

# Commercial Real Estate Lease Management Toolkit

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Claude Code

## Commercial Real Estate Lease Management Toolkit

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version 1.3.0 license Apache 2.0 python 3.12+ tests 130+ passing code style typed Stars repo not found

**Version 1.3.0** • Released 2025-11-05 Built for institutional leasing teams that need production-ready automation across the entire lease lifecycle.

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### TL;DR

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- **End-to-end coverage** across the lease lifecycle: automate abstraction, deal modelling, credit underwriting, IFRS accounting, compliance checklists, renewal strategy, and competitive positioning.
  - **Single pipeline** from raw lease PDFs to board-ready reports—capture key terms, normalize cash flows, benchmark market comps, and generate audit-ready schedules without leaving the toolkit.
  - **40-50% weekly time savings** for leasing managers: 21 automated workflows + 6 calculators handle ~70-80% of desk-side analysis.
  - **Embedded expertise** via 13 senior-level skills and standardized templates that keep negotiations, drafting, and approvals moving.
  - **Production-grade codebase** (Python 3.12+, 130+ unit tests) with a predictable PDF → JSON → Python → report pipeline.
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## Getting Started

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### Requirements

- Python 3.12+
- `pip`
- Claude Code (or another automation host) for slash-command workflows

### Installation

```
git clone https://github.com/reggiechan74/leasing-expert.git
cd leasing-expert
pip install numpy pandas scipy
pip install 'markdown[docx]'          # document conversion
pip install pytest                    # optional: run test suite

# For PDF report generation (relative valuation, etc.)
sudo apt-get install -y pandoc wkhtmltopdf # Linux/Ubuntu
# Or: brew install pandoc wkhtmltopdf      # macOS
```

### First Workflow: Abstract & Analyze

```
# 1. Extract lease terms into the 24-section template
/abstract-lease path/to/lease.docx

# 2. Run an effective-rent analysis on the same deal
/effective-rent path/to/lease.pdf
```

Each command follows the same pipeline: 1. Extract data from PDF/DOCX

2. Generate validated JSON input

3. Execute the relevant calculator

4. Write a timestamped report into `Reports/`

### Direct Calculator Usage

```

# Effective Rent / PRR analysis
python Eff_Rent_Calculator/eff_rent_calculator.py baf_input_example.json

# Tenant credit scoring
python Credit_Analysis/run_credit_analysis.py credit_inputs/sample_tenant_2025-10-31_input.json

# IFRS 16 accounting schedules
python IFRS16_Calculator/run_ifrs16_analysis.py ifrs16_inputs/sample_input.json

# Rental variance decomposition
python Rental_Variance/rental_variance_calculator.py sample_variance_input.json -v

# Relative valuation / competitive positioning
python Relative_Valuation/relative_valuation_calculator.py \
  --input data.json \
  --output report.md \
  --output-json results.json \
  --full # Show all competitors (not just top 10)

# Renewal vs. relocation economics
python Renewal_Analysis/run_renewal_analysis.py renewal_inputs/sample_input.json

```

## Run the Test Suite

```
python -m pytest Eff_Rent_Calculator/Tests/ -v
```

## Capabilities

### Skills (13 Specialized Experts)

- **Core leasing:** commercial-lease-expert for deal structuring and negotiation strategy.
- **Transfers & modifications:** assignment, sublease, share-transfer, surrender, waiver.
- **Security & protection:** indemnity, SNDA/non-disturbance.
- **Ancillary agreements:** temporary licenses, storage, telecom licensing.
- **Disputes:** lease arbitration guidance.

Each skill provides checklists, negotiation angles, risk flags, and recommended language—effectively bringing a senior advisor into the workflow on demand.

### Calculators (7 Engines)

1. **Effective Rent Calculator** ( `Eff_Rent_Calculator/` )
  - Inputs: rent schedule (annual \$/sf), incentives (TI, cash allowances, free rent), leasing costs, REIT capital assumptions.
  - Outputs: Net/Gross Effective Rent, NPV vs. costs, breakeven rents, Ponzi Rental Rate comparison, payback, sensitivity tables.
  - Use Cases: Offer structuring, investment committee packages, renegotiation analysis.
2. **Rental Yield Curve** ( `Rental_Yield_Curve/` )
  - Models implied termination options to build a rent term structure, forecasting market rent shifts across maturities.
  - Supports “what-if” scenarios for escalation clauses, early termination rights, and renewal probabilities.
3. **Rental Variance Analysis** ( `Rental_Variance/` )

- Decomposes revenue variance into rate, area, and term components using DAYS360 methodology; reconciles budget vs. actuals with audit-ready tables.
  - Ideal for monthly/quarterly reporting packs and leasing scorecards.
4. **Relative Valuation Engine** ( `Relative_Valuation/` )
- Weighted MCDA rankings across up to 15 variables (9 core + 6 optional) with dynamic weight allocation based on data availability.
  - Core variables: rent, TMI, parking, clear height, office %, distance, year built, class, area match.
  - Optional variables: shipping doors (TL/DI), power, trailer parking, secure shipping, excess land.
  - Outputs competitive status, pricing gap to Top 3, rent/TMI adjustment scenarios, and landscape PDF reports with full property details.
5. **IFRS 16 / ASC 842 Calculator** ( `IFRS16_Calculator/` )
- Generates present value of lease liabilities, ROU asset schedules, journal entries, and CSV amortization/depreciation tables.
  - Used for monthly close, audit support, and disclosure packages.
6. **Tenant Credit Analysis** ( `Credit_Analysis/` )
- Calculates 15+ ratios, produces a 100-point credit score, assigns rating band, estimates PD/LGD, and recommends security amounts.
  - Supports underwriting, renewal risk reviews, and portfolio credit surveillance.
7. **Renewal Economics** ( `Renewal_Analysis/` )
- Compares renewal vs. relocation scenarios incorporating relocation capex, downtime, IRR, payback, and blended NER.
  - Guides negotiation stance on expiring leases and capital allocation.

## Automated Workflows (22 Slash Commands)

Each slash command packages data extraction instructions, domain expertise, calculator invocation, and report formatting. Commands are grouped into Abstraction (2), Financial Analysis (9), Accounting (1), Comparison (4), and Compliance (7).

Category	Command	Primary Output
Abstraction	<code>/abstract-lease</code>	24-section lease abstract + JSON schema
Abstraction	<code>/critical-dates</code>	Timeline of renewals, expiries, and notice trigger dates
Financial Analysis	<code>/effective-rent</code>	Deal economics report with NER/GER, PRR, sensitivities
Financial Analysis	<code>/tenant-credit</code>	Credit memo with ratios, PD/LGD, security recommendation
Financial Analysis	<code>/rental-variance</code>	Budget vs. actual variance decomposition
Financial Analysis	<code>/market-comparison</code>	Market rent benchmarks and pricing gap analysis
Financial Analysis	<code>/rollover-analysis</code>	Portfolio expiry risk dashboard with action plan
Financial Analysis	<code>/option-value</code>	Real options valuation (renewal, expansion, termination)
Financial Analysis	<code>/renewal-economics</code>	Renewal vs. relocation recommendation matrix
Financial Analysis	<code>/relative-valuation</code>	Competitive ranking report and pricing adjustments
Financial Analysis	<code>/recommendation-memo</code>	VTS approval memo with tenant analysis, financial covenant review, deal comparison
Accounting	<code>/ifrs16-calculation</code>	IFRS/ASC 842 schedules and journal entries
Comparison	<code>/compare-amendment</code>	Amendment vs. original summary with key deltas
Comparison	<code>/compare-offers</code>	Side-by-side economics for multiple offers
Comparison	<code>/compare-precedent</code>	Deviations against standard precedent language
Comparison	<code>/lease-vs-lease</code>	Clause-by-clause comparison across two leases
Compliance	<code>/assignment-consent</code>	Consent package checklist, risk commentary
Compliance	<code>/default-analysis</code>	Default and cure provisions analysis
Compliance	<code>/environmental-compliance</code>	Environmental obligations summary
Compliance	<code>/estoppel-certificate</code>	Draft estoppel certificate populated from abstract
Compliance	<code>/insurance-audit</code>	Insurance requirement verification log
Compliance	<code>/notice-generator</code>	Draft lease notices (renewal, termination, default)
Compliance	<code>/work-letter</code>	Work letter outline from TI provisions

**Tip:** Every workflow writes outputs to `Reports/` with standardized timestamps, making it easy to hand off bundles to executives, lenders, or auditors. Review `.claude/commands/README.md` for arguments, required supporting documents, and validation steps.

See `.claude/commands/README.md` for full instructions and input templates.

## Templates & Reporting

- Industrial and office 24-section abstracts (Markdown + JSON + schema).

- Markdown reports stored in `Reports/YYYY-MM-DD_HHMMSS_[description].md` .
  - CSV exports for amortization schedules, variance breakdowns, and credit outputs.
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## Architecture & Tech Stack

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- **Language:** Python 3.12+, type hinted, modular packages.
  - **Core Libraries:** NumPy, Pandas, SciPy, NumPy-Financial.
  - **Testing:** Pytest with 130+ passing tests (unit + regression).
  - **Workflow Pattern:** PDF → markdown conversion → structured JSON → calculator → report.
  - **Repository Layout:** Shared utilities plus dedicated folders for each calculator. See `CLAUDE.md` for a directory map and automation tooling.
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## Productivity Impact

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- Leasing managers typically spend ~60% of their week on analysis, compliance, and documentation.
  - Automated workflows + calculators cover 70-80% of that effort, unlocking an overall **40-50% reduction in total weekly workload**—often equating to two reclaimed workdays.
  - Expert skills collapse research and drafting cycles from hours to minutes, reducing dependence on senior review bottlenecks.
  - Standardized outputs (JSON, Markdown, CSV) make hand-offs to finance, legal, and executives immediate and auditable.
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## Scope & Use Cases

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### Who Uses It

- **REITs & institutional investors:** full lifecycle leasing, reporting, compliance.
- **Property & asset managers:** renewals, modifications, expiry management.
- **Corporate real estate teams:** lease-vs-buy decisions, IFRS/ASC compliance.
- **Brokers & advisors:** offer preparation, market comparisons, negotiation prep.

### What It Covers

- Deal structuring, LOIs, concession modeling, arbitration prep.
  - Lease drafting support: assignments, indemnities, SNDAs, surrenders, telecom, storage.
  - Financial analytics: NER/GER, NPV, IRR, variance, sensitivity, option value.
  - Accounting: IFRS 16 / ASC 842 liability and ROU asset workflows.
  - Credit risk: scoring, PD/LGD, security recommendations.
  - Lease administration: abstraction, critical dates, notices, amendment tracking.
  - Advanced analytics: term structure modelling, portfolio rollover, market benchmarking.
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# Roadmap

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Short-term priorities:

1. Comparative market analytics (automated comps ingestion and benchmarking).
2. Tenant mix optimisation and portfolio-level dashboards.
3. Expanded API integrations (Distancematrix.ai, CoStar/LoopNet) for automated data refresh.
4. Optional persona-driven weighting for the relative valuation model.

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## Project Structure

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```
leasing-expert/  
├─ Shared_Utils/           # NPV, IRR, ratio utilities  
├─ Eff_Rent_Calculator/   # Effective rent + yield curve engines  
├─ IFRS16_Calculator/     # Lease accounting workflows  
├─ Credit_Analysis/        # Tenant credit scoring  
├─ Renewal_Analysis/       # Renewal vs relocation modelling  
├─ Rental_Variance/        # Variance decomposition  
├─ Relative_Valuation/     # MCDA competitive positioning (15 variables)  
├─ Templates/              # Lease abstract templates  
├─ Reports/                # Timestamped analysis outputs  
└─ .claude/                # Automation commands, skills, agents
```

Refer to `CLAUDE.md` for a full breakdown of commands, skills, and agents.

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## Compliance & Limitations

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- This toolkit is **not** legal, accounting, tax, or investment advice.
  - All outputs must be independently verified by qualified professionals.
  - Accuracy is contingent on clean inputs; garbage in → garbage out.
  - Users remain responsible for regulatory compliance, disclosure, and professional judgment.
  - Use at your own risk; see `LICENSE` for full warranty disclaimers.
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## Contributing

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Contributions are welcome—focus on calculators, workflows, templates, documentation, or tests.

Please:

- Add or update unit tests with every change.

- Document assumptions and limitations.

- Follow the established directory structure and coding style.

- Update `CHANGELOG.md` and relevant READMEs.

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## License & Attribution

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Licensed under **Apache License 2.0**. See `LICENSE` for full terms.

Key dependencies: Python, NumPy, Pandas, SciPy, markdown (see respective licenses).

Academic foundations from R. Chan's work on Ponzi Rental Rate and rental term structures.

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# Support

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**Maintainer:** Claude Code **Version:** 1.3.0 (2025-11-05 release) For issues and feature requests, open a ticket in the repository. For professional services, engage qualified leasing, legal, accounting, or valuation advisors.

⚠ Always validate model outputs before reliance on material decisions.