



The Total Cost of Maintenance in Multifamily Real Estate **A Deep Dive**

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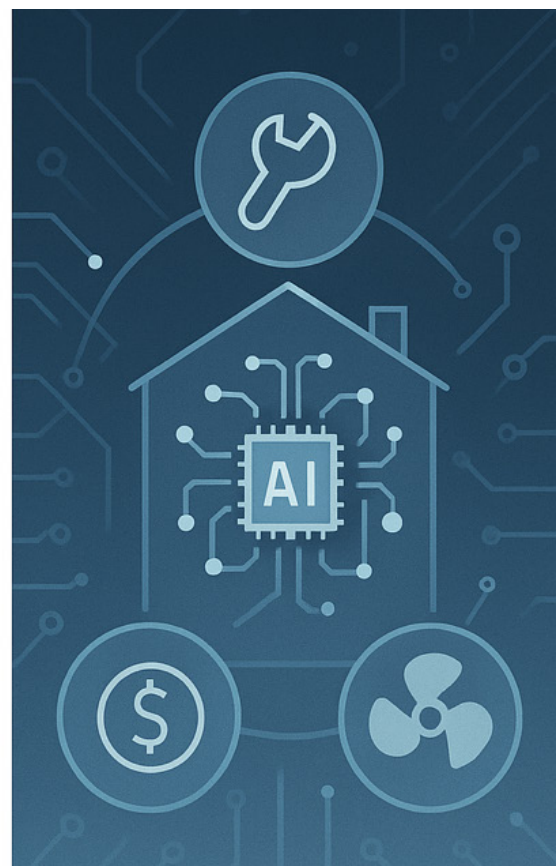
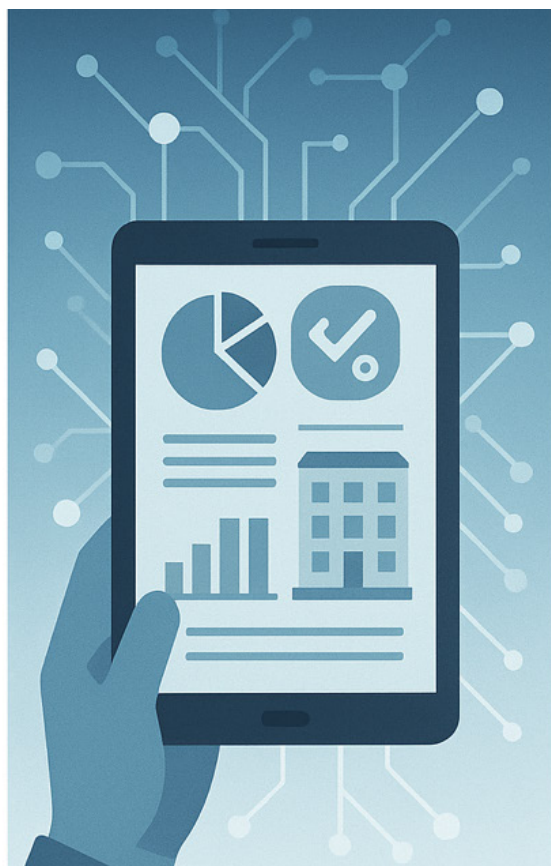
THE TOTAL COST OF MAINTENANCE IN MULTIFAMILY REAL ESTATE: A DEEP DIVE

Understanding Hidden Costs and the Role of AI in Enhancing Profitability

Maintenance costs in multifamily real estate are a significant determinant of profitability, yet they often fail to receive the strategic attention they deserve. While direct maintenance expenses are easy to quantify, **hidden costs and inefficiencies can quietly erode profit margins.** With the advent of artificial intelligence (AI), however, there is a paradigm shift in the way maintenance operations are centralized, and data visibility is enhanced.

Artificial intelligence is reshaping multifamily maintenance operations, helping companies centralize processes and boost efficiency with data-driven decision-making. Paired with effective data visibility, multifamily property operators can easily track and improve maintenance tasks, costs, and performance metrics.

This article explores the total cost of maintenance in multifamily real estate, the impact of hidden costs on profitability, and how AI is revolutionizing the industry.



Maintenance in multifamily properties generally falls into two categories: **direct costs** and **indirect costs**.

DIRECT COSTS

Direct costs are tangible and easily measurable.

- Repairs and replacements for HVAC systems, plumbing, and electrical fixtures.
- Landscaping and common area upkeep.
- Routine inspections and preventive maintenance services.
- Labor costs associated with maintenance teams or contractors.

While these costs are a visible part of the budget, they represent only a portion of overall expenditures.

INDIRECT COSTS

Hidden or indirectly related costs that aren't traditionally tracked under maintenance in an accounting ledger can constitute 20-40% of expenses. These can include tenant turnover costs (10%-15%), energy inefficiency (3%-8%), and compliance, legal risk (2%-5%).

HIDDEN COSTS

Hidden costs, on the other hand, are more nuanced and often overlooked.

Tenant Turnover: Poor maintenance can lead to tenant dissatisfaction, resulting in higher turnover rates. The costs associated with vacancy, marketing, and onboarding new tenants are substantial — around [\\$4,000 per resident](#).

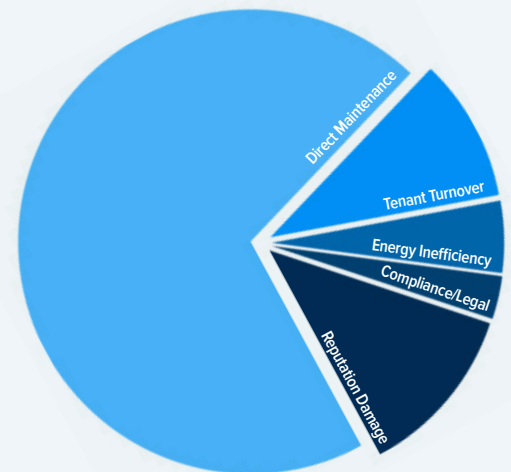
Compliance Issues: Deferred maintenance may result in violations of safety codes or legal requirements, leading to fines and penalties — Venting refrigerant into the atmosphere, for example, costs \$109,024 in fines per day per violation

Reputation Damage: A poorly maintained property can tarnish its reputation, reducing its ability to attract high-quality tenants. [70% of prospects](#) use a property's reputation to determine whether they will visit.

Resident-caused damages: Residents can cause damages or ask for services that are not covered under their lease agreement. Not only do resident caused damages increase maintenance costs from 5-20% for their management company, not addressing these issues can raise work-order intake by 10%.

These hidden costs are insidious, gradually impacting the bottom line without explicit visibility in financial statements.

Total Maintenance-Related Costs



Direct Maintenance	70%
Tenant Turnover	10%
Energy Inefficiency	5%
Compliance/Legal	3%
Reputation Damage	up to 12%



Resident Damages

Property management companies bear the cost for reasonable repairs and wear-and-tear. But residents who behave irresponsibly and cause undue property damage should pay for those repairs themselves, as these costs can dramatically raise overhead for property companies, often times in the millions of dollars per year for a portfolio.

Allowing residents to cause damage without consequences encourages continued bad behavior. Once residents understand they will be charged for items not covered on their lease (through resident chargebacks), they will treat their homes with more respect, reducing the financial burden on themselves and their property owners.

How Hidden Costs Affect Profitability

To truly understand how hidden costs undermine profitability, consider the cascading effects they can trigger. For example, deferred maintenance on HVAC systems not only increases energy costs but also creates an uncomfortable living environment, prompting tenants to seek alternatives. High tenant turnover, in turn, amplifies vacancy rates, which negatively affect rental income and cash flow.

The costs of a poorly maintained HVAC unit can be significant in terms of wear and tear. Clogged filters can reduce airflow, straining the blower fan and reducing its longevity 5%–15%.

Dirt can insulate evaporator and condenser coils, reducing heat exchange efficiency by up to 30%. Dust buildup and blocked dampeners restricts air distribution by as much as 20%. The average HVAC replacement cost ranges from \$4,000–\$12,000 per unit, and lack of cleaning can cut equipment life by 30%–50%, so failing to maintain an HVAC unit can spike maintenance costs.

Meanwhile, using the wrong refrigerant could result in expensive fines. As of 2024, the EPA can assess civil penalties of up to \$109,024 (adjusted for inflation) per day, per violation under Section 608 of the [Clean Air Act](#).

Moreover, inconsistent maintenance can devalue the property over time. A property with neglected upkeep will appraise lower, affecting its refinancing potential and sale price. In highly competitive multifamily markets, where cap rates are compressed, even slight inefficiencies in maintenance management can make a significant difference in net operating income (NOI).

Potential EPA Fines



\$10,000 to \$100,000 or more

Using banned refrigerants such as R-22 in new systems, especially in post-2010 equipment

\$109,024 per day per violation

Venting refrigerant into atmosphere

\$5,000 to \$20,000 or more

Failing to use certified technicians or keep appropriate records

\$10,000 or more

Buying or selling restricted refrigerants without certification

The Role of Data Visibility in Maintenance Management

One major reason hidden costs persist is the lack of adequate data visibility. Many multifamily property operators rely on outdated or fragmented systems to track maintenance tasks, costs, and performance metrics. This siloed approach leaves room for inefficiencies, including:

- Missed preventive maintenance schedules due to lack of centralized tracking.
- Inaccurate budgeting caused by incomplete data on historical maintenance trends.
- Difficulty in identifying recurring issues or costly patterns.

The Need for Centralization

Centralized maintenance management systems can provide a single source of truth for property operators. These systems consolidate data from various properties, enabling operators to:

- **Monitor** and compare maintenance performance across the portfolio.
- **Track** expenses in real time to identify cost-saving opportunities.
- **Streamline** vendor management and ensure accountability.

While centralization is essential, the real game-changer lies in the application of artificial intelligence.

How AI is Transforming Maintenance in Multifamily Real Estate

Artificial intelligence has emerged as a transformative force in multifamily maintenance operations. By leveraging AI, property operators can not only centralize their processes but also unlock unprecedented levels of efficiency and data-driven decision-making.

Predictive Maintenance

One of the most groundbreaking applications of AI is predictive maintenance. Predictive algorithms analyze data from sensors and historical records to forecast when equipment is likely to fail. This allows operators to address issues before they escalate, reducing downtime and repair costs.

For example, an AI-powered system can monitor HVAC units across multiple properties, identifying units that are underperforming or likely to fail. By scheduling proactive repairs, operators can avoid costly emergency calls and enhance tenant satisfaction.

Every year, costs go up and equipment gets older. Here's how one year changes the status and costs of a property:



Energy Bills

↑ 20%–40%



Repairs/Parts

↑ 15%–30% more frequent repairs



Compliance & IAQ

↑ Risk of fines or tenant turnover



Equipment Lifespan

↓ 30%–50%



Smart Resource Allocation

AI excels in optimizing resource allocation. By analyzing maintenance requests, labor availability, and vendor performance, AI can prioritize tasks and assign them to the most suitable personnel or contractors. This ensures that high-priority issues are addressed promptly, improving overall efficiency.



Energy Optimization

AI can also contribute to cost savings by optimizing energy consumption. Smart building systems powered by AI can adjust lighting, heating, and cooling based on occupancy patterns and weather forecasts. These adjustments not only reduce utility costs but also extend the lifespan of equipment.



Enhanced Data Analytics

AI-driven analytics provide actionable insights into maintenance performance. With machine learning algorithms, operators can identify trends, predict future costs, and evaluate the ROI of various maintenance strategies. For instance, AI can highlight recurring issues that indicate systemic problems, enabling long-term solutions rather than temporary fixes.

The Roadmap for Leveraging AI in Maintenance

The integration of AI into maintenance management requires a strategic approach. Below is a roadmap to help property operators transform their operations:

1. ASSESS CURRENT SYSTEMS

Conduct a thorough audit of existing maintenance processes, systems, and data availability. Identify gaps and inefficiencies that AI can address.

2. INVEST IN CENTRALIZED PLATFORMS

Implement a centralized property management platform that integrates AI capabilities. Ensure the platform can handle data from multiple sources and provide real-time analytics.

3. TRAIN TEAMS

Invest in training for maintenance teams and property managers to familiarize

them with AI tools. A tech-savvy workforce is essential for maximizing the benefits of AI.

4. START SMALL AND SCALE

Begin by piloting AI solutions on a limited number of properties. Assess the outcomes and refine the approach before scaling to the entire portfolio.

5. MEASURE AND ITERATE

Use AI-powered analytics to measure the impact of these changes on maintenance costs, energy efficiency, and tenant satisfaction. Continuously iterate based on the insights gained.



Conclusion

The total cost of maintenance in multifamily real estate extends far beyond direct expenses. Hidden costs, if left unchecked, can have a significant impact on profitability and long-term asset value — up to 40% in case of hidden or indirect costs. However, with the advent of AI, property operators have an unprecedented opportunity to centralize their operations, enhance data visibility, and optimize maintenance strategies.

By leveraging predictive maintenance, smart resource allocation, and energy optimization, AI not only minimizes hidden costs but also drives tenant satisfaction and NOI growth. As the multifamily real estate industry becomes increasingly competitive, embracing AI is no longer optional—it is a necessity for those looking to stay ahead of the curve.

A consolidated view of all renovations makes it easy to allocate work to suppliers efficiently while maintaining clear pricing and vendor controls, and offers valuable insights into planned and completed renovations, tracking progress and duration at the corporate level. It's an essential tool for streamlining and optimizing our renovation projects.

Barb Wood Purchasing Manager, **Pauls**



We've improved our resident experience while reducing maintenance costs. Integrating a centralized platform flexibly with our processes and scale to support our nearly 53,000 homes has been critical to this mission.

Joe Ryser VP of Service Operations, **FirstKey Homes**



We've been able to execute inspections with photos on all of our renovations immediately after they're completed. We now know exactly what finishes, and which appliances and amenities are in each unit.

Louise Santana SVP of Asset Management & IT, **Klingbeil Capital Management, Ltd.**

