



School of Geography
and Planning
Ysgol Daearyddiaeth
a Chynllunio

PLPR

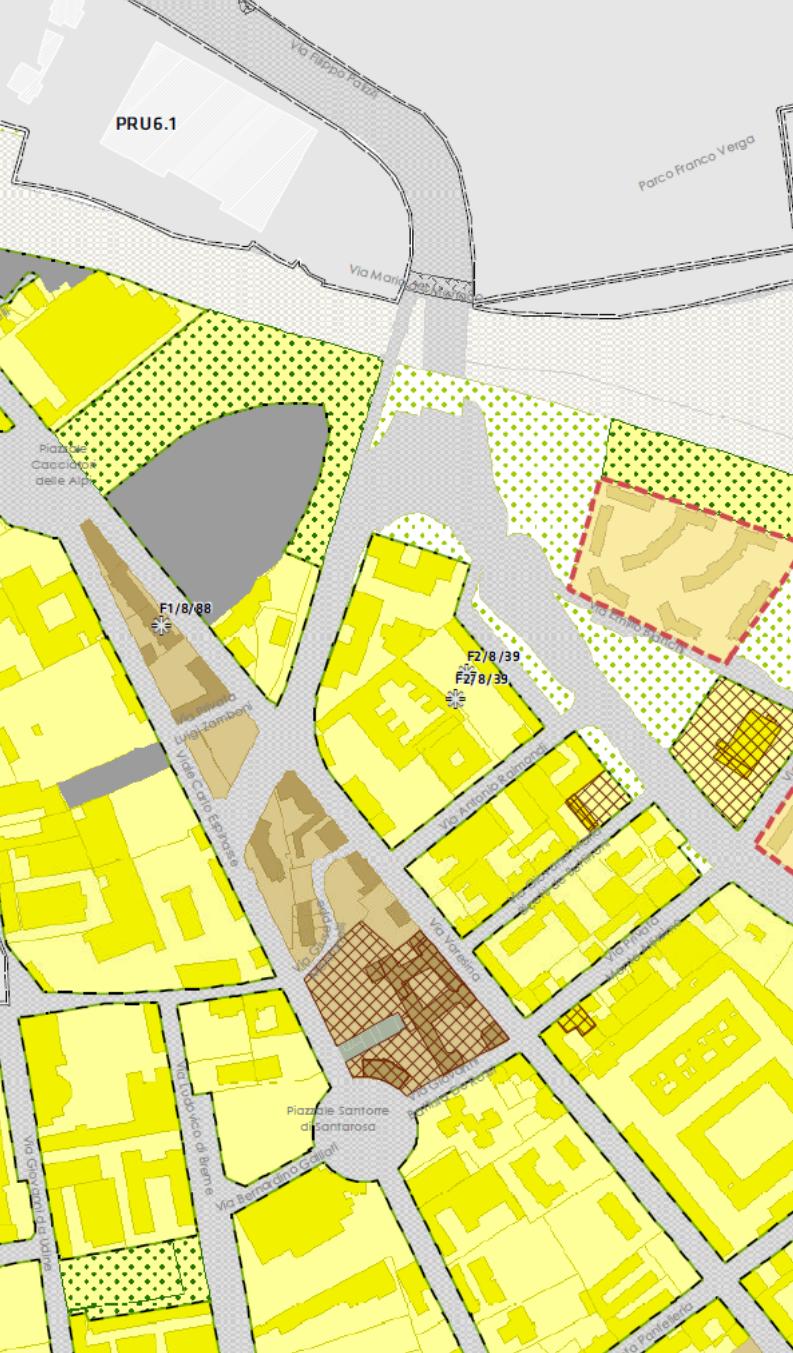


INTERNATIONAL ACADEMIC ASSOCIATION on PLANNING, LAW, AND PROPERTY RIGHTS

TRANSACTION COSTS OF IMPLEMENTING THE TRANSFER OF DEVELOPMENT RIGHTS PROGRAM IN MILAN

Enzo Falco^a, Emanuele Garda^b, Sina Shahab^c

- a) Department of Civil, Environmental and Mechanical Engineering, University of Trento, Trento, Italy;
- b) Department of Engineering and Applied Sciences, University of Bergamo, Dalmine, Italy;
- c) School of Geography and Planning, Cardiff University, Cardiff, UK



Introduction

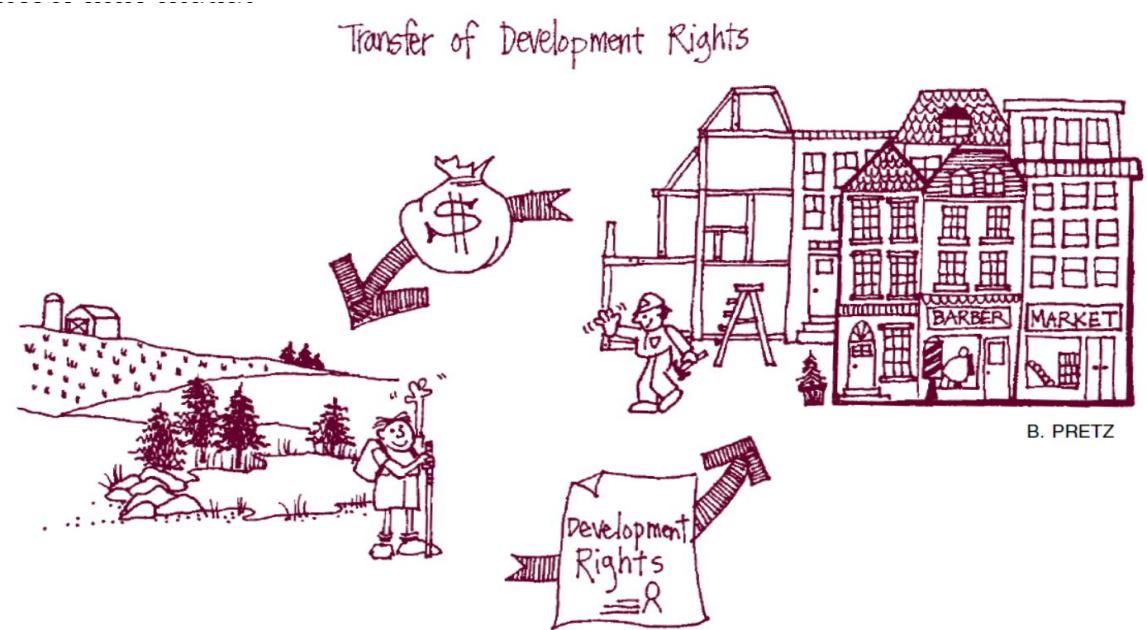
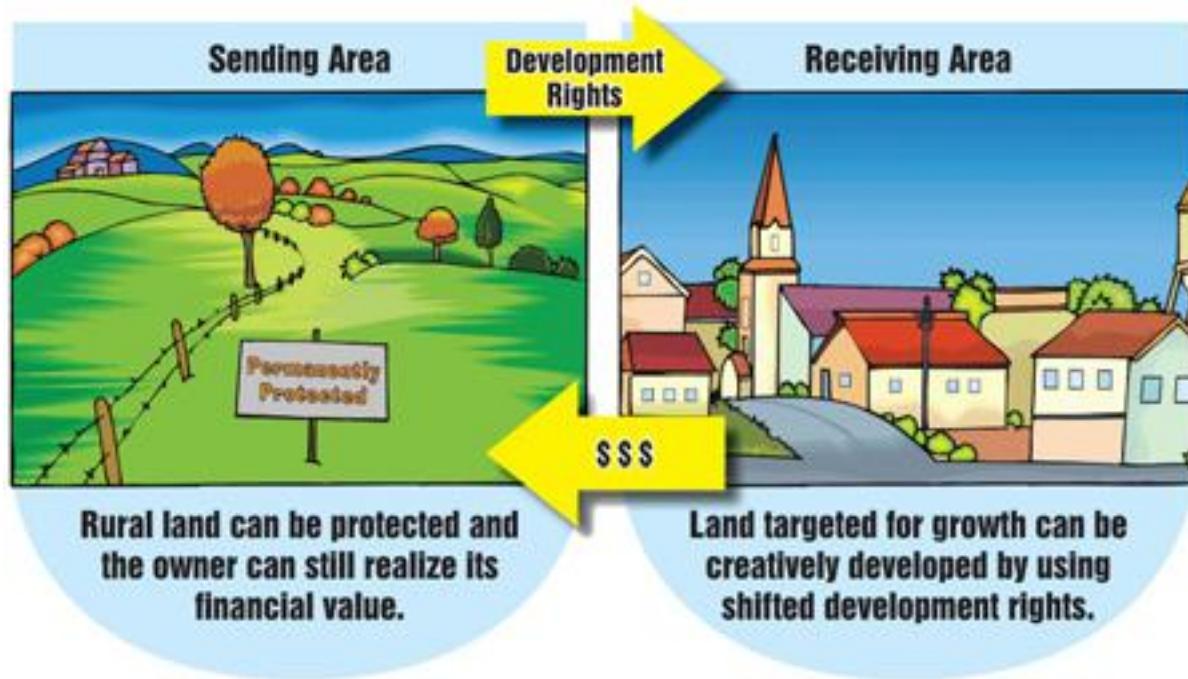
- Regional Law 12/2005 introduced TDR in Lombardy, shaping Milan's urban development.
- Milan serves as a key national and international case for TDR implementation.
- Analysis of Milan's TDR model, focusing on transaction costs and market dynamics.
- Limited research on city-level transaction costs in TDR schemes.
- Empirical study through interviews and focus groups with planners, notaries, developers, and intermediaries.

Transfer of Development Rights

Transfer of Development Rights (TDR) is an instrument used to redirect future development potential, from one location to another, in a way that is fair and equitable to the landowners involved, and one that supports community development, planning and conservation goals.



Transfer of Development Rights



Transfer of Development Rights

Country	Number of TDR programs	Country	Number of TDR programs
United States	282	Japan	1
Italy	14	Mexico	1
France	7	Netherlands	1
Australia	6	New Zealand	1
Canada	2	Puerto Rico	1
Brazil	1	Spain	1
India	1	Taiwan	1

Source: <https://smartpreservation.net/tdr-updates/>

Concept and Definition:

First introduced by Coase (1937) in *The Nature of the Firm*, transaction costs refer to the expenses associated with exchanges or transactions that are not directly tied to the creation of goods being traded.

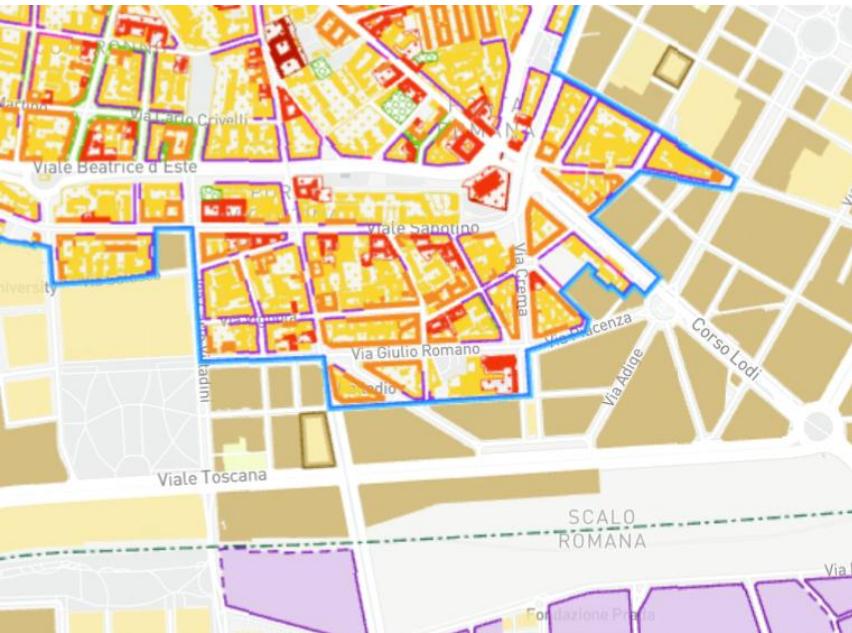
Application in Planning:

Introduced to planning by Alexander (1992), transaction cost analysis has been applied to various planning issues, including informal settlements, transport, infrastructure, and property development.

Relevance to Planning Policy Instruments:

Transaction costs have been used to assess TDR programs, ballot-box zoning, and land readjustment. Shahab et al. (2018) highlighted their variation over time and uneven distribution among actors, estimating transaction costs in Maryland's TDR programs at 13%–21% of total TDR costs per transaction. Hou et al. (2020) argued that accounting for transaction costs enhances TDR program efficiency and effectiveness.

The Milan TDR Model



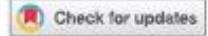
The City Plan (PGT), approved in 2012, incorporates multiple uses of TDR:

- a) To transfer of development rights from parcels designated for new green spaces to built-up areas.
- b) To enforce building restrictions on specific parcels.
- c) To provide incentives for energy efficiency improvements and historic building restoration.
- d) To promote densification in areas with high public transport accessibility.

Category of Activities	Examples of transactions creating transaction costs	Main Parties involved
Support and Administration	<ul style="list-style-type: none"> • Consulting with TDR sellers and buyers • Reviewing development applications • Supporting landowners and developers in understanding eligibility, availability and applicable number of TDRs in development projects. • Creating guidelines for TDRs Register and maintaining a list of TDRs available and transactions 	Planners and policy administrators
TDR Creation	<ul style="list-style-type: none"> • Determining eligibility, availability and applicable number of TDRs in development projects • Hiring a land-use attorney/notary • Preparing/updating title report (e.g. ownership of land/ easements/mortgages/TDRs available) • Applying for TDR certificate • Conducting land decontamination if needed 	Landowners and developers
Contracting	<ul style="list-style-type: none"> • Finding a TDR seller or buyer • Consulting with policy administrators, land-use attorneys, and brokers • Hiring a broker and paying a brokerage commission • Negotiating a TDR price per square meter • Preparing a contract • Payment 	Landowners and developers
TDR Retirement	<ul style="list-style-type: none"> • Speculating on TDRs and opportunistic behaviour • Recording the contract in land record and TDR register • Applying the purchased TDRs in development project • Recording the contract, covenant, and other transfer documents 	Developers, planners and policy administrators
Policy Evaluation and Monitoring	<ul style="list-style-type: none"> • Evaluating the efficacy of TDR Program and policy • Updating TDR register • Evaluating and monitoring spatial effects of TDR Program (PA) • Monitoring the TDR market, and balance of TDR supply and demand • Calling for public meetings and receiving public input • Revising the policy design and institutional arrangement 	Planners and policy administrators, landowners, and developers

- The study identifies five key activities: administration, TDR creation, contracting, retirement, and policy evaluation. The highest costs arise from legal documentation, land decontamination, and market uncertainties.
- Milan's TDRs are often **traded multiple times** before they are actually used in development projects. This speculative activity, which is less commonly reported in regional TDR schemes, has increased transaction costs by making it harder for developers to find available TDRs and by driving up prices.
- Milan's TDR program faces **opportunistic behaviour** and **rent-seeking**. Buyers **hold** TDRs for **speculative profit**, causing artificial scarcity, inflated prices, and higher development costs.
- Milan's TDR program does not impose strict **time limits** on the use of TDRs, allowing them to be held **indefinitely**. This lack of a sunset clause has contributed to speculative accumulation and increased long-term costs for developers.

- Milan's urban context is characterised by **high land values**, land scarcity, and significant **brownfield redevelopment**. These factors make the TDR market more complex and transaction-intensive compared to regional schemes, where land supply is often more abundant.
- In Milan, the lack of a structured mechanism to match buyers and sellers has led to inefficiencies, making it **difficult to locate available TDRs**, further increasing transaction costs.
- To improve efficiency and reduce transaction costs, the study suggests:
 - a public WebGIS platform for transparency,
 - a TDR Bank to balance supply and demand,
 - time limits on TDR use, and
 - publicly owned TDRs to stabilise the market.



Transaction costs of implementing the transfer of development rights program in Milan

Enzo Falco^a, Emanuele Garda^b and Sina Shahab^c

^aDepartment of Civil, Environmental and Mechanical Engineering, University of Trento, Trento, Italy;

^bDepartment of Engineering and Applied Sciences, University of Bergamo, Dalmine, Italy; ^cSchool of Geography and Planning, Cardiff University, Cardiff, UK

ABSTRACT

Transfer of development rights (TDR) programs have been used in Italy over the last two decades for various purposes, e.g. to avoid expropriation. While previous research shows that implementing TDR programs at a regional level creates considerable transaction costs, there is no study concerning the costs generated by employing these programs at a city level. This paper addresses this gap through an analysis of the city of Milan's TDR program. Results show that transaction costs in a fully market-based TDR program are mainly related to TDR contracting, monitoring and creation, influencing the efficacy of the program.

ARTICLE HISTORY

Received 3 February 2024

Accepted 4 October 2024

KEYWORDS

Transfer of development rights (TDR); transaction costs; market-based instruments (MBIs); planning policy; Milan

Diolch / Thank you