# Problem Statement 2:

## Democratizing Public Real Estate Development

Challenge Objective:

- Use a public blockchain and tokenization to increase transparency, speed, and liquidity of public real estate development
- Technology deliverable: Create a smart contract on the Algorand blockchain that defines the terms for investing in a bond. Also create a front-end UI experience for users to buy and trade these bonds.
- Bonus: Payments use case - make it possible for the smart contract bond to accept funding payments and distribute payments in a stablecoin on the Algorand network.

Public sector real estate development is common in many parts of the world such as the USA and the Netherlands. Public sector real estate is the collection of publicly owned, publicly managed and publicly leased real property assets. Most real estate that is owned by a non-private entity is viewed as public sector real estate. Examples of public sector real estate range from an airport, a highway, a cross-harbour tunnel, wireless infrastructure, energy pipelines, etc.

The development of public real estate is highly complex, with many stakeholders and intermediaries involved – including banks, lawyers, auditors, Government, property developers, etc. Extensive legal documentations, siloed database, expensive middlemen/broker fees, non-transparent management are the common pain points in development projects that involved many parties and long development period.

The development of public real estate requires large sums of capital, which can easily involve hundreds of millions dollar of investment, with an investment timespan of over ten years. It is often difficult for corporates, not to mention retail investors, to get involved. The financing of public real estate development is often in the form of public bonds and infrastructure REITs. However, the market of public sector real estate bonds and REITs are not liquid due to the lack of marketplace and the limited investor pool.

Blockchain technology has significant potential to drive transparency, efficiency, and cost saving. Many intermediaries could be rendered by blockchain-based approaches, as records could be stored, verified, and transferred using blockchain technology. Siloed databases could be reduced by using secure and tamper-resistant shared databases that compile data and documents from various different stakeholders in one place.

Besides, tokenization of real estate assets provides a new way to decentralize the financing process. The property owner can offer digital tokens that represent a share of the property. A public sector real estate can effectively have numerous co-owners with a stake in potential returns. The distribution of bond interests and dividends can be executed by smart contracts. The tokenized assets can be listed on online marketplaces, which lower the barrier of entry for investors in terms of the investment size and holding period.

References:

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