

Economic Impacts of Short-Term Rentals in Pennsylvania and Implications for Tourism

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Abstract: This report investigates the economic impacts of short-term rentals (STRs) in Pennsylvania in 2023 to analyze their effects on local housing availability and affordability across 20 municipalities in both urban and rural counties. The study employs Geographic Information System (GIS) mapping and statistical correlation methods to assess housing affordability, and qualitative content analysis (QCA) to gauge public sentiment regarding STRs. Data were gathered from AirDNA, Zillow, the Pennsylvania State Tax Equalization Board, and local tourism agencies to provide a comprehensive overview of the STR landscape. Results indicate that Pennsylvania's STR market generated approximately \$856.7 million in total revenue from 53,810 active listings. Although urban areas like Philadelphia and Allegheny counties had more active STRs, they had lower average daily rates (ADRs) compared to rural counties. Despite the substantial revenue generated, most STRs were only available for limited periods, with an average occupancy rate of 33 percent, raising concerns about their impact on local housing markets. The analysis revealed a complex relationship between STR prevalence and property values. Some municipalities experienced a positive correlation between the number of STRs and housing prices, while urban rents rose along with STR rents, suggesting the possibility of affordability challenges in some locales. Overall, the findings underscore the need for tailored regulations to balance the economic benefits of STRs with housing stability and community needs.

Keywords: short-term rentals, STRs, economic impact, housing affordability, tourism dynamics

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Executive Summary

Short-term rentals (STRs), including homes, apartments, rooms, and campsites, have surged in popularity globally since Airbnb's launch in 2008, influenced by various environmental, social, economic, and legal factors. While STRs contribute to tourism, job creation, and local revenue, especially in rural areas, they also can present challenges such as diminished availability of affordable housing, increased pressure on public services, and competition with traditional accommodations like hotels. This report focuses on the distribution and economic impact of STRs in Pennsylvania in 2023, analyzing their relationship with housing affordability across 20 municipalities in both urban and rural counties. It highlights the growth of STRs from a niche market to a significant industry, while suggesting the need for tailored regulations to mitigate challenges and foster sustainable communities.

STRs provide a mix of benefits and challenges, significantly impacting local economies and communities. On the positive side, STRs generate additional income for hosts, enhance tourism, and increase government revenues through lodging and sales taxes. Guests tend to stay longer than they do in hotels, and spend more locally, benefiting surrounding businesses. However, they also can disrupt the accommodation market, leading to competition with budget hotels and potential gentrification in urban settings. Challenges include disturbances to neighborhood dynamics, housing affordability issues, and regulatory hurdles. The rise of STRs aligns with broader economic trends, including housing market volatility and pandemic-driven demand for flexible living arrangements, complicating their impact on housing availability and affordability.

The first goal is to estimate statewide economic impacts, using 2023 STR data from AirDNA to evaluate state tax revenues and potential local community benefits. The second goal is to assess the effects of STRs on 20 sampled municipalities by analyzing their relationships with population, housing supply, median sale prices, and rental costs. The third goal involves determining the sentiment surrounding STRs, using qualitative content analysis (QCA) of tourism related to STRs, examining the types and characteristics of STRs, lodging options from tourism agencies, and online reviews.

Various methods were employed, including Geographic Information System (GIS) mapping to assess STR data by county, statistical correlation methods to evaluate housing affordability, and QCA to gauge public perceptions of STRs across six regions. By mapping STR locations and analyzing their economic, tourism, and housing impacts, the research laid a foundation for developing legislation tailored to the unique needs of rural and urban areas, contributing to a broader understanding of STRs and the sharing economy.

The analysis of STRs in Pennsylvania revealed both economic benefits and challenges. In 2023, Pennsylvania's STR market emerged as a significant contributor to the state's economy, generating approximately \$856.7 million from 53,810 active listings.

Philadelphia and Allegheny counties had the largest concentration of STRs, and their revenue totaled \$166.3 million, while the remaining counties generated \$690.4 million. Interestingly, rural counties demonstrated a higher average daily rate (ADR) of \$296, yielding more revenue compared to urban areas, which had a lower ADR of \$164. This trend highlights the financial potential of STRs in rural locales, contributing an estimated \$30.3 million in state lodging taxes, while urban counties generated \$11.1 million, underscoring the different dynamics between rural and urban STR markets.

A deeper analysis of rural versus urban counties reveals significant variations in STR performance and economic contributions. While rural counties had fewer STRs overall (21,993 listings), they generated significantly higher revenue (\$504.6 million) and state hotel tax contributions (\$30.3 million) due to their higher ADR of \$296. In contrast, urban counties with 31,817 STRs produced over \$185 million in revenue and \$11.1 million in state hotel taxes, with a lower ADR of \$164. This trend highlights the greater revenue-generating potential of rural STRs, often driven by luxury-tier accommodations and tourism demand, while urban STRs remain more competitive with traditional rental housing. These differences underscore the need for policies tailored to the distinct economic and housing dynamics of rural and urban STR markets.

Most STRs were primarily owner-occupied, with an average availability of just 74.1 days per year and a median occupancy rate of only 33 percent, indicating limited visitor use. While external management of STRs was similar in both rural and urban counties, cleaning fees were only 5 percent in rural compared to 10 percent in urban counties.

The relationship between STRs and housing availability is complex. In rural counties, STRs are predominantly houses, while in urban counties STRs were a mix of property types. Therefore, it is no surprise that overall rental vacancies in urban areas are negatively correlated with rents and ADRs; a higher supply leads to lower costs. However, that relationship is not observed for municipalities in rural counties. Further, the amount charged for an STR, or the ADR is correlated with median home sale prices in municipalities located in rural counties, but *not* with median rents. In municipalities within urban counties, median rents, home sale prices, and ADRs rise together.

The QCA of STR markets in Philadelphia, Pittsburgh, the Pocono Mountains, and State College provided insights into the supply of STRs and their representation in tourism channels. Urban regions like Philadelphia and Pittsburgh primarily feature STR listings of apartments and houses, with limited diversity in property types and amenities. Most listings lack pools, gyms, or hot tubs, and many are not pet-friendly. The official tourism sites focused solely on hotels and did not mention STRs. Results from the QCA suggested public perception had mixed views, highlighting regulatory concerns alongside mentions of unique STRs. In contrast, the Pocono Mountains and State College demonstrated greater integration of STRs into their tourism infrastructure, emphasizing vacation rentals like cabins and farm stays, which often included desirable amenities. Their tourism websites included STRs. The QCA proved to have some positive public perceptions regarding their economic benefits and highlighted some unique STR

properties such as treehouses and tiny houses, catering to visitors seeking distinctive experiences, with a balance of regulatory discussions.

In conclusion, this report illustrates the significant role of STRs in Pennsylvania's economy while highlighting their complex impact on housing markets and community dynamics. As STRs continue to grow in popularity, particularly in urban and rural areas, they present both opportunities for tourism growth and possible challenges related to housing affordability and neighborhood stability. Tailored regulations can help ensure that the benefits of STRs are maximized while mitigating potential negative effects on local communities.

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Introduction

Short-term rentals (STRs) are homes, apartments, rooms, and even campsites rented for shorter periods than traditional agreements, growing globally since 2008 with the introduction of Airbnb (Furukawa and Onuki, 2022). STRs vary by geography and their prevalence is influenced by environmental, social, economic, and legal factors. While they boost tourism, employment, and local revenue, especially in rural areas, they also pose challenges, including reduced affordable housing, strain on public services, and competition with traditional lodging options like hotels.

This report summarizes the distribution and revenue of STRs in Pennsylvania in 2023, examining their relationship with housing affordability, and tourism in 20 municipalities in urban and rural counties. It also analyzes prominent STR markets and their effects on local communities, providing insights to help policymakers make informed decisions based on local socio-economic factors.

Growth of STRs and Their Distribution in Pennsylvania

Airbnb was started by three young students who rented out air mattresses in their loft to help pay rent (Aydin, 2019). The idea developed into a start-up company in 2008 and grew to an estimated \$30 billion company by 2020, with over three million listings in 190 countries (Nieuwland and van Melik, 2020). The growth of Airbnb was even greater the following year, reaching over seven million listings and an estimated value of \$124 billion in 2021 (Simic and Liem, 2023).

Today the range and styles of STRs are vast, and each municipality defines these accommodations in their own language, but they are generally categorized into the following three groups: 1) Primary hosted STRs are operated in the primary residence where the host is at home with the guest and usually only part of the home is offered to the guest. 2) Primary un-hosted STRs are residences owned by a host who is absent from the property during a rental. 3) Nonprimary STRs are where entire properties are rented, the units are not the primary residence of the host, and the host is absent. This is usually the renting of a second home for commercial purposes (Furukawa and Onuki, 2022).

In an inventory report (Feeney, 2024) demonstrated that STRs in Pennsylvania had experienced significant growth since 2008, evolving from a niche offering into a widespread industry. The statewide inventory of STRs from 2008 to 2023, based on AirDNA data (AirDNA, 2024), revealed thousands of listings across urban and rural areas, offering diverse accommodations. This growth was particularly notable in tourist-heavy regions like the Poconos and the vicinity surrounding Penn State's main campus in Centre County, where STRs helped fill gaps in lodging and boosted local economies. By 2023, the state had over 53,000 active STR listings, generating more than \$856 million in revenue, though income distribution was uneven, with an average of \$16,125 annually per listing.

That report (Feeney, 2024) also examined 20 municipalities across Pennsylvania and analyzed the characteristics and economic effects of STRs in both urban and rural settings. Urban centers like Philadelphia, Harrisburg, and Pittsburgh had higher average daily rates (ADRs), occupancy rates, and overall revenue compared to rural areas like Gettysburg and Jim Thorpe, which experienced more seasonal demand. Despite the disparities in revenues, rural municipalities benefited from STRs by attracting tourists to areas with less traditional accommodations.

Pros and Cons of STRs

A body of literature highlights the benefits of STRs, including extra income for hosts and economic opportunities for tourism regions (Furukawa and Onuki, 2022). STRs positively impact local economies by generating revenue for governments through lodging, sales, and property taxes, which fund public services and infrastructure (Hübscher and Kallert, 2023). For instance, Texas amended its law to apply an occupancy tax, adding \$100,000 to 300,000 in revenue for Austin (Gottlieb, 2013).

Empirical evidence shows that STR guests stay longer and spend more money locally than those using traditional hotel lodging, which benefits hospitality, tourism, and nearby businesses like restaurants and shops (Nieuwland and van Melik, 2020). STRs offer flexible lodging options with diverse amenities and are often seen as more sustainable as they may consume less energy and produce less waste than hotels (Furukawa and Onuki, 2022). Guests appreciate the authentic experience and amenities, such as private hot tubs and equipment rentals, leading to repeat visits and, in some cases, long-term residency (Saraswat and Agarwal, 2023).

STRs have disrupted the accommodation market, with some traditional hotels feeling the impact. Airbnb, for example, competes directly with budget hotels but does not seem to significantly affect upscale hotels (Falk and Yang, 2021; Dogru, Mody, and Sues, 2019). A 1-percent increase in Airbnb availability can reduce hotel revenues by 0.05 percent, especially in lower-cost segments (Zervas, Proserpio, and Byers, 2017).

In both rural and urban areas, STRs encourage property owners to maintain and improve their properties to attract guests. In some urban settings, this has led to neighborhood revitalization and gentrification (Hübscher and Borst, 2023). In some rural areas, STRs attract a different demographic than long-time residents, leading to the growth of new businesses, restaurants, and recreational opportunities, which can incentivize improvements in local infrastructure like roads and utilities. STRs are seen as a lifeline in some rural regions, bringing younger professionals and families to areas with older populations (Colomb and Gallent, 2022). STRs in rural areas also may promote environmental awareness and resource preservation by highlighting natural beauty, cultural heritage, and recreational opportunities. Additionally, rural STRs align with sustainable tourism efforts, offering nature-based options like camping, glamping, and small houses that blend well with natural surroundings.

In Pennsylvania, individuals who rent out properties for less than 30 days must collect and remit the Pennsylvania hotel and occupancy tax to the state's Department of Revenue (Pennsylvania Dept. of Revenue, 2023). The current rate is 6 percent, with those whose rentals are located in the counties of Allegheny and Philadelphia paying an additional 1 percent and 2 percent, respectively. Certain counties and municipalities also impose their own local taxes or permit fees and may restrict the location, size, or number of visitors for each STR. For example, Ferguson Township (2022) charges a one-time \$25 permit fee, while Jackson Township (2023) requires an initial \$750 application permit, a \$70 inspection fee, and a \$400 annual renewal fee. The growth in STRs has significantly increased local tax and fee revenues in some areas. For instance, in the Pocono Mountains, the total number of STRs rose by 275 percent between June 2020 and June 2021, with monetary gains increasing from \$10.9 million to \$40.8 million (High Swatz, 2023). This surge in visitors has also led to increased demand for related businesses, such as restaurants, resorts, and stores.

The literature highlights several negative aspects of STRs, including disturbances, changes to neighborhood dynamics, housing affordability issues, and regulatory challenges (Colomb and Moreira de Souza, 2023). Nuisances like noise, litter, and traffic are common complaints, and the increased use of public services such as fire, police, and emergency medical assistance can strain local infrastructure without proportional tax revenue contributions (Dogru, Mody, and Suess, 2019). STR hosts often lack standardized health and safety regulations and carry varying levels of insurance. The conversion of residential units into STRs can displace long-term residents, disrupt the sense of community, and prioritize tourists over locals.

In rural areas, STRs present unique challenges, such as seasonal imbalances that strain businesses and services during peak times while leaving off-peak periods underutilized (DiNatale, Lewis, and Parker, 2018). Additionally, the risk of overdevelopment can disrupt local culture, threaten natural beauty, and unsettle traditional rural lifestyles.

In Pennsylvania, there are examples showing that the benefits of STRs have been accompanied by challenges. In Gettysburg, for example, residents have complained about excessive noise and parties from vacationers and college students (Hale, 2021). Similarly, State College has revised its regulations in response to public complaints and concerns over unsafe conditions (Rushton, 2022).

Housing Markets, Global Economics, Workforce Demands, and Pandemics

The development and growth of STRs coincided with a period of housing market volatility, global economic shifts, technological advancements, workforce demands, and the pandemic. Following the 2008 financial crisis, which caused a significant downturn in property values, STRs became a popular way for homeowners to supplement income and avoid foreclosure (Gottlieb, 2013). Between 2013 and 2019, the housing market experienced steady growth due to government interventions and increased demand.

However, in 2020 and 2021, low mortgage rates and high demand caused the housing market to surge (Kuchler, Piazzesi, and Stroebel, 2023). While interest rates rose in 2022, analysts do not predict a crash like 2008, as many homeowners refinanced at low rates and housing shortages persist (Ostrowski, 2023).

STRs have significantly impacted housing markets, contributing to shortages in some cities. In places like New Orleans, STRs have driven up property values, while in other cities, like Seattle, STRs had no such effect (DiNatale, Lewis, and Parker, 2018). STRs typically generate higher profits than long-term rentals and reduce available housing, raising long-term rents (Hübscher and Kallert, 2023). A study showed that Airbnb offerings raised rents by 0.018 percent (Furukawa and Onuki, 2022), and in Los Angeles, areas with many STRs had their rents increase 33 percent faster than areas with comparatively fewer STRs (Shelton, 2023). STR investments by corporate landlords have further displaced residents and contributed to gentrification.

The COVID-19 pandemic accelerated the demand for STRs as remote workers and tourists sought less crowded, open spaces. Popular areas like mountains, parks, and rural regions saw an influx of visitors, with some considering it a lifeline for declining housing markets (Colomb and Gallent, 2022). Workforce changes, especially the rise of "digital nomads," also fueled STR growth as remote workers sought flexible living options (Cook, 2023). STRs offered housing solutions that are not possible with traditional hotels.

Looking at housing in the Commonwealth, the 2024 Pennsylvania Comprehensive Housing Study (Pennsylvania Housing Finance Agency, 2024) provides valuable insights that may relate to STRs across the state. In 2022, Pennsylvania had over 5.8 million housing units, with an occupancy rate of approximately 91 percent and a homeownership rate of 69 percent. The vacancy rate, at 9 percent, decreased by about 112,000 vacant units since 2010, indicating a tightening housing market. However, urban areas like Philadelphia and Allegheny County, along with rural counties such as Forest and Sullivan, with higher vacancy rates, might offer unique opportunities for STRs.

The study also highlights the quality and affordability issue of rising rental prices. Pennsylvania's housing stock is aging, with the median age of the properties being 57 years old. Generally, rental units that are older often come with lower rental prices. However, in areas with rising home values and increasing STR activity, low-income households face intensified competition for rental properties. As more housing units are converted into STRs, the supply of available long-term rentals shrinks, which can drive up rental prices. This would disproportionately impact low-income residents, who may already struggle to afford housing in competitive markets. The reduced availability of affordable units would force these households to compete not only with other renters but also with STR operators willing to pay a premium for properties that yield higher short-term profits. As a result, housing instability increases, potentially pushing some residents to seek housing farther from job centers or rely on overcrowded living conditions.

Goals and Objectives

This research examines both the positive and negative aspects of STRs in Pennsylvania, focusing on total revenue, tourism, and housing markets to provide a comprehensive understanding of the economics and social impacts in urban and rural areas. Additionally, it compares the types of STRs and how they may be marketed or viewed on official tourism sites or discussed on public websites.

The first goal is to estimate statewide economic impacts, including tax revenues. Using 2023 STR data from AirDNA (covering revenue and average daily rate), the study estimates state hotel tax revenues and potential local community benefits from fees or permits. The second goal is to estimate the effects of STRs on 20 sampled municipalities, assessing impacts on median housing sale prices and rental costs. The third goal is to evaluate online tourism-related websites to measure opinions of STRs in four large STR market areas of Pennsylvania.

By mapping STR locations and analyzing their economic, tourism, and housing impacts, this research provides a foundation for developing possible legislation to address the unique needs of both rural and urban areas, and contributes to a broader understanding of STRs and the sharing economy.

Methods

This project employs various methods to assess the pros and cons of STRs in Pennsylvania. Statewide economic impacts were evaluated using data through 2023 obtained from AirDNA, a proprietary service that tracks Airbnb, HomeAway, and Vrbo listings with 95-percent accuracy. Geographic Information System (GIS) mapping was applied to assess STR data by county, including total rental revenues, estimated state hotel tax revenues, and average daily rates (ADR). Additionally, this information was used to estimate potential tax revenue generated from fees and permits. Statistical correlation methods using data from the Pennsylvania State Tax Equalization Board (which aggregates taxable real estate into market values as of July 2023 by municipality) and the number of STRs were employed to determine areas where housing affordability may be impacted.

To further explore the relationship between STRs, housing affordability, and availability, data from 20 municipalities (10 in urban counties, 10 in rural) were selected based on their varying population sizes, locations, and tourism amenities. Philadelphia and Pittsburgh were excluded due to their unique size and characteristics. Population Census data, AirDNA data, Zillow's Home Value Index (ZHVI), and Zillow Observed Rent Index (ZORI), which measure typical home values and market rents, were used to compare STR inventories and characteristics, and changes in housing markets, including home prices and rents.

Finally, a Qualitative Content Analysis (QCA) was conducted to evaluate tourism attractiveness. This method systematically assessed text and graphics of lodging options that may attract tourists in 2024, following guidelines in Muehlenhaus (2011) to ensure

replicable and valid results. AirDNA identifies common STR market areas that may extend beyond municipalities or county lines to form tourism regions. In Pennsylvania, four STR markets were examined: Philadelphia, Pittsburgh, the Pocono Mountains, and State College. Lodging data from these four official tourism agencies was gathered and compared to STRs in those regions. Additionally, the top five Google search results, excluding specific STRs for rent, hotel advertisements, and sponsored paid webpages, were examined for each of the four markets using the terms “Airbnb,” “house rentals,” “lodging,” and “short-term rentals.” These results were categorized as positive, neutral, or negative to gauge public perceptions of STRs.

Results

Statewide Pros and Cons

In 2023, 53,810 active STR listings generated a total rental revenue of \$856.7 million across Pennsylvania, contributing significantly to the state's economy through tourism and lodging. The total rental revenue earned includes the advertised price at the time of booking, as well as cleaning fees. A state hotel occupancy tax (applied to the total sales revenues) also generates additional tax revenue for the Commonwealth; the rate is 6 percent for most counties, with slightly higher rates in Philadelphia (8 percent) and Allegheny (7 percent) counties. In 2023, Philadelphia County had 14,007 STRs that generated \$103.4 million in rental revenue, for an estimated \$8.3 million in total occupancy tax revenues remitted to the state (8 percent x \$103.4 million). For Allegheny County with 5,189 STRs, a 7-percent state occupancy tax rate equates to an estimated \$4.4 million in additional remittances, for those two large counties alone, the hotel occupancy tax yield is estimated at \$12.7 million in 2023. The remaining counties collectively had 34,614 STRs with an ADR of \$248, producing \$690.4 million in revenue; if taxed at the regular 6-percent state occupancy tax rate, this would yield approximately \$41.4 in state taxes. Counties are also allowed to collect local hotel taxes; most are allowed to tax at a rate of up to 5 percent, while (as of 2024) Philadelphia and Allegheny have local tax rates of 8.5 percent and 7 percent, respectively.

A deeper analysis of rural versus urban counties shows significant variations in STR performance. Rural counties STRs had an ADR of \$296, generating \$504.6 million in rental revenue and contributing \$30.3 million in state hotel occupancy tax revenues. Meanwhile, urban counties (excluding Allegheny and Philadelphia), with 12,602 STRs and an ADR of \$164, produced \$185.2 million in rental revenue, resulting in \$11.1 million in state hotel occupancy tax revenues. Even if we include Allegheny and Philadelphia, the total hotel occupancy tax statewide in rural counties exceeds urban totals. This highlights the higher revenue generation potential of rural STRs compared to their urban counterparts.

The analysis of STR usage in Pennsylvania reveals that most properties were primarily used by their owners, limiting their availability for visitors. Among the 53,810 STRs, listings were available for an average of 74.1 days, with a median of 55 days,

indicating that many are not available for rent year-round. The average number of days booked was 65.1, with a median of 36, resulting in a mean occupancy rate of 0.35 and a median of 0.33, meaning most listings were utilized only about one-third of the time. Additionally, owners frequently block days from availability, with a mean of 110 days blocked and 10.5 percent of listings completely unavailable throughout the year.

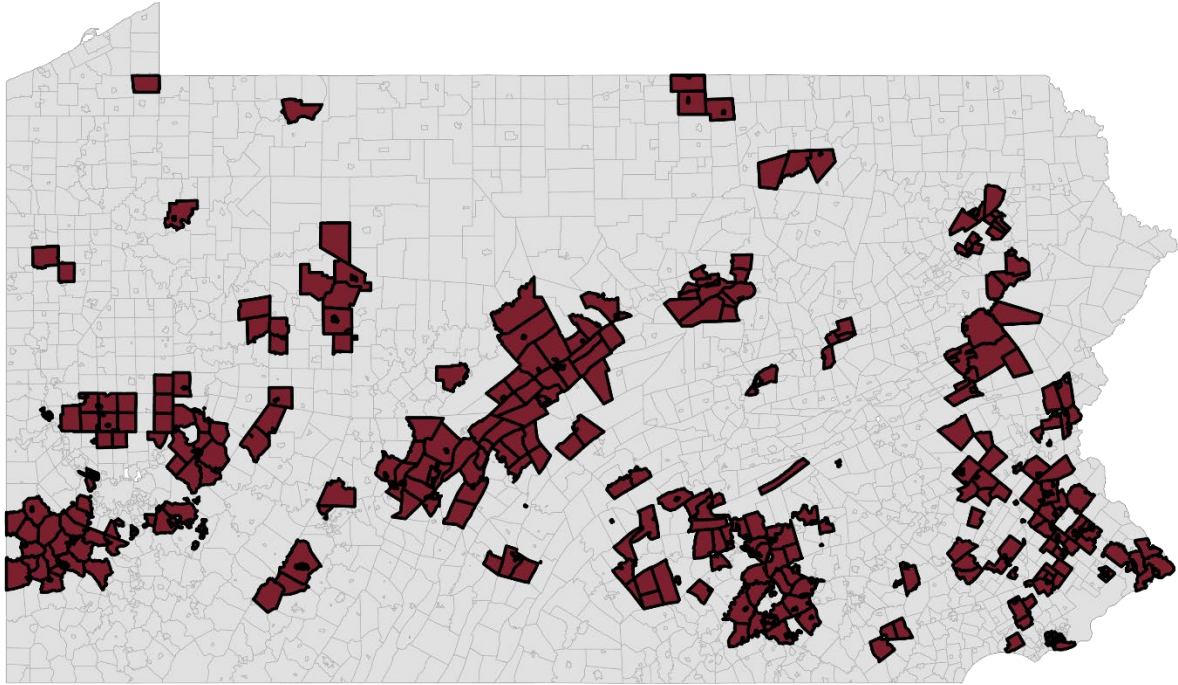
In 2023, Pennsylvania's STR landscape was dominated by houses, with 23,494 listings, followed by apartments, cabins, and townhouses, and then a small but diverse range of accommodations including yurts, trains, caves, and treehouses, just to name a few. Notably, 78 percent of active STRs rented out entire properties, while 21 percent offered private rooms. While these figures are neither pros nor cons, the proportion of houses versus apartments, in rural versus urban counties could have an impact on housing availability in rural areas and rental prices of apartments in urban areas. Of the 21,993 STRs located in rural counties, 75 percent (16,460) were houses and 16 percent were apartments. In contrast, of the 31,817 STRs in urban counties, 39 percent (12,384) were houses, 38 percent (12,025) apartments, and 7 percent (2,206) condominiums.

STR management companies existed in both rural and urban counties. In rural areas, 2,262 of 21,993 STRs (10 percent) were managed by outside companies, while 3,100 of 31,817 urban STRs (10 percent) had external management, meaning that 90 percent of STRs were independently managed by homeowners. Cleaning fees accounted for a smaller percentage of rental revenues in rural counties than in urban counties.

To better understand the potential interaction between STRs and property values, data from the Pennsylvania State Tax Equalization Board (STEB), which provides market values for taxable real estate in each municipality as of July 2023, was analyzed. Using spatial statistical methods, the data were examined to see if there was a pattern between the number of active STRs in a municipality and the property market values in that same area. Essentially, GIS was used to determine if municipalities with a higher number of STRs also tended to have higher property values, suggesting a possible relationship between the two.

To do this, a bivariate analysis was conducted, a technique that measures the extent to which the two key variables (STR presence and property values) change together. The analysis was conducted with a 90-percent confidence interval, meaning that it is fairly certain that the observed patterns are not due to chance. The results showed that in 17 percent (446) of the 2,560 municipalities, there was a positive linear relationship, meaning that property values increased as the number of STRs increased. The accompanying map (Figure 1) highlights these municipalities, showing where this trend was strongest.

Figure 1: Municipalities with Positive Bivariate Relationships Between Property Market Values and Number of STRs, 2023



The analysis of bivariate relationships between property market values and STR activity in Pennsylvania reveals distinct patterns based on geography and urbanization levels. Municipalities with a strong positive correlation between STR presence and property values are primarily concentrated in rural and low-density suburban areas, particularly in tourism-driven regions such as the Pocono Mountains and south-central Pennsylvania. In these areas, the demand for vacation rentals appears to drive up property values. In contrast, urban counties, including those surrounding Philadelphia, Pittsburgh, and Harrisburg, display fewer municipalities with strong positive correlations, suggesting that housing markets in major metropolitan areas are shaped by a more complex set of factors.

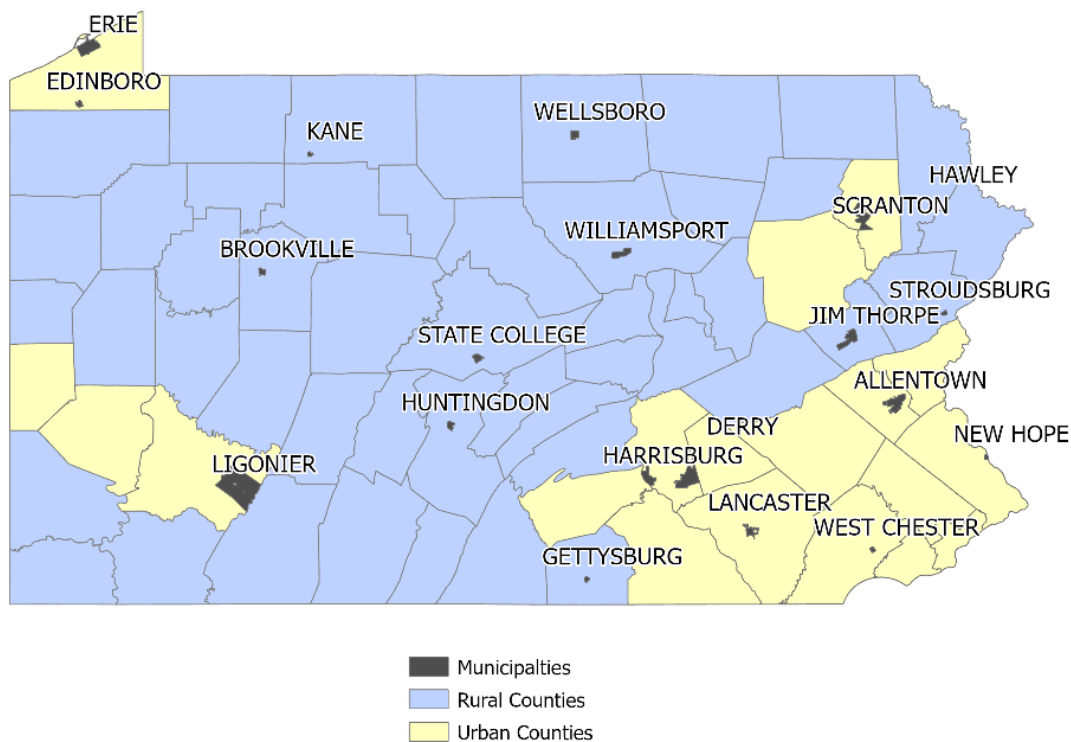
Regional variations further highlight the different impacts of STRs on property values. The Pocono region exhibits a strong positive correlation while areas near Gettysburg and Lancaster show mixed patterns. Meanwhile, in western municipalities near Pittsburgh linear relationships are not observed. These findings suggest that STRs can be a contributing factor to rising home prices in some rural vacation markets, whereas in urban centers, their influence is more diluted by broader housing market trends.

In-Depth Analysis of Sampled Municipalities

To further examine the possible impacts of STRs on housing affordability and availability, a sample of 20 municipalities was selected. The sampled municipalities

were selected because they vary in population, location throughout the state, location within urban and rural counties, and types of tourism amenities. Ten municipalities are in urban counties, and the other half are in rural counties. Data on housing costs, housing availability, and rents were collected for all 20 selected municipalities in September 2024 (Zillow 2024).

Figure 2: Twenty Selected Municipalities



Allentown, with a population of 125,094, is known for its historic charm and economic revitalization. The city has 222 active STRs, primarily apartments and homes, with 30 percent falling in the budget price tier. The growth of STRs has slowed in recent years, with no new additions since 2021. In 2023, 171 STRs generated \$1.8 million in total rental revenue, with an ADR of \$116. The mean annual revenue per STR was \$8,358, but the median was much lower at \$3,181, highlighting income disparities among property owners. A small percentage of STRs earn significant revenue, with only one STR generating over \$100,000 annually and just over 21 percent earning more than \$10,000 in that year. The surrounding region also had high STR activity, with over 470 additional units within five miles of Allentown contributing to the local housing competition.

Allentown's housing market reflects strong demand, with typical home values at \$285,683, marking a 6.9-percent increase over the past year. The median sale price is \$288,333, and 59.2 percent of home sales exceed the sale price, indicating a competitive market. Rental prices have also risen, with the median rent at \$1,650, a \$130 increase

over the prior year. Allentown's rental market includes a wide range, from \$675 to \$3,350, and there are currently 230 available long-term rentals. While rents are 21-percent lower than the national median, the rising rental prices, and the concentration of STRs, particularly in apartments, may strain housing affordability and availability, further intensifying competition for long-term renters.

Brookville is a rural community with a population of 3,968, situated near Cook Forest State Park and known for its association with Punxsutawney Phil. The town currently has 15 STRs, with the first one established in 2017. Of the 15 STRs, two-thirds (10) are houses, and the largest proportion (40 percent) fall within the midscale price tier. Twelve of the 15 rentals generated revenue in 2023, totaling \$172,791, with an ADR of \$130. Annual revenue varied from \$0 to \$28,037, with a mean annual revenue of \$11,519. While no STRs exceeded \$100,000 in annual revenue, 8 (53 percent) earned over \$10,000 that year.

In terms of real estate median home values in Brookville are around \$133,003, showing a 4.9-percent increase over the past year. As of August 31, 2024, there are 32 homes for sale, with a median sales price of \$180,217. Regarding rental prices, the median rent in Brookville is \$600, which has decreased by \$275 compared to September 2023. Currently, there are two long-term rentals available, and the median rent in Brookville is \$1,500 less than the national average.

Derry Township, an urban area with 13,858 residents, is best known for its unincorporated community of Hershey, famous for medical facilities and chocolate-themed tourism. In 2023, the area had 292 active STRs, with many promoting their proximity to Hershey Park, downtown Hershey, and the medical center. Over half of the STRs (57.5 percent) were in the luxury price tier. Of the 292 active STRs, 216 generated a combined rental revenue of \$8.2 million, with an ADR of \$233. Annual revenue per STR ranged from \$0 to \$122,389, with a mean of \$28,433 and a median of \$21,803. Five properties earned over \$100,000 annually, and 160 STRs (54.8 percent) made more than \$10,000.

In the housing market, median home values in the Hershey area stand at \$382,781, with a 4-percent increase over the past year. As of August 2024, there were 22 homes for sale and 10 new listings. The median sale price was \$524,800. On the long-term rental side, the median rent in Hershey for all property types was \$2,300, a \$600 increase from the previous year, reflecting the area's increasing rental demand. There are currently 27 rentals available in Hershey, PA. The median rent in Hershey is \$200 higher than the national median, making it a relatively more expensive rental market.

Edinboro, an urban town with a population of 4,889, is recognized for its college-town atmosphere and watersports activities, particularly during the summer months along nearby lakes. In 2023, Edinboro had 32 active STRs, all of which were entire homes. These listings primarily consisted of cottages, cabins, and houses. The STR market in Edinboro skewed toward budget-friendly options, with 9 properties in the budget tier, 5 in the economy tier, 8 in midscale, 7 in upscale, and only 1 in the luxury

tier. Most, 30 out of 32 STRs (94 percent) generated revenue, which totaled \$566,563 for the year. The ADR was \$190, and revenue per property ranged from \$0 to \$54,897, with a mean of \$17,705. Notably, 22 STRs generated more than \$10,000 in revenue.

The housing market shows typical home values at \$263,993, with a 3.8 percent increase over the past year. As of August 2024, there were 27 homes for sale and 12 new listings, with a median sale price of \$302,167. The median rent for all property types was \$1,313. This represents a \$413 year-over-year increase.

Erie, located on the shores of Lake Erie, has a population of 267,689. Its waterfront attractions contribute to a growing STR market. In 2023, Erie had 338 active STRs, with nearly half being houses. The number of STRs has steadily increased, with 34.6 percent of listings falling within the budget price tier. Of these, 277 STRs generated \$4,808,594 in revenue in 2023, with an ADR of \$136. The mean revenue per STR was \$14,311, and the median was \$8,785, highlighting a relatively strong market. Almost half of Erie's STRs earned over \$10,000 annually, although only one surpassed \$100,000 in revenue. The surrounding municipalities also saw STR growth, with 500 additional properties generating \$5 million in revenue, adding to the competitive housing environment in the region.

The median home value in Erie was \$181,810, reflecting an 8.8 percent increase over the past year while the median sale price was \$179,500, with 47.1 percent of sales above the sale price. Rental prices have also surged, with a median rent of \$1,075, marking a \$175 year-over-year increase. Rentals range from \$179 to \$2,350, with 123 available units. Despite these increases, rent in Erie remains 49 percent lower than the national median.

Gettysburg, a rural town with a population of 8,558, holds historical significance for its pivotal role in the Civil War and remains a major tourism hub for history enthusiasts. In 2023, Gettysburg boasted 106 active STRs, with approximately one-third being apartments (34) and another third being houses (30), particularly appealing to visitors looking for higher-end accommodations. Most STRs (37.7 percent) fell into the luxury price tier, followed by 30.8 percent in the upscale tier. A remarkable 103 (97 percent) of these STRs generated revenue, totaling \$3,231,855 with an ADR of \$219. Annual revenue ranged from \$0 to \$95,349, with a mean revenue of \$30,489. Notably, 83 of the STRs (78.3 percent) earned over \$10,000, although none surpassed the \$100,000 mark.

Typical home values in Gettysburg were reported at \$337,206, reflecting a 3.7 percent increase over the past year. As of August 31, 2024, there were 63 homes for sale with a median sale price of \$336,333. In terms of rental properties, the median rent in Gettysburg is \$1,300. This figure has decreased by \$55 compared to September 2023. Rental prices for houses range from \$875 to \$2,995, and there are currently 21 available rentals in the area and are \$800 below the national median.

Harrisburg, with a population of 50,183, is the state capital and located in an urban county. As a hub for government, business, and tourism, it has seen a surge in STRs in recent years. In 2023, there were 501 active STRs, a significant increase from 90 in 2021.

Nearly half of these STRs are apartments, though most are entire homes, with many falling in the budget price tier. STRs in Harrisburg generated \$4,669,858 in total revenue in 2023, with an average daily rate of \$109. While the mean revenue per STR was \$9,516, the median was much lower at \$3,569, suggesting a wide disparity in earnings. The rise in STRs, particularly in apartment buildings, could impact housing availability.

In terms of housing, the typical home value in Harrisburg is \$246,121, reflecting a 4.6 percent increase over the past year. The median sale price is \$218,483, with 45.5 percent of sales above the sale price. Rental prices have remained stable, with only a \$5 year-over-year increase and a median rent of \$1,300, which is 38 percent lower than the national median. There are 235 long-term rentals available, with prices ranging from \$525 to \$3,200.

Hawley is a small rural town with a population of 1,221, situated near Lake Wallenpaupack, a popular recreational area in the Poconos that attracts tourists year-round for water-based activities. The town currently has 22 STRs, with its first two established in 2015. The number of STRs has grown steadily over the years, reaching 22 active rentals in 2023. Among the STRs, nearly half (10) are houses, with the largest segment (31.8 percent) listed in the midscale price tier. Nineteen (86 percent) of the rentals generated revenue, totaling \$500,162 that year, with an ADR of \$273. Revenue for these STRs varied widely, ranging from \$0 to \$100,999, with a mean revenue of \$22,734. Only one STR exceeded \$100,000 in annual revenue, while 12 (55 percent) made over \$10,000 annually.

Typical home values in Hawley are around \$306,529, reflecting a modest increase of 4.1 percent over the past year. The current inventory includes 143 homes for sale, with a median sale price of \$299,033. In terms of rental prices, the median rent in Hawley is \$2,000, which has decreased by \$900 compared to September 2023. Rentals for houses in Hawley typically range from \$1,150 to \$4,000, and there are currently 16 rentals available. The median rent is \$100 lower than the national median.

Huntingdon is a rural town with a population of 6,818, known for its railroad history and access to outdoor recreation. As of 2023, there are 12 STRs in the area, and 42 percent (5) were listed as houses. Half of the rentals fall into the midscale price tier, and 10 of the 12 generated revenue, totaling \$156,864, with an ADR of \$156. Revenue varied from \$0 to \$30,545, with a mean of \$13,072. While no STRs surpassed \$100,000 in revenue, 6 (50 percent) earned over \$10,000.

Typical home values in Huntingdon are around \$193,163, showing a 3.0 percent increase over the past year. As of August 31, 2024, there are 33 homes for sale, with a median sale price of \$215,183. The median rent in Huntingdon is \$1,200, which has increased by \$275 compared to September 2023. Currently, there are 3 rentals available, and the median rent in Huntingdon is \$900 less than the national median.

Jim Thorpe, a rural town with a population of 4,560, is celebrated for its Victorian architecture and proximity to the Pocono Mountains, making it a popular destination for both historical enthusiasts and outdoor adventurers. As of 2023, there were 139 STRs in

the area. The market has evolved since 2011 when Jim Thorpe welcomed its first two STRs, both functioning as bed and breakfasts. The number of STRs has increased steadily over the years, with a variety of offerings including houses (60), apartments (30), cabins, cottages, camper/RVs, and chalets. In terms of pricing, the STRs are categorized into different tiers, with 23 percent in the midscale, 21.6 percent in the upscale, and 20.1 percent in the luxury segments. A total of 123 out of 139 STRs generated revenue, amassing \$3,820,120 with an ADR of \$210. Revenue for these STRs ranged from \$0 to \$138,980, with a mean revenue of \$27,482. Notably, six STRs surpassed the \$100,000 revenue mark, and 88 (63 percent) generated over \$10,000.

Typical home values in Jim Thorpe stand at \$273,173, reflecting a 4.8 percent increase over the past year. As of August 31, 2024, there were 50 homes available for sale, with a median sale price of \$347,817. The rental market shows a median rent of \$950 for all types of properties. This figure has increased by \$125 compared to September 2023. Rental prices for houses range between \$900 and \$1,800, and currently, there are six available rentals in Jim Thorpe. In comparison to the national median, Jim Thorpe's median rent is significantly lower, being \$1,150 less than the national median.

Kane is a quaint rural town with a population of 3,560, situated near the Allegheny National Forest, making it a great destination for outdoor enthusiasts. The town has 23 STRs, which began emerging in 2018 with three properties, including one apartment and two houses. The number of STRs increased over the years, reaching 23 in 2023, with over half (13) classified as apartments. Most of Kane's STRs (43.5 percent) fall within the budget price tier. Among the 23 active STRs, 20 generated revenues totaling \$285,601, with an ADR of \$115. Revenue for these rentals varied from \$0 to \$38,587, with a mean of \$12,417. No STRs exceeded \$100,000 in revenue, but 14 (61 percent) earned over \$10,000.

In terms of the housing market, typical home values in Kane are around \$100,635, reflecting a notable 6.1 percent increase over the past year. Currently, there are 17 homes for sale. Rentals in Kane are more affordable, with a median rent of \$775. This rent has increased by \$25 compared to September 2023. Interestingly, houses in Kane rent for \$775, with only one rental available at this time. Compared to the national median, the median rent in Kane is significantly lower, at \$775, which is \$1,325 less than the national median.

Lancaster, a city with a population of 57,453, has a growing STR market, driven by its agricultural roots, Amish culture, and historical significance. In 2023, Lancaster had 389 active STRs, with houses (39 percent) and apartments (34 percent) dominating the market. There were also unique properties like cottages, barns, and RVs. A significant portion of these STRs (24.4 percent) fell into the economy price tier, but overall, 80 percent of all STRs generated revenue, totaling \$6,660,598. The ADR was \$148, with a mean revenue of \$17,122 per STR and a median revenue of \$8,062. Three STRs earned

over \$100,000, while 46 percent of the properties (178 STRs) earned more than \$10,000 annually.

Typical home values in Lancaster were \$354,630, reflecting a 4.2 percent increase. The median sale price was \$326,117, with nearly half of homes selling above sale price. The median rent is \$1,515, a \$120 increase year-over-year, with prices ranging from \$125 to \$3,450. The rental market was relatively affordable compared to other urban areas, with 225 available rentals.

Ligonier, a small urban community near Pittsburgh that had 1,488 residents, is known for its rich settlement history and proximity to outdoor recreational activities, making it a popular destination for both historical enthusiasts and adventurers. In 2023, Ligonier had 39 STRs, most of which were either apartments (23) or houses (12). The town's STR market has seen consistent growth since 2016, with numbers rising from just 4 STRs in 2016 to 53 by 2021. By 2023, 36 out of 39 of Ligonier's STRs (92 percent) generated revenue, amounting to a total of \$449,880 for the year. The ADR was \$192, and revenue ranged from \$0 to \$63,463, with a mean of \$11,535. More than half of the STRs (54 percent) earned over \$10,000 in revenue, though none surpassed \$100,000.

While specific housing and rental data for Ligonier itself is unavailable, it is included in the broader Pittsburgh market area. Typical home values in this region were \$215,972 as of August 2024, reflecting a 4.2 percent increase over the previous year. The market had 6,509 homes for sale with 2,428 new listings by the end of August, a median sale price of \$227,583. Rental data for Pittsburgh shows a median rent of \$925, which is \$225 less than the median rent from September 2023. There are currently 5 available rentals in the area, and the local median rent is \$1,175 lower than the national median.

New Hope, with a population of 2,612, is a scenic town along the Delaware River, known for its proximity to New York City and Philadelphia and its vibrant cultural attractions. In 2023, New Hope had 60 active STRs, over a third of which were houses. The market also includes bed and breakfasts, apartments, and cottages, with nearly all STRs falling into the luxury price tier (55 out of 60), positioning New Hope as a high-end tourist destination. In 2023, 56 STRs generated a combined revenue of \$1,815,562, with an ADR of \$280. The mean revenue per STR was \$30,259, and the median was \$30,284, indicating consistent earnings. While only one STR earned more than \$100,000, 75 percent of the properties (45 STRs) generated over \$10,000 annually.

In New Hope, typical home values are \$864,922, with a 5.1 percent increase over the past year. The median sale price for homes is \$1,055,000, with 32.3 percent of sales surpassing the sale price. On the rental side, the median rent for all property types is \$3,250, marking a \$460 year-over-year increase. Rentals range from \$950 to \$8,500, with 19 units currently available. The high median rent in New Hope, which is \$1,150 more than the national median, highlights the town's upscale housing market.

Scranton, with a population of 75,848, has historical ties to the coal industry and attracts many historical enthusiasts. In 2023, Scranton had 155 active STRs, primarily houses (47.1 percent) and apartments (34.2 percent), with many in the economy (30.3

percent) and budget (22.8 percent) price tiers. These STRs generated \$1,453,145 in revenue, with an ADR of \$121. The mean revenue per STR was \$9,688, and the median was \$4,960, indicating income variation among property owners. About 30 percent of Scranton's STRs earned over \$10,000 annually.

Scranton's housing market, with typical home values at \$175,615, has experienced a 10.2 percent value increase over the past year. The median sale price is \$164,583, with 33.7 percent of home sales exceeding the sale price. Meanwhile, rental prices have risen slightly, with the median rent at \$1,300, marking a \$50 year-over-year increase. Rentals range widely from \$250 to \$3,300, with 229 available units. Though rent in Scranton is significantly lower than the national median, the growing number of STRs, particularly houses, may reduce long-term housing availability and affordability, especially in lower-cost segments.

State College, home to Penn State University, is a vibrant town in a rural county with a population of 40,745 and 398 STRs. The town's large student body, coupled with major sporting and entertainment events, makes it a popular destination for visitors. Of the 398 STRs in 2023, 251 were houses, and the pricing structure showed a clear division, with 27.5 percent of listings classified as luxury, followed by economy (19.2 percent), upscale (17 percent), budget (15.7 percent), and midscale (13.1 percent). Two-thirds (258) of these STRs generated a total revenue of \$9,734,913, with an ADR of \$490. Revenue ranged from \$0 to \$456,153, with a mean revenue of \$24,707. Notably, 23 STRs exceeded \$100,000 in revenue, while 177 (46 percent) earned over \$10,000.

The real estate market in State College is also robust, with typical home values at \$390,866, reflecting a modest 1.2 percent increase over the past year. As of August 31, 2024, there were 102 homes for sale, with a median sale price of \$423,950. In terms of rentals, the median rent in State College is \$1,795, which is \$305 lower than the national median. The rental market has seen an increase of \$295 year-over-year. Currently, there are 65 rentals available in State College, reflecting the ongoing demand for housing in this vibrant college town.

Stroudsburg, a rural town with a population of 5,888, is situated near the Pocono Mountains and is recognized for its revitalized downtown and recreational activities, making it a favored destination for visitors. As of 2023, the town had 41 STRs. Nearly half of the active STRs in 2023 were apartments, with 51.2 percent falling into the budget price tier. Of the 41 STRs, 37 (90 percent) generated revenue totaling \$426,333, with an ADR of \$159. Revenue for these rentals ranged from \$0 to \$42,529, with a mean revenue of \$10,658. No STRs surpassed the \$100,000 revenue mark, but 18 (44 percent) generated over \$10,000.

Regarding the housing market, typical home values in Stroudsburg were estimated at \$341,127, reflecting a 4.7 percent increase over the past year. As of August 31, 2024, there were 79 homes available for sale, with a median sale price of \$404,604. The rental market in Stroudsburg shows a median rent of \$1,884 for all property types, which has increased by \$84 compared to September 2023. Rental prices for houses range between

\$750 and \$2,800. There are currently 24 available rentals in Stroudsburg, and the median rent is \$216 lower than the national median.

Wellsboro is a picturesque rural town with a population of 3,458, renowned for its proximity to Pine Creek Gorge, which draws visitors for outdoor adventures and scenic beauty. The town has 22 active STRs, with the first established in 2014, gradually grew to 22 in 2023. Among the active STRs, the largest segment (27.3 percent) was categorized in the midscale price tier. Twenty (91 percent) of these rentals generated revenue, totaling \$320,404, with an ADR of \$149. Revenue ranged from \$0 to \$32,598, averaging \$14,563. While no STRs surpassed \$100,000 in revenue, 15 (68 percent) made over \$10,000.

Regarding the housing market, typical home values in Wellsboro are around \$235,778, reflecting a modest 3.2 percent increase over the past year. Currently, there are 24 homes for sale. In terms of rental prices, the median rent in Wellsboro is \$685, which has decreased by \$315 compared to September 2023. The rental market offers houses for rent between \$685 and \$750, with only 2 rentals currently available. When compared to the national average, Wellsboro's median rent is significantly lower, being \$1,415 less than the national median.

West Chester, with a population of 19,531, is an urban community known for its vibrant downtown and historical charm. As a college town close to suburban Philadelphia, it draws a wide variety of visitors. In 2023, there were 41 active STRs, primarily divided among apartments (15), houses (15), and townhouses (6). Many of the STRs cater to higher-end price tiers, with 40 percent in the luxury category and 27.5 percent in the upscale tier. Of these, only 71 percent (29) generated revenue, totaling \$628,542. The ADR for these rentals was \$163, with a mean revenue of \$16,540 per property and a median of \$12,644. Half of the STRs (22 properties) made over \$10,000 annually, although none surpassed \$100,000.

Home values in West Chester average \$618,450, reflect a 6.1 percent increase over the past year, with a median sale price of \$565,833. Over 61 percent of sales exceeded the sale price, indicating a competitive market, while 24 percent of sales were below sale price. The median time for homes to go under contract is just five days, highlighting the fast-moving nature of the housing market. The median rent in West Chester for all property types is \$2,205, with rental prices ranging from \$825 to \$4,500, however, compared to the previous year, rent has decreased by \$195. Currently, there are 119 available rentals in West Chester. The median rent in West Chester is \$105 more than the national median, reflecting the town's relatively high rental costs.

Williamsport is a rural town with a population of 27,603, famous for hosting the annual Little League World Series, which attracts sports fans from around the globe. As of 2023, there are 93 STRs in the area, with the first two established in 2014, named "Little League Getaway" and "Small Town Americana." Of the active STRs, approximately one-third (32) are houses and another third (29) are apartments. A plurality (32.3 percent) of Williamsport's STRs fall into the upscale price tier, and 76 (82

percent) of the STRs generated revenue totaling \$961,764, with an ADR of \$118. Revenue varied from \$0 to \$38,161, with a mean of \$10,453. While no STRs exceeded \$100,000 in revenue, 41 (44 percent) earned over \$10,000.

Typical home values in Williamsport are around \$193,348, showing a 2-percent increase over the past year. As of August 31, 2024, there are 78 homes for sale, with a median sale price of \$188,783. Regarding rental prices, the median rent in Williamsport is \$3,438, which has increased by \$138 compared to September 2023. Rentals for houses typically range from \$575 to \$5,500. Currently, there are 88 rentals available, and the median rent in Williamsport is \$1,338 higher than the national median.

Table 1: Short-Term Rentals (STRs) and Home Values

| Select Municipalities in Rural Counties | Total Number of Active STRs as of 2023 | Average Home Value, 2024 |
|---|--|--------------------------|
| State College | 398 | \$390,866 |
| Jim Thorpe | 139 | \$273,173 |
| Gettysburg | 106 | \$337,206 |
| Williamsport | 93 | \$193,348 |
| Stroudsburg | 41 | \$341,127 |
| Kane | 23 | \$100,635 |
| Hawley | 22 | \$306,529 |
| Wellsboro | 22 | \$235,778 |
| Brookville | 15 | \$133,003 |
| Huntingdon | 12 | \$193,163 |

Using data for the municipalities included in this study, correlations between key variables were examined. A perfect bivariate correlation would be valued at 1.0, indicating that there is a perfect linear relationship between two factors; in other words, as one increases the other always increases, as well. Looking first at the number of active STRs and home values across all 20 municipalities, there is no relationship at all (-.01). When we analyze rural separately from urban, we find that the number of STRs is correlated (.61) with home values for municipalities in rural counties, confirming that short-term rentals are occurring in areas with higher property values (see Table 1). In urban counties, the correlation is a bit weaker but *negative* (-.49), indicating that more STRs occur in areas with *lower* valued homes.

One might also expect that larger numbers of STRs will drive up rental prices, or lead to increases over time. This is *not* the case for the municipalities in urban counties; if anything, the relationship appears to be negative (correlation of -.44), with the *rate* of increase in rents seemingly unrelated (-.12). For the municipalities in rural counties, the relationship between rents and the number of STRs is weak but positively correlated to .23.

Long term rental vacancies in urban areas seem to be more closely tied to market forces than they are in rural counties. The more rental vacancies in an urban county municipality, the lower the year-over-year increase in median rents overall; the negative correlation (-.63) follows basic expectations for the forces of supply and demand.¹ The correlation between rental vacancies and ADRs is even higher, at -.88. In rural municipalities, the relationship is weak and positive, providing no clear evidence that rents are tied to vacancy rates. This may have a lot to do with the types of short-term rentals; in rural areas, house rentals are more likely than apartment rentals.

Higher average daily rates for short-term rentals (ADRs) generate more revenue per day of course, and we might expect them to be higher where overall housing costs are higher. In the urban county municipalities included in this study, both median rent and median home sale prices (see Table 2) are strongly correlated with higher ADRs (.84 and .87, respectively). Interestingly, in rural county municipalities, higher ADRs are correlated with the median sale prices of homes (.69) but *not* with median rents. This suggests that rural and urban short-term rental markets operate differently, with rural short-term rental rates closely tied to housing values only. Still, in the long run, further research should explore the potential that long-term rental costs may increase in rural areas. As noted above, increasing numbers of short-term rentals seem to be moderately related to higher rental prices in the sample of municipalities examined, and this pattern might be observed should the numbers of STRs in rural counties rise.

Table 2: Urban Home Sale Prices, Average Daily Rates (STRs) and Rents

| Municipalities in Urban Counties | Median Home Sales Price, 2024 | ADR (Average Daily Rate for Short-Term Rentals) | Median Monthly Rent, 2024 |
|----------------------------------|-------------------------------|---|---------------------------|
| New Hope | \$1,055,000 | \$280 | \$3,250 |
| West Chester | \$565,833 | \$163 | \$2,205 |
| Derry | \$524,800 | \$233 | \$2,300 |
| Lancaster | \$326,117 | \$148 | \$1,515 |
| Edinboro | \$302,167 | \$190 | \$1,313 |
| Allentown | \$288,333 | \$116 | \$1,650 |
| Harrisburg | \$218,483 | \$109 | \$1,300 |
| Erie | \$179,500 | \$136 | \$1,075 |
| Scranton | \$164,583 | \$121 | \$1,300 |

Note: Municipalities are listed based on median home sale prices, from highest to lowest.

¹ Calculations for municipalities studied in urban counties excluded Ligonier, for which separate housing and rental data were not available.

Table 3: Rural Home Sale Prices, Average Daily Rates (STRs) and Rents

| Municipalities in Rural Counties | Median Home Sales Price, 2024 | ADR (Average Daily Rate for Short-Term Rentals) | Median Monthly Rent, 2024 |
|----------------------------------|-------------------------------|---|---------------------------|
| State College | \$423,950 | \$490 | \$1,795 |
| Stroudsburg | \$404,604 | \$159 | \$1,884 |
| Jim Thorpe | \$347,817 | \$210 | \$950 |
| Gettysburg | \$336,333 | \$219 | \$1,300 |
| Hawley | \$299,033 | \$273 | \$2,000 |
| Wellsboro | \$223,000 | \$149 | \$685 |
| Huntingdon | \$215,183 | \$156 | \$1,200 |
| Williamsport | \$188,783 | \$118 | \$3,438 |
| Brookville | \$180,217 | \$130 | \$600 |
| Kane | \$99,490 | \$115 | \$775 |

Note: Municipalities are listed based on median home sale prices, from highest to lowest.

The 20 selected municipalities reveal patterns in how STR activity interacts with housing availability, affordability, and market dynamics across urban and rural communities. While individual municipalities vary in STR density, revenue generation, and regulatory environments, certain key trends emerge.

STR activity is highly concentrated in tourism-driven areas, with municipalities like Gettysburg, Jim Thorpe, and the Pocono region experiencing higher-than-average STR revenue and occupancy rates. In contrast, urban municipalities such as Harrisburg, Allentown, and Erie show lower ADR and more competition with traditional long-term rental housing. STR growth in urban areas may contribute to reduced rental supply, especially in neighborhoods with high densities of apartment-based STRs. While STRs contribute to local economies, their impact on housing markets varies based on the existing housing stock, tourism economy, and regulatory environment.

The impacts of STRs on housing markets differ significantly between urban and rural areas. In urban municipalities, STRs are more diverse in property type, including houses, apartments, and condominiums. Rental market competition is a key concern, as many STRs are converted from long-term rental units, particularly apartments, which can reduce rental availability and drive up rental costs. Although STR revenue per unit is generally lower compared to rural areas, urban STRs still provide a flexible lodging option for short-term visitors. Housing affordability pressures in urban areas are shaped not only by STR activity but also by broader factors such as zoning policies, population growth, and economic development trends.

In rural municipalities, STRs are predominantly single-family homes, often serving as vacation rentals or second homes. STRs in these areas generate significantly higher

ADRs and total revenue, making them attractive investment properties, particularly in tourism-heavy locations. Municipalities such as Jim Thorpe, Gettysburg, and Wellsboro have had STR growth correlate with rising property values, increasing demand for seasonal and short-term investment properties. Unlike urban areas, rental housing supply in rural municipalities is already limited, and STR conversions could further constrain long-term rental availability for local residents.

Quantitative Content Analysis

Finally, a Quantitative Content Analysis (QCA) was conducted to evaluate the tourism attractiveness and public perception of the four identified STR market areas. Data from AirDNA was used to analyze the types and characteristics of STRs in each region, and this was compared with information from official tourism websites and Google search results, conducted in September 2024. The goal was to assess the consistency between actual STR availability and tourists perceived lodging options. This analysis helped identify any gaps or alignment between what local tourism agencies promote and what potential visitors find through online searches.

In the Philadelphia market region, there were 17,711 active listings in 2023, primarily consisting of apartments and houses. A smaller number (221) were unique properties, such as farm stays, RVs, treehouses, and yurts. Most listings (16,741) lacked amenities like pools or gyms (15,878), hot tubs (16,944), and pet-friendly options (12,951). Parking was also limited, with over half of the listings (9,767) lacking it. Visit Philadelphia, the official visitor site, provides tabs for "Things to Do," "Events," "Food and Drink," and "Hotels & Deals," but the lodging page focuses on hotels, luxury options, and pool highlights, with no mention of STRs or limited family accommodations. In Google search results, the first few hits were neutral, focused on regulations (City of Philadelphia, 2024, Savage, 2023, and Prihar, 2023). There was a positive mention of STRs in a TimeOut (2024), highlighting unique Airbnbs, but the fifth result focused on problems related to illegal STRs (D'onofrio, 2024).

In the Pittsburgh market region, there were 5,164 active listings in 2023, mostly apartments and houses, with 35 unique listings, such as RVs, tiny houses, and treehouses. Most properties lacked amenities like pools (4,980), gyms (4,661), or hot tubs (4,919), and a significant number (3,492) were not pet-friendly or did not offer parking (3,707). The official tourism website, Visit Pittsburgh, featured a pull-down menu offering options like "Things to Do" and "Hotels and Resorts." The lodging page had a photo and link to each hotel, and except for one link to a campground, there were no distinguishing features for different types of visitors, families, or experiential needs. The Google search discovered positive and negative aspects in Pittsburgh. In the first Google result, Keleman's article (2023) entitled "Where have all my neighbors gone? How short-term rentals are shrinking my community" discussed changes to the Squirrel Hill neighborhood. Jones (2024) wrote a positive summary entitled "10 cool Pittsburgh Airbnb, VRBO, and apartment rentals" used terms such as "amazing properties" showed

photographs on some unique properties such as a tiny house, a chic loft, an apartment in a lighting factory, a houseboat, and an artistic house. The third (Harper, 2024) was a positive review of how Airbnb has become a significant player in Pittsburgh and provided homeowners income opportunities if they understood the regulations. Positive reviews came from Birgo (2024) who claimed Pittsburgh is one of the best cities for Airbnb, while (Jones, 2022) discussed the neutral regulations of Pittsburgh City Council after a negative event of a mass-shooting at an Airbnb.

The Pocono Mountains market region had 11,253 active listings in 2023, predominantly houses (9,413) and apartments (1,381), with 161 unique properties such as cabins, farm stays, and yurts. Over half of the properties (5,781) had pools, and a third (4,174) offered hot tubs, although gyms were less common (8,836). Pets were allowed in 4,538 listings, and most properties (10,673) had parking. The Pocono Mountains Visitors Bureau (PMVB) website offers a range of lodging options, including resorts, waterparks, vacation rentals, and pet-friendly accommodations. Google search results were mostly positive, highlighting charming cabins and lakeside properties (Kiew, 2024; Hatmaker, 2020) and emphasizing the importance of STRs to the local economy (Shay and Nicoll, 2023). The fourth and fifth results discussed regulations (Weiss, 2023) and new laws related to STRs (Proper Insurance, 2024).

The State College market region had 2,254 active listings in 2023, with nearly half (1,400) being houses and a smaller number (284) being apartments. Seventy-five unique listings included treehouses, tiny houses, and tipis. Most properties lacked pools (2,145), gyms (2,114), or hot tubs (2,105), and a majority were not pet-friendly (1,770), though parking was available in most cases (2,074). The Happy Valley Adventure Bureau, the official tourism site for Centre County, lists various accommodation options, including vacation homes in addition to hotels and bed-and-breakfasts. Additionally on the main page is a statement advertising the diverse lodging options and include vacation homes along with hotels, motels, and bed and breakfast. The Google search results were mixed. The first, second and fifth results were neutral and discussed changes to regulation, provided guidance to outside investors, reported on regulations and safety inspections, and introduction to permit licenses (Moyer, 2022, Rushton, 2022, and Drey, 2022). The third and fourth were positive where Mwangi (2024) highlighted unique chic apartments and large homes with stocked kitchens, and Hatmaker (2019) listed best stays for Penn State fans.

Discussion/Conclusion

In 2023, Pennsylvania's STR market contributed significantly to the state's economy, with 53,810 active listings generating \$856.7 million in rental revenue. This total included rental fees and cleaning charges, with Philadelphia and Allegheny counties contributing \$166.3 million (19 percent), while the rest of the state produced \$690.4 million. Rural counties, despite lower STR counts, had a higher average ADR of \$296, generating more revenue compared to urban counties, which had a lower ADR of \$164. Overall, rural

areas contributed \$30.3 million in state hotel occupancy tax revenues, while urban counties added \$11.1 million.

STR usage in Pennsylvania showed that most properties were not rented year-round, with listings available for an average of 74 days per year and booked for about an average of 65 days. Most owners reserve their properties for personal use, with only one-third of potential booking days used. Additionally, 10.5 percent of listings were blocked entirely for the year, limiting availability.

Analyzing the impact of STRs on housing remains complex, as local market conditions, tourism demand, and housing supply constraints all play a role in shaping outcomes. The rural STR landscape, dominated by single-family homes, often offers greater revenue potential due to higher ADRs and increased demand for vacation rentals. In contrast, urban STR markets consist of a mix of houses, apartments, and condominiums, where the influence of STRs on housing prices may be diluted by broader real estate trends, regulatory frameworks, and competing rental demand.

Spatial analysis using data from the Pennsylvania State Tax Equalization Board found that 17 percent of municipalities exhibited a statistically significant positive relationship between STR density and property market values, suggesting that in these areas, the presence of STRs correlates with increasing home prices. This trend is most evident in tourism-driven rural areas, such as the Pocono Mountains, where the conversion of homes into vacation rentals may drive up demand and property values. However, in urban areas, STRs appear to have a more complex or less direct relationship with property values, likely due to a greater diversity of housing stock, zoning restrictions, and economic factors. These findings indicate that STRs may be a contributing factor to rising home prices in certain areas, but their overall impact varies depending on local market conditions, regulatory approaches, and regional economic dynamics.

In areas like Philadelphia and Allegheny County, where vacant units are more prevalent, STRs could effectively utilize these spaces, contributing to neighborhood revitalization. Similarly, rural counties such as Forest and Sullivan, which also have higher vacancy rates, could become attractive destinations for STRs as travelers increasingly seek out remote and unique lodging experiences, especially in areas that may not have many traditional lodging options. This shift not only enhances the availability of accommodations but also helps support local economies by attracting visitors to less populated areas.

The in-depth look at STRs in the 20 urban and rural municipalities in Pennsylvania highlights that the total number of STRs in these towns varies significantly, from just 15 in Brookville to 501 in Harrisburg, reflecting differences in tourism appeal and local amenities. This differential in STR numbers indicates that certain towns, such as Gettysburg and Jim Thorpe, attract a mix of historical enthusiasts and outdoor adventurers, thereby creating a higher demand for accommodations. In contrast, towns

like Kane and Brookville, which have fewer attractions, show a lower number of STRs, suggesting a less competitive market.

Examining the relationship between STRs and the housing market reveals a complex relationship that may have significant implications for residents. In towns where STRs are prevalent, such as State College and Jim Thorpe, home values tend to be higher. For instance, average home values in State College were reported at \$390,866, while the median sales price was \$423,950. This trend may indicate that the presence of STRs contributes to rising property values, as these STRs create opportunities for property owners to generate income from tourism. Conversely, towns with fewer STRs, like Kane and Brookville, have typical home values around \$100,635 and \$133,003, respectively. The lower home values in these areas might suggest less demand for short-term accommodations and a corresponding lower influx of tourism dollars.

The availability of homes to purchase or rent varies widely across these locations, further complicating the housing market dynamics. Rural areas such as Kane and Brookville exhibit a limited number of homes for sale, with only 17 and 32 properties available, respectively. This scarcity can exacerbate affordability issues, making it challenging for potential buyers and renters to find suitable accommodations. Conversely, urban locations, particularly State College, provide a broader array of options for prospective buyers, with 102 homes available. However, even with increased inventory, the median prices remain relatively high, underscoring the ongoing challenges of affordability in popular areas.

Building on the findings above, the analysis of 20 municipalities reveals consistent patterns indicating that increased STR activity can place strain on housing affordability, but the mechanisms differ between urban and rural contexts. In rural areas, STRs are typically single-family homes that serve as second homes or vacation properties. As demand for these rentals grows, housing stock available for year-round residents decreases, contributing to rising property values and limiting options for local buyers. In urban areas, STRs more commonly occupy apartments or multi-unit buildings that would otherwise serve long-term renters. This shift can reduce rental availability and put upward pressure on prices, particularly in neighborhoods with dense STR concentrations. Across both settings, higher ADRs for STRs correlate strongly with higher home values and, in urban areas, with higher rents. These patterns suggest that STR expansion, especially when unregulated, could potentially reduce long-term housing availability and affordability, reinforcing the need for policies that consider local housing dynamics and tourism economies.

In addition, the rental market in these towns reflects varying trends that highlight the impact STRs may have on long-term housing availability. In Jim Thorpe, the median rent of \$950 a month is significantly lower than the national average, making it more accessible for residents. In contrast, towns like Hawley exhibit higher median rents of \$2,000 a month; as discussed above, rents and ADRs are correlated in municipalities located in urban counties. Future research may show that growing demand can strain

affordability for long-term residents, leading to concerns about housing stability. Understanding these longitudinal patterns is crucial for developing strategies that balance the needs of tourism and the local community, particularly in areas experiencing rapid growth in STRs. Policymakers and stakeholders should consider implementing measures to address affordability challenges while still leveraging the economic benefits of tourism, ensuring that rural towns can thrive without compromising the needs of their residents.

The growth in STRs and the sharing economy is predicted to grow and thus it is important to consider how legislation can provide opportunities to increase tourism, employment, and economic development while protecting affordable housing, public services, and unsafe practices. Policymakers should consider the impact of state and local permit taxes. Permits for STRs are legal authorizations required by local or state governments for property owners to operate STRs. These can include business licenses, zoning permits, lodging permits, and occupancy certificates, often involving fees, inspections, and compliance with local regulations to ensure safety, tax collection, and neighborhood impact control. Understanding the economic contribution of STRs to state and local tax revenues may prompt lawmakers to consider adjusting policies, including updated tax rates, permit fees, and mechanisms to ensure tax compliance. Such fees could potentially create a financial burden in some locations. This additional cost may lead to reduced profitability for STR hosts and limit the number of available rentals. If limiting or removing STRs is the goal, then these imposed taxes and fees may be a good option. However, municipalities should carefully consider a balance between generating revenue and the consequences to local economies and tourism.

Understanding the location and types of STRs in different municipalities can provide policymakers with insights into how areas may want to balance the desire to attract tourists while preserving their unique local character and resources and ask how their local STRs can align with their tourism promotion efforts and marketing strategies. Emphasizing responsible tourism management will foster a thriving tourism industry that will enhance the state's appeal to visitors and develop a long-term, sustainable plan for their residents, community, and environment.

Finally, the research findings demonstrate that in some areas, there is a relationship between STR growth and changes in housing affordability, particularly in tourism-driven rural markets where increased STR activity correlates with higher property values. The impacts of STRs varied between rural and urban areas, with rural communities experiencing higher revenue potential but a reduced supply of long-term housing, while urban areas faced more complex housing pressures, including competition with traditional rentals and affordability concerns. Additionally, state and local permitting policies, along with lodging taxes, play a role in shaping STR market dynamics and their broader economic influence. Thus, it is important for policymakers to consider their local area and explore mechanisms to support affordable housing initiatives and protect long-term residents from potential displacement. The evidence-based findings contribute to

the broader understanding of the benefits, challenges, and policy considerations surrounding STRs and the sharing economy.

The QCA analysis of STR markets in Philadelphia, Pittsburgh, the Pocono Mountains, and State College revealed key differences in how STRs are integrated into the local tourism economy and presented through tourism websites and public listings. Urban regions like Philadelphia and Pittsburgh primarily feature apartments and single-unit homes, with STRs competing more directly with hotels and traditional rental markets. These listings often lack high-end amenities such as pools, gyms, or outdoor spaces, and they are rarely promoted on official tourism websites. In contrast, rural and tourism-driven areas such as the Pocono Mountains and State College showcase a wider variety of STR accommodations, including cabins, farm stays, and unique lodging experiences like treehouses and cottages. STRs in these areas tend to be better integrated into tourism marketing, with vacation rental options listed alongside hotels on regional tourism websites. The analysis highlights that urban STRs are more functional and competitive with traditional lodging, whereas rural STRs emphasize unique, experience-driven accommodations tailored to leisure travelers.

In Philadelphia and Pittsburgh, the large number of STR listings primarily consist of apartments and houses, with limited diversity in property types and amenities. In both cities, most STRs lack pools, gyms, or hot tubs, and many are not pet-friendly. The urban environment contributes to a more limited variety of experiences available through STRs. Additionally, the official tourism websites in these cities largely overlook STRs, instead focusing on hotels and traditional lodging options. For instance, Visit Philadelphia emphasizes luxury hotels and swimming pool highlights, with no mention of STRs, while Visit Pittsburgh offers a similar focus on hotels without catering to diverse visitor needs. In both cities, public perceptions, as reflected in Google search results, show a mix of positive and negative views. While there are some mentions of unique STRs and benefits to homeowners, there is also a strong focus on regulatory challenges and concerns about the impact of STRs on neighborhoods.

In contrast, the Pocono Mountains and State College regions, which are more rural, demonstrate a higher integration of STRs into the tourism infrastructure. The Pocono Mountains have a strong focus on vacation rentals and unique properties such as cabins and farm stays, many of which offer desirable amenities like pools, hot tubs, and pet-friendly options. This region's tourism website prominently features STRs alongside resorts and waterparks, aligning well with the diverse offerings available through platforms like Airbnb. Public perception of STRs in this region is also largely positive, with Google search results highlighting charming properties and the economic benefits of STRs to the local community.

State College, while smaller in scale compared to the other regions, also shows a focus on unique STR properties such as treehouses and tiny houses, which cater to visitors looking for more distinct experiences. The tourism website for State College includes vacation rentals alongside traditional accommodations, which aligns well with

the STR market in the region. Google search results for State College show a balance between regulatory discussions and positive reviews of unique properties, especially those that cater to Penn State visitors.

In conclusion, Pennsylvania's STR market generated over \$856 million in revenue in 2023, with rural areas contributing significantly due to higher ADRs, despite lower STR counts. STRs brought in \$30.3 million in estimated state occupancy tax revenues from rural counties, and \$11.1 million was estimated to have been remitted to the Commonwealth from properties in urban counties. However, the impact on housing affordability varies across regions. The QCA findings highlight the critical role of STRs in enhancing tourism offerings, particularly in rural regions where unique lodging experiences attract visitors. Policymakers must balance the economic benefits of STRs with the need to address affordability and housing stability, particularly in regions experiencing rapid STR growth. Tailored regulations, including updated tax policies and permit systems, can help ensure that STRs continue to support tourism without undermining local communities and housing markets.

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