

Linking together independent building development plans

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Abstract. The article describes two independent projects having investors of two different types – one using public money for the benefit of community, the other was purely private money of a private economic operator. Both investors included the green and/or sustainability building objectives in their projects, and examined possible defects and deficits in thereof, also in relation to the surrounding conditions and processes. Of course, each investor discovered the concurrent development of the other investor's plans, and determined overlapping areas of interest. In the article we describe the overlapping interest areas, variant solutions intended to lower projects costs, other pros and cons of the variants, their possible advantages and prospective degrading defects, and the harmonization of both investors' requirements. Next to this, public opinion on the solution was determined and evaluated, with trends and biases where identifiable. Then the variant best suited to both investors was agreed upon, just with slight final modifications to better satisfy the public and both investors, and to avoid possible future induced defects.

1 Introduction

This contribution describes two development plans of two different investors, who were initially not aware of each other's plans [1], [2], due to (or in spite of) the rather simultaneous planning start. Though both plans are described simultaneously here – some of the facts first appeared and were handled independently.

1.1 Public money project

The public money project is a project for a development plan of an area just over 6 ha (about 15 acres). The development plan assumes construction of some buildings for small businesses of chiefly manual production, further for some municipality offices, a greater part of the area, however, is planned for public sports and leisure facilities. The manual production would be governed primarily by the municipality authorities, for private business only unused spaces should be offered.

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1.2 Private money project

The private money project is a project for a development plan of an area about 12 ha (about 30 acres). The development plan assumes construction of warehouses for short and middle term storing at natural temperature, and construction of a frozen foods store. All the constructions and facilities are intended to be exploited by the investor (private economic operator), yet the eventually unused space can be rented out.

2 Examining defects in the developments plans

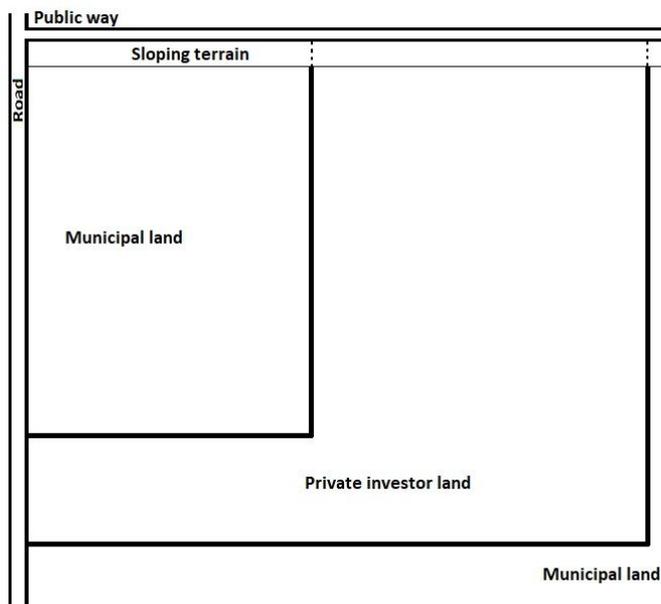


Fig. 1. Scheme of the projects building sites.

2.1 Public money project and buildings defects

The main problem of the public money development plan arises from the fact that the landholding intended for construction is surrounded, next to a road (to the west) and a public way (to the north, on the top of a slope), by landholding of another private owner (to the east and south). Direct consequence thereof are highly restricted possibilities of future development extensions and growth.

The municipality owns other land in the neighbourhood, however, that land lies “over” or “beyond” this owner’s land property. Such property structure disables direct access from the site in the development plan to other close municipality landholdings, consequently the access is rather cumbersome and possible only via public road. The need of superfluous adjustments in future projects inflicts defects and degradation [3] in green building concepts.

2.2 Private money project and buildings defects

The landholding intended for construction comprises an area of about 12 ha (30 acres). It is L-shaped with each of the legs touching roads on north and west, and thus “cornering” the (municipality) land between the legs. The actual L-shape of the landholding forces a higher proportion to be dedicated to driveways and traffic routes within the planned establishment than would be a usual portion for a 30 acres’ land of rectangle shape.

Although the investor’s business development plans paradigm allows some changes in the buildings design, the size of transport routes cannot be reduced more than negligibly.

3 Searching for improvements in the plans

Both of the investors inspected the surrounding conditions and discovered the other investor’s plans being concurrently under development. This enabled them to compare and coordinate paradigms of the plans [4-5] and to construct and use syntagms that were impossible to construct in any of the two individual plans.

The syntagms construction was executed in two steps. First, each of the investors modified his development plan as if it could use an area of the original size but located it anywhere on building site of both the investors. Second, joint syntagms were derived (e.g. a joint gateway and gatehouse were considered as a – preferred – option), and the two development plans’ paradigms [6] were combined into single joint plan paradigms.

3.1 Public money project improvements

Extending the available area over the neighbouring project area enables a direct access to other municipality landholdings for future exploitation. Thus it also enables to extend contiguously the business and sport-and-leisure facilities to other municipal landholdings in the future.

3.2 Private money project improvements

The main advantage for the private project is the availability of swapping parts of the landholdings making the projects more economical. This is due to lesser routes extent needs and more efficient store site layout by (most of) the new joint-project syntagms.

3.3 Both project improvements

These changes in both projects lessen the environment impacts by decreasing the necessary amount of paths and routes on the projects’ grounds. The new syntagms exploiting joint building usage further lessen the environment impacts by saving land usage amount.

The joint building exploitation exhibits more extensive benefits than just saving land demands. For instance, energy supply installations [7], or security installations and services, if contracted and managed together, reduce one of the ubiquitous building defects – they need less manpower and better follow sustainable building concepts.

4 Public transport operator services

Availability of public transport operator services is important both for employees and customers. The selected variant, compliant with the new joint syntagms, exhibited one

minor advantage – the stop could be placed close to the joint gateway. This feature, however, is not included in the financial outline due to unclear valuation.

5 Financial and other evaluation

Both investors, the municipality as well as the private one, had to defend the improved plans, the land swapping, and some new features of their projects similar to public-private partnership projects.

The private investor concentrated primarily on cost–yield relations throughout the life cycle. The municipality had a little more difficult task, next to cost–yield relations during the life cycle, they had to take into consideration public attitudes to changes in the project and public concern for efficient usage of municipal property and about (dis)advantages of the new buildings and areas dislocation. Evaluation of impacts resulting from BIM tools application [8, 9, 10] was included in individual objects' evaluation.

5.1 Financial evaluation

The following table sums directly evaluable savings due to carrying out the joint project instead of the two separate projects.

Table 1. Financial evaluation of the selected variant.

Project part or Object	Savings (–) or Additional costs (+)
Gate & gateway	– 170.000 CZK
Gatehouse	– 1.750.000 CZK
Road land occupation lessened. Est. 2200 m ² à 175 CZK/m ²	– 385.000 CZK
Other land occupation lessened. Est. 1600 m ² à 175 CZK/m ²	– 280.000 CZK
Energy centre(s)	– 775.000 CZK
Security services per month	– 55.000 CZK + 30.000 CZK †
Energy consumption per month	– 15.000 CZK

† The costs would be higher if municipality decides they don't need security services for most of their property

5.2 Non-financial evaluation

The following table sums identified non-financial impacts on defects due to carrying out the joint project instead of the two separate projects. These impacts are specific and limited to the municipality project. The evaluation was performed by the municipality means.

Table 2. Non-financial impacts of the selected variant – defects status change.

Project part or Object	Impact on defects – project status
Future expansion of the project	improving
Maintenance	slightly improving
Inside-premises transport and connections	improving
Future land claim demand	neutral
Traffic availability	slightly improving
Independency of future changes	slightly deteriorating
Public attitude	slightly improving [‡]

The municipality also asked to make some financial estimates of non-financial impacts if and where practicable. The estimate was:

- maintenance – up to 5% savings;
- transport and connections – up to 10-15%, but it includes maintenance;
- traffic availability – 0-3% savings, it is calculated by time saved by employees and customers;
- public attitude – this estimate was “quasi”-financial, it was estimated that it might add a few percent in popularity for those who can convince the public about his/her own merits on the project effectively. Actual financial impact might only emerge subsequently from the election results.

However, all these estimates are very rough, containing potentially a big mistake, and the municipality were warned that it should not be taken as a ground for any important decisions.

6 Conclusions

Collaborating in projects is generally fruitful, and the common practise is to organize projects in a cooperative manner. It is often an easy issue to do so if the cooperating parties have sufficient information from the beginning of the project. The presented case was a

[‡] This refers to the change before and after the public discussion on linking both projects.

different one, the projects were being prepared without original information of each other. This was partially due to their building sites being located within various administrative units. The owners of both the projects suspected some defects thereof which might be softened if cooperation was achieved. The above evaluations confirm the impression that intentionally searching for more cooperation may lead to improvements as of threatening defects.

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