Land-Use Readjustment For Roi Et Government Centre, Thailand

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Abstract. This paper aims to present the planning and design of Roi Et provincial government center master plan according to the land use readjustment theoretical framework in the urban design process. This approach maintains the basis that the uniqueness of the original area should be maintained, and the effectiveness of the area application should be increased, and thereby increasing the efficiency of space utilization. The results of the study include, respectively, the scoping of the study area, the investigation of the existing land uses and accessibility, and the readjusting the land uses with the concept of mix-use planning. Moreover, it is suggested that there should be further studies about the architectural styles showing the uniqueness of Roi Et city, water management for watering plants, and planting design of local species.

1. Introduction
The administration of Roi Et Province is under the provincial administration regulations, with the Provincial Town Hall as the administrative center. Today, Roi Et City Hall is characterized by three consecutive buildings, the first built in 1967, the second built in 1994, and the third built in 2003. From observations and inquiries from the three leading roles in the administration, the chief of the provincial office, head of public works and provincial planning, and the province's treasury found the problems. For example, not enough space due to the increasing number of workers and the current space is not suitable for current usage due to the changing working system according to transferred technology, thus concluding the need to construct a new town hall.

Regulations of the provincial administration of the government require that to build a new town hall be under the government center master plan. After examining the Roi Et provincial government center master plan, it was found that Roi Et had to complete the government center master plan before the construction of a new town hall. Creating a government center is similar to urban design, including problem gathering, requirement analysis, design approach, and implementation.

This article is part of the Roi Et government center master plan that aims to present the design according to the land use readjustment theoretical framework. Land use readjustment is primarily intended to thoroughly manage the infrastructure following the existing conditions of areas with fragmented infrastructures, such as parking lots, roads, and entrances, which are consumed the budget for maintenance and management. Therefore, land use readjustment theory fits into this master plan.
2. Literature review

Land use readjustment is a broad concept. To conclude the development areas, critical elements of land use readjustment should be defined for design. Within the theoretical framework of land use readjustment, there are issues to consider: places for people, enrich the existing, make connections, work with the landscape, mix uses and forms, manage the investment, and design for change [1]. Complies with UN-Habitat (2012) [2] and the world bank (2015) [3] that prioritize the better quality of living with the most significant emphasis on engagement. It can be concluded that land use readjustment is part of sustainable development. Therefore, there are three components to be considered: politics, economics, and socials.

As the land ownership of the study area is one owner, there is no problem in allocating land ownership. However, the land use plan at Roi Et provincial government center has a process like urban design, which is dynamic multiplicity [4], so there are some goals to expect after developing the area, including making the city more competitive, shaping the future, managing change, and contributing towards good governance. The original region's feature was modified for use until it appeared to be the current model. Therefore, one of the main principles of land use readjustment is that the original physical structure of the land should be respected, such as the waterway and the terrain [5].

3. Methodology

From the literature, as mentioned above review, the conceptual framework can be concluded that 1) the uniqueness of the original area should be maintained; 2) the effectiveness of the area application should be increased by trying to use the same as the original one, thereby increasing the efficiency of space utilization.

4. Results

From the methodology, the results of the study are as follows:

4.1 Determining the scope of the study area

![Figure 1. Determining the scope of the study area [6]](image-url)
Within the dark red frame is the area for the master plan of the Government Center (Figure 1), divided into two parts: the upper part is the area for the town hall building, and the lower part is the area for the office building, the residential area, and the recreation area.

4.2 Existing land use

![Existing Area](image1)

**Figure 2.** Existing land use [6]

According to the Treasury Department, 28 buildings on this land consist of residential buildings, office buildings, and recreation buildings (Figure 2). When analyzing the original usage of the area, it is found that the residences are scattered adjacent to the moat, the offices are to the north and fenced off the territory of each office, which was a barrier to sharing space. The recreation was challenging to reach and lack of maintenance. Moreover, there is a large field in front of the town hall, uses for ceremonies and parking.

4.3 Access analysis

![Access Analysis](image2)

**Figure 3.** Access analysis [6]
The roads surrounding the area are divided into the major road and minor road. Major road is an intercity road. The minor road is a local road (Figure 3).

![Figure 3. Road classification diagram](image)

**Figure 3. Road classification diagram**

The town hall access is accessible from the main road, which is a great potential. The road is run by buses, making it easy for people to reach the town Hall (Figure 4).

![Figure 4. Accessibility diagram](image)

**Figure 4. Accessibility [6]**

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Across the moat side is the provincial hospital, which should promote walking from the hospital to the reservoir by providing an environment suitable for walking, creating shade with vegetation, and creating a smooth landscape (Figure 5).

![Figure 5. Walking network concept](image)

**Figure 5. Concept of walking network [6]**

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4.4 land use readjustment
Add the concept of mixed-use land use planning in buildings consistent with the urban context, such as residential buildings designated the ground floor as welfare stores and the upper floor as residential buildings; parking buildings designated the ground floor as restaurants, and rooftop is a basketball court (Figure 6).

![Figure 6. Mixed-use land use planning](image)

**Figure 6. Mixed-use land use planning**
Figure 6. Land use, before - after readjustment

5. Conclusions
Although the planning has not yet been completed, the results of land use readjustment can be verified by presenting it to stakeholders appointed representatives of the provincial government center administrative regulations. In this study, it was suggested to study the architectural styles showing the uniqueness of Roi Et city, water management that can be used to water the plants, and should choose the provincial tree species. This recommendation will help take the next step.

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