Executive Summary — Austin Building Permits & the Economic Pulse (2009–2024)

Objective

Quantify how macroeconomic conditions relate to monthly Austin building application permits for both residential & commercial (2009–2024) and identify the strongest drivers of permitting activity.

Data

Monthly totals for **permits** (total / residential / commercial) and U.S. macro series: 30-year mortgage rate, prime rate, CPI inflation (YoY%), Consumer Confidence Index, Austin unemployment rate, plus a recession indicator. Frequency: monthly; Period: Jan-2009 to Dec-2024.

Statistical Methods Used

- **Pearson correlations** (with p-values) to summarize raw relationships.
- **Multiple OLS regression** to estimate each driver's partial effect while holding others constant.
- **Diagnostics & spec checks** (residuals vs fitted).
- **6-Month Lag Test** (permit applications vs unemployment rates)

Findings

- **Key drivers of Permit Applications** (all else equal):
  - **Mortgage rate** ≈ −128 permits per +1 percentage point ($p < 0.001$).
  - **Consumer confidence** ≈ +63 permits per +1 index point ($p < 0.001$).
  - **Unemployment** ≈ −35 permits per +1 percentage point ($p < 0.001$).
  - **Inflation** ≈ +16 permits per +1 percentage point (statistically detectable; smaller than rates/confidence).
- **Leading Indicator:** Permit activity predicts unemployment rates after 6 months. R = -0.346 ($p < 0.001$)
  - Higher permits today = Lower unemployment in 6 months
- **Cyclical:** Permit activity is very seasonal, averaging a 30% swing between spring/summer & fall/winter

Bottom Line

Mortgage rates and consumer confidence levels are the clearest concurrent signals for Austin's permitting volume.