George Mason University
School of Policy, Government and International Affairs
Center for Transportation Public-Private Partnership Policy Program

Research Note: Air Rights

By: Lisardo Bolaños and Nobuhiko Daito

Synopsis

Air Rights allow the owner of transportation facilities, such as rail lines and stations, to obtain additional revenues by agreeing to let a third-party build and utilize new structures above existing facilities. The new structure allows for increases in office and residential densities and the use of public transportation. Currently, the Virginia Office of Transportation Public-Private Partnerships (OPT3) is evaluating the use of Air Rights. This Research Note aims to identify some lessons Virginia might consider relevant, by looking at the experience of other jurisdictions.

Issue

Air Rights refer to the rights of owners to use the space above existing structures. They allow transportation facility owners to extract additional revenues when they identify that residential and commercial density has increased in the surrounding areas, and so there is a high demand for additional space. That is why Air Rights developments are different to other types of developments because they usually lack: "single ownership, a functional kinship among the uses, and synchronized planning and construction"(Goldschmidt 1964).

To understand Air Rights it is important to understand the broader context of Transit-Oriented Development (TOD), which is an important policy driving the growth in the demand for residential and commercial space. TOD "describe(s) the physical integration and linkage of public transportation investments and urban land development at or near a station" (Robert Cervero 2013, 947). There are four different ways to promote and fund TOD, as shown in **Graph 1**. All of them are considered Value Capture (VC) mechanisms because they identify and capture the increase in land value due to public infrastructure investment that improved "accessibility" to urban locations and activities, social-developed infrastructures, and development infrastructure (Mathur and Smith 2012, 1; Medda 2012, 154–155). In the context of TOD, Air Rights are a revenue-sharing mechanism used in Joint Developments, which involve the voluntary cooperation between the private and the public sector. While the private developer benefits from higher occupancy rates and higher rental income because of increased accessibility, the public sector, as owner of the transportation facilities, is able to obtain additional revenues (Medda 2012).

Currently, OTP3 is evaluating the implementation of Air Rights near the East Falls Church and Rosslyn Metro stations, in Northern Virginia. The Air Rights will not be those directly on top of the metro stations, but those over existing highways near the metro station, which are property of the State. OTP3 expects that these projects will potentially: generate revenues to fund transportation improvements, improve utilization of public assets, promote TOD, spur local economic development, create a model project for future development of Air Rights above highways/rail in

Virginia, and create a collegial prototype for cooperation between the Commonwealth and localities (Office of Transportation Public-Private Partnerships 2013).

Experience to date

While Air Rights are currently considered a local government tool to promote TOD, they originated in the private sector. Railroad companies started to use them to increase the revenues from existing facilities. The first use of Air Rights was in Park Avenue in New York City, starting in 1908 and finishing in 1913. The apartment and office buildings covered the tracks of Grand Central Terminal (Goldschmidt 1964).

The Mineta Transportation Institute recently published a report with case studies of Joint Developments, where local governments have used Air Rights (Mathur and Smith 2012). The cases include: Ground Transportation Center, Cedar Rapids (IA); Resurgens Plaza, Atlanta (GA); Dadeland South Joint Development, Miami (FL); and Bethesda Metro Joint Development, Bethesda (MD). The report explains that Air Rights can generate additional revenue for the transit authorities while also share costs with private developers. It also increases transit ridership by increasing density near transit stations. Importantly, the report warns that a major constraint to fully take advantage of Joint Developments is the prohibition that certain governments on getting involved directly in real estate development.

Air Rights have also been used by the Massachusetts Bay Transit Authority (MBTA) in Boston (MA). Three of their projects include: the South Station Transportation Center (SSTC), Columbus Center at Back Bay Station, and Avenir, located in North Station Super Station. Moreover, Boston started in 1998 a consultation process that generated the master plan A Civic Vision for Turnpike Air Rights in Boston (Boston Redevelopment Authority and Boston Transportation Department 2000; "The Future of Boston" 2014). The idea is to develop 44 acres, divided in 23 Air Right parcels. The report estimated that the cost of the platform, on top of a highway, ranged between US$250-US$700/sf, and so they estimated any projected needed to be 10-15% larger than on *terra-firme.* To overcome this, one of the projects, Fenway Center, the cost of the building the deck over the highway will be deducted from the state rent bill for using the Air Rights (McMorrow 2012). The project has faced important delays from community opposition, the Great Recession and court fights. The process continues, nonetheless. In August 2014, MBTA issued a request for proposals for an air rights project at the Hynes Convention Center Green Line (Burton 2014).

Air Rights have also been used in Dallas (TX) by the Dallas Area Rapid Transit (DART) (Friedman 2012).

Further research needed

Simulations could evaluate how different revenue arrangements could have impacted current Air Rights agreements involving P3s. Some different scenarios to evaluate would be to: fix payment adjusted by inflation, as is done in Resurgens Plaza, Atlanta (GA); have different revenue sharing arrangement depending on actual revenues generated, as in Dadeland South Joint Development, Miami (FL); and mix revenue sharing and cost sharing, also used in Dadeland South Joint Development (Mathur and Smith 2012).

Preliminary findings

Air Rights can become a relevant tool for local governments. Air Rights have been implemented as private agreements and as Public-Private Partnerships throughout the United Sates and abroad. When implemented in areas already facing high density use, they enhance TOD; when implemented during economic growth periods, they provide additional revenues to the local government.

U.S. local governments are not taking full advantage of their transportation facility assets. Income streams from Air Rights and TOD appear to be underexploited in the US. While the Washington Metropolitan Area Transit Authority (WMATA) is a national leader in the use of Joint Developments and Air Rights, DC metro combination of air right leases and station connection fees only generates 0.7% of the total capital expenditures for the transit authority. In contrast, Hong Kong VC mechanisms generate 52% of the total revenues, allowing them to be profitable (R. Cervero and Murakami 2009). There are important differences between the two areas, such as the limited land area Hong Kong has which explains its population density 20 times higher than that of the Washington Metropolitan Area. However, there is also an important policy differences. First, U.S. local governments are not granting exclusive development rights as a revenue scheme, so they do not benefit of directly participating of more aggressive VC mechanisms, by acquiring land surrounding transit facilities. Second, the VC mechanisms they are using may be improved. For example, some of the leases do not adjust by inflation, such as in Ground Transportation Center, Cedar Rapids (IA) and in Bethesda Metro Joint Development, Bethesda (MD) (Mathur and Smith 2012).

Attention needs to be place during the design and construction phase. An important concern is the potential decoupling of the funding mechanism (e.g. Air Rights) from urban design objectives (e.g.: TOD), causing overcrowding and queues, as in Beijing´s Sihui interchange station, in China (R. Cervero and Murakami 2009). On the construction, one concern is how to build the project while minimizing its impact in the transportation system it is being built on top (Tuchmann 2012). Another has been how air rights might affect the aesthetics of a city, given the need for high-rise buildings to make the endeavor profitable, a factor that might cause community opposition (Alpert 2011; “Frozen Tropics: CP: NCPC Weighs In on Burnham Place” 2013).

Attention needs to be placed to diminish community opposition. According to Cervero, TOD presents a dilemma: while TOD increases density near public transportation and diminishes daily vehicle trips, car-traffic densities rises (Robert Cervero 2013). This is because an increase in population density is not matched by a decrease in car trips per acre, among other things due to the lack of downward adjustment in car ownership. This situation has led some middle-income neighborhoods (i.e. in San Francisco East Bay and Boston in 1999) to oppose TOD. The opposition by local residents to big projects is a constraint given the need to have high intensity usage to make the platform construction profitable given the complexities of the construction. Therefore, it requires that both public and private sector work with the communities to identify what may enhance the availability of the project, as Boston city eventually realized (Boston Redevelopment Authority and Boston Transportation Department 2000). In the case of Boston, a neighbor´s request for free parking at Fenway Center, caused a 3.5 year court fight (McMorrow 2012).

Key Readings

Boston Redevelopment Authority, and Boston Transportation Department. 2000. “A Civic Vision for Turnpike Air Rights in Boston”. Boston, MA: Boston Redevelopment Authority.

Mathur, Shishir, and Adam Smith 2012 A Decision-Support Framework For Using Value Capture to Fund Public Transit: Lessons From Project-Specific Analyses. Mineta Transportation Institute, San José State University.

Cervero, R., and J. Murakami. 2009. “Rail and Property Development in Hong Kong: Experiences and Extensions.” *Urban Studies* 46 (10): 2019–43. doi:10.1177/0042098009339431.

Sources

Alpert, David. 2011. “Why All the Wailing over the Union Station Railyard Project? - Greater Greater Washington.” *Greater Greater Washington*. http://greatergreaterwashington.org/post/8957/why-all-the-wailing-over-the-union-station-railyard-project/.

Boston Redevelopment Authority, and Boston Transportation Department. 2000. *A Civic Vision for Turnpike Air Rights in Boston*. Boston, MA: Boston Redevelopment Authority.

Burton, Paul. 2014. “MassDOT, MBTA Seek Air Rights Development Team.” *Bond Buyer*, September 5, 334 edition.

Cervero, R., and J. Murakami. 2009. “Rail and Property Development in Hong Kong: Experiences and Extensions.” *Urban Studies* 46 (10): 2019–43. doi:10.1177/0042098009339431.

Cervero, Robert. 2013. “Transit-Oriented Development Transit-Oriented Development (TOD) and Land Use Land Use.” In *Transportation Technologies for Sustainability*, 947–58. Springer. http://link.springer.com/content/pdf/10.1007/978-1-4614-5844-9_269.pdf.

Friedman, Pamela. 2012. “Investment Up in the Air: Air Rights and Transit.” *Rail Magazine*.

“Frozen Tropics: CP: NCPC Weighs In on Burnham Place.” 2013. Accessed October 7. http://frozentropics.blogspot.com/2011/04/cp-ncpc-weighs-in-on-burnham-place.html.

Goldschmidt, Leopold A. 1964. *Air Rights. Information Report No. 186*. Chicago: American Society of Planning Officials. http://www.planning.org/pas/at60/pdf/report186.pdf.

Mathur, Shishir, and Adam Smith. 2012. *A Decision-Support Framework For Using Value Capture to Fund Public Transit: Lessons From Project-Specific Analyses*. Mineta Transportation Institute, San José State University.

McMorrow, Paul. 2012. “Finally, a Building above the Mass Pike.” *The Boston Globe*, October 23. http://www.bostonglobe.com/opinion/2012/10/23/finally-building-above-mass-pike/f2vOtfhwwlNekkjsYHeIqL/story.html.

Medda, Francesca. 2012. “Land Value Capture Finance for Transport Accessibility: A Review.” *Journal of Transport Geography* 25 (November): 154–61. doi:10.1016/j.jtrangeo.2012.07.013.

Office of Transportation Public-Private Partnerships. 2013. “Air Rights Development Project Briefing”. August 6. http://www.virginiadot.org/VDOT/Projects/asset_upload_file444_67462.pdf.

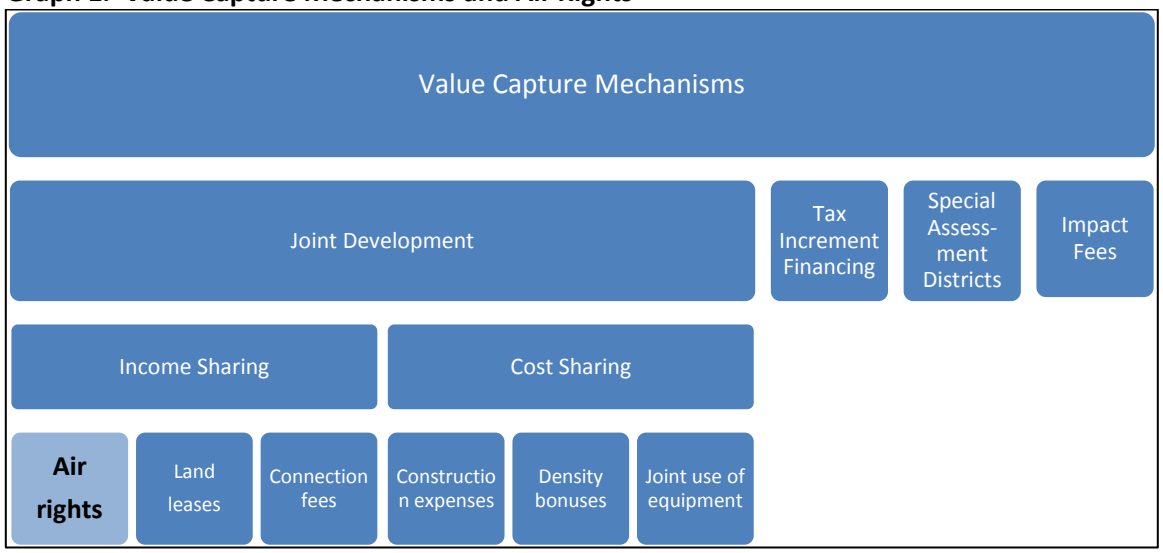
The Boston Globe. 2014. “The Future of Boston.” Accessed March 24. http://www.boston.com/advertisers/bigdig/air.shtml.

Tuchmann, David. 2012. “Testimony of David Tuchmann, Akridge. Bill 18-867, the ‘Comprehensive Plan Amendment Act of 2010.’”

http://dc.gov/OP/Comp%20Plan%20Amendment/Public%20Comment%20-%20David%20Tuchmann%20Testimony.pdf.

Graphs and Tables

Graph 1. Value Capture Mechanisms and Air Rights



Source: Adapted from Mathur and Smith (2012) and Cervero (2012).