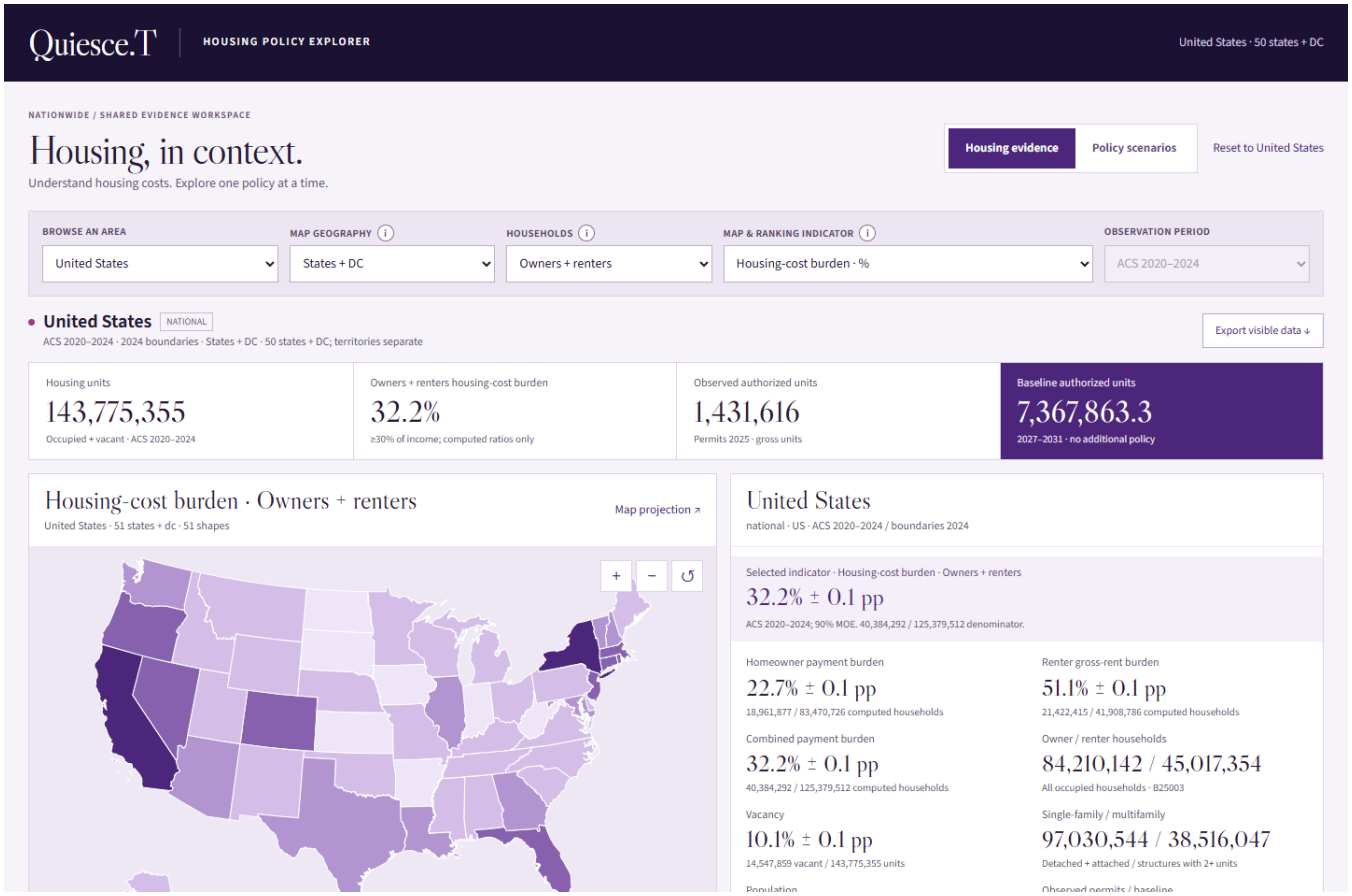
Start with housing conditions

HOUSING POLICY EXPLORER | Nationwide v5 | Five independent scenarios

Explore housing costs and stock across all 50 states and DC, then test one policy against a common five-year baseline. Reset returns to United States. Puerto Rico observations are separate. Policy examples are conditional calculations with chosen assumptions.



Keep one shared context

The map, rankings, selected-area panel and visible-data export follow your geography, household group, indicator and screen. Closing definitions preserves context. Select a state for county and smaller-area observations. Gray or unavailable values are different from real zeroes.

The five choices are ADUs, missing middle, transit density, parking reduction and development-fee reduction. Each runs independently; the tool does not add their effects.

Read the baseline and uncertainty

Count gross authorizations

The common five-year baseline is gross BPS units authorized, not completions or net stock growth. ADU additions and conversions are not automatically comparable to BPS new-building coverage; the all-form ADU increment is reported separately.

Annual B is the mean of observed 2023, 2024 and 2025 permit units. The 2027-2031 baseline is 5B; 2026 is an unmodeled bridge. For example, 900, 1,200 and 900 average 1,000 per year and give 5,000 over five years.

United States: 1,473,572.67 per year and 7,367,863.33 over 2027-2031.

This holds recent activity constant. It is a historical continuation, not a model of future interest rates, regulations or construction capacity. A revised-history test using 2020-2022 to predict 2023-2025 was 10.58 percent too high nationally; it is not a real-time five-year validation.

Owners renters and actual uncertainty

Housing-cost burden is at least 30 percent of income. Owner selected costs and renter gross rent have distinct components. Combined B25106 burden adds compatible counts and positive-income computed-ratio denominators before division; zero/negative income and no-cash-rent categories are excluded.

ACS margins of error are 90 percent. A 40 percent estimate with a 7 percentage-point MOE has relative MOE 17.5 percent. Optional screens change inclusion, not precision; ranks are descriptive, not significance tests.

Complete exact-ID baselines exist for 3,023 of 3,144 current counties. The remaining 121 stay unavailable. State/national residuals are not assigned invented county polygons, and county production is not allocated to tracts, places or districts.

ADUs: an explicit stock-proxy exercise

Use the exact benchmark

Allow one ADU with an existing single-family building, detached or semi-detached and at least 600 square feet, with no additional parking requirement. Here all-form means those modeled benchmark types; internal conversions and junior ADUs are outside this model. The benchmark does not establish actual construction, costs or site suitability.

Separate a housing-unit proxy from eligible parcels

S is the published ACS detached-plus-attached single-family UNIT count. It is not a parcel inventory or a count of eligible ADU sites. Choose an affected host-equivalent share f that excludes existing permissions, existing ADUs, infeasible sites and duplication across buildings on a parcel. Its national default is blank.

Choose a five-year authorization fraction a. The all-form additional ADU count is D = S*f*a, capped by one per assumed host-equivalent. It is distributed evenly over the five modeled years. The assumed static 2020-2024 stock proxy is not a measured 2027 host inventory.

Read both outcomes

Choose b, the fraction of the ADU increment comparable to the BPS new-building unit baseline. Census BPS excludes additions and conversions. All-form increment D is reported separately; only b*D is added to the common BPS total. No total baseline for all ADU forms is invented.

Teaching only: B=1,000; S=10,000; f=0.10; a=0.02; b=0.50. All-form increment=20; BPS-comparable increment=10; common five-year total=5,010. The other 10 ADUs are not dropped from the benchmark; they remain a separate outcome.

A zero affected share or zero adoption gives no effect. The ADU sensitivities change adoption, not observed stock uncertainty; they are not probability intervals. No eligibility or adoption coefficient is fitted nationally.

Sources: supplied Handbook pp2-4 and Official Rules section 7; Census Building Permits Survey definitions; ACS B25024/B25032; policy-evidence.html and its parameter register. Research transferability is reviewed, not assumed.

Missing middle and transit density

Replace affected baseline activity once

Choose f, the affected share of baseline authorized-unit flow; r, relative permitted-project activity; and s, realized units per project relative to baseline. Annual Y = B[(1-f)+f*r*s]. The five-year total is 5Y. Larger projects can still yield fewer units if project activity falls sufficiently.

Scenario	Benchmark and chosen inputs
Missing middle	Allow 2-6 units up to three stories on opportunities currently restricted to single-family use. Assume setbacks and coverage nonbinding. The example uses baseline one unit per project and realized s between 2 and 6. Existing detached housing does not identify restrictive zoning.
Transit density	Increase allowable density near defined major transit. This project doubles legal FAR and removes parking minimums; those are documented project choices. Choose realized s between 1 and 2 and a proximity reference. Legal FAR doubling does not guarantee actual size doubling.

Break-even activity is r=1/s. Teaching examples at B=1,000: missing middle f=.25, r=1 and s=3 gives 7,500; transit f=.25, r=1 and s=1.5 gives 5,625. These values are not national defaults or a ranking of actual policies.

Treat transit evidence carefully

The historical audit tested 509,425 route-stop-directions. The experimental half-mile stock proxy is about 10.3 million units (7.2 percent), using identified stops and coarse 1:500,000 tract geometry with uniform housing allocation.

That proxy is not validated access, current-law eligibility or affected permit activity. Missing/expired coverage is unknown, not zero. It never fills f. Transit parking reform supplies no second automatic parking-cost bonus.

Parking and fee cost hypotheses

Parking reduction is its own policy

Specify minimum spaces before and after reform, and actual spaces provided before and after. Developers may keep supplying parking even when the minimum is zero. Baseline provided spaces must meet the baseline minimum; policy spaces must meet the new minimum. If the minimum is unchanged, supplied spaces must also remain unchanged, giving no reform effect.

C0 includes baseline parking once. With cost k per space and retained cost share alpha, C1=C0-(provided before-provided after)*k*alpha. Apply the cost response only to the affected share f: Y=B[(1-f)+f*(C0/C1)^beta]. No fee reduction or density bonus is added.

Teaching only: C0=$400,000; minimum 1 to 0; supplied spaces 1 to 0.5; k=$30,000; alpha=1; beta=1; f=.5. C1=$385,000 and the B=1,000 five-year total is 5,097.4. Unchanged supplied parking gives zero parking saving.

Fees use the prescribed benchmark

Reduce combined planning, environmental-review, building and impact fees from $50,000 to $25,000 per unit. C0 already includes $50,000. C1=C0-25,000*alpha and Y=B*(C0/C1)^beta. Confirm that infrastructure and approval services remain maintained; replacement funding and adverse service effects are outside this cost-only model.

Teaching only: C0=$400,000, alpha=1 and beta=1 gives C1=$375,000 and 5,333.3 at B=1,000. Constant-dollar cost year must be explicit. Cost levels, parking choices and responses are hypotheses, not measured local estimates.

Financing, land prices, labor, materials, utilities and approval timing can constrain results. Savings are not automatically passed to renters or buyers.

Apply export and review responsibly

Blank fields and explicit teaching choice

Numerical response and exposure inputs start empty. Enter assumptions and their basis, or load the labeled teaching example. Loading and Apply are separate actions. Input edits remain pending; results and exports retain the last applied assumptions until Apply.

Read the output label

The common baseline/scenario columns use BPS-comparable gross units. The ADU panel also reports all-form additional ADU authorizations and the excluded-from-common-total increment. An unavailable observed proxy or permit baseline does not become zero. There is no county-to-tract production allocation.

Export visible data for the selected context and export applied scenario JSON/CSV for assumptions, source rationale, annual rows and sensitivities. Keep GEOIDs as text. Review 255 state-policy teaching cases in submission-state-scenarios.csv; their shared assumptions do not establish local validity.

What remains to be established

Current-law eligibility, transferable causal responses and comparable local development costs remain unmeasured. The 121 current-county permit gaps and incomplete historical transit coverage remain visible. Explicit scenario arithmetic does not resolve those research gaps.

Local checks establish their stated software scope. They do not establish causal calibration, public repository security settings, dependency-license clearance, signed-out public demo access or competition submission. The minimum competition scope is a baseline and at least three benchmark policies; this tool supports all five independently.

Read methodology.html; policy-evidence.html; coverage.html; submission-gaps.html; repository-kit/competition-readiness.md. Original code is Apache 2.0; data, fonts and build dependencies retain separate terms.