About

The PropTrack Home Price Index (HPI) is a newly developed and sophisticated method of measuring monthly changes in home values across Australia. It aims to provide an up-to-date and accurate view of market performance and trends.

The Index is released on the first business day of each month and is published at a national, state and regional level using Australian Bureau of Statistics (ABS) geographies. Other geographies are also produced and available on request for purchase.

Methodology

The PropTrack Home Price Index (HPI) model measures changes in residential dwelling values across Australia. It provides an up-to-date and accurate assessment of housing market performance and trends. The PropTrack HPI is calculated daily and reported monthly. It includes all properties that are defined as residential and are grouped as residential units, houses and all dwellings.

Measuring the change in the value of homes can be challenging because the size and quality of dwellings that transact over time are not representative of the broader stock of dwellings. The PropTrack HPI overcomes this by implementing an adjacent period hedonic imputation methodology. This captures the rate of change of home values by adjusting for the compositional differences in property attributes. The model leverages hedonic regression by measuring the relationship between observed prices and property features, including information about each property's location and time of sale.

The methodology used by the PropTrack HPI is preferred by many statistical agencies and regulators globally.

The PropTrack HPI is a revisionary index. The full history is recalculated each month, and index values for the latest three years are revised. This is an important feature because it compensates for the delay in the receipt of comprehensive official records of sales transactions after settlement occurs. The revisionary nature of the PropTrack HPI mitigates significant revisions when new data are received.

Download the full methodology paper from https://www.proptrack.com.au/home-price-index/

Frequently asked questions

What is an index and why is it used for home prices?

An index number is an economic figure displayed relative to a base value. The base value is defined in an arbitrary way and usually assigned a value of 100 as a convention.

The PropTrack HPI displays the level of prices relative to the base period, allowing comparisons of price movements between time periods and geographical regions. It offers a benchmark to track how home values are fluctuating over time. For example, an index change from 100 to 102 over one month represents a change in average home values of 2% across that month.

The PropTrack HPI uses a base period in January 2010, with all indices set to 100 for that month.

When is the PropTrack HPI available?

The PropTrack HPI is released on the first business day of each month, with data on the previous month and revisions for all previous months included.

What is a hedonic index?

Hedonic refers to a method of regression analysis that models the relationship between sale prices and the attributes of properties that sold, such as bedrooms, bathrooms and land size. Hedonic regression therefore can estimate average price changes from differences in the observed attributes of sold properties over time.

For example, if more larger homes transact in a given month, a hedonic model will attribute higher average sale prices to their higher bedroom counts, rather than market prices increasing.

Why are home prices difficult to measure?

Home sales information is not publicly available in a timely manner, which makes it difficult to monitor price movements in real-time. To ensure we have a current view of the market, the PropTrack HPI uses information about home sales derived from realestate.com.au, in addition to official government data, to provide an up-to-date sample of property prices. This index is also revised, which means that as more data on sales becomes available over time it is incorporated into the index for the most up-to-date estimate of market trends.

It is also difficult to measure home prices as the small share of properties that transact in any given time change in composition. For example, the homes sold in a particular month can vary in their number of bedrooms, land size and other property features, and are not representative of the broader dwelling stock. Value movements must therefore be inferred from the small share of properties that transact (typically less than half a per cent of the dwelling stock each month). This requires methodological adjustments to acquire estimates of the change in the value of the typical home over time.

How does the PropTrack HPI methodology differ to others available for the Australian market?

Housing price methodologies aim to estimate changes in the value of a typical home. One challenge faced in estimating value changes, is that only a small fraction of homes transact each month.

The simplest methodology for inferring the change in home prices is to look at median or mean transaction prices. However, the quality and composition of the small proportion of homes that are transacted are quite different to the broader stock of dwellings (which have no observed price). As a result, changes in the mix of properties sold over time can significantly influence these measures of price changes.

For example, even when there are no price changes within a city in a particular period, if there is an increase in the proportion of sales that are larger homes, the measured city-wide median price will increase, but does not reflect the actual movement in typical home prices.

Mix-adjusted or stratified measures group transactions of similar properties together. Properties may be grouped by a combination of characteristics, including location, price, property type or other metrics. Price changes are averaged across these groupings. By grouping similar properties, these methods control for the composition of sales between the groups. The ABS currently uses this style of methodology for their home price measurement.

Repeat sales methodologies are a simple regression approach that use changes in the price of properties sold more than once. It relies on the concept that average changes in the price of the same homes over time should reflect changes in market prices. A limitation of this approach is that it only uses data from properties sold multiple times, so is unable to use a significant amount of data. Changes in the characteristics and quality of properties, such as renovations, can also bias the results.

The PropTrack HPI is part of a class of hedonic regression methodologies that are more sophisticated and therefore require additional information about the attributes of sold properties. These models separate the price of each transaction into a range of property attributes, such as the location, type and size of a property, as well as the period in which it was sold. The index of home prices that results can be thought of as the average price level of the transactions that occurred in each period, after controlling for the observable attributes of the properties that were sold.

In addition, the PropTrack HPI is revisionary. The past three years of data are revised every month. This means that index values over the past three years are updated as new data becomes available. This is an important feature due to the delay in reporting of the official records of sales. Many transactions that may influence the measure of prices in the past can therefore be incorporated into the model to best reflect the available data on Australian home prices over time.

What sales data is used to build the PropTrack HPI?

The PropTrack HPI uses sales data from many sources. The primary data source is State and Territory Valuer Generals (VG). VG data covers all property sales, but is not available in a timely manner.

Due to the delay in the availability of VG data, the PropTrack HPI is supplemented with recent sales price data to get a timely read on price changes. PropTrack augments this data with sales reported to realestate.com.au directly by agents. This covers a significant share of sales across the country which gives an up-to-date view on the market.

What does revisionary mean?

The PropTrack HPI is a revisionary index. This means that the entire index is recalculated each month, allowing new data and updated parameters to be incorporated to update index values and estimates of home value growth.

While the full history is recalculated each month, index values for the latest three years are revised. This ensures that the PropTrack HPI reflects the most up-to-date data on home transactions as it is not uncommon for sales to be reported more than a month after the transaction date. A revisionary index is able to include these transactions to provide a more accurate measure of how home prices have changed.

Revisions are common for almost all economic indicators including labour market and GDP statistics.

Why is revisionary data useful?

Index revisions are important to best reflect up-to-date data on housing market transactions. Due to the lag in receiving data from State and Territory VG offices across the country, not all transactions will be incorporated into the index at the end of the month when the PropTrack HPI is calculated. If these additional transactions affect the index when it is subsequently recalculated each month, these changes will be included in the next monthly version of the index.

Revisions will mostly affect index values over the previous few months, as this is when transactions that were not initially available for index calculation are added.

A revisionary index is a more transparent and accurate way of reporting housing market trends based on the most up-to-date available data.

What property types are covered in the PropTrack HPI and how are they defined?

The PropTrack HPI is calculated separately for houses and units, as well as aggregated together for an 'all dwellings' measure of prices over time.

Properties are categorised as 'houses' if they have a Torrens title, with Strata and other title properties grouped in 'units'.

Other property types, such as land, acreage, serviced apartments, retirement villages and rural properties are excluded from the calculation of the PropTrack HPI.

What geographical regions are covered?

PropTrack aligns to the Australian Statistical Geography Standard (ASGS) as defined by the Australian Bureau of Statistics.

Each month, aggregate indices are produced for the regions shown in Table 1. Indices for other regions can be produced on request.

Indices are published on the PropTrack website for at a national, state and regional level, whilst other aggregations are available for purchase.

REGION	DESCRIPTION
COUNTRY	National level (all Australia)
STATE	Australian states and territories
GCCSA	Greater capital cities and regional areas for each state and territory
GCCSA 8	All capital cities
GCCSA 8 REGIONAL	All regional areas of GCCSA
SAL	Suburbs and localities
POA	Postal areas
SA4, SA3, SA2	Statistical Area Levels 2 to 4

Is the Index expressed in nominal or real terms?

All indices are presented in nominal terms, with no adjustment for general price inflation. The indices can therefore be interpreted as the typical change in the actual prices paid for homes across Australia in current dollar terms.

Is the HPI seasonally adjusted?

The published PropTrack HPI is not seasonally adjusted. It provides an up-to-date, compositionally adjusted measure of typical home price movements, which includes seasonal patterns in price movements.

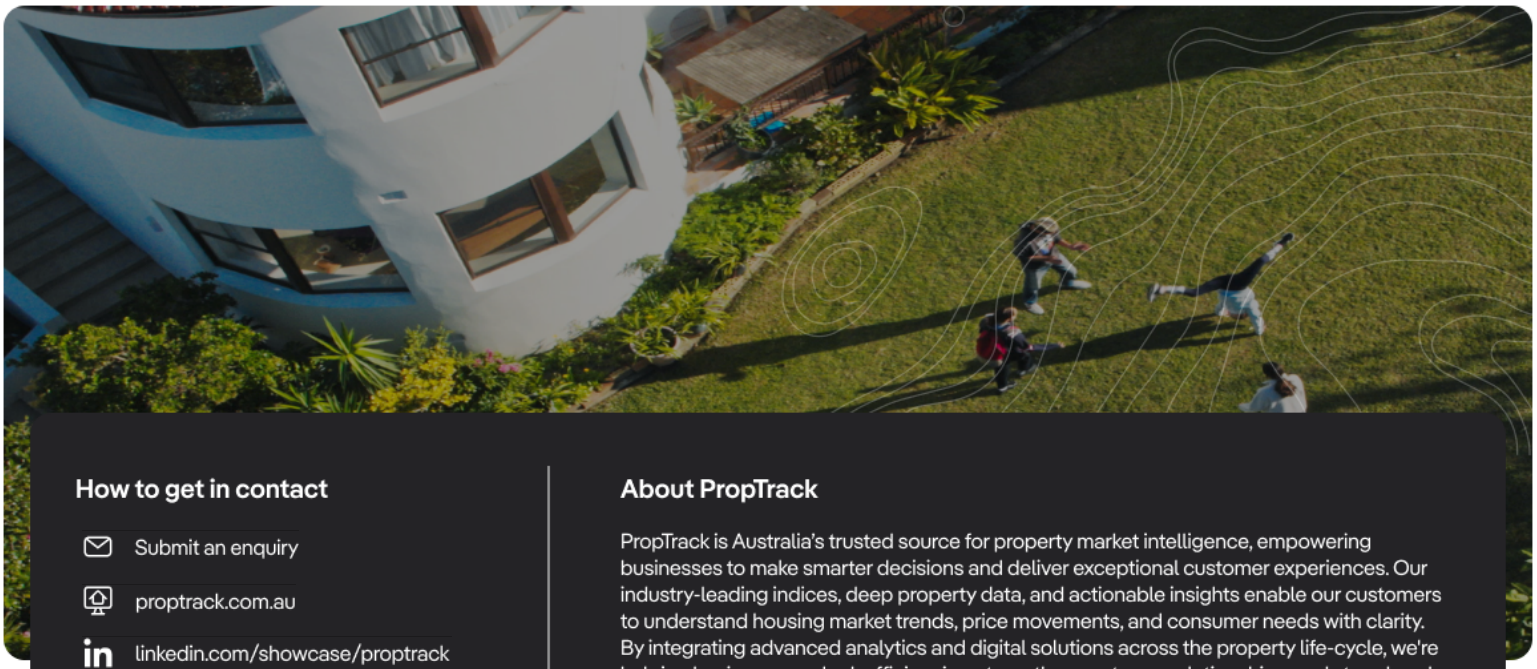
A seasonally adjusted HPI is available on request for purchase.

What outliers are removed and why?

Outlier detection and price filtering are conducted dynamically before the PropTrack HPI model is trained. This process is intended to remove both erroneous transaction records as well as very low or high valued transactions that may lead to inaccurate estimates of typical dwelling price changes.

Examples of erroneous transactions include sales between family members, multiple properties sold at once, or typographical errors. These prices are not representative of normal (and arm's length) prices.

Statistical methods are additionally employed to filter sale prices by dwelling type, time of sale and geographic region.



How to get in contact

Submit an enquiry

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About PropTrack

PropTrack is Australia's trusted source for property market intelligence, empowering businesses to make smarter decisions and deliver exceptional customer experiences. Our industry-leading indices, deep property data, and actionable insights enable our customers to understand housing market trends, price movements, and consumer needs with clarity. By integrating advanced analytics and digital solutions across the property life-cycle, we're helping businesses unlock efficiencies, strengthen customer relationships, and stay ahead in a rapidly changing market. With PropTrack, our customers gain the data-driven edge they need to innovate and grow.