

Betterment Levy in Colombia

Relevance, Procedures, and Social Acceptability



Courtesy of Oscar Borrero Ochoa

Architectural rendering of the renovation of Alfonso López Plaza in Manizales

Oscar Borrero Ochoa

The betterment levy or special assessment (as it is known in the United States) 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” (IAAO 1997, 10–11). In Colombia this levy, called *Contribución de Valorización* (CV), has been collected since 1921.

The betterment levy is addressed in the legislation of most Latin American countries, although its implementation often meets resistance. The main arguments against it claim it is impractical, technically cumbersome, beyond local capacity to implement, and unpopular. Colombia’s experience, however, seems to contradict these allegations, suggesting that the resistance is grounded more

on prejudice, ideology, or lack of information. This instrument not only has a long history of continued (albeit irregular) application, but also a record of raising substantive revenues to fund public works.

Bogotá currently has about \$1 billion worth of investment in public works from this levy, and eight other smaller cities combined have another \$1 billion. More importantly, based on recent levies on 1.5 million properties in Bogotá, its collection has been generally accepted by taxpayers with relatively low default rates—in fact lower than for the property tax. Although its legitimacy is not questioned, even among the business community, controversies continue over how the charge is assessed and distributed among properties. This raises an interesting question: Why, in spite of its technical shortcomings, is the betterment levy well-accepted by society at large?

In spite of its relevance, there is very little literature available about this instrument in Colombia and in the rest of Latin America (Fernandes 1981;

Bustamante 1996; Manon and Macon 1977). To fill this gap, my colleagues and I carried out a study of the methods used to assess the levy in Bogotá and Manizales—two cities that exemplify different assessment models used in Colombia (Borrero et al. 2011). This article summarizes the main findings of the study and, we hope, may be useful to other cities interested in applying betterment levies to finance urban development.

In Colombia the betterment levy has played a significant role in financing public works and has been a major contributor to municipal revenues, although collections have fluctuated over time. In the late 1960s, they accounted for 16 percent of total revenues in Bogotá and 45 percent of revenues in Medellín. In the beginning of the 1980s, the levy accounted for 30 percent of revenues in Cali, and in 1993 it represented 24 percent of revenues in Bogotá. Since 2000, the levy has been used more intensively in Bogotá, Medellín, Cali, Manizales, Bucaramanga, Barranquilla, and most other cities with a population of more than 300,000.

We chose to study Bogotá and Manizales because these cities have used this instrument during the past 20 years to finance many roads and urban services. Each city developed its own distinct methodology, and has had ample experience advising other cities. For instance, Cali and Barranquilla have started collecting the levy for road construction using the Bogotá model, while Bucaramanga and Pereira have followed the Manizales model (also known as the Medellín model). Both approaches are legal in Colombia, but the methodology and focus used to allocate the levy are very different.

Colombian law stipulates three parameters used to calculate the betterment levy: (1) the cost of the construction project; (2) the value added to properties that can be attributed to the project; and (3) the affordability of the levy (i.e., the capacity of the property owners to pay). Law Decree 1604 of 1966 states that the upper bound of the levy is the lowest value among these parameters. For example, in Manizales one of the projects had small values added that were considerably less than the project cost; yet the levy was assessed based on the value added. The only city that does not comply with this norm is Bogotá, where the levy equals the cost of the project.

The Bogotá model uses a series of factors to represent the local benefit of the project in order to assess the levy, taking into account the payment

capacity of the property owners and the different benefit levels. These factors include considerations such as improved mobility and welfare, but do not quantify the specific value added to the property by the project. On the other hand, the Medellín model applied in Manizales calculates the value added to the property by the project using a dual appraisal method, and then distributes the levy among the property owners by taking into account their capacity to pay. Thus, the Bogotá model is similar to a general tax to finance public works, while the Medellín model is closer to the concept of value capture contribution to fund public works (Act 388 of 1997, Article 87; Doebele 1998).

The Experience of Bogotá

Bogotá, the capital of Colombia, is a city of 7.5 million people with an area of 1,587 square kilometers (613 square miles) on a flat savannah of the Andes mountain range. The administration of the betterment levy is the responsibility of the Urban Development Institute (*Instituto de Desarrollo Urbano*, or IDU), which is also in charge of identifying the main road construction projects to be financed by the levy. The levy is assessed on all properties affected by a given project (or set of projects) and is calculated by multiplying different benefit factors. Examples of recent projects with considerable revenues from the levy are shown in table 1.

Area of Influence

In order to collect a betterment levy, the IDU defines the area of influence, that is, the area where the road construction project will provide benefits. The criteria used to establish the areas of influence and the level of benefit include proximity and accessibility to the project—which affords greater use of the road and thus increases property values—as measured by the project impact on the assessed value and the economic conditions of the real estate properties in the area.

To reduce the average amount of the levy, an effort is made to include the largest possible number of lots within the area of influence. When the levy finances multiple projects, the boundaries of the entire area of influence are defined by superimposing the individual areas of each project and adjusting them to account for the complementary effects of the benefits from the combined set of projects (Borrero et al. 2011, 22).

TABLE 1
Betterment Levy Collections in Bogotá

Projects	Approval Date	Collection Date	Amount Collected (US\$ million) ¹
General Betterment	1993	1993	106.2
Build the City (<i>Formar Ciudad</i>) Phase 1	1995	1996–1998	351.9
Build the City (<i>Formar Ciudad</i>) Phase 2	2001	2002	55.9
Agreement 180 Local Betterment Phase 1	2005	2007–2010	260.2
Local Betterment Phase 2	2005	2009	265.7
Local Betterment Phase 3	2005	2012	262.1 ²
Local Betterment Phase 4	2005	2015	85.5 ²

1 Colombian pesos converted at the 2009 average exchange rate US\$1 = 2,000 pesos.

2 Expected amount to be collected.

Source: Urban Development Institute (http://www.idu.gov.co/web/guest/valorizacion_ac_recaudo).

TABLE 2
Recent Projects in Manizales Financed with Betterment Levies

Total amount assessed	US\$24.6 million ¹
Number of lots	69,466
Number of payments in advance	52,089 (75 percent of the total)
Total expected revenue	US\$21.9 million
Actual amount collected	US\$17.2 million (79 percent of the amount expected)

1 Colombian pesos converted at the 2011 average exchange rate US\$1 = 1,900 pesos.

Source: Instituto de Valorización de Manizales (INVAMA, www.invama.gov.co).

Measuring Project Benefits

The benefits resulting from the project or set of projects are calculated by city zone, taking into account benefit factors defined for each project. Using the example of a recent road project, the benefit factors are: (1) greater mobility, which translates into greater transit speeds, lower transit time, lower operating costs, and higher quality of life; (2) general urban planning benefits as the project normalizes the road network and rationalizes the use of public space; (3) changes generated in land use and stimulation of productive and commercial activities; (4) greater market value of nearby real estate properties; (5) integration of the project into the urban structure of the city; (6) optimization of circulation and mobility; and (7) recovery of deteriorated or depressed areas (Borrero et al. 2011, 84).

Once the benefits of the project are defined and its cost estimated, the distribution of the levy

takes into account additional factors: the type of land use, density, degree of benefit allocated to each lot, and the payment capacity of the property owners as measured by household quality of life surveys. The Bogotá model is criticized primarily because the calculation of the project benefit does not measure the value added to the properties directly, but instead relies mostly on these indirect indicators.

The Experience of Manizales

Manizales is a city of 400,000 people located west of Bogotá, at the center of the coffee producing region. Its topography is mountainous, which implies high engineering costs. The city has extensive experience with road development and urban renewal financed with betterment levies, but it uses a different methodology from that in Bogotá and it requires a more detailed description. The institution that administers the levy with full authority delegated by the city legislature is the *Instituto de Valorización de Manizales* (INVAMA).

Over the past three years, Manizales has financed four major road and urban development projects with the levy: renewal of the Alfonso López Plaza; paving of Alférez Real road; renovation of Paseo de los Estudiantes; and development of the Eastern Area road network. All of these projects were funded by a single levy assessed on 80 percent of the city’s properties, and collections amounted to US\$24.6 million (table 2).

Measuring Project Benefits

Manizales applies the dual appraisal method to measure benefits—a methodology used for many years in Medellín, Bucaramanga, and other cities. This method identifies cadastre valuations for real estate properties in a second area comparable in its characteristics to the area affected by the designated projects. The assumption is that land values will behave similarly in both areas. Experts make an initial appraisal of a sample of properties in the area of influence of the proposed project to determine the present market values. To estimate the land values after the project is finished, they appraise the market values in the comparison area.

This method is based on information about the increase in value or benefit generated by previous infrastructure projects, referred to as ex-post evaluation. The City of Manizales initiated an ex-post analysis of the projects executed in past years to



Courtesy of Oscar Borrero Ochoa

Public works improvements and road construction near Palogrande Stadium in Manizales.

examine the value added to the land, but few other cities that collect betterment levies have done so.

The initial appraisal is intended to create a map of land prices (isoprices map) before construction, and the second appraisal determines the added value hypothetically generated by the new infrastructure project in the area. The lot or area where the “maximum added value” occurs (known as the “focal point”) is analyzed in detail to calculate the maximum percentage increase in value.

Critical Steps in the Dual Appraisal Method

1. *Define the area of influence.* This area is based on the improved mobility enabled by the road or infrastructure project, and its definition is similar to that used in Bogotá.
2. *Calculate the benefit and generate an isoprices map based on a sample of properties.* The criteria to measure distances and road networks are established within an initial zone defined as broadly as possible. A sample of lots is taken, representing the predominant, nonspecific features of the properties in the zone. Information collected on this sample is

used to generate a map of land values before the project is constructed. The sample size is calculated statistically. For medium-size cities experts appraise between 100 and 200 properties, depending on the size of the area of influence and its heterogeneity. A second map of isoprices is then developed with the new expected property values, and a third map plots the differences in isoprices between the first and second map. This third map is used to distribute the betterment levy.

3. *Estimate the benefit.* To determine the added value or benefit accruing to a lot, an interdisciplinary team of experienced professionals carries out several studies: an economic study to define the mathematical formulas that qualify the parameters for the value-added criteria; a road network study to qualify and quantify the benefit, measured as a reduction in travel distance for the population in the affected neighborhoods; an urban study to measure the potential for different land uses in the area; and a real estate study to compare and quantify the level of benefit in specific areas.

4. *Allocate the benefit.* Each of the following factors is given a weight (shown in parenthesis):

TABLE 3
Perceptions of INVAMA's Role in Managing Public Works Projects Financed by Betterment Levies in Manizales

	Eastern Area		Alfonso López Plaza	
	Yes (%)	No (%)	Yes (%)	No (%)
Do you think that the project for which you paid, or are paying, a betterment levy, has given you, or will give you, a benefit?	94.7	5.3	94.3	5.7
Do you think that the value you paid or are paying for the levy was, or is, adequate?	83.0	17.0	83.7	16.4
Do you think that the projects executed by INVAMA have contributed to the city's development?	98.9	1.1	99.2	0.8
Do you think that the betterment levy system is a valid tool to implement public works?	95.0	5.0	95.1	4.9
Are you completely satisfied with the projects being built, and those already executed by INVAMA?	97.8	2.2	97.8	2.2
How would you qualify the job of INVAMA as a manager of public works projects using the betterment levy system?	Eastern Area		Alfonso López Plaza	
Excellent (%)	42.1		28.9	
Good (%)	49.4		64.3	
Fair (%)	5.3		4.1	
Bad (%)	0.8		0.3	
Don't know/Don't answer (%)	2.0		2.5	
Sample Size	359 people		367 people	

Source: Borrero et al. (2010, chapter 4).

potential change of use, which generates the most added value even though it affects a small number of lots (40 percent); improved access to higher value areas or commercial areas (20 percent); savings in commuting time is measured by reduction of travel time in the city, clearly determining times and distances (20 percent); and reduction in pollution or traffic congestion at specific areas where these problems occur (20 percent).

5. *Establish the level of benefit (focal point).* As mentioned above, the area of highest betterment in the entire area of influence, known as the focal point, is the lot or area that benefits most from the project, because of the confluence of the most important value-added factors. The expected added value is then calculated for this lot and the corresponding percentage is multiplied by the initial market value of lot. With these values, one builds the added value or isopricing map for the entire area expected to benefit from the project once it is finished. Ex-post studies performed in several cities found that road projects generate on average an actual added land value of 10 to 15 percent within three years following project completion. Assuming 15 percent

incremental value for the lot with the highest benefit, it follows that a lot with 70 percent benefit has an expected added value of 10.5 percent.

6. *Distribute the levy.* Once the cost of the project has been defined and its value-added impact has been calculated, INVAMA proceeds to distribute the levy within the area of influence using models appropriate to the project. Manizales uses benefit factors to distribute the levy, as do most cities in Colombia. The method is based on defining a "virtual area" obtained by multiplying weighted factors given to property characteristics by the level of benefit and the physical area of the lot. Criteria to define benefit factors for distribution purposes may vary, but the point of reference is the total value of the property based on area of the lot plus construction (Borrero et al. 2011, annex 2).

7. *Determine affordability.* The levy is assessed by taking into account the capacity to pay of the contributors, and therefore it may be allocated differently depending on their socioeconomic level. Affordability is based on data from household income and expenditure surveys. Sometimes a comparative analysis is made between the betterment

levy and other charges, e.g. the relationship between the levy and the utilities paid by the property owner, or the relation between the levy and the property tax.

8. *Set the collection period.* In Manizales, Medellín and Bucaramanga, the collection period generally coincides with project execution. Other cities have tried different approaches. In Cali, the most recent betterment levy collection started before construction, but will extend for a long time following project completion. Cities normally collect one betterment levy in each mayoral term (4 years), but recent projects in Bogotá and Cali have longer collection periods, extending over several terms.

The legal maximum collection term is five years following project completion, but the most successful experiences are completed in two years. Longer-term collections are more difficult and pose the risk of the municipality running into cash flow problems to finish the project. The betterment levy can be collected as early as two years before the initiation of construction, but that requires very efficient cost estimates and expedient project execution. In Bogotá, a recent experience in collecting the levy two years in advance of the construction start date generated controversy because the project started late and has progressed slowly. To avoid this problem, the proposed new Bogotá Betterment Statute stipulates that the levy shall be collected concomitantly with project execution.

Perceived Legitimacy

The betterment levy has a lot of support among city residents and property owners in Manizales, as shown by high levels of satisfaction in a recent survey (table 3). The levy was collected before the projects began and 80 percent of the payments were made in the first year of collections. This survey, taken after project completion, captures the perceptions of citizens regarding the way INVAMA managed two recent projects. Specifically, the results demonstrate a clear link between the benefit and the willingness to pay the levy—a higher compliance level than that of the property tax, even though the levy is higher than the tax. This finding contradicts the common belief that Latin American taxpayers have a culture of nonpayment. It also attests to the high level of legitimacy among the citizens and the good governance of the municipality's management of the betterment levy.

Concluding Remarks

Colombia's experience with the betterment levy during the past 70 years demonstrates that it is a viable instrument to finance urban development and is capable of raising substantial revenues, even though the methodology to assess and distribute the levy is complex and can be perfected. Among the lessons to draw from that experience, the most important is the clear link between the provision of public benefits and the property owners' willingness to pay the levy. Success depends on the legitimacy of the project and the institutional capacity and ethical standards of the agency administering the levy. To generate trust among citizens, success is also predicated on ensuring affordability, applying a fair distribution model, publicizing the social value of the project, and promoting participation during implementation. **I**

▶ ABOUT THE AUTHOR

OSCAR BORRERO OCHOA is an economist, a certified appraiser, and a private consultant on property markets, real estate development projects, and management. He has been president of Camacol, the Colombian organization of the building industry, and Fedelonjas, the Colombian organization of property appraisers. He is a lecturer on urban economics at the University of Los Andes and the National University of Colombia, Bogotá, and is a frequent speaker in Lincoln Institute courses. Contact: oscarborrero@cable.net

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