

Modernizing Real Estate Records With Blockchain

Blockchain and the Law Blog on June 30, 2018

Despite dealing in one of the most valuable asset classes in the world, the real estate industry largely relies on outdated real estate interest recording systems requiring paper-based filings with local government offices. The administrative burdens, inaccuracies and security issues raised by such systems are well known. Increasingly, both [government actors](#) and [private parties](#) have recognized the potential for key attributes of blockchain technology to modernize real property conveyance and improve processes for recording deeds and other related instruments:

- *Greater efficiency due to digitization.* The deed recording processes currently employed by many U.S. localities impose burdensome [administrative costs](#). Typically, a physical deed must be delivered to a government employee at the local recording office, where it is subsequently scanned onto the county's centralized database. Data points from the deed are then manually input onto a public index, which is relied upon to determine ownership of each piece of property recorded thereon. Any subsequent transfers of, or claims to, real property must be manually reconciled with this public index. Blockchains, on the other hand, are entirely electronic data structures. As such, their implementation could greatly reduce, if not eliminate, the constant need for scanning documents, printing labels and organizing physical files in local recording offices – enabling local governments to reallocate human resources to areas where they can be employed more productively.
- *Accurate record of ownership that updates in real time.* The manual indexing process described above is not just costly and time-consuming. It is also prone to human error, where inputting mistakes may cause future difficulties in accurately tracing chain of title. Since blockchains have the potential to consolidate conveyance and recording of real property rights into a transaction, they can greatly increase the likelihood that the public record accurately represents each conveyance, and do so in real time.
- *Tamper-proof and disaster-resistant decentralized ledger.* Finally, centralized databases, where recorded deeds are currently stored, are vulnerable to malicious attacks by third parties (or government insiders) seeking to steal, erase, forge or

alter existing records. By design, blockchains may ensure that any such endeavor to corrupt the information contained “on-chain” is prohibitively [costly](#). Further, localities typically do not have the resources available to implement a robust back-up system for their property records. Therefore, in the case of a natural disaster destroying physical files or a malicious cyberattack wiping a database, the entirety of the record could be permanently lost. A blockchain, meanwhile, may store recorded data on nodes spanning both geographies and populations, alleviating concerns of lost records, while concurrently reinforcing the integrity and security of the data with each additional node.

By facilitating the efficient allocation of government resources and accuracy and security in recordkeeping, blockchain may provide a desirable alternative or supplement to existing systems for tracking real property ownership. Widespread adoption, however, will first require addressing important legal and regulatory questions, including:

- Who will be able to submit data to the deed recording blockchain, and how will the accuracy of information be ensured at the point of entry onto the blockchain? Will transaction verification responsibilities and/or access to the ledger be limited to government officials, akin to current deed recording systems? Or will more open, permissionless systems be employed?
- How will coordination issues among the various parties involved in the process of real estate transactions be addressed?
- To what extent will state real estate recording acts need to be amended to specifically contemplate recordation on a blockchain system as valid for purposes of state law?
- In the event of disputes regarding a blockchain-based property ownership record, what unique limitations, if any, might a court face in exercising its authority? For instance, might it be necessary to provide injunctive relief in the form of a court-ordered hard fork, and if so, would such a measure even be possible to effectuate?
- Will data on blockchains satisfy legal evidentiary burdens (e.g., statute of frauds)?
- If localities opt to record real estate ownership *both* in the traditional manner and on a blockchain (or in some combination) and there are inconsistencies between the resulting records, which will govern in a court of law?

Ultimately, blockchain has the potential to improve upon problems that hamper deed recording systems in the United States today. However, until further legal clarity is achieved, wholesale adoption of blockchain-based real estate solutions may face resistance, despite their promise.

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