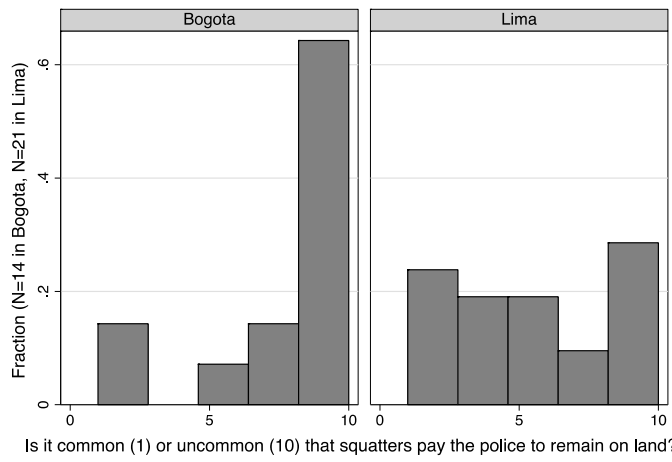
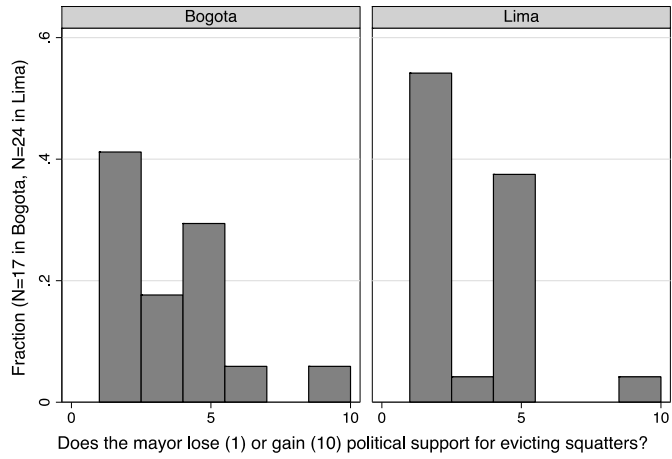
Interference

1	2	3	4	5	6	7	8	9	10
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The lack of resources is the biggest obstacle to the control of squatting.

Political intervention is the biggest obstacle to the control of squatting.

Chosica-Lurigancho, Cieneguilla, Comas, El Agustino, Independencia, Los Olivos, Lurin, Pachacamac, Puente Piedra, Punta Hermosa, San Juan de Lurigancho, San Juan de Miraflores, San Martín de Porres, Santa Rosa, Ventanilla, Villa El Salvador, and Villa María del Triunfo.



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