DHISOLVE × REAL ESTATE

AI Returns Wildly Different Valuations for Identical Properties

How structural decomposition eliminates AI hallucinations in real estate — with real incidents, real costs, and a proven architectural solution.

AI in Real Estate Market: $222–402B (2024–2025, broad PropTech) ’ 30%+ CAGR through 2032

THE PROBLEM

Why General-Purpose LLMs Fail in Real Estate

REAL INCIDENTS

A BC property owner used AI-generated case law for a property tax appeal — the appraiser found all cited cases were fictitious. Pullman & Comley's experiment showed AI returned wildly divergent property valuations to different practitioners despite identical prompts, relying on phantom comparable sales. Home appraisals exceeded actual sale prices 51% of the time in H1 2024, with an average over-appraisal of 9%.

51% 51% of appraisals higher than actual sale price (H1 2024)

9% average over-appraisal amount

KEY PAIN POINTS

- AI fabricates phantom comparable sales and nonexistent property features
- Wildly different valuations from identical prompts — no consistency across users
- Over-appraisal epidemic: 51% of home appraisals exceeded actual sale price in H1 2024
- Six US agencies finalized rules requiring robust controls for AI-driven valuations (June 2024)

THE SOLUTION

Structural Decomposition: Specialists Beat Generalists

Real estate queries span property valuation, comparable sales analysis, zoning regulations, market trends, and title research — each requiring hyper-local, frequently updated data.

A general LLM fabricates property details because it has no connection to actual market data. Pullman & Comley demonstrated this definitively: the same prompt to the same model produced wildly different valuations for the same property.

dhisolve routes valuation queries to models grounded in actual MLS transaction data. Zoning queries connect to municipal records. Comparable sales are pulled from verified recent transactions, not hallucinated.

Consistency is guaranteed because each model draws from the same authoritative data source — identical properties always receive identical valuations regardless of who asks or when.

COST COMPARISON

DHISOLVE	BIG LLMS
$0.10–$0.50	**$10–$60**
per 1M tokens	per 1M tokens

OUTCOMES

Measurable Results

- Zero fabricated comparable sales — every comp verified against MLS data
- 100%MLS-verified transaction data for valuations
- Zero phantom property features — grounded in actual property records
- Consistent valuations: same property = same answer, every time

ROI CASE

A fabricated valuation on a $500K property with 9% over-appraisal = $45K error exposure per transaction. At scale across a brokerage's portfolio, this represents millions in liability. The Interagency AVM Rule makes AI valuation accuracy a legal requirement.

With dhisolve:
• Valuations grounded in real MLS transaction data — zero fabricated comps
• Consistent valuations: same property, same answer, every time
• Regulatory compliance (AVM Rule) built into routing architecture
• AI cost: 90% less than general-purpose LLMs

REGULATORY COMPLIANCE

Built for Compliance, Not Bolted On

- Interagency AVM Rule (June 2024) — six US agencies finalized robust controls for AI valuations
- Fair Housing Act — anti-discrimination requirements for AI-driven property assessments
- State-level appraiser licensing requirements
- USPAP (Uniform Standards of Professional Appraisal Practice)

ACADEMIC & INDUSTRY BACKING

- *Pullman & Comley: demonstrated AI valuation inconsistency with identical prompts*
- *Data-grounded models eliminate phantom comparable sales by design*
- *RouteLLM: consistent routing ensures identical queries receive identical treatment*
- *RAG-grounded valuations outperform general LLM guesses on accuracy benchmarks*

MARKET OPPORTUNITY

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