



# Land-Value Capture in Bogotá

Case Studies on the Valorization Levy





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# Foreword

In the current economic environment, where debt levels are high and public resources are stretched, cities must find innovative ways to finance their growth. One often overlooked strategy is through land value capture, which is becoming increasingly relevant in rapidly growing emerging cities.

This publication analyzes Bogotá's innovative approach to financing urban transport projects through the valorization levy, a betterment tax that captures the increased land value resulting from infrastructure improvements.

Bogotá's century-long history with the valorization levy highlights urban development and fiscal strategies. The city has successfully used this levy to fund significant portions of its road network, water supply lines, and parks. The case studies highlight the complexities and lessons learned from various valorization programs implemented between 1995 and 2018.

This publication delves into the economic foundations of land value capture, providing a detailed analysis of how transport projects can justify the betterment levy. It also explores the legal frameworks that have enabled Bogotá to leverage this instrument effectively. The document offers valuable insights into the importance of a well-structured cadaster, the role of citizen participation, and the need for final designs and contracting to ensure successful implementation.

For cities in the developing world, Bogotá's experience serves as a beacon of innovation and resilience. The lessons from these case studies are crucial for any city looking to finance transport projects through value-capture instruments. This publication is not just a report; it is a roadmap for urban planners, policymakers, and transport economists aiming to create sustainable and efficient urban mobility systems.

**Nicolas Peltier**

Transport Global Director



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# 1

# Introduction





Colombia enacted the legislation enabling land value capture (LVC) over one hundred years ago. Bogotá and other Colombian cities have a long tradition of using the valorization contribution—a betterment levy—to finance the construction of urban roads, water supply lines, and parks.<sup>1</sup> The betterment levy is a “compulsory charge imposed by a government on the owners of a selected group of properties to defray, in whole or in part, the cost of a specific improvement or services that is presumed to be of general benefit to the public and of special benefit to the owners of such properties”.<sup>2</sup>

Estimates indicate that Bogotá has financed significant parts of its new roads through this levy.<sup>3</sup>

However, the case studies analyzed in this note show that the scope built was less than promised and took longer.<sup>4</sup> In some cases, the city even returned a significant part of the valorization revenue to the taxpayers.<sup>5</sup> The city financed a smaller scope using the valorization plus taxes and debt. By 2023, the city changed its approach by enacting a new legal framework for this levy.

This note analyzes the 1995, 2005, 2010, 2013, and 2018 programs financed by this betterment levy or *contribución de valorización (CV)*. The objective is to extract lessons for other cities in the developing world that are interested in financing transport projects through value-capture instruments like the betterment levy.

The note starts with a review of the literature to explain the betterment levy and address gaps in both perception and information. The note describes the Colombian land value capture legislation and focuses on five valorization programs that happened in 1995, 2005, 2010, 2013, and 2018. It then analyzes the evolution of Bogotá’s finances, including property and sales taxes. This section also explains the cadaster update. The existing literature isolates the betterment levy when analyzing this instrument. However, this note shows the importance of looking at the overall fiscal picture. Finally, based on Bogotá’s positive experience, the note extracts lessons for other cities that use the betterment levy.

In this note, the author has reviewed the literature and ordinances, interviewed former mayors of Bogotá and public servants responsible for the valorization program, and gathered information on Bogotá’s finances.

<sup>1</sup> (Borrero Ochoa O., 2011)

<sup>2</sup> (Smolka, 2016)

<sup>3</sup> (Caracol Radio, 2010)

<sup>4</sup> (Alcentro, 2019)

<sup>5</sup> (Instituto de Desarrollo Urbano (IDU), 2013) and (Gómez Jiménez, 2021)

# 2

## Literature Review: The Foundations for the Betterment or Valorization Levy





## 2.1. The economic foundation of the land value capture and the Betterment Levy

In economic terms, transport projects expand the supply of mobility services.<sup>6</sup> If the benefits are larger than the costs, the project is justified. Figure 2.1 uses standard economic theory applied to a transport project, a new metro line, for example, which expanded the supply of mobility services, allowing people to access more opportunities in the same amount of time. The vertical axis represents prices, and the horizontal one represents quantity, like trips per day. The curve  $S_{m1}$  shows the supply without the project, and  $S_{m2}$  shows the supply with the mobility project operational.  $D_{m1}$  is the demand for mobility services.

The project's benefits include reducing the cost of traveling from  $P_1$  to  $P_2$  and increasing the amount traveled from  $Q_{m1}$  to  $Q_{m2}$ . The metro will also save time for its users—part of the price reduction in Figure 2.1. The metro will also attract some car users who do not incur the cost of traveling by car. The metro project has other benefits—when added up—that represent the change from  $P_{m1}$  to  $P_{m2}$ . The difference of  $P_{m1}$  minus  $P_{m2}$  is the change in the transport cost.

The transport project's benefits attract people who want to live close to its stations. This is the economic foundation of transit-oriented development and land value capture because people demand more floor space near the metro. Figure 2.2 shows the mobility project's economic impact on the real estate market by representing the demand and supply for floor space—houses and apartment buildings.

The initial demand is  $D_{fs1}$ , and the initial supply is  $S_{fs1}$ . The mobility project draws interest, shifting the demand for floor space to the curve  $D_{fs2}$ . People are willing to pay more to live close to the metro. This willingness is the difference between  $P_{sf2}$  and  $P_{sf1}$ . Market forces capitalize on the mobility benefits of land and floor space prices. The critical assumption in Figure 2.2 is that the floor space supply can increase to meet the additional demand.

Land value capture argues that this price increase due to the transport project justifies capturing some of this additional value to finance the project's construction—covered in Section 2.2.

However, what happens if the supply of floor space cannot increase? Assume that the land-use regulations (LURs) do not allow developers to build additional floor space. This means  $Q_{sf1}$  is the maximum floor space allowed. The supply cannot increase, no matter the price. The supply curve becomes vertical at  $Q_{sf1}$  (Figure 2.3). The price increases to  $P_{sf2}'$ , which is higher than when the floor space supply could increase,  $P_{sf2}$ .

The land value capture literature considers these two cases and justifies different value-capture tools. The first case (Figure 2.2) justifies the betterment levy because the property owners benefit from the mobility project and should contribute to its financing.<sup>7</sup> The second case (Figure 2.3) justifies property owners' contribution when the government relaxes the LURs to allow higher density, increasing the supply of floors on the same amount of land. This change in development rights justifies paying fees to the government.<sup>8</sup>

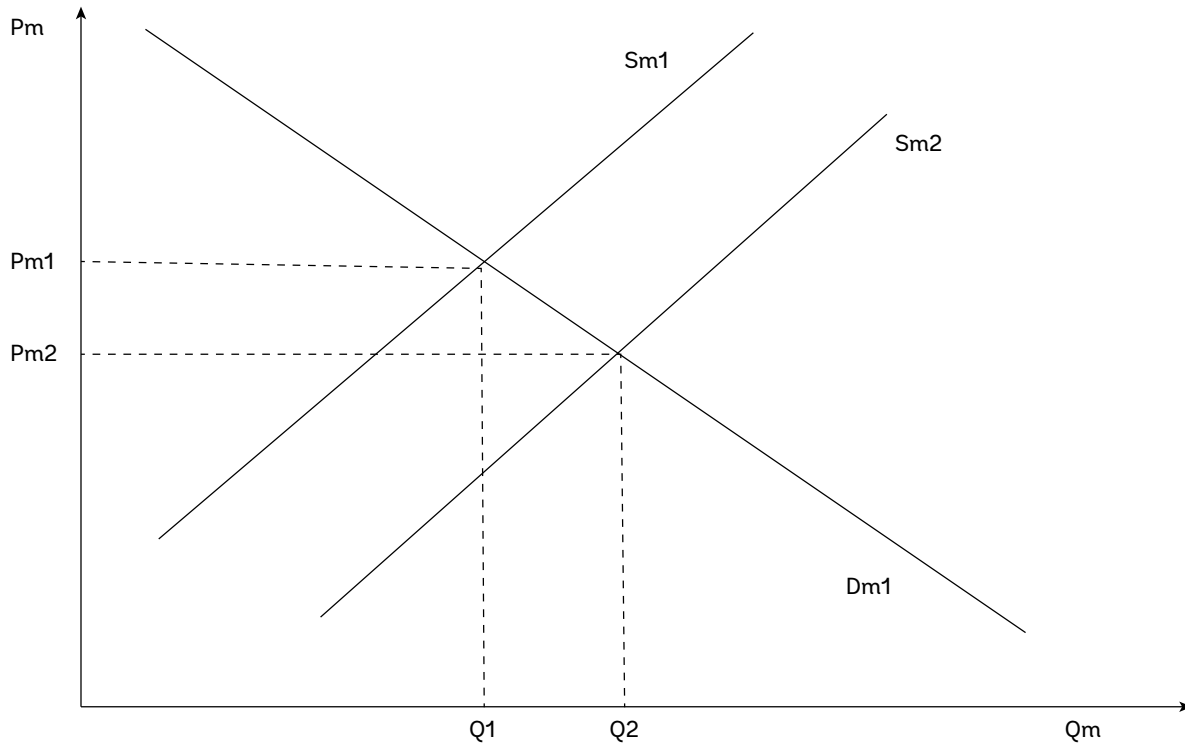
<sup>6</sup> This section is based on the following report: Ardila-Gomez, Namkung, Dominguez-Gonzalez, He, & Bona, 2024

<sup>7</sup> Freire & Garzón, 2014, World Bank, 2013; Peterson, 2009; Ardila-Gomez & Ortega-Sanchez, 2016; Pardo, 2015

<sup>8</sup> OECD/Lincoln Institute of Land Policy, PKU-Lincoln Institute Center, 2022

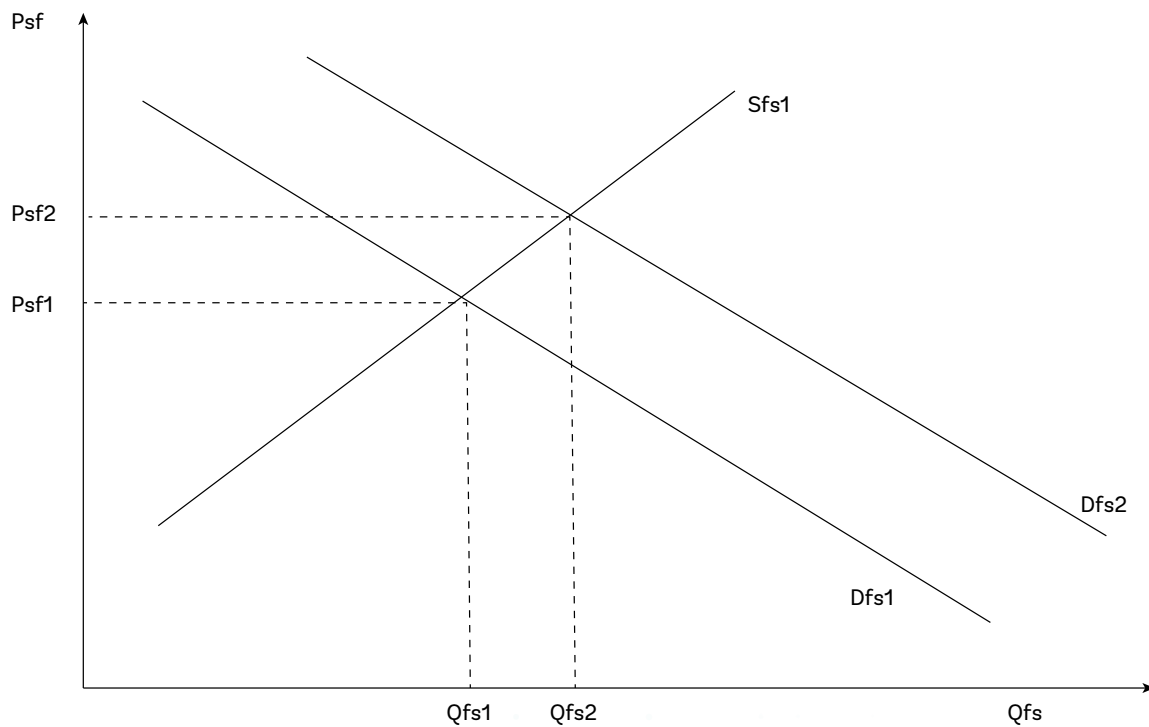


**Figure 2.1. The economic impact of a transport project that expanded the supply of mobility**



Source: Author.

**Figure 2.2. The economic impact of a transport project on the real estate market**



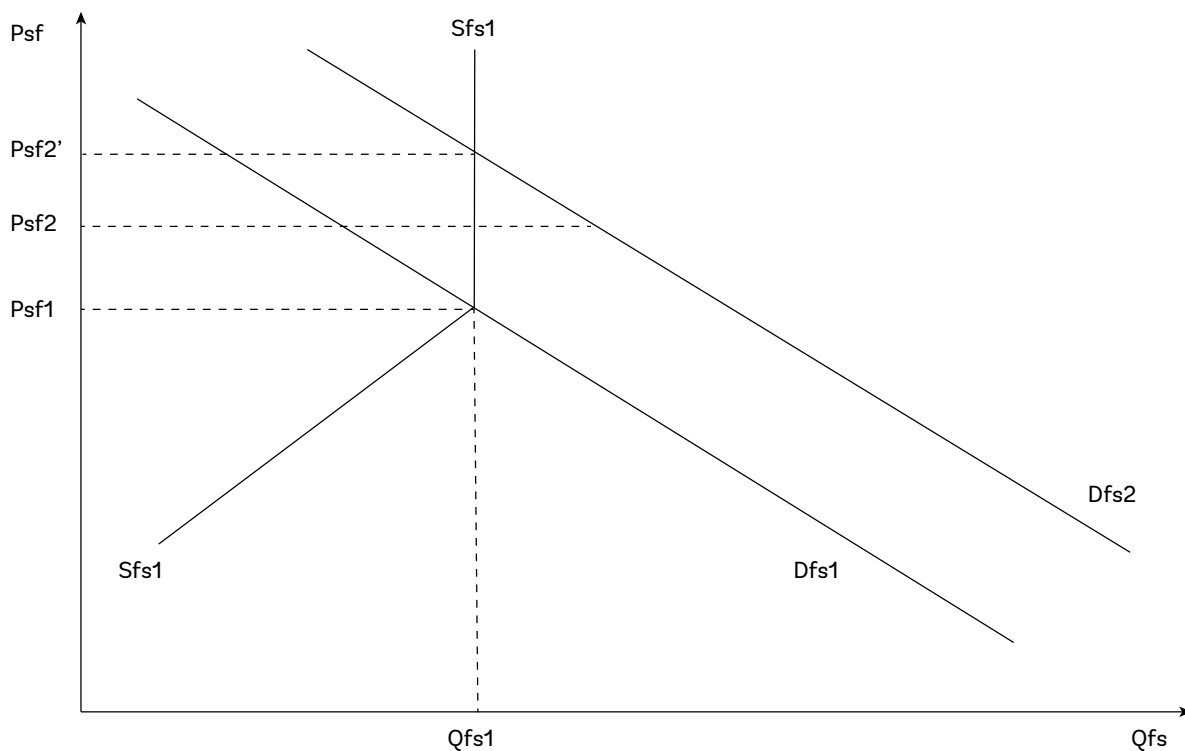
Source: Author.



On the other hand, from the consumer of floor space point of view, the increase in prices for living close to the mobility project could price out lower-income inhabitants. Gentrification could happen because wealthier people can afford to live close to the mobility project. In extreme cases, these people travel by car because of their high income and do not use the metro. The metro users were priced out. Bertaud, 2018 states, “Regulations may decrease the total area of floor space that can be built on a given area of land. For instance, regulations routinely restrict the heights of buildings or impose a maximum limit on the number of dwelling units that can be built per hectare. If these regulations are binding—that is, if the regulations reduce the number of dwellings that developers would have built to respond to consumer preferences for these areas—then the regulations will create a shortage of floor space in areas of high demand.” Therefore, this price increase should guide planners in correcting the situation by relaxing the LUR to allow developers to build additional floor space.

Finally, real-life situations are a blend of Figures 2.2 and 2.3 because even if LURs allow more density, building more floor space takes time. Still, note that the difference between  $P_{sf2'}$  and  $P_{sf2}$  in Figure 2.3 is due to the LUR and not the transport project. It is therefore important to differentiate between the two effects, from  $P_{sf1}$  to  $P_{sf2}$  caused by the transport project improvement and from  $P_{sf2}$  to  $P_{sf2'}$  by the LUR. This note does not look at this second case, focusing on the betterment levy, which relates to the increase in value from the increase in demand generated by the project (Figure 2.2).

**Figure 2.3. The economic impact of a transport project on a supply-constrained real estate market**



Source: Author.



## 2.2. The Betterment Levy

Mobility improves when a city builds mobility projects such as roads, mass transit lines, and bike paths, which allow access to more opportunities in the same travel time. As shown in Section 2.1, the demand for land and floor space close to the improved transport infrastructure increases, which increases their prices. In this context, “In this context, a land value capture tax is a way for the public sector to tax some or all of the private windfall created by the infrastructure”.<sup>9</sup> Betterment levies are designed to capture part of the increase in the market value of land attributable to infrastructure investment.<sup>10</sup> Governments use the betterment levy revenue to finance the costs of this infrastructure in whole or in part.<sup>11</sup>

Land value capture instruments, such as the betterment levy, are usually earmarked toward financing transport projects that generate an increase in land prices. This earmarking is one reason the literature on value capture favors them over other instruments, such as property tax, which goes to the city’s treasury. Property tax also captures value because if a taller building by a metro line replaces a house—if the LURs allow it—then the base for this tax has increased—see Section 6. The land area is the same, but the floor space is larger. The property tax is collected recurrently, year after year.<sup>12</sup>

Borrero Ochoa & Rojas Rioz, 2020 explains the difference between the betterment levy and the property using an analogy of the way condominiums finance recurrent and improvement expenses. The property tax is analogous to the condominium fee that the apartment owners pay periodically and covers general expenses, which, in the city’s case, can range from roads to parks to schools and hospitals. In the case of the city, the betterment levy is analogous to a special assessment because it covers extraordinary repairs or improvements generated by road and sidewalk construction and maintenance, as well as parks.

Property owners pay property tax every year. They pay once the betterment levy if their property benefits from the project that generates the benefits. This means that there is an influence area close to the project that pays the levy. Outside this area, property owners do not benefit and do not pay. The betterment levy, therefore, is not recurring but a one-time payment. Authorities can allow owners to pay over several years to make it more affordable—but owners must pay interest.

Determining the area that the project benefits, and therefore should pay the levy, is complicated because it requires detailed information on land ownership, boundaries, construction, and the applicable LURs. The cadaster contains this information, which is also essential for property tax.<sup>13</sup> Estimating the benefit also requires using economic models, such as the ones described in Section 2.1, and statistical analyses that compare the area around the project against an area that had no intervention.<sup>14</sup>

<sup>9</sup> Freire & Garzón, 2014

<sup>10</sup> Peterson, 2009

<sup>11</sup> Smolka, 2016

<sup>12</sup> Ardila-Gomez & Ortegón-Sanchez, 2016

<sup>13</sup> Bahl & Linn, 1992

<sup>14</sup> Examples are Rodríguez & Targa, 2004, Vergel-Tovar & Rodríguez, 2018, and Muñoz-Raskin, 2010



The literature seldom mentions affordability because the assumption is that the owners of properties that benefit should pay the betterment levy—the benefit principle. However, affordability is important because of the ability-to-pay principle in finance. Ability-to-pay finance is based on a philosophy of equity of burden.<sup>15</sup> A related concept is the total tax burden, which is the sum of a person’s local and national taxes.<sup>16</sup> For example, the betterment levy and the property tax should be added to the income tax that a person must pay in a given year to measure the burden and if the person can afford to pay all these taxes and levies.

## 2.3. Conclusion

Transport projects improve mobility, which allows people to access opportunities. People want to live close to the projects that improve mobility. The increase in demand results in higher prices for floor space. This increase justifies the idea of capturing some of this value to finance the transport project economically.

In addition, this section shows three essential elements for the analysis in this note. First, the betterment levy—valorization levy in Colombia—and the property tax have the same base, the cadaster that records ownership and property characteristics. As Bogotá improved its cadaster—because of a World-Bank financed project—its property tax collection also increased. The city also collected more from other taxes and improved the betterment levy. Second, the betterment levy is earmarked, while the property tax is not. This note reveals the unexpected incentives generated among taxpayers by earmarking. Third, establishing who benefits from a mobility project is critical to ensure that only those who benefit pay the valorization levy. Finally, the total fiscal effort by income group becomes relevant because people judge by what leaves their pocket and what remains. Therefore, it is important to examine the betterment levy considering the evolution of the other taxes the citizens must pay to understand if people can afford it. Affordability is a central issue.

<sup>15</sup> Fischer & Sclar, 2016

<sup>16</sup> Cambridge Dictionary, 2024



# 3

## The Legal Foundations for Valorization in Colombia and Bogotá





Colombia enacted legislation in 1921 (Law 25) to allow the national government to capture value resulting from government investment in transport and other infrastructure.<sup>17</sup> In 1936, the congress authorized Bogotá, the country's capital, to use this instrument. In 1938, the congress authorized all provincial capitals to use valorization.<sup>18</sup> These cities have extensively used the valorization levy. One reason is their low capacity to collect the property tax.<sup>19</sup> The law allows a general, city-wide levy for projects that benefit the entire city and a local levy for transport projects that benefit part of the city. The valorization levy's revenue reached 13.5 percent of Bogotá's total revenue in 1983, 27.7 percent of Medellín's in 1980, and 32.4 percent of Cali's in 1981.<sup>20</sup> By the 1960s, the legislation allowed all municipalities to use this levy.

In 1991, Colombia changed its constitution. Article 317 states that only municipalities can tax properties, including through the valorization levy. The Land-Use Planning Law in 1997 established in article 39, that "the costs corresponding to the cost of main road infrastructure and public services networks will be distributed among the owners of the entire beneficiary area and must be recovered through tariffs (public services), valorization contribution, land-value increment (*plusvalía*), property tax or any other system that guarantees the equitable distribution of the costs and benefits of the actions".<sup>21</sup>

Colombian laws clearly earmark the revenue from valorization to cover the construction costs of transport projects that benefit a group. A valorization program includes a set of roads and public space projects financed by the revenue from the valorization levy. The legal framework does not require detailed designs and safeguards studies before the local legislative—the City Council in Bogotá's case—enacts the program. The revenue from valorization can finance these detailed designs and studies. Therefore, the initial work cost estimates are uncertain and subject to change.

The legal framework also allows two ways to estimate the program's benefits and distribute them among the beneficiaries up to the point they cover the costs. One is known as the Medellín School because this city used it first, and others followed. In this option, planners estimate the program's benefits and use econometric techniques from similar projects to see the program's impact on land prices. This exercise quantifies the benefits, which should exceed the costs of building the program. The valorization levy can recover the costs, not the entire benefit. The second option is known as the Bogotá School. The main difference is that there is no econometric exercise to estimate the benefits. The assumption is that the program has benefits that exceed the costs. Therefore, the emphasis is on estimating the costs using the valorization levy. The cost estimates in both cases do not have detailed designs.<sup>22</sup> The laws also allowed municipalities to recover contingency and administrative costs, which could reach 10 and 30 percent of the construction cost, respectively. Colombian law later eliminated these percentages, giving municipalities more flexibility.<sup>23</sup>

<sup>17</sup> [Ley 25 de 1921 - Gestor Normativo - Función Pública \(funcionpublica.gov.co\)](#)

<sup>18</sup> Borrero Ochoa, et al., 2012; Alcentro, 2019

<sup>19</sup> Jaramillo, 2010

<sup>20</sup> Jaramillo, 2010

<sup>21</sup> Funcion Publica, 2019

<sup>22</sup> Borrero Ochoa, et al., 2012, Borrero Ochoa O., 2013, Mendez Sampedro, 2023

<sup>23</sup> Peterson, 2009



The national laws apply to all the provinces and municipalities in Colombia, a unitary country. The law allows the subnational governments to enact local laws—ordinances—that develop the process of enacting a valorization program. Until 2023, Bogotá Ordinance 7 of 1987<sup>24</sup> normed the valorization levy in Bogotá.<sup>25</sup> This Ordinance earmarks the valorization revenue to finance a specific set of transport projects that the city council must approve through a specific ordinance. Ordinance 7 of 1987 includes both the Bogotá and Medellín Schools to estimate benefits because they appear in the national legislation. Bogotá authorities can choose—and have always chosen—to finance the cost of the projects, assuming the benefits exceed the costs without proving it.

Ordinance 7 of 1987 was the local framework for valorization describing the principles for determining the area benefited by the program financed by the valorization levy and for distributing the actual levy each benefited property should pay. Authorities can develop detailed methodologies within these principles, as shown in Section 4, to regulate each valorization program.

This ordinance established the Urban Development Institute (Instituto de Desarrollo Urbano, IDU) as the prime valorization authority. The IDU had to notify the beneficiaries of a valorization program and convene them to elect representatives. IDU administered this election process using note ballots. If the election failed to have candidates and voters, then the Ordinance allowed the IDU Board of Directors to appoint representatives randomly chosen from registered professional associations.

These representatives joined three representatives of the city government—the head of IDU, the head of the Urban Planning Agency, and the head of the City’s Cadaster—in the Oversight Board. The Oversight Board oversees the planning and implementation of the program, including issuing technical concepts on areas of influence, implementation plans, designs, estimated costs, and the levy allocation to beneficiaries. The IDU had to issue a technical report (*memoria técnica*) covering these aspects and present it to the Oversight Board and the IDU Board of Directors.

IDU then sent the beneficiaries a billing statement reflecting the property’s data in the cadaster and the amount to pay in one or multiple installments. The beneficiaries could pay at IDU’s office, at the branches of three different banks, or using IDU’s website. In all cases, the information from the cadaster is critical to link the payment to the property that benefits and must pay the betterment levy.<sup>26</sup>

This Ordinance also normed how beneficiaries could complain about the estimated levy or the inclusion of their property in the benefitted area. The Ordinance also said that when final designs were available, IDU had to update the cost estimates. If the final estimates were higher than the original estimate, then IDU should update the estimated levy for each beneficiary, thus increasing the charge. Citizens can complain at this point and during the implementation of the works. Moreover, Colombia’s 1991 Constitution created citizen participation mechanisms that apply nationwide.

In sum, Colombia and Bogotá have solid legal frameworks that set principles that give authorities the flexibility to define beneficiary areas and levy allocation through detailed methodologies. The framework also creates citizen participation opportunities. Citizens had ways to push back, complain, request to delay, and even stop construction.

<sup>24</sup> City Laws in Colombia are *acuerdos* (agreements), issued by the City Council. This note uses the English term ordinance for city laws. The national congress enacts laws (*leyes*)

<sup>25</sup> Secretaria Jurídica Distrital, 1987

<sup>26</sup> Instituto de Desarrollo Urbano, IDU., 2025

4

# Five Programs Financed Through the Valorization Levy





This section explains critical aspects of the 1995, 2005, 2010, 2013, and 2018 valorization programs enacted by the city council, as mandated by Ordinance No. 7 of 1987 and signed by the mayor. To understand the cases, a timeline of mayors in office is necessary (Table 4.1).<sup>27</sup>

## 4.1. The 1995 Valorization Program

The Mockus administration received approval from the City Council through Ordinances 23 and 25 of 1995 for programs financed through the valorization levy for US\$19,996,983 and US\$325,515,725, respectively.<sup>28</sup> The first improved and widened three arterials and built two overpasses for cars. The second improved and widened six avenues, including three with a right of way (RoW) of 100 m (Figure 4.1). Upon approval by the City Council, city authorities developed detailed designs. The Ordinances defined the principles to estimate the area of influence and how to allocate the levy among beneficiaries. The Ordinances did not set a deadline for completing construction.

In 1998, under Mayor Penalosa, the City Council modified Ordinance 25 through Ordinance 9 (July 30).<sup>29</sup> This Ordinance kept the levy amount constant, added one more major road, and updated the cost estimate to US\$325,825,241 (Col\$ 474,987,509,796). This Ordinance authorized IDU to levy only 30 percent of the difference between the updated and initial value. This updated cost, however, did not include the upgrades to three roads plus a part of another one. Other sources, such as property taxes, would finance these projects. These sources also financed the gap.

This Ordinance also set January 1, 1999, as the deadline to start building the remaining projects in the valorization program. If construction did not start, then the IDU had to return to the taxpayers the contributions plus interest for the avenues that had not started.

In 2001, the IDU confirmed that the 1995 cost estimate was insufficient to conclude the construction of a reduced number of projects. The city had contributed from other sources, but the funds were still insufficient. Ordinance 48 of 2001 orders to recover part of the financing gap using an additional valorization charge to the same beneficiaries that paid originally.<sup>30</sup>

In sum, the number of transport projects completed was lower than originally expected. The final designs showed that the cost was higher than estimated when the City Council approved the Ordinance in 1995. The original revenue was enough for a reduced scope, but it still needed help from other sources of revenue. Other sources financed the roads removed from the program. In addition, the original programs promised that the revenue from the valorization levy would cover all the costs. However, in this and the cases highlighted in Table 4.1, the city has had to use other revenues to finance the gaps. Bogotá has never financed 100 percent of the transport projects through the valorization levy, only a fraction.

<sup>27</sup> Due to inflation and devaluation, cost estimates in Colombia have several digits. In Colombia, as in most Spanish-speaking countries, a billion is one thousand times larger than the US-British billion. Spanish has the word *millardo*, which is equivalent to one US billion or one thousand million. To avoid further confusion between quadrillions of pesos, which are trillions in the US-British definition, this note spells out the figures with all digits.

<sup>28</sup> Secretaría Jurídica Distrital, 1995 and Secretaria Juridica Distrital, 1995

<sup>29</sup> Secretaría Jurídica Distrital, 1998

<sup>30</sup> Secretaría Jurídica Distrital, 2001 and Hernandez, 2007



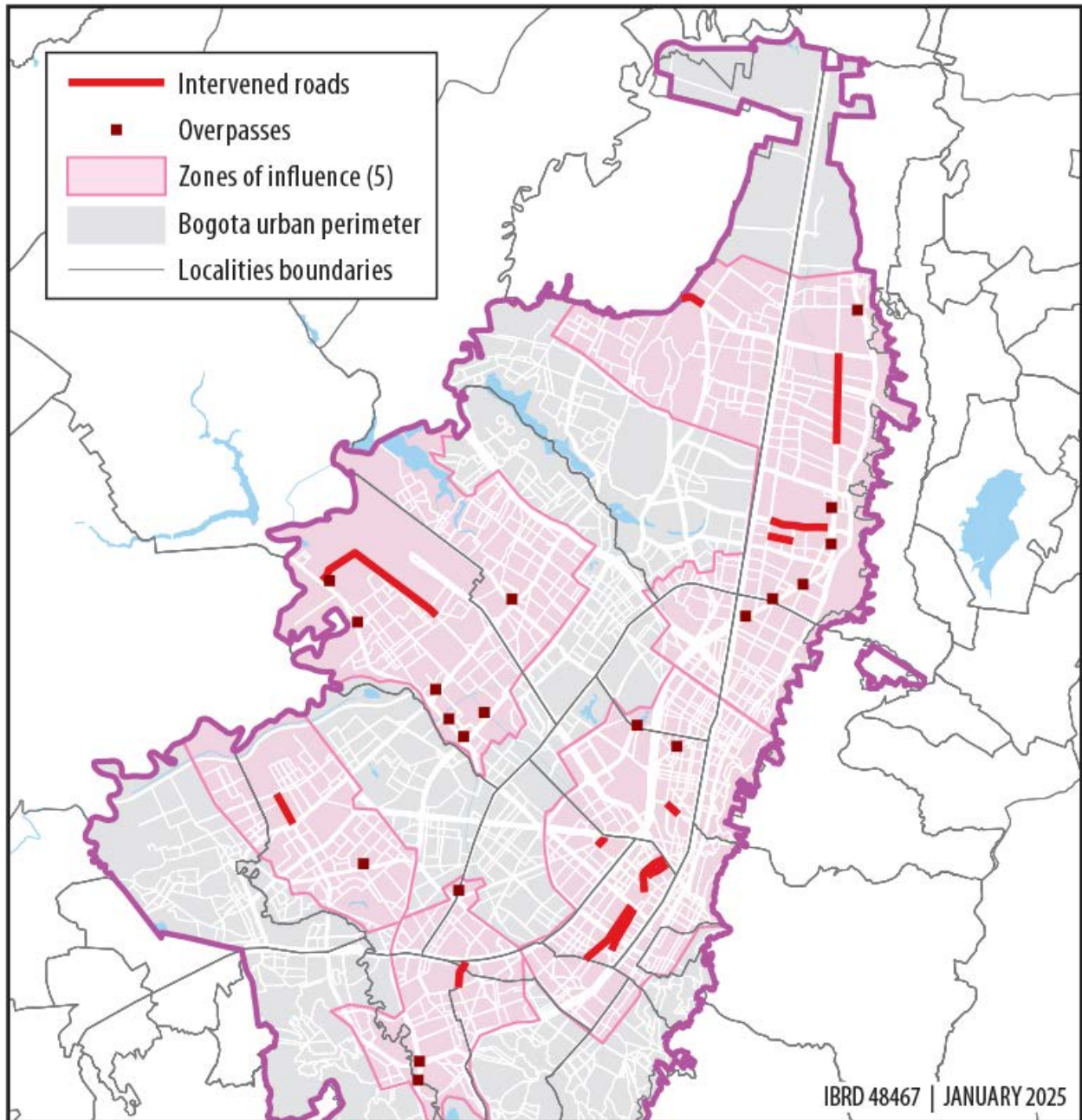
**Table 4.1. Bogotá mayors and valorization levy approval dates and amounts**

Term in office		Mayor's name	Ordinance approving valorization levy on and date	Amount	
Begin date	End date			(In current pesos of the year it was enacted)	In US\$ at the approval day's exchange rate
1/1/1995	12/31/1997	Antanas Mockus (He resigned on April 10, 1998, to run for president).	10/31/1995		
			Ordinance 23 of 1995	\$19,887,000,000.00	\$19,996,983
			12/28/1995		
			Ordinance 25 of 1995	\$321,271,000,000.00	\$325,515,725
1/1/1998	12/31/2000	Enrique Penalosa	No new program		
1/1/2001	12/31/2003	Antanas Mockus	No new program		
1/1/2004	12/31/2007	Luis E. Garçon	10/20/2005	\$2,103,117,895,856.00	\$918,733,109
			Ordinance 180 of 2005		
1/1/2008	12/31/2011	Samuel Moreno Rojas (suspended on 4/3/2011 due to corruption accusations)	9/28/2010	\$379,000,000,000.00	\$210,304,359
			Ordinance 451 of 2010		
1/1/2012	12/31/2015	Gustavo Petro	7/8/2013	No new revenue because it amended 2005 program	
			Ordinance 523 of 2013		
1/1/2016	12/31/2019	Enrique Penalosa	12/6/2018	\$906,579,000,000.00	\$286,684,333
			Ordinance 724 of 2018		
1/1/2020	12/31/2022	Claudia Lopez	9/17/2023	No new program. Replaced Ordinance 7 of 1987 norming Valorization	
			Ordinance 925 of 2023		

Source: The author using the data in Chapter 4.



**Figure 4.1. 1995 Valorization Program**



Source: Based on Borrero Ochoa O., 2013.



## 4.2. The 2005 Mega Valorization Program

The Garçon administration received approval from the City Council for the largest-ever valorization program through Ordinance 180 of October 20, 2005.<sup>31</sup> The program had four phases totaling US\$918,733,109. The four phases contemplated upgrading and constructing sixteen parks, nineteen sidewalks, twenty-six overpasses, thirty-one footbridges, and forty-five urban roads – 137 in total (Figure 4.2). The first phase would design forty-five transport projects in detail and implement them (Table 4.2). In addition, Phase 1 would design the projects in Phase 2. Phase 2 implemented the projects in that phase and designed the projects for Phase 3, which designed the projects for Phase 4. This program spanned five mayoral administrations. The Ordinance gave two years to start construction once the IDU determined the actual levy. At approval, the final designs were not ready, and the cost estimates were preliminary. The actual levy would be based on the final designs and cost estimates.<sup>32</sup>

The international literature used this program as an example because of its size and geographic span. Figure 4.2 shows only the first two phases, which almost cover the entire city. Peterson, 2009 states that “valorization in effect has been transformed into an up-front, land-based infrastructure tax [earmarked] use to finance a substantial part of the municipal capital budget”. He adds, “The fact that public works improvements financed by the betterment levy have been spread over the entire city has reduced public resistance”. Moreover, by covering practically the entire city, this program tackled the criticism that infrastructure financed by the valorization was for the rich, who could afford it. Low-income groups received inferior-quality construction.<sup>33</sup> Gwilliam, 2016 writes on this valorization program that “instead of making parcel-by-parcel estimates of land value gains due to individual investment projects, Bogotá has packaged its street and bridge improvement program into a citywide bundle of public works projects, all financed in part through a citywide “valorización” fee that is broadly differentiated by benefit zone”.

**Table 4.2. Transport projects included in the 2005 Valorization Program**

Phase No.	Phase 1	Phase 2	Phase 3	Phase 4	Total
<b>Begin date for works (year)</b>	2007	2009	2012	2015	
<b>Parks</b>	5	11	0	0	16
<b>Sidewalks</b>	9	10	0	0	19
<b>Overpasses</b>	6	4	9	7	26
<b>Footbridges</b>	13	9	4	5	31
<b>Roads</b>	12	12	8	13	45
<b>Total</b>	45	46	21	25	137
<b>Cost (Col\$)</b>	\$485,974,434,006	\$412,563,855,399	\$575,053,767,157	\$629,525,839,294	\$2,103,117,895,856
<b>Cost (US\$)</b>	\$212,294,709	\$180,225,785	\$251,208,425	\$275,004,189	\$918,733,109

Source: Instituto de Desarrollo Urbano, 2007.

<sup>31</sup> Secretaria Jurídica Distrital, 2015

<sup>32</sup> Instituto de Desarrollo Urbano, 2007

<sup>33</sup> Peterson, 2009 and Jaramillo, 2010



The complexity of this program went beyond the four phases and the number of transport projects. First, the beneficiary areas covered most of the city to the point that some argued it was a tax and not a levy and that it was not valorization with local reach but with general, city-wide reach.<sup>34</sup> The idea was to provide high- and low-income groups with the same infrastructure, but they would have to contribute to its financing.

Second, the formula to distribute the levy among beneficiaries was complex, including factors for household income, number of floors, type of use, and lot area, weighted by a benefit factor. The latter was 2.5 for properties closer to the projects, 1.8 and 1.3 for the next two tiers, and 1.0 for the area farthest away.<sup>35</sup> The Ordinance also established that the levy would be by phase—something that taxpayers did not understand.<sup>36</sup> Phase 1 collected 92 percent of the target.<sup>37</sup> IDU received over 50,000 complaints, including petitions to reexamine the allocated levy and even exempt that property from the levy.<sup>38</sup> Petitioners also argued they could not afford the levy, especially when some received a second request for payment for Phase 2.<sup>39</sup>

The strategy to spread the betterment levy over the entire city did not work, probably because of the total tax burden issue. In parallel with this huge valorization program, the city administration was updating the cadaster information for 755,000 properties and the methodology to estimate the assessed value of the property. The base for the property tax is the assessed property values and the number of registered properties. Taxpayers pay more in taxes even if the rates do not change. Thousands of people started to complain about the methodology followed by consultants to update the cadaster. Oversight agencies intervened, asking to revoke the cadaster upgrade. The pressure led the Garçon administration to drop the cadaster upgrade.<sup>40</sup> Garçon chose to save the valorization program but left the city with an outdated cadaster.

The next mayor, Moreno-Rojas, amended through Ordinance 398 of 2009 the scope of Phase 1 by removing some projects and adding others. This Ordinance extended the deadline to begin construction. This Ordinance reduced the total cost of the 2005 program by 3.15 percent, confirming new dates for the four phases. This Ordinance ordered IDU to return to the taxpayers the levy collected for transport projects, which this Ordinance excluded from the valorization program. The next mayor, Petro, through Ordinance 523 of 2013, further amended the original scope in Ordinance 180 by canceling Phases 3 and 4 and reducing the number of projects financed by the valorization levy. The city financed these projects using other revenue and debt. This Ordinance ordered the return of the valorization paid by taxpayers for projects not executed.<sup>41</sup>

<sup>34</sup> Miranda Hernández, 2016

<sup>35</sup> Instituto de Desarrollo Urbano, 2007

<sup>36</sup> Méndez Sampédro, 2023

<sup>37</sup> Gómez, 2018

<sup>38</sup> Arenas, Head of Valorization at IDU, 2024

<sup>39</sup> Méndez Sampédro, 2023

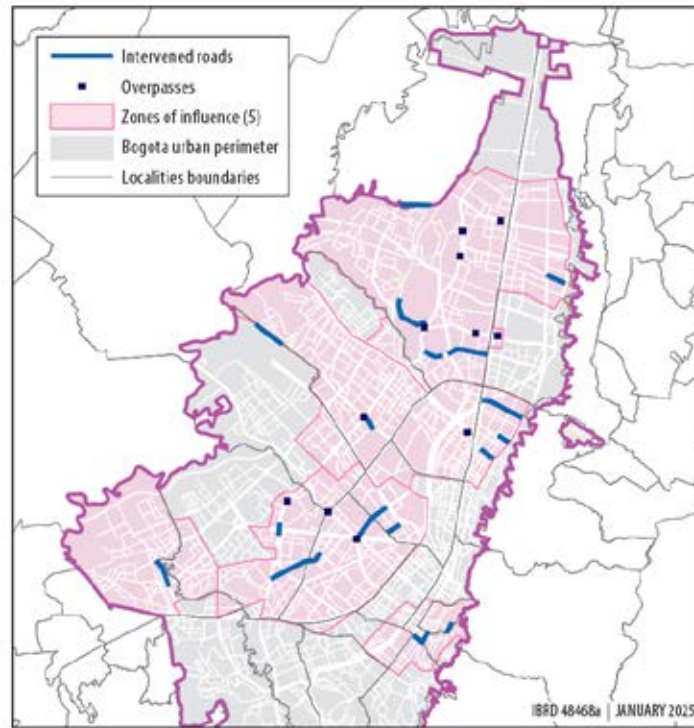
<sup>40</sup> Caracol Radio, 2007

<sup>41</sup> See also Secretaría Jurídica Distrital, 2015

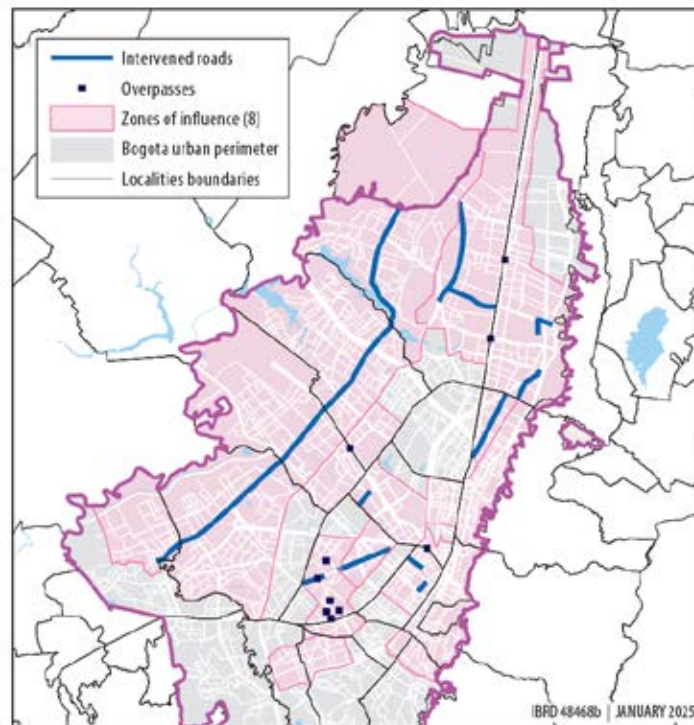


Figure 4.2. 2005 Valorization Program, Phases 1 and 2

Phase 1



Phase 2



Source: Based on Borrero Ochoa O., 2013.



In 2013, the IDU commissioned the capacity-to-pay study for the 2005 valorization program.<sup>42</sup> The methodology measured a consumption basket by income group, estimating expenses and income. The study found that the wealthier people had the capacity to pay the valorization levy, but among the lowest-income group, only 48 percent could afford to pay. The study stated that households that benefited from the valorization program would be richer, thanks to the increased property value — a wealth effect.

The study has issues. First, the methodology does not mention the tax burden that households pay because of the property tax, plus national taxes. The study mentions that the city is collecting more property tax revenue but does not link it with the ability to pay this tax plus the valorization levy. Second, the increase in value generated by the program does make households wealthier, but they cannot translate this extra wealth into the cash flow they need to pay the levy. People would have to sell their properties to realize the increase in value. This wealth effect does not have cashflow consequences, which is an economic reality.

### 4.3. The 2010 Valorization Program

The City Council approved a program financed by the valorization levy through Ordinance 451 under the Moreno-Rojas administration. This valorization program sought to upgrade and expand two 100m (RoW) avenues, three 60m avenues, and others with 40 and 30m RoW in the northern part of the city, as explained in the zonal urban development plan.<sup>43</sup> See Figure 4.3.

This Ordinance is the only one that includes the formula the IDU had to use to define the valorization levy each property had to pay (Equation 1). This equation is typical, but it is usually in the technical report by IDU, not the ordinance.

$$C_i = \left( \frac{A_i}{d_i} \right) / \sum (A_j / d_j) \times (C_t \times \alpha)$$

$$C_i = \frac{\left( \frac{A_i}{d_i} \right)}{\sum_j \left( \frac{A_j}{d_j} \right)} \times (C_t \times \alpha)$$

Where:

$C_i$  = valorization levy to the property  $i$ .

$A_i$  = cadaster value of property  $i$ .

$d_i$  = Euclidean—direct or beeline—distance between property  $i$  and the roads, sidewalks, parks, etc., financed by the valorization program that benefits property  $i$ .

$C_t$  = total cost of the works that benefit property  $i$ .

$\alpha$  = land use coefficient, set at 0.65 for urban properties and 0.35 for rural ones.

<sup>42</sup> Consorcio Estudios de Valorización para Bogotá, 2013

<sup>43</sup> Secretaría Jurídica Distrital, 2010



This equation, and the ones used by IDU in the technical reports, reflect the parameters given by Ordinance 7 of 1987. This example is simpler than the one in the 2005 valorization program. The equations try to allocate the levy fairly and equitably, respecting the capacity to pay by the owner of each property, which is treated separately from this equation. For residential properties, the ordinance or the technical reports usually cap the levy to the value of the yearly property tax and give time to pay over one to five years. Colombian authors have analyzed the aspects of equity and fairness.<sup>44</sup> Would-be payers also use the equation to build their case against the levy.

As the city government refined the zonal plan, it decided to finance this program through another land-value capture instrument: asking developers to pay for higher density<sup>45</sup> or development rights.<sup>46</sup> As a result, Ordinance 523 of 2013 suspended this program for two years. Finally, Ordinance 724 of 2018 derogated from Ordinance 451 of 2010.

#### 4.4. The 2013 Valorization Program

The Petro administration, through Ordinance 523 of 2013, amended the 2005 valorization program. This Ordinance moved transport projects from Phase 3 to Phase 2, added two major roads, confirmed road-related works in Phases 1 and 2, and eliminated the sidewalk and pedestrian overpass elements—and some roads of the 2005 program. Ordinance 523 canceled Phases 3 and 4 of the 2005 program, stating that the general tax revenue and debt would finance this part of the original scope. Bogotá could opt for this financing because its tax revenue was improving, and interest rates were going down. On July 8, 2013, the reference interest rate by Colombia's central bank was 3.25 percent per year, compared with 6.00 percent in 2005. See Section 6 on the city's finances.

The 2013 program is not exactly a new valorization program but a modification of the 2005 program. The IDU website tracks the implementation of three major transport projects in the 2013 program.<sup>47</sup> By September 30, 2024—over ten years after the council's approval—the construction progress for two major roads in Phase 1 was 86.50 percent. The site tracks the progress of one of the two major roads the Petro administration added in 2013, which stood at 91.04 percent.

Finally, this Ordinance also ordered IDU to return the valorization levy revenue from the 2010 and 2005 programs. IDU states, “it is important to highlight that with the approval of Agreement 523 of 2013, the collection of Phase II was partially repealed, and in turn, the collections of Phases III and IV of Ordinance 180 of 2005 were eliminated. The valorization for the Zonal Plan North was also suspended (Ordinance 451 of 2010). These valorization contributions had to be made effective before 2015 and totaled more than 1,500 billion pesos (US\$783.65 million). They were reduced to the collection of 396 billion pesos (US\$206.88 million)<sup>48</sup> That began to be collected through regulations issued by the IDU on December 27, 2013”.<sup>49</sup> The actual revenue target is only 26.4 percent of the original.

<sup>44</sup> Jaramillo, 2010, Acosta Restrepo, 2010, Borrero Ochoa, et al., 2012, Borrero Ochoa O., 2013, Mendez Sampedro, 2023

<sup>45</sup> Mendez Sampedro, 2023

<sup>46</sup> OECD/Lincoln Institute of Land Policy, PKU-Lincoln Institute Center, 2022 and Peterson, 2009

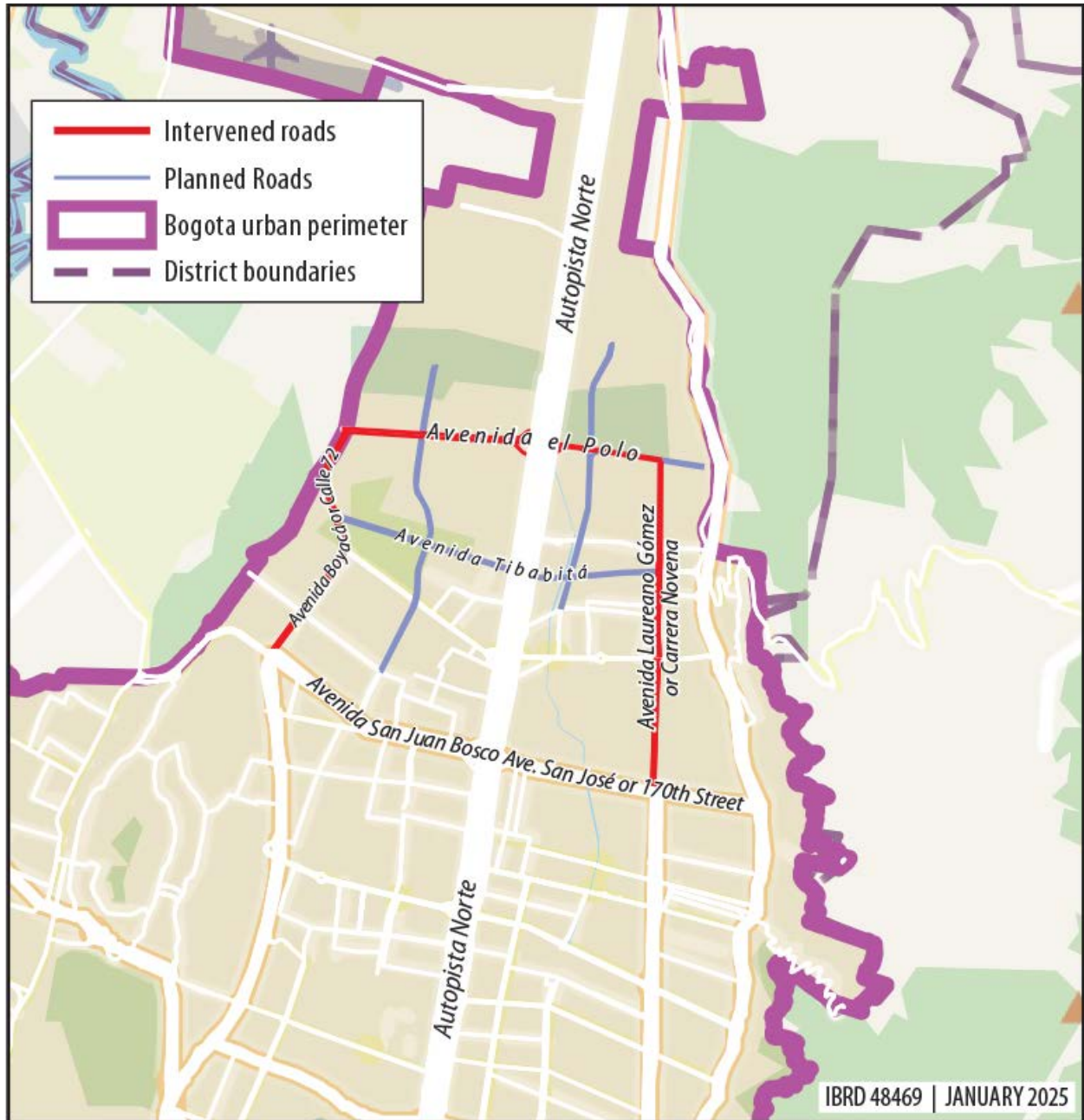
<sup>47</sup> <https://www.idu.gov.co/page/valorizacion-1#asi-van-las-obras>

<sup>48</sup> The Exchange rate is for December 27, 2013, the date of the IDU announcement

<sup>49</sup> Instituto de Desarrollo Urbano (IDU), 2013



Figure 4.3. 2010 Valorization Program



Source: Based on Borrero Ochoa O., 2013.



## 4.5. The 2018 Valorization Program

On December 6, 2018, the City Council approved the Penalosa administration valorization program for US\$286,684,333. This program had three axes: two in upper-income areas and one in an industrial zone (Table 4.3). The scope was different from previous programs because it financed only 43 km-lane of road upgrades under the complete street idea, which meant updating the sidewalks, including universal accessibility. The sidewalk area for upgrading totaled 546,000 m<sup>2</sup>. The program included 32.4 km of permanent and segregated bike lanes. Finally, the Eastern Axes included a community center (also known *Happiness Center* or *Centro Felicidad*, seen in Figure 4.4). This center is a 10-story building in a high-income area with a theater, library, galleries, swimming pool, and basketball courts. The designs for all projects in this program were preliminary, below the construction level of detail. The next administration had to design them in detail and contract them out through competitive bidding.

**Table 4.3. 2018 Valorization Program axes and costs**

Axis	Cost (in Col\$)	Cost (in US\$)
Eastern Axis	\$396,819,000,000	\$125,484,696
Cordoba Axis	\$280,260,000,000	\$88,625,648
Industrial Zona Axis	\$229,500,000,000	\$72,573,989
<b>Total</b>	<b>\$906,579,000,000</b>	<b>\$286,684,333</b>

Source: Arenas (2018).

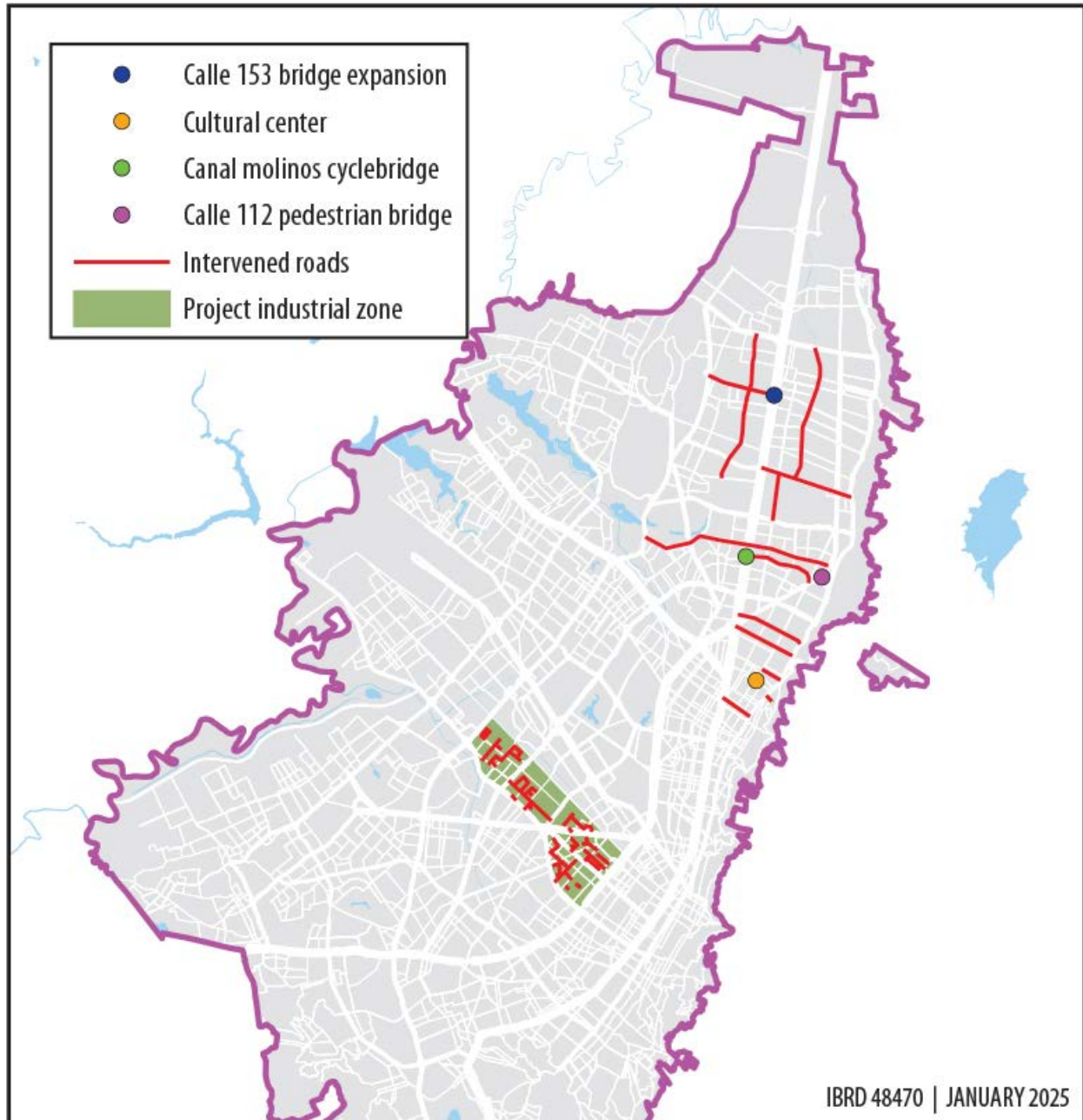
Levying valorization on the wealthy reflects lessons learned from the 2005 valorization program, which had projects throughout the city, including low-income areas. People in these areas complained more about the burden of the valorization levy. The wealthy could pay, for the most part. IDU received 7,000 complaints on the 2018 program, compared with 50,000 for Phase 1 of the 2005 program.<sup>50</sup>

<sup>50</sup> Arenas, 2024 and Mendez Sampedro, 2023





Figure 4.4. 2018 Valorization Program



Source: Based on Arenas, 2018.

Mayor Penalosa defended this approach by stating that the wealthy could pay and needed a livable city—hence the emphasis on sidewalks and bike lanes. He supported his argument by saying that Bogotá is an income redistribution engine because the wealthy pay taxes. The property tax paid on a rented property, for example, could mean over one month of rent. Hence, property taxes and other revenue should finance the improvement of streets and public spaces in low-income areas.<sup>51</sup>

<sup>51</sup> Penalosa, 2024



This approach addresses one concern in the literature: that the valorization programs benefit those who can pay while ignoring the lower income groups.<sup>52</sup> Penalosa's idea was to provide high and low income groups with the same infrastructure because an ordinance had set the standards for sidewalks and streets—which apply to the entire city, regardless of income level.<sup>53</sup>

By December 31, 2019, when Penalosa left office, the IDU had signed two design-build contracts. On January 1, 2020, Claudia Lopez took office as mayor. She had to implement the other fourteen contracts. IDU oversaw thirteen, as well as another entity, the *Centro Felicidad*. Gradually, IDU awarded the contracts through competitive selection.

The emphasis on sidewalks coupled with enhanced citizen participation tools in Colombian law led to a source at IDU to say, “upgrading sidewalks is more complex than building a metro line”. Bogotá is currently building one elevated metro line, and bidding is advancing for a subway line. First, utility networks are primarily under the sidewalks. The 2018 Ordinance demands coordination between IDU and utility companies. However, if the projects affect the utility networks, these companies might not have the budget allocations, and delays happen.

Second, if the contractor discovers a utility pipe that was not in the designs, then construction stops while IDU coordinates with the utility company that owns the pipe.

Third, Bogotá is a dense city with many doors that provide access to a property per block. On mixed land-use corridors, there are many shops and restaurants. IDU must coordinate with multiple stakeholders to upgrade a sidewalk.

Fourth, the sidewalk must follow Bogotá public space regulations that mandate universal accessibility.<sup>54</sup> The existing sidewalks can be far from that ideal, for example, because of entrances to underground garages that end at the curb and not where the sidewalk and property lines meet. The sidewalk designs must satisfy all these constraints.

Fifth, citizen participation instruments allow people to claim that city authorities did not consult them. A judge could halt construction. While people demand speedy implementation, several factors delay it.

Finally, there is a magnifying glass on the construction sites financed by valorization because this revenue is earmarked for specific works. Moreover, the IDU-issued invoice shows the levy amount and the transport projects that generated the benefit associated to the payment of this levy. The earmarking backfires because people know they paid for certain works. They can complain either because they do not want to pay or because they want to change the designs. Sources interviewed indicated that the citizens pay more attention to the works financed through valorization than to those financed from the general tax pool. People do not know what tax financed the other works. Earmarking draws citizens' attention.

Facing delays and criticisms, Mayor Lopez decided to change Ordinance 7 of 1987 with an innovative approach.

<sup>52</sup> Jaramillo, 2010 is an example of this fear

<sup>53</sup> Secretaría Distrital de Planeación-Dirección del Taller del Espacio Público, 2018

<sup>54</sup> Alcaldía Mayor de Bogotá-Secretaria de Planeación, 2023

# 5

## The 2023 Framework for the Valorization Levy

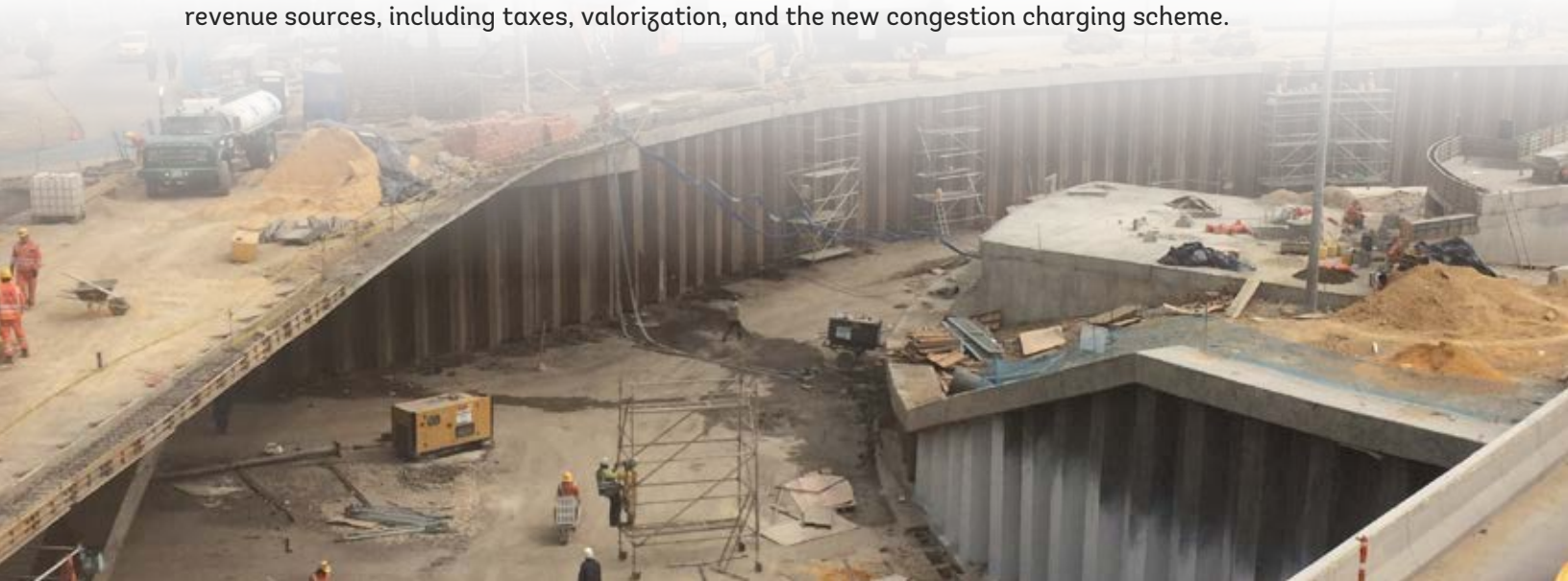




The city council approved Ordinance 915 of 2023 on September 29 with a new legal framework for the valorization levy, completely replacing Ordinance 7 of 1987. The options to define the area of influence of the valorization program and the distribution of the levy among beneficiaries remain similar. The City Council must approve any new valorization program through an ordinance. The main changes are:

1. The projects included in a valorization program must have final designs, including safeguards studies and approvals from utility companies.
2. Before approval by the city council, IDU must undertake a capacity-to-pay study of the property owners that will pay the valorization levy.
3. IDU can only issue the levy the beneficiaries must pay after construction has started, or after construction is complete, and the project is operational.
4. If IDU chooses to levy the valorization during the construction, construction must have started in at least 50 percent of the projects in that valorization program. IDU can levy the valorization when construction starts, not before.
5. Under exceptional circumstances, the City Council can approve a valorization program before construction has started. The new ordinance gives IDU two years to start construction. If it does not start, then IDU must return the valorization revenue to the taxpayers.
6. The new ordinance eliminates the oversight board mandated by Ordinance 7 of 1987.
7. Instead, the new ordinance defines citizen participation as arrangements that start with the project concept. Citizens have an oversight role, as established by Colombian law.
8. Every year, IDU will provide electronic updates on the progress of the projects financed by valorization. The city government has the email address of most property and business owners.
9. If the projects are incomplete by a given date, IDU must return to the taxpayer the difference between what the program built and what remained. The city will complete construction using other revenue sources. This applies to the 2018 valorization program.

Bogotá is yet to enact a valorization program using this new ordinance. Future research could explore if the mandate to enact the program after construction has started resulted in better outcomes, such as speedy implementation. The next section analyzes the evolution of Bogotá's revenue sources, including taxes, valorization, and the new congestion charging scheme.



# 6

## Evolution of Tax Revenue in Bogotá — Plus Valorization and Congestion Charging





Bogotá administrations have historically sought to increase the amount collected and lower the collection cost, even abandoning taxes that yielded little revenue.<sup>55</sup> Reforms included improving the cadaster by asking people to self-report their properties. Later, the city's cadaster incorporated state-of-the-art methodologies to appraise property values, including surveys and hedonic pricing models. Bogotá's cadaster agency updates the cadaster yearly.<sup>56</sup> This was possible thanks to the Bogotá Urban Services Project, financed by the World Bank.<sup>57</sup>

The city has made analogous efforts to improve its main source of revenue, the sales tax, known as the tax on industry and commerce. Part of this effort is digitizing business data and using it to improve revenue collection efficiency. Other sources of revenue are the vehicle tax and the fuel surcharge. The fuel surcharge is earmarked 50 percent for road maintenance and expansion and 50 percent for mass transit improvements such as Bus Rapid Transit and the metro. Finally, there is the urban development tax and the games and the games and shows tax. Box 1 explains each tax. Box 2 explains the fuel tax and subsidy in Colombia.

<sup>55</sup> Bahl & Linn, *Urban Public Finance in Developing Countries*, 1992

<sup>56</sup> Unidad Administrativa Especial de Catastro Distrital, 2020. See also Garcia Puerto, 2024

<sup>57</sup> Munoz-Raskin & Canon-Rubiano, 2015





## Box 1. Definitions of the taxes in Bogotá

**Property tax:** A tax on properties located in an area. The cadaster of properties records ownership and property characteristics. The base for the property tax is the number of registered properties and the assessed values for each one in the cadaster. The tax rate is set by the City Council and can differ by the type of property — housing, industrial, commercial, etc.<sup>58</sup>

The sales tax in Colombia is a municipal tax on industrial and commercial activities. The base is gross income without deductions due to inputs or labor costs.<sup>59</sup> The National Law establishes ranges for the sales tax rates—0.2 to 0.7 percent for industrial and 0.2 to 1.0 percent for commercial and service activities. Municipalities can set the rate within these ranges.<sup>60</sup>

This tax is on the ownership of cars and motorcycles (above 125 cc) and is paid annually. Bicycles, small motorcycles, public transport, and construction, agricultural, and freight vehicles are exempt. In theory, the revenue is to finance mobility projects.<sup>61</sup> However, Colombian law says that taxes cannot be earmarked, only collected as levies and fees. The base is the commercial value of the vehicle times the number of vehicles. The rate is lower for lower-value vehicles: 1.5, 2.5, and 3.5 percent.<sup>62</sup> As the car ages, its value decreases, and the rate at which it pays is also lower. Yet this car pollutes more because of the older engine. This tax structure generates an implicit subsidy for car use.<sup>63</sup>

**Fuel Surcharge:** The fuel surcharge revenue is earmarked for maintaining and expanding the road network and for the capital costs of mass transit projects in cities that build them.<sup>64</sup> See Box 2 for a detailed explanation.

**Urban Development Tax:** A 1913 national law authorized municipalities in Colombia to levy a tax on new construction and remodeling projects. The base is the area built, and the rate is 2.6 percent in Bogotá.<sup>65</sup>

**Congestion Charging:** In 2019, Bogotá introduced a congestion charging scheme that allowed drivers to pay to avoid the Pico y Placa policy.<sup>66</sup> The Pico y Placa policy bans cars from circulating according to the last digit of their license plate. Drivers showed they were willing to pay to use their cars.

**Games and Shows Tax:** Taxes public shows such as concerts and raffles.<sup>67</sup>

<sup>58</sup> Bahl & Linn, 1992

<sup>59</sup> EAFIT, N.D. and Bancolombia, 2026

<sup>60</sup> EAFIT, N.D.

<sup>61</sup> Alcaldía Bogotá, 2024

<sup>62</sup> Actualicese, 2024

<sup>63</sup> Ardila-Gomez & Ortegón-Sanchez, 2016

<sup>64</sup> Actualicese, 2014

<sup>65</sup> Alcaldía de Bogotá, 2024

<sup>66</sup> Secretaría Jurídica Distrital, 2019

<sup>67</sup> Alcaldía de Bogotá, 2024



Figure 6.1 shows the evolution of the revenue from these taxes from 2000 to 2023 in constant Colombian pesos of 2023. The sales tax revenue multiplied in real terms by 3.96 times, the property tax by 4.05, the vehicle tax by 4.53, the gas surcharge by 0.89, the urban development tax by 9030.6, and the Games and Shows tax by 120.6—the last two started from a low base.

## Box 2. The fuel surcharge

The fuel surcharge revenue in Colombia is earmarked for maintaining and expanding the road network and for the capital costs of mass transit projects in cities that build them. Initially, each municipality could set a different rate, but this led to a race to the bottom and drivers making long trips searching for a lower rate. Initially, the rate was 20 percent of the price at the pump, fluctuating with the fuel's market price, and later, the government increased it to 25 percent. Provinces received 6.5 of the 25 percent points, and municipalities the remaining 18.5 percent.<sup>68</sup> This allocation recognized that cities have more kilometers of roads. Bogotá, D.C., received the 25 percent point because it is a province and a municipality, as established in the city's special regime.

Fluctuations in the international oil price led to protests because the local price of gasoline and diesel was also high. In nominal terms, the international oil price was US\$19.44 per barrel on November 11, 2001, climbing to US\$73.93 per barrel by June 1, 2006, and peaking at US\$127.35 per barrel by May 1, 2008. In Colombian pesos, the price increased 402 percent between 2001 and 2006.<sup>69</sup>

The National Government responded with two measures to cope with price fluctuations. First, it created the Fuel Price Stabilization Fund in 2007. The Fund would save when the international price was low and the domestic price high. When the international price increased, the Fund will use these savings to stabilize the domestic price in the short term. In the medium term, the domestic price would gradually follow the international price.<sup>70</sup> The second adjustment happened in 2013 by setting a fixed value for the fuel surcharge that the government adjusts every February, hence stabilizing the price at the pump.<sup>71</sup>

<sup>68</sup> Actualicese, 2014

<sup>69</sup> Author's calculations using Macrotrends, 2024 and Banco de la Republica., 2024

<sup>70</sup> Vargas-Riaño, 2022

<sup>71</sup> Actualicese, 2015 and Revista Motor, 2021



## Box 2. The fuel surcharge (Cont.)

Unfortunately, the Fuel Stabilization Fund did not work as intended, becoming a fuel subsidy that costs the national treasury 100 trillion pesos or US\$24 billion between 2007 and June 2023.<sup>72</sup> This fund had a surplus for only one year—2020, during the COVID-19 pandemic, when oil prices plummeted. The fund had deficits in the remaining years. Analysts recommend allowing higher fluctuations in the domestic price, which should converge to the international price, which means changing the price-setting formula.<sup>73</sup> However, efforts by the national government to change the fund face opposition, especially from truckers.<sup>74</sup>

Colombia is not the exception because most countries subsidize fossil fuels. The IMF estimated that 170 countries provided explicit subsidies—which lower consumer prices—for US\$1.3 trillion by 2022, a US\$800 billion increase from 2020. The implicit subsidies—undercharging for environmental costs and forgone consumption tax revenues—totaled US\$6 trillion in 2020.<sup>75</sup>

Table 6.1 shows the number of taxpayers by tax in 2000 and 2023. This number grew for all taxes, as shown by the growth factor. The table also shows the revenue per taxpayer and the growth factor in this period. The sales tax collects 2.89 times more per taxpayer in real terms. The property tax collects 2.71 times more per taxpayer. The urban development tax stands at 6.71, and the vehicle tax at 1.31. The gasoline surcharge, in contrast, collected less in real terms in 2023 than in 2000 (see Box 2 to understand the reasons).

**Table 6.1. Number of taxpayers, revenue per taxpayer, and change between 2000 and 2023—millions of Constant pesos of the year 2023**

Tax	Year	Number of taxpayers		No. of times	Revenue per taxpayer		No. of times
		2000	2023	2023/2020	2000	2023	2023/2000
Sales tax		134,432	184,177	1.37	\$12.52	\$36.14	2.89
Property tax		965,848	1,443,428	1.49	\$1.13	\$3.05	2.71
Vehicle tax		416,011	1,323,086	3.47	\$0.66	\$0.87	1.31
Gas surcharge		10	10	1.00	\$49,019.59	\$43,834.08	0.89
Urban development tax		3	4,037	1,345.67	\$5.67	\$38.03	6.71
Games and Shows tax		16	52	3.25	\$10.86	\$403.06	37.12

Source: Calculations by the author using data from Observatorio Fiscal de Bogotá, 2024.

<sup>72</sup> Espinosa, Ramírez Olaya, & Millán Hernández, 2023

<sup>73</sup> Dirección Técnica, 2022 and Espinosa, Ramírez Olaya, & Millán Hernández, 2023

<sup>74</sup> Sáenz Castro, 2024

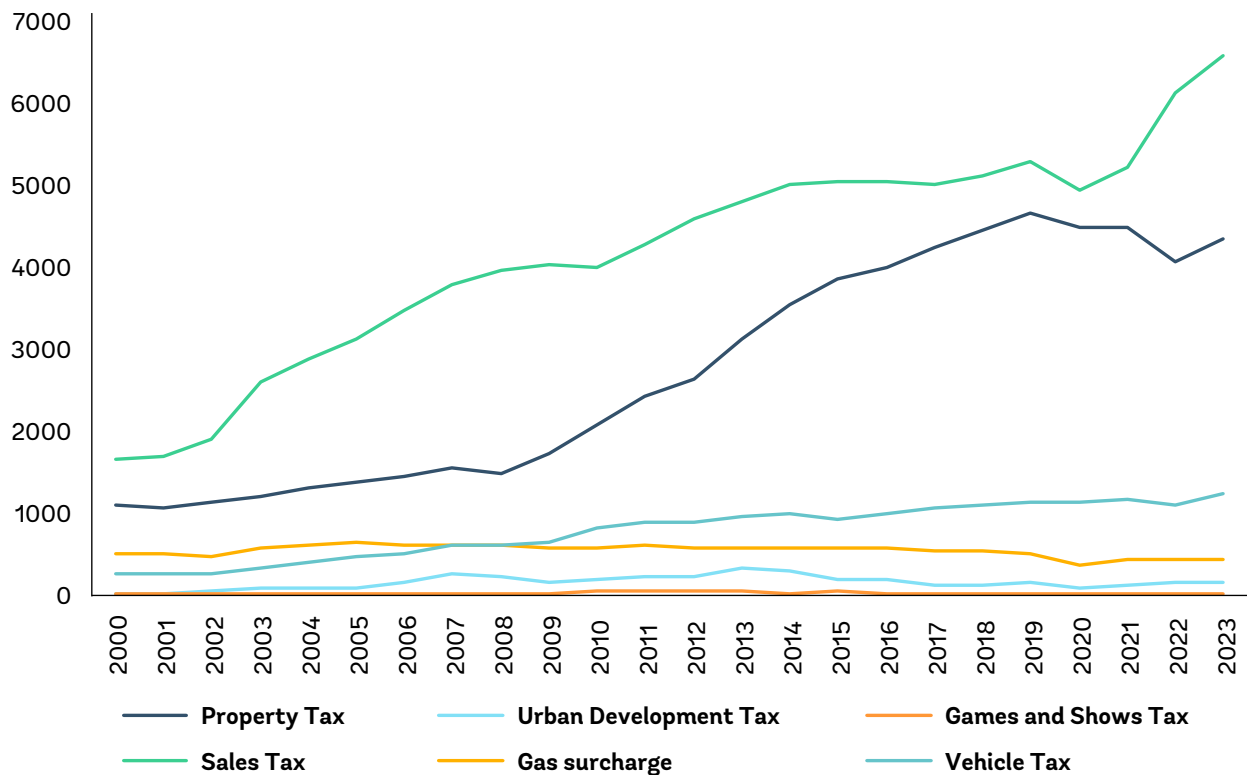
<sup>75</sup> Black, Liu, Parry, & Vernon, 2023



Bogotá has a world-class cadaster that tracks the number of properties, their characteristics, and their value. Table 6.2 shows the evolution of total floor space, the number of properties in the cadaster, and their total value between 2010 and 2024. The recorded built space increased by 29 percent, from 235.2 to 302.9 million m<sup>2</sup>. The registered properties increased by 32 percent, from 2,140,409 to 2,817,536. Finally, the total cadastral value increased by 319 percent in current terms. Discounting inflation, the increase was 117 percent. Assuming a constant property tax rate, Bogotá collected 117 percent more from the property tax because its cadaster was up to date.

Thanks to the solid tax revenues, Bogotá has an AAA credit rating for loans from Colombian banks and had an international investment grade until credit-rating agencies downgraded Colombia in 2021.<sup>76</sup> Financing projects with debt also makes sense when interest rates are lower. Table 6.3 shows the interest rates on the date the City Council approved the valorization programs analyzed in this note. The dramatic drop from 41 percent in 1995 to below 10 percent illustrates the point.

**Figure 6.1. Evolution of tax revenue from 2000 to 2023 in Colombian pesos (in billions)**



Source: Observatorio Fiscal de Bogotá, 2024.

<sup>76</sup> Long, 2021



**Table 6.2. Evolution of Bogotá’s cadastral records**

Year	Floor space (millions of m <sup>2</sup> )	Properties in the cadaster	Total cadastral value (in billions of pesos)
2010	235.2	2,140,409	\$195,700
2011	243.0	2,213,981	\$239,200
2012	248.5	2,269,252	\$280,100
2013	254.8	2,326,968	\$330,300
2014	264.5	2,384,390	\$387,900
2015	269.8	2,249,238	\$446,900
2016	274.1	2,418,705	\$485,800
2017	278.4	2,543,290	\$528,500
2018	288.2	2,587,226	\$590,500
2019	287.3	2,646,666	\$623,800
2020	292.0	2,681,883	\$680,300
2021	292.3	2,706,313	\$686,500
2022	296.6	2,742,388	\$729,300
2023	299.5	2,776,362	\$779,100
2024	302.9	2,817,536	\$820,000
Xtimes 2024/2010	1.29	1.32	4.19

Source: Unidad Administrativa Especial de Catastro Distrital, 2020, and calculations by the author.

The valorization levy has brought important resources earmarked for building roads, sidewalks, and bike paths. The other earmarked source is the fuel surcharge. This earmarked revenue is for building mass transit lines and building and maintaining urban roads. Figure 6 shows the revenue from the valorization levy from 2001 to 2023 in billions of pesos. The numbers are comparable to the values in Figure 6.1. The axes, however, have a different scale. The 750 billion in Figure 6.2 is below the one billion in Figure 6.1, which goes up to seven billion. The 2018 valorization program stands out as it generated significant revenue due to payments while attracting fewer complaints.



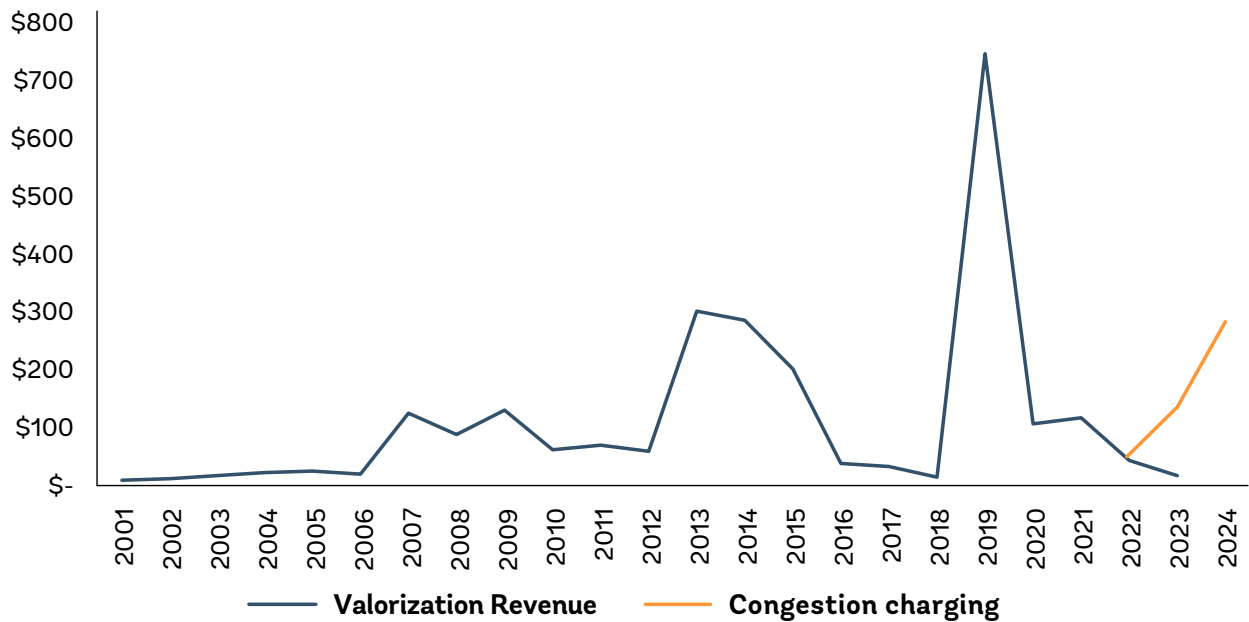
**Table 6.3. Interest rates charged by Colombia’s Central Bank on the approval date of valorization program**

Valorization program	Approval date by City Council	The interest rate on the date of approved
1995	12/9/1995	41.00%
2005	10/20/2005	6.00%
2010	9/28/2010	3.00%
2013	7/8/2013	3.25%
2018	12/6/2018	4.25%

Source: Interest rates from Banco de la Republica, 2024.

Figure 6 shows the 2022 and 2023 values and the projection for 2024. During the COVID-19 pandemic, the mayor suspended the Pico y Placa<sup>77</sup> and the congestion charging because of the lockdown. The City Council estimates that by 2031, the congestion charging revenue will reach 983 billion in constant pesos of the year 2023,<sup>78</sup> higher than the peak revenue from valorization in 2019. The ordinance that created this charge earmarks its revenue to subsidize public transport in Bogotá.

**Figure 6.2. Revenue from the Valorization Levy from 2001 to 2023 in billions of pesos and revenue projection from congestion charging in 2024**



Source: Valorization from the database available at <https://www.idu.gov.co/page/valorizacion-1> and calculations by author. Data for congestion pricing revenue from Concejo de Bogotá, 2024.

<sup>77</sup> Secretaria Juridica Distrital, 2019

<sup>78</sup> Concejo de Bogotá, 2024



To wrap up this section, Table 6.4 shows the total revenue for the period 2000-2023 by taxes and levies, the revenue normalized by the property tax total revenue, and the percentage. The property tax collected was twenty-six times the valorization revenue. The sales tax and the property tax are 81.6 percent of the total revenue, which increases to 96.7 percent when including the vehicle tax and the gas surcharge. The valorization fee was 1.24 percent of the total revenue in this period.

These results are not surprising because the property tax is a yearly payment, while the valorization fee is an occasional one. The concluding section puts these findings into perspective by showing that every source that raises more than the cost of collecting it contributes to financing the urban transport system.

**Table 6.4. Total revenue 2000-2023 by source in Bogotá**

Tax	Total revenue 2000-2023 (in billions) of pesos	Total revenue 2000-2023 (in US\$ billion)	As a % of the total property tax revenue	As a % of the total revenue
Sales tax	\$101,102.12	\$26.45	152.21%	49.24%
Property tax	\$66,422.68	\$17.38	100.00%	32.35%
Vehicle tax	\$18,841.94	\$4.93	28.37%	9.18%
Gas surcharge	\$12,113.74	\$3.17	18.24%	5.90%
Urban development tax	\$3,590.46	\$0.94	5.41%	1.75%
Games and shows tax	\$500.85	\$0.13	0.75%	0.24%
Valorization fee	\$2,548.40	\$0.67	3.84%	1.24%
Congestion charging	\$190.15	\$0.05	0.29%	0.09%
<b>Total</b>	<b>\$205,310.34</b>	<b>\$53.72</b>	<b>309.10%</b>	<b>100.00%</b>

Source: Calculations by the author using data from Observatorio Fiscal de Bogotá, 2024.



7

# Lessons for Other Cities from Bogotá's Experience with the Betterment Levy





Bogotá's story is about five mayors improving tax collection, which allowed the city to improve its public transport. The evolution in the scope and cost of these projects matches the improvements in the city's finances. In 1990, Bogotá implemented a busway project, which was expanded in 1992. The cost was less than US\$50 million. This busway improved bus speeds from 12 to 18 kph. As revenue increased, the city afforded the Transmilenio BRT, which increased speeds from 18 to 26 kph. Phase I of this BRT cost US\$200 million.<sup>79</sup> The city expanded Transmilenio to 114 km, covering a significant part of the city. By 2019, the city signed a Design-Build-Operate contract for the first metro line. The cost was US\$4.6 billion, of which Bogotá would finance US\$2.8 billion, and the national government would pay the rest.<sup>80</sup> In parallel, the city was building a 17-km expansion of the Transmilenio BRT at a cost of US\$954 million, of which the city financed 22.4 percent and the national government financed the remaining 77.6 percent.<sup>81</sup>

The valorization levy in Bogotá has partially financed half the city's roads and has led to significant improvements in bike lanes and sidewalks.<sup>82</sup> However, the valorization programs in 1995, 2005, 2010, 2013, and 2018 show that what the City Council had originally approved differs from what was implemented on the ground. The scope was less than what was initially approved. Often, the IDU had to return the levy collected to the beneficiaries for the projects that were not implemented. The city used its improved fiscal position to finance the projects using tax revenue and debt.

Nonetheless, the revenue raised was significant and helped implement projects even if other sources had to finance them partially. Any contribution to closing the financing gap is positive as long as its collection cost is lower than the revenue it generates. The IDU estimates this financing gap at US\$2.5 billion for the cost of fixing the city's road network and US\$300 million for the sidewalks (using an exchange rate of 4,000 pesos per US dollar. These figures are 10,000 billion and 1,200 billion pesos, respectively). This estimate does not include new roads or mass transit projects.

<sup>79</sup> Ardila-Gomez, 2004 and Ardila-Gomez & Ortegón-Sánchez, 2013

<sup>80</sup> Alcaldía Bogotá, 2019

<sup>81</sup> Bohorquez-Guevara, 2020

<sup>82</sup> Hernández, 2007





Cities considering a betterment tax can learn from Bogotá's experience, beginning by introducing the betterment levy and land-value capture in their legislation.<sup>83</sup> Other lessons for cities are:

1. **Enabling legislation:** Public servants can only do what the law allows them. Enabling legislation allows city governments to create taxes, levies, and fees, and improve their collection.<sup>84</sup> Colombia enacted value-capture enabling legislation in 1921. In the 1990s, Bogotá entered a revenue-raising transformation thanks to legislation that modernized the cadaster and property and sales taxes. The cadaster modernization also allowed the city to improve the valorization levy by targeting groups that could afford it, in addition to the yearly property tax.
2. **Public finances:** The Bogotá case suggests that the betterment levy and land-value capture can finance significant road, sidewalk, and bike lane improvements—as well as parks and community center. Transport infrastructure is expensive and demands multiple financing sources, such as the property tax. Hence, enabling the betterment levy *and* improving tax collection are important.
3. **The cadaster:** Betterment levies need a well-structured and up-to-date cadaster. First, the cadaster contains information that allows authorities to identify the beneficiaries who should pay the betterment levy. Second, the cadaster is the basis for a property tax that grows over time because of up-to-date property characteristics and assessed values. Bogotá also enhanced its capacity to collect the local sales tax. This overall revenue has allowed Bogotá to finance mobility projects throughout the city. In the late 1990s, when the tax revenue was lower, the city could afford busways. Later, as its finances improved, the city could afford rapid bus transit, and now it can afford, with help from the national government, metro lines.
4. **Cost-efficiency:** The cost of collecting a tax, levy, or fee should be much lower than the revenue generated.<sup>85</sup> Sound financing instruments meet this criterion because they have minimal administrative and compliance costs associated with collection, ensuring that the revenue generated significantly exceeds the expenses incurred in the process. Thanks to IDU, the betterment levy in Bogotá meets this criterion. The cadaster improvements also helped lower the collection costs because they more accurately identified beneficiaries—and made collecting the property tax highly cost-efficient.
5. **Affordability:** Correctly measuring the ability to pay is paramount for the betterment levy—and LVC—to work. Identifying people who can afford to pay the betterment levy is critical to avoid opposition from people who find themselves stretched too thin because they do not have the ability to pay. People must find the levy affordable, or they will oppose it. Fischer & Sclar, 2016 validates the finding by stating that the LVC literature “prioritizes benefits-principle-finance over ability-to-pay finance”. Affordability is also why the Bogotá City Council capped the valorization levy at not exceeding the value of one year's property tax for residential properties—higher caps apply to other property types. In all cases, taxpayers can choose to pay over a longer period—up to five years—with interest.

<sup>83</sup> OECD/Lincoln Institute of Land Policy, PKU-Lincoln Institute Center.

<sup>84</sup> Bahl & Linn, *Urban Public Finance in Developing Countries, 1992 and World Bank Group*. 2025.

<sup>85</sup> Ardila-Gomez & Ortigón-Sanchez, 2016.



6. **Total tax burden:** Ability-to-pay analyses should consider the amount taxpayers devote to other taxes in addition to a basic basket of goods such as housing, food, transport, and education when the government does not provide it. Taxpayers need income to pay taxes—national and local—and betterment levies and LVC. The wealth effect from increased property values due to mobility projects does not change the taxpayer’s income. Taxpayers generate income from salaries, which the mobility project did not change. If income per capita grows, the ability to pay increases, expanding the pool of people able to pay the LVC and willing to pay taxes as it happens under a betterment levy. The 2018 valorization program raised revenue in wealthy areas to finance sidewalks and complete streets in those areas. These areas could afford to pay this levy.
7. **Standards:** Citywide standards ensure that the government builds mobility projects with the same characteristics in wealthy and low-income areas. Areas with the ability to pay the betterment levy get the same infrastructure as the areas where people can only pay the property tax.
8. **Final designs and contracting:** Final, construction-level designs bring certainty in terms of cost estimates and scope. Under Ordinance 7 of the 1987 legal framework, the IDU could present basic designs to the council that were far from the details needed for construction. Cost estimates were lower than the required amount to implement each project. Concept and even final designs can easily become outdated because cities change. An example is a sidewalk design that includes an empty lot. If developers build a high rise on this lot, the design will be obsolete because the sidewalk will change due to entrances for pedestrians and cars. However, if a contractor is hired to improve the sidewalks, then a change order can accommodate the new building and other changes. The costs will change. The new legal framework in Bogotá requires final designs and contractors to implement them so that the city can consider levying valorization. This change brings certainty and better cost estimates to determine the betterment levy. Still, cities change, which means contracts must have clauses allowing change orders to accommodate changes during implementation.
9. **Citizen participation:** Involving citizens from the concept stage throughout implementation allows them to influence project design, see the benefits, and support taxing, too—if they can afford to pay. Earmarking revenue from the valorization levy, moreover, magnifies the valorization program, especially during construction.
10. **Revenue-raising measures:** Finally, Bogotá introduced a congestion charging scheme to raise revenue earmarked to finance the public transport system’s operational deficit. This operational deficit aggravates the gap between the revenue directed to the transport system and its needs, which include road and sidewalk construction and maintenance, plus expanding the mass transit network. Sound financing sources generate significantly more revenue than the cost of collecting it. Any revenue source—property taxes, sales tax, congestion charges, valorization, and LVC—will help to finance mobility projects from the sidewalk to the subway.



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