

## **A proper tool of Orderly urbanization: Turkish land readjustment**

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### **Abstract**

Preparation of development plans appropriately has vital importance in provision of orderly urbanization. These plans are generally prepared by planning authorities or local governments with involvement of relevant parties. Then, the plans need to be implemented to the field properly. This process is also as much important as the preparation process. Proper implementation can be achieved by using a right tool. The tools used in this process change in different countries throughout the world. While some tools allow plan implementations are carried out sporadically, some others provide implementation of plan in a group of land parcels at the same time. Both types of these tools which are named as voluntary applications and land readjustment are used in Turkey. Voluntary applications are subdivision and consolidation of land parcels, boundary adjustment, and leaving public areas free of charge. These are carried out by application of the landowner(s) to the relevant municipality. Therefore, development plan is implemented over time and sporadically. This patchwork implementation results with a partly disordered urbanization as development parcels formed with the implementation do not have good geometrical shapes to construct buildings. The areas allocated to public use in the development plans also need to be expropriated by the relevant public institutions in the voluntary applications tool. On the other hand, Land Readjustment (LR) allows implementation of a development plan in a group of neighbouring parcels at once. Development parcels formed with the LR have good geometrical shapes to construct buildings. Public areas are obtained without expropriation in these projects from landowners in consideration of the value increase arising from the project application. In this context, this study describes Turkish LR as a proper tool of orderly urbanization.

### **Introduction**

A development plan is a statutory policy document shaping future of a city. It is generally prepared by planning authorities or local governments with involvement of relevant parties. Preparation of this plan appropriately has vital importance in provision of orderly urbanization. Then, an approved development plan needs to be implemented to the field. This can be carried out by different tools in different countries. These tools provide sporadic or systematic implementations of the plans.

The sporadic implementation tools are named as voluntary applications in Turkey. These are subdivisions and consolidations of land parcels, boundary adjustments, and leaving public areas free of charge. Landowners generally use these tools when they want to obtain construction permits on his/her cadastral parcels. Later on, they apply to the relevant municipality for construction. If their parcels do not provide development plan requirements for construction, they have to apply one or more of the voluntary application tools on their parcels. This patchwork implementation results with a partly disordered urbanization as development

parcels formed with these types of applications do not have good geometrical shapes to construct buildings (Figure 1-[b]). The areas allocated to public use in the development plans also need to be expropriated by the relevant public institutions where plan implementations are carried out by voluntary applications. Thus, some landowners lost their properties in exchange for money as landowner of the parcel numbered 104 in the Figure 1. This means voluntary applications are not good tools for development plan implementations as some landowners get construction permissions without leaving public areas free of charge (as the parcel numbered 101 in Figure 1), while some others have to leave some parts of their parcels (as the parcels numbered 102, 103 and 105 in Figure 1) for public areas free of charge. Furthermore, some others cannot have construction permissions (as the parcel numbered 104 in Figure 1) and lost their land through expropriation.

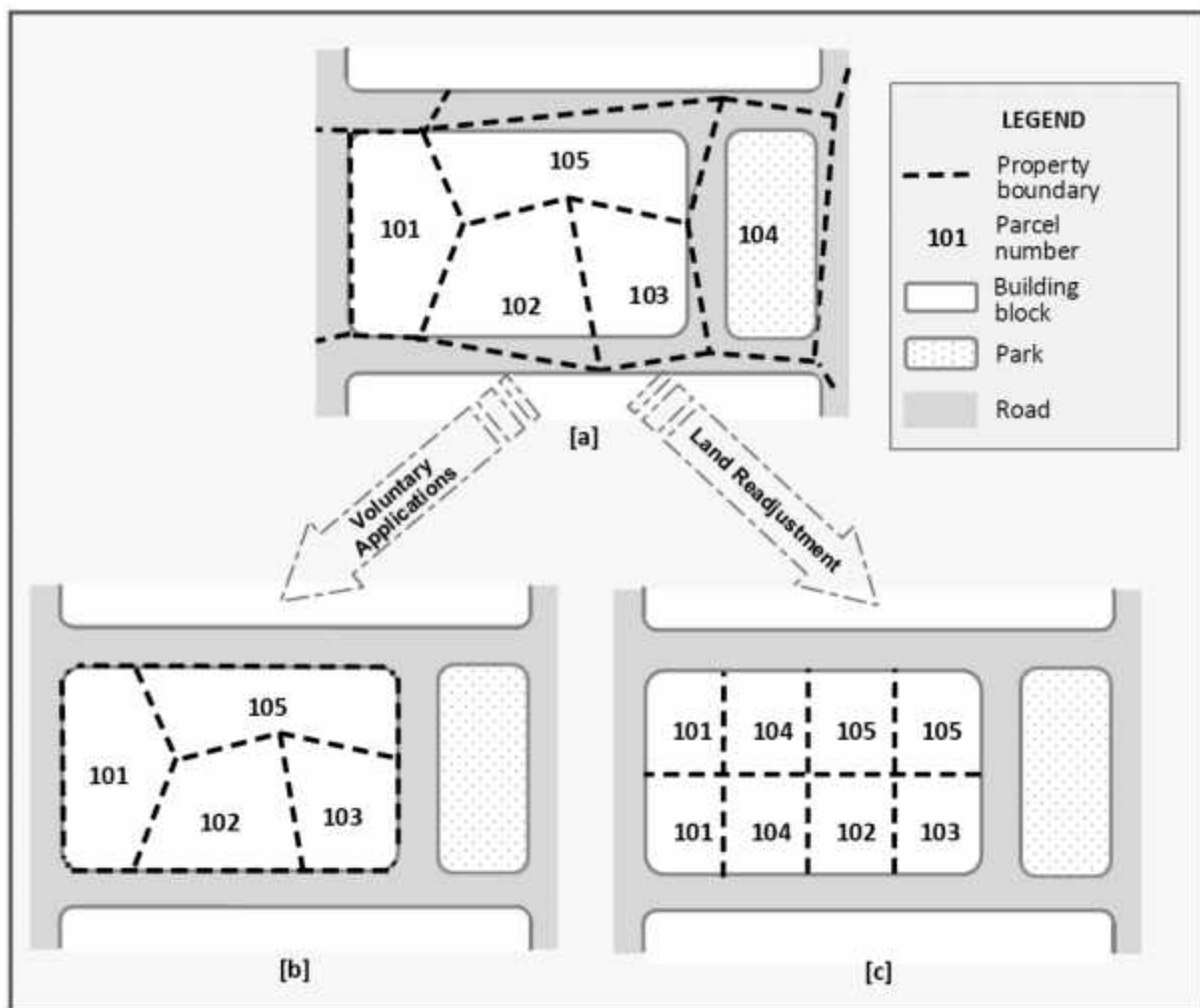


Figure 1 Implementation results of voluntary applications and land readjustment in the same development block [adapted from [1]]

The systematic implementation tool of development plans is called as Land Readjustment (LR) in Turkey. LR allows implementation of a development plan in a group of neighboring parcels at once [2]. Development parcels formed with the LR have good geometrical shapes to construct buildings (Figure 1-[c]). Public areas are obtained from landowners without expropriation in the LR projects in consideration of the value increase arising from the project applications (Table 1).

Table 1 Comparison of voluntary applications and land readjustment tools

Comparison Criteria	Voluntary Applications	Land Readjustment
Implementation of development plan	Sporadic	Systematic
Geometrical shapes of development parcels	Not good for construction	Good for construction
Equity amongst landowners	Not provided	Highly provided

In this context, this paper introduces Turkish LR as a proper tool of orderly urbanization. It discusses some common mistakes made during implementations of the LR projects in the country and presents some proposals to improve the tool.

### Turkish land readjustment

Turkish Land Readjustment (TLR) projects are carried out according to the Article 18 of the Development Law of Turkey and Implementing Regulations of the article. Article 18 gives authorizations to municipalities and governorships to implement TLR projects [3]. Consents of the landowners are not taken into consideration to carry out the projects. A project area cannot be smaller than a building block. If a block has partial development based on the regulations, the project can be carried out in the remaining part of the block. Up to 40% area of each parcel can be reduced during allocation process of development parcels in consideration of the value increase arising from the project application. If more than 40% area is needed from each parcel for the public areas in the project area, then the excess part is expropriated. An additional deduction is made from each parcel in the same proportion if the project area includes public facility areas. However, this deduction is made in exchange for money. In other words, this contribution is expropriated. After all deductions, allocations for each parcel should be provided in the same or nearby location to its original location, if possible. If a parcel which took part in a TLR project carried out before, that parcel can be subject to a new TLR project but no reductions for public areas can be made from this parcel in new projects. During calculation of Contribution Rates for public areas, leavings public areas free of charge through the voluntary applications implemented before the TLR project have to be taken into account by project developer. A legally built structure can be allocated to only one parcel and owner of the structure is still the owner after the project.

### Main stages of TLR projects

Additional rules that should be taken into consideration during TLR projects are described in the Implementing Regulations of the Article 18 of the Development Law of Turkey [4]. Based on the Regulations, main stages of TLR projects can be summarized as below:

- Determining the projects area;
- Obtaining and overlaying current cadastral map, development plan and existing map of the project area;
- Determining the exact project area boundary;
- Calculating the relevant parcel areas inside and outside the project area boundary;
- Identifying the legally built structures in the project area;
- Calculating Contribution Rate (CR) of the parcels for public areas in the project area;
- Calculating Contribution Rate for Public Facility Areas ( $CR_{pf}$ ), if available in the project area;
- Calculating expropriation areas, if CR is higher than 40%;
- Calculating allocation area of each parcel;

- Parceling the development block by taking minimum parcel requirements and landowners original locations into account;
- Exhibiting the project for one month in the municipality/governorship and hearing appeals;
- Applying new parcel boundaries to the field;
- Approving the project;
- Registering new landownerships;
- Distributing new land titles.

Main target of TLR projects is to provide development parcels for construction of houses [4]. Therefore, during determination of the project area, it should be taken into consideration that the project area includes at least one building block. Cadastral map, development plan and existing map of the project area should be up-to-date, digital and in the same coordinate system to overlay. Exact project area boundary should be drawn from axis of the roads in the development plan. While, the blocks allocated to religious places or police/gendarme stations in the development plan should be included or excluded as a whole during determination of the exact project area boundary, some parts of the blocks allocated to green areas or car parks can be excluded by taking the Contribution Rate (CR) into consideration. Division plans are prepared for the parcels that partly included in the projects. CR is calculated for roads, parks, green areas, children's playgrounds, carparks, primary/elementary schools, squares, religious places, and police/gendarme stations in the project area. The formula used to calculate CR is;

$$CR = (LP - BB - PF) / LP \quad (1)$$

where;

- CR : Contribution rate  
 LP : Total area of land parcels inside the project area  
 BB : Total area of the building blocks  
 PF : Total area of the public facility areas

Contribution Area (CA) of each parcel for public areas is calculated using the formula of;

$$CA_i = CR \times LPA_i \quad (2)$$

where;

- CA<sub>i</sub> : Contribution area of land parcel no 'i'  
 CR : Contribution rate  
 LPA<sub>i</sub> : Area of land parcel no 'i'

CR<sub>pf</sub> is calculated, if available in the project area, for hospitals, baby nurseries and the areas allocated to municipal or other public services in the development plan using the following formula.

$$CR_{pf} = PF / LP \quad (3)$$

where;

- CR<sub>pf</sub> : Contribution rate for public facility areas  
 PF : Total area of the public facility areas  
 LP : Total area of land parcels inside the project area

Contribution area of each parcel for public facility area is calculated by;

$$CAPF_i = CR_{pf} \times LPA_i \quad (4)$$

where;

$CAPF_i$  : Contribution of each parcel for public facility areas

$CR_{pf}$  : Contribution rate for public facility areas

$LPA_i$  : Area of land parcel no 'i'

Following all deductions, allocation areas of each parcel is calculated. Development blocks are subdivided by taking minimum parcel requirements and landowners original locations into account. Landowners can raise objections for the project to the relevant local authority during the exhibition process. Then, they can appeal the project in the court.

### Common mistakes made in TLR projects

The mistakes made in many TLR projects are subject to appeals. The most common of these mistakes are;

- Carrying out TLR projects to gain public areas instead of to provide development parcels,
- Disregarding leavings public areas free of charge carried out before the project by the landowners,
- Allocating parcel(s) for the relevant municipality or governorship from old roads which fall into a building block in development plan,
- Allocating parcels to landowners on the area different or far from their original locations with no reason.

The appeals directed to the courts with such reasons are generally come out in favor of plaintiff and the projects are generally cancelled.

### Proposals to improve TLR

Turkish Land Readjustment is a proper tool for orderly urbanization. However, it has some weaknesses that can be improved through proposals some of which are given below:

- TLR projects should be carried out based on area calculations. Namely, Contribution Rates and allocations should be calculated based on the area. TLR is a proper approach when compared to voluntary applications but it would be better that these projects are carried out based on 'value' calculations. Some examples of this type of implementations are available in the world.
- Landowner participation is ignored in TLR projects. Whereas, participation of landowners would provide carrying out more equitable projects with less appeal processes.
- Public areas are generally obtained free of charge in TLR projects but infrastructure costs are covered by the local authorities in the project areas. Similar to some other Land Readjustment examples in the world [5-6], such costs can be covered in TLR projects and thus infrastructures can be provided in short period of time and by the landowners in the project areas.
- TLR provides new development parcels but there is no an incentive or legal sanctions to build houses on these parcels. Therefore, development parcels formed with TLR projects can remain unbuilt for a long time. This resulted with the need for new TLR projects in the same area.

## Conclusion

This paper introduces Turkish way of Land Readjustment applications. When compared to voluntary applications, it is a proper and equitable approach to implement development plans as it provides implementation of development plans in a systematic way, parcels with good geometrical shapes for construction, and participation from all parcels in the project area for public areas. However, this tool can be improved through implementation of the proposals given in the “The Proposals to Improve TLR” section above. The most important proposals are to make calculations of contribution rate and allocations based on ‘value’ instead of area, and to cover infrastructure costs during the projects. This proper tool is advised to the countries where similar tools are needed in development plan implementations.

## References

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