

Recent Experience with Land Value



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As a city grows in size and building density, improvements to the land supporting the new development are usually part of the growth process. However, the combination of demand for additional construction sites and the limited amount of physical land available for development often results in land price increases.

This land scarcity is caused by three primary factors: the ability of landowners to retain serviced land from the market (attributed to a concentration of land ownership and legal and other institutional constraints); difficulties in accessing areas not yet prepared for occupation due to a lack of infrastructure; and restrictions imposed by zoning. Each of

these factors has its own dynamics, but they are not necessarily present at the same time. Such is the case in Brazilian cities, particularly São Paulo, where these restrictive factors do not always operate in the same way with regard to land price.

For example, building regulations may reduce the land price of individual plots, but increase the overall price when the regulations affect all plots and thus restrict housing supply. A large stock of vacant land controlled by a few owners can cause price increases, while the lack of accessibility can result in lower prices. Land price also depends on the nature of the land regulation. As the city grows, the greater demand for buildable urban land generally results in added values if the existing infrastructure supports a more intense occupation of land and the zoning regulations (or

Capture in São Paulo, Brazil



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changes thereto) also permit higher building density.

To examine these issues, we must consider first how the investment in infrastructure that provides or intensifies the means of access and use of land is financed; and second how the benefits and costs from the land improvements are distributed. Generally the cost of public services (e.g., streets, bridges, sewers, lighting, water) is paid with public funds, whereas the improvement or added value to the land created by the public investment in infrastructure, with few exceptions, is reaped by the owners of the improved property entirely free of charge.

Increases in property value also may result from simple changes in the use of land that is already accessible, for example when land previously considered rural is redefined as urban. Changes in

potential densities due to new zoning regulations can create great benefits for the affected properties, although in this case as in the previous one future pressure on the infrastructure will require substantial public investment.

The Legal Framework

Owners of improved property in Brazil, as in most countries, traditionally appropriated the added value generated by public sector investment and zoning changes. The notion that owners should not be the only beneficiaries of such improvements was introduced in Brazil gradually during the 1970s, and this principle was incorporated in articles 182 and 183 of the 1988 Federal Constitution. These articles were subsequently regulated by Federal Law No. 10,257 of 2001, also known as the

Urban Development Act or City Statute (*Estatuto da Cidade*).

Since 1988 urban development has been a matter of federal law. In practice, the federal legislation ratified the principle of the social function of urban land ownership and the separation of the right to own land from the right to build. Based on the 2001 act, the City of São Paulo approved its Strategic Master Plan in 2002 and Land Use Law 13,885 in 2004. These laws introduced the mechanism of Charges for Additional Building Rights (*Outoga Onerosa do Direito de Construir*—OODC), established minimum, basic, and maximum coefficients of land use (or floor area ratios), and limited the supply of buildable area. These tools, utilized together, enabled the municipality to improve land management efficiency, promote socially desirable outcomes, and increase revenues.

The minimum coefficient or floor area ratio (FAR) refers to the minimum use expected from a plot to comply with its social function; the basic FAR refers to the buildable area that any owner has the right to develop by virtue of ownership; and the maximum FAR is the amount of development that could be supported by the existing infrastructure and zoning regulations. The charges associated with the OODC are imposed on the difference between the maximum FAR and the basic FAR of a plot.

The Administration of Building Rights

The OODC is the monetary compensation paid by those who receive new building rights (buildable area) from the government. This development concession (provided by articles 28, 29, 30, and 31 of Federal Law 10,257 of 2001 and defined in articles 209 to 216 of the 2002 Strategic Master Plan) is one of the regulatory instruments used to administer building rights in the city, except in areas designated for large-scale urban operations that use a special legal instrument to encourage public-private interventions (Biderman, Sandroni, and Smolka 2006).

The basic FAR of land use established in 2004 varies between 1 and 2, depending on the area of the city considered. The maximum FAR can be 1, 2, 2.5, or 4, also depending on the area. In some urban areas these new regulations reduced building rights by establishing a basic FAR of 1 for land that had been designated 2 or more under prior legislation. In parallel, the municipality of São

Paulo used the OODC to extend the building potential or the maximum FAR up to 4 on land that previously could be developed up to only 1 or 2.

As a result, in certain areas where the FAR was reduced from 2 to 1, developers could submit projects using the former FAR 2, or even the maximum FAR 3 or 4, as long as they paid the government for the additional buildable area corresponding to the difference between the basic FAR and the FAR used in the project. This instrument favors developers, assuming they find the charges cost-effective, because it allows them to build up to FAR 4 in areas where formerly the maximum was FAR 2. Typical landowners do not always find this tool advantageous, however, since the building potential of their land may be reduced and a charge may be imposed on what they previously perceived as a right to build, free of any charges.

Landowners of small lots and low-density housing may not notice what they could be losing when the FAR is changed because they typically view their property as combining the land, building, and other improvements. It is difficult to separate the value of land from that of improvements, so an eventual land value decrease is not perceived immediately. Furthermore, the expansion of the real estate market in São Paulo coincided with the approval of this new legislation in 2004, and the overall increase in land prices may have compensated the eventual price decline associated with changes in FAR. It is also necessary to note that the expansion of government credit for house financing since 2006 contributed to an increase in demand for land and consequently the rise of land prices.

For the developers, the increase in FAR to 4 in areas where the maximum had been 1 or 2 constituted a favorable situation. They could invest more capital in land and make more profitable undertakings, thus compensating for the extra payment they made for the difference between the basic and the maximum FAR. Gradually, developers were convinced that it was better to pay this land value increment to the government than to private owners because the government converted the payments into improvements that frequently benefited the developers' projects.

The 2002 Strategic Master Plan and Law 13,885 of 2004 also limited the supply of residential and nonresidential building potential in all city districts

TABLE 1
Stock of Residential Building Rights by Region in São Paulo

São Paulo City Region	Buildable area (thousands m ²) 1/10/2010 ¹				Total districts per region	Number of districts not available ²	% districts not available	Specific districts where residential building rights are no longer available.
	Total	Licensed	Available	% Available				
North	876	307	569	65.0	17	3	17.6	Jaragua, Limao, Villa Guilherme
Center	365	159	206	56.5	8	3	37.5	Bela Vista, Cambuci, Liberdade
East	2109	736	1373	65.1	33	3	9.1	Agua Rasa, Belem, Mooca,
West	1422	543	879	61.8	14	4	28.6	Jaguare, Lapa, Morumbi, Vila Leopoldina
South	2147	947	1200	55.9	19	4	21.1	Campo Grande, Capao Redondo, Cursino, Ipiranga
Total	6919	2692	4227	61.1	91 ³	17	18.7	

1. Law 13.885 of 2004 determines where and how many additional building rights are available.
2. 90 percent or more of the building rights on buildable areas have been licensed for new development.
3. Excludes five districts where there is no buildable area, e.g., ecological reserves.

Source: Secovi (2010).

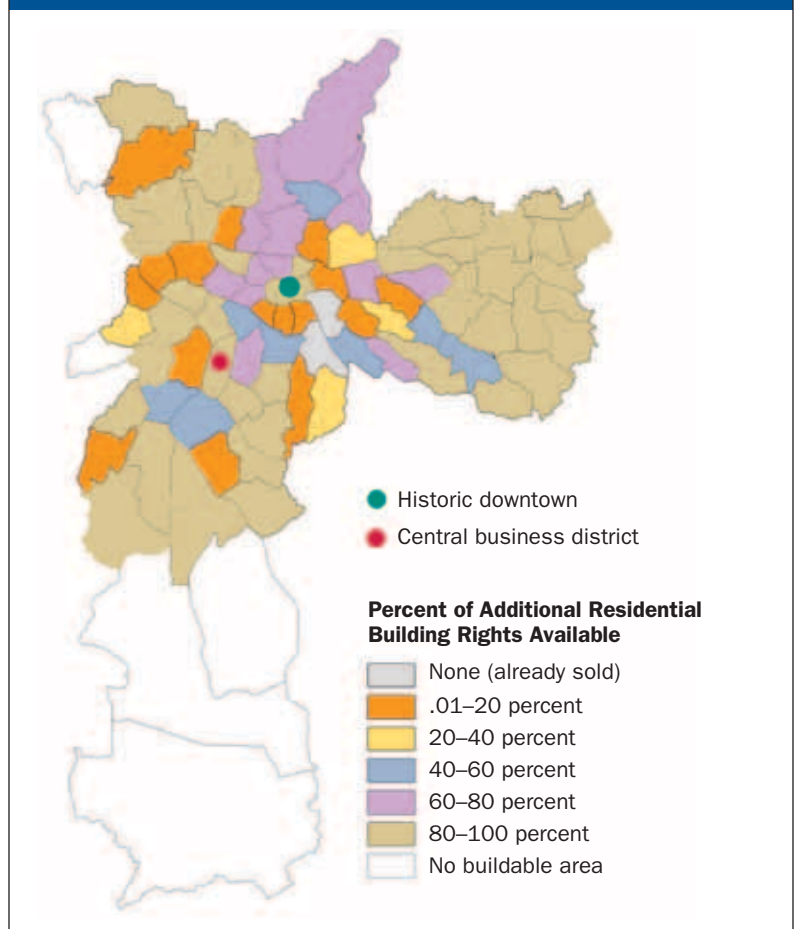
by establishing a total additional buildable area of 9,769 million square meters (m²): 6,919 million m² for residential use and 2,850 million m² for nonresidential use (table 1). This potential did not include the buildable areas inside the perimeter of São Paulo's 13 urban operations. The additional areas were distributed among the 91 out of 96 city districts, excluding five environmentally protected areas. This definition and demarcation of the potential building stock introduced a new element to the real estate market.

Once the maximum building area was known, developers anticipated land scarcity in those districts where the supply was low and the real estate dynamic high, thus unleashing a trend in higher land prices. The lack of buildable area, in turn, lead to pressures from real estate developers for the government to increase the supply—that is, to change the building area limits in some districts during the 2007 revision of the master plan—but their efforts were not successful. By October 2010 the land supply had been exhausted, or was very close to it, for residential use in 17 districts and for nonresidential uses in 5 districts (figure 1).

Planning and Social Interest Factors

The formula to calculate the OODC charge adopted in São Paulo's 2002 Strategic Master Plan takes into account planning and social interest factors in addition to the characteristics of the parcel

FIGURE 1
Districts of São Paulo Where Residential Density Can be Increased



Source: Secovi (2010).



and the actual economic benefit allocated to the property as a result of the OODC.

The planning factor is an instrument that seeks to encourage or discourage higher densities in certain areas, depending on the existing infrastructure, especially public transport and mass transit. The planning factor is also used to obtain greater financial compensation from the sale of building rights for businesses in improved areas of the city, as the coefficient varies according to whether the land use is residential or nonresidential.

The social interest factor establishes exemptions or reductions in the financial charge, depending on the type of activity to be developed on the parcel. The coefficient ranges from zero to one and is applicable to a variety of activities. For example, the coefficient for affordable or social housing is zero, which means that developers of this type of housing do not pay compensation for additional building rights. Similarly, nonprofit hospitals, schools, health and infant care clinics, cultural facilities, sports and leisure institutions, and houses of worship have a coefficient of zero.

These factors act as incentives for desirable social outcomes, since the smaller the planning and social interest factor coefficients applicable to a given area, the smaller the charge to be paid,

and the greater the incentive for projects to be developed in the area.

Revenue Impact and Allocation of Funds

Total revenues from OODC payments reached R\$650 million (US\$325 million) in approximately five years, in spite of the global financial crisis that constricted credit by end of the period (table 2). These funds are deposited into the Urban Development Fund (FUNDURB), which was created to implement plans and projects in urban and environmental areas, or other interventions contemplated in the 2002 master plan.

As of September 2008, the number of projects approved to be financed by FUNDURB included 15 linear parks (R\$42.5 million), sidewalk and street improvements (R\$21.2 million), drainage and sanitation (R\$108 million), community facilities (R\$ 21.1 million), regularization of informal settlements (R\$50 million), and restoration of culture heritage buildings (R\$37 million).

Concluding Remarks

After the City of São Paulo approved the 2002 Strategic Master Plan, the principle of development concessions and buildable land was applied throughout its territory. When a real estate project

exceeds the basic FAR and the developer wants to build up to a maximum of 4, payment of financial charges to the government is required. Since the OODC was introduced, revenues have increased annually. One should keep in mind that these revenues are net of the more than US\$1 billion generated from 2 of the city's 13 Urban Operations (Faria Lima and Agua Espraiada) where major zoning and density changes are occurring (Biderman, Sandroni, and Smolka 2006). In those areas the new building rights are priced through the auction of CEPACs, and the revenues must be invested in the area corresponding to the urban operation instead of going to the FUNDURB fund to benefit the city as a whole (Sandroni 2010).

The charge for building rights in São Paulo does not seem to have affected the profitability of developers. On the contrary, increasing the maximum FAR to 4 in some areas of the city contributed to enhancing the developers' rates of return. However, setting a maximum reserve for building rights seems to have caused an upward trend in land prices, especially in districts where the supply of buildable area is low. In some districts developers proceeded to deplete the supply of residential building rights quickly. This type of response will probably intensify in the future, thus putting pressure on the city government to raise the maximum stock of buildable area and/or the maximum FAR. If this happens, there is a risk that the motivation to increase municipal revenue may outweigh urban planning criteria and the limitations of infrastructure, especially public transportation and mass transit.

Moreover, the flow of financial compensation will not be continuous. Unlike property tax revenues that recur annually, revenues from the sale of building rights will fade in time as the additional building potential is exhausted. In some sectors of the city the supply of buildable area has already been depleted, and the city has achieved its defined goal for building density. However, future changes in the master plan may provide greater building potential for these areas, depending on technical recommendations and the political conditions for the change to take place.

In sum, the application of the principle of the social function of property, embedded in the 2002 Strategic Master Plan for São Paulo, enabled the enactment of municipal legislation that clearly separates the right of ownership from the right

	Estimated (R\$ thousands)	Actual (R\$ thousands)
2005		41,070
2006	104,154	64,725
2007	160,000	99,937
2008	250,000	118,127
2009	300,000	115,928
Nov. 2010	162,000	210,390
Total		650,177

Source: Prefeitura Municipal de São Paulo, Secretaria de Financas.

Note: Average exchange rate: 1 US\$ = 2 R\$

to build. As a result, the traditional notion of all-encompassing property rights is no longer sustained, and land ownership cannot override the public interest or take precedence over the social function of property. Consequently, existing building rights can be reduced without landowners being entitled to monetary compensation simply because their hopes have been dashed. **L**

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PAULO HENRIQUE SANDRONI is an economist who served as director of urban planning and public transportation for the City of São Paulo from 1988 to 1993, and for a short period he served the federal government as vice-minister of administration. He has published articles and books on economics, including a dictionary considered a primary reference on economics in Brazil. Sandroni is also a professor at the Economics and Business School at the Getulio Vargas Foundation in São Paulo, a private consultant on urban development and transportation issues, and a lecturer in programs sponsored by the Lincoln Institute of Land Policy. Contact: Paulo.Sandroni@fgv.br

▶ REFERENCES

- Biderman, Ciro, Paulo Sandroni, and Martim O. Smolka. 2006. Large-scale urban interventions: The case of Faria Lima in São Paulo. *Land Lines* 18(2): 8–13.
- Prefeitura Municipal de São Paulo, Secretaria de Financas. www.prefeitura.sp.gov.br/cidade/secretarias/financas
- Sandroni, Paulo. 2010. A new financial instrument of value capture in São Paulo: Certificates of additional construction potential. In *Municipal revenues and land policies*, Gregory K. Ingram and Yu-Hung Hong, eds., 218–236. Cambridge, MA: Lincoln Institute of Land Policy.
- SECOVI. 2010. Estoque de Outorga Onerosa Residencial. September. www.geosecovi.com.br