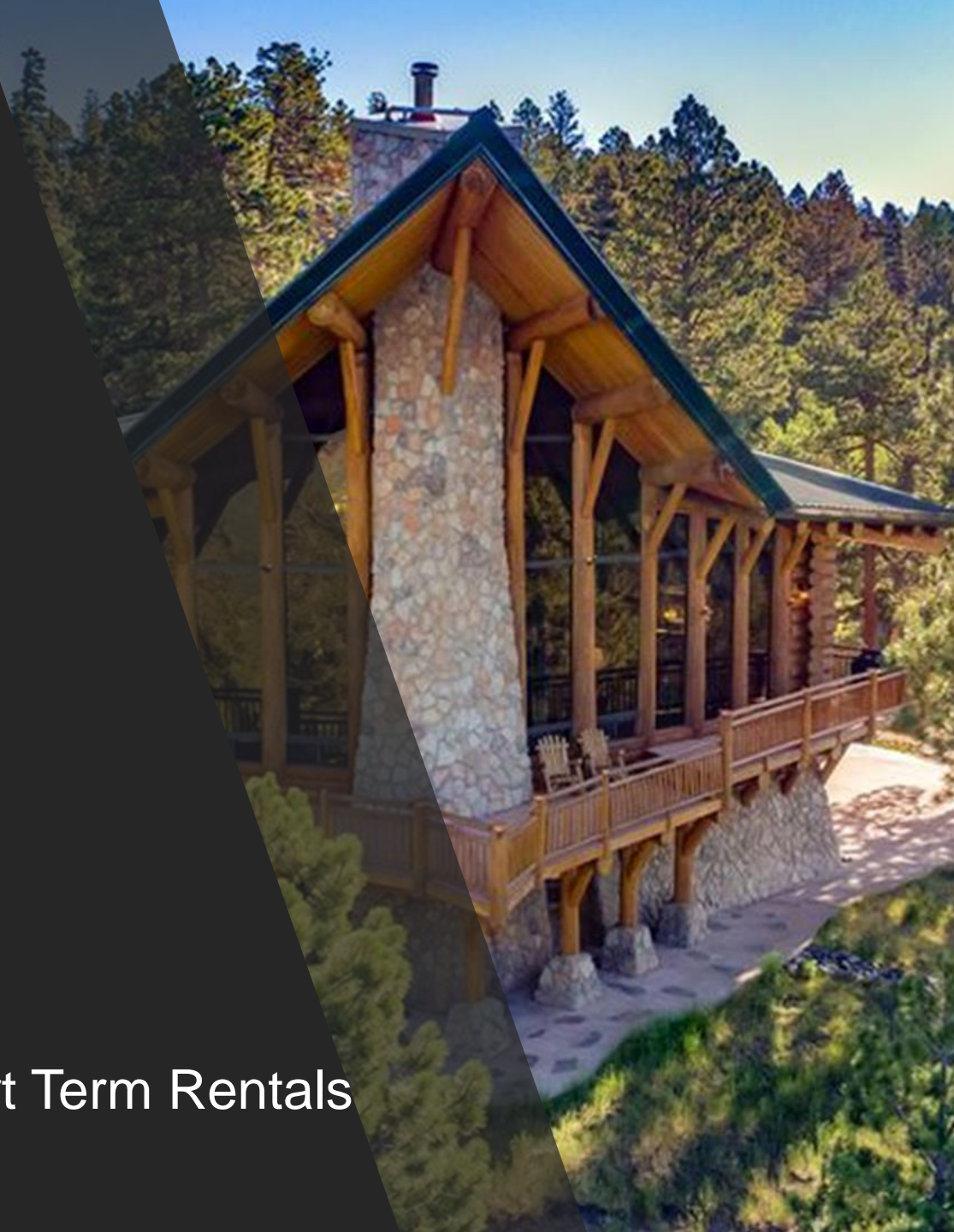


# Webinar

## HARMARI



Identify and Monitor Short Term Rentals



# Introduction

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LTAS Technologies Inc., was founded in 2011.



First customer was DMV and Law Enforcement



Expanded into fraud detection for Tax, Insurance and retail. Over 150 LEO, Government, Insurance, retail customers in US and Canada.



Currently Manage 35,000 + STR locations

# Core STR Services

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## Identification and Monitoring STRs

- Establish an inventory of unique identified properties based on the shapefile of any given territory
- De-duplication - Harmari uses proprietary matching technology to identify duplicate listings
- Harmari STR executes STR listing data collection 4 times per week, once in each of the four-time intervals: Weekday, Weeknight, Weekend-day, and Weekend-night
- Reports and Dashboards

# How we do it!

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## Establish Nexus with the Jurisdiction

Need Exact Address (AirBnb scatters location 0.3 mi)  
Need Shapefile from GIS department

## Estimated Minimum Taxable Sales

Must factor in statute limitations (e.g. 3 years + current)

Num-Reviews \* Minimum-Nights \* Avg-Nightly-Rate  
Calendar Days Booked \* Avg-Nightly-Rate

## Cross-check existing licensee list

Property Manager or Owner/Operator

Current or Expired license

Un-registered or Under-reporting Taxpayer

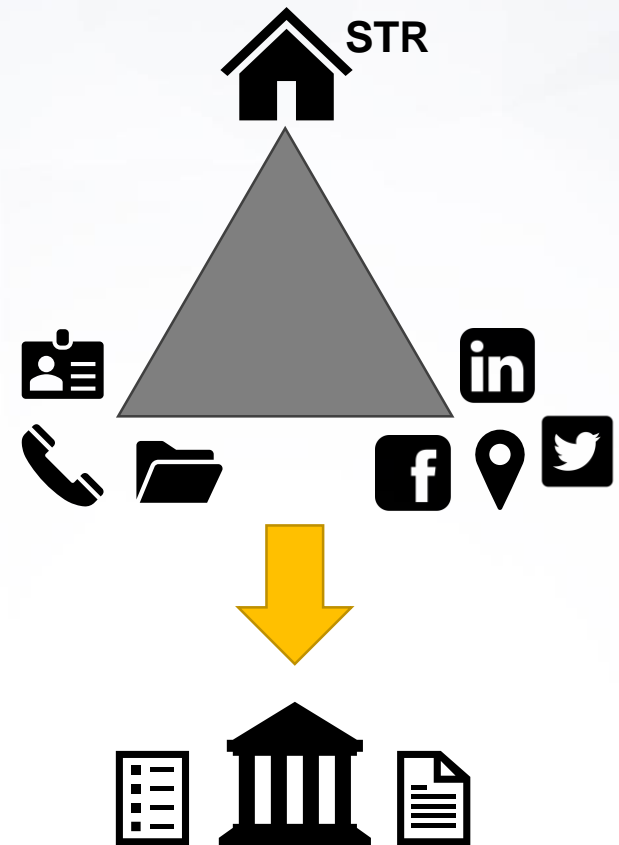
# Identification Process



Harmari's identification process utilizes various public records and open source intelligence data

- Social Media
- Professional web pages
- Web Pages
- Property Registration

We establish two confirmed data points to verify each STR property.



# Property Records




Google Street View  
Geotagging latitude / longitude  
Bing Maps for rural properties  
Social Media (same face)

art filled mansion in east bay

House - Private room Mandana Blvd, Oakland, CA 94610, United States

Photos Maps Street View Calendar




From **\$134** Per Night

Check in  Check out  Guests

[Book It](#)

[Save to Wish List](#)

Saved 15 times



**Bob**

[Link about the host](#)

Description Amenities House Rules

A unique property, art filled on tree lined street in Tereminal area of east bay, near bay bridge, (East, 20 minutes into San Francisco, this fabulous house has a wonderful back yard and amazing gardens with complete privacy and trees, the private bedrooms with master bath and shower have queen beds, television and cable, and everything one would need for a spectacular vacation in East Francisco without the crowds or hassle. I'm an artist and my partner was a

|               |              |
|---------------|--------------|
| Room type:    | Private room |
| Bed type:     | Real Bed     |
| Accommodates: | 6            |
| Bedrooms:     | 3            |



# De-Duplication

## STR can be cross-listed on multiple-sites

Can use features to detect duplication

- Exact / Similar pictures






















- Exact / Similar titles, room size, operator name

In practice, duplication rate is

- 5-10% across platforms (Airbnb,

- HomeAway, etc)

- 10-20% across platform + home-made website (e.g. Airbnb + bobsbeachhouse.com)

| Verify match by grouped images |   |   |   |
|--------------------------------|---|---|---|
| Listing ID                     | a_8251326   | a_19798004  | a_21973891  |
| Website                        | <a href="https://www.airbnb.com/rooms/8251326">https://www.airbnb.com/rooms/8251326</a> | <a href="https://www.airbnb.com/rooms/19798004">https://www.airbnb.com/rooms/19798004</a> | <a href="https://www.airbnb.com/rooms/21973891">https://www.airbnb.com/rooms/21973891</a> |
| Name                           | Downtown 1 BR + Office + 70" TV   | 2 BR 2 Bath Suite Waterfront Suite w/ Amazing Pool  | Bed/bath in Harbourfront 5 min. to Union Subway   |
| Room size                      | 1 BR 1BA  | 2 BR 2BA  | 1 BR 2BA  |
| Address                        | 12 Harbour Sq   | 1 Queens Quay W   | 1 Queens Quay W   |
| Postal code                    | MSJ 2V7   | MSJ 2H1   | MSJ 2H1   |
| Phones                         | null  | null  | null  |
| Images (kitchen)               |      |        |   |
| Images (office)                |      |        |        |
| Images (bedroom)               |      |        |   |
| Images (bathroom)              |      |        |        |
| Images (exterior)              |      |        |        |
| Images (swimming pool)         |     |        |        |
| Images (profile)               |    |      |   |
| Images (uncategorized)         |    |      |      |

# Case History



## Accurate Case History Evidence

**STR IDENTIFICATION**  
v\_4367246ha

January 9, 2019

**STATUS:** 8 (Owner/Address Match)


**UNLICENSED**

**LICENSE:**

**PERMIT:**

**LISTING STATUS:** ACTIVE on 2019-01-07 15:27:00

**COMPLIANCE:**

| Property       | Old Town Cottage in Traverse City   | Listing Image  |
|----------------|---|--|
| Street         | 221 E Eleventh St   |  |
| City           | Traverse City   |  |
| State/Province | MI  |  |
| Postal Code    | 49684   |  |
| Link           | <a href="https://www.yrbo.com/4367246ha">https://www.yrbo.com/4367246ha</a> |  |
| Duplicates     |   |  |



# Supporting Evidence

| Operator       | Lora Reilmann  |             | Profile Image   |
|----------------|--|-------------|---|
| Company Name   |  |             |  |
| Listing Host   | Chris & Lora Reilmann  |             |   |
| Data Source #1 |  |             |   |
| Data Source #2 | <a href="https://www.facebook.com/lora.kropp.58">https://www.facebook.com/lora.kropp.58</a><br><a href="https://www.facebook.com/creilmann">https://www.facebook.com/creilmann</a> |             |   |
| Street         | 2507 Hampshire Rd  |             |   |
| Unit           |  |             | Member Since  |
| City           | Fort Collins   |             |   |
| State/Province | CO   | Postal Code | 80526   |
| Data Sources   | <ul style="list-style-type: none"> <li>• County Records</li> <li>• Facebook</li> <li>• Google Maps</li> <li>• Listing</li> </ul>   |             |   |

# Supporting Evidence

The collage consists of six screenshots arranged in a 2x3 grid:

- Top Left:** A screenshot of a "Great Traverse County Property Information 2018" page. It lists details for a property in Traverse City, MI, including the address (271 S 24th St) and various tax and valuation figures.
- Top Right:** A screenshot of a Facebook post featuring a photograph of a red house at night with a white porch railing. The post includes several comments and reactions.
- Middle Left:** A screenshot of a Facebook profile for "Eric Robinson". The profile picture shows a man in a winter hat, and the cover photo shows a snowy landscape with trees.
- Middle Right:** A screenshot of a Facebook post from "Eric Robinson" showing a group of people in winter gear, likely at a ski resort.
- Bottom Left:** A screenshot of a real estate listing for a house in Traverse City, MI. The main image shows a large, well-maintained house with a red roof and white trim, surrounded by trees and a lawn.
- Bottom Right:** A screenshot of a real estate agent's profile for "Eric Robinson". The profile shows a grid of photos, including the same red house seen in other screenshots, and a "Contact" button.

# Reports

**Harmari by LTAS**

Search by listing ID, name, address

**Dashboard**

**Documents**

**Reports**

**Map**

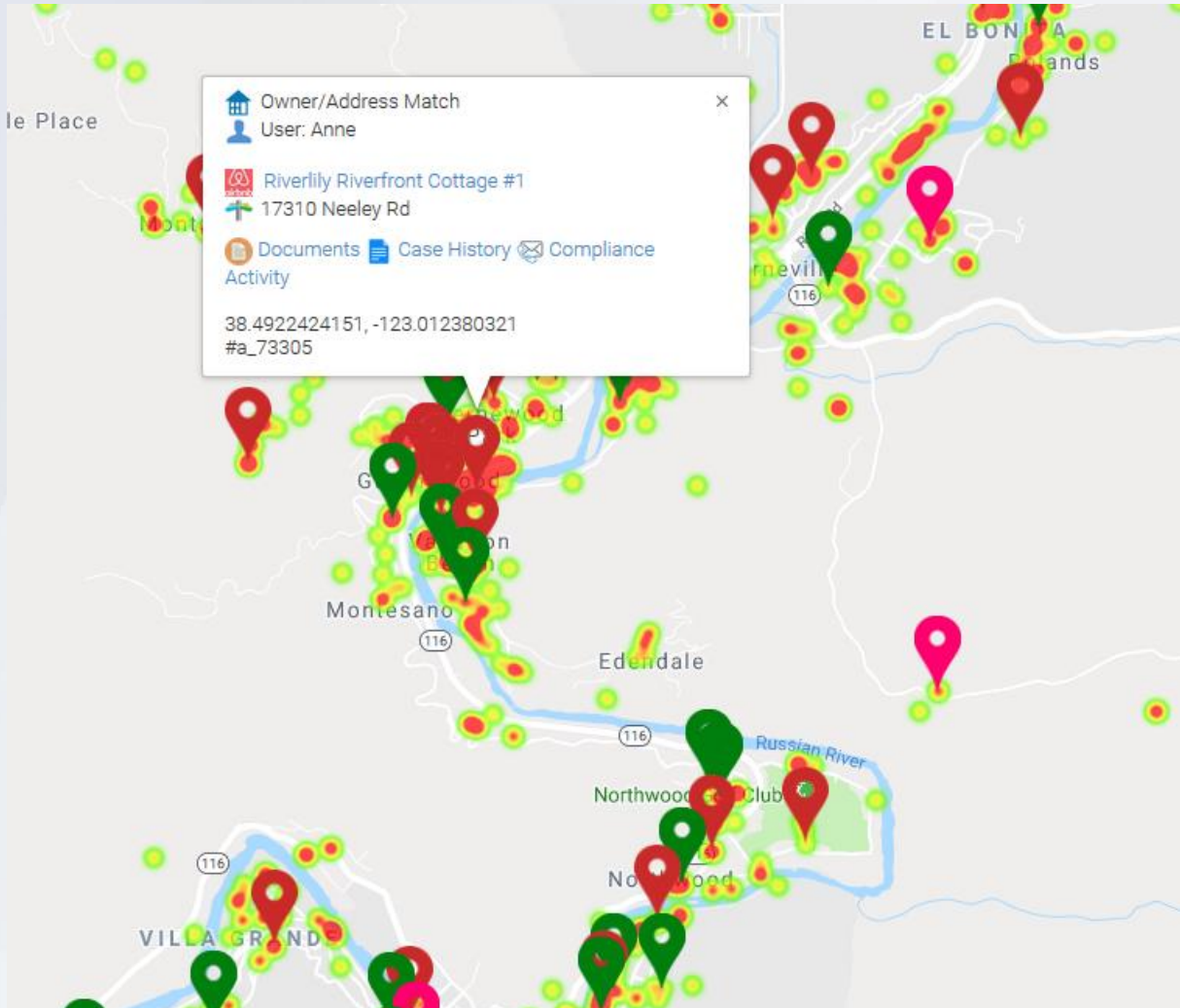
Welcome, SONOMA COUNTY English allen

Current folder: [Home](#) > **Reports**

| Name   | Type | Size    | Dimensions | Modified            |
|--|------|---------|------------|---------------------|
| Business_vr_sonoma-2019-01-02_1023-UNLICENSED-PERMITS.XLSX | xlsx | 2.79 Mb |            | Jan 2, 2019, 10:42  |
| Business_vr_sonoma-2019-01-02_1023-UNLICENSED-TOT.XLSX     | xlsx | 2.79 Mb |            | Jan 2, 2019, 10:42  |
| Business_vr_sonoma-2019-01-02_1023.XLSX                    | xlsx | 2.8 Mb  |            | Jan 2, 2019, 10:42  |
| Business_vr_sonoma-2018-11-26_1204-PERMITS.XLSX            | xlsx | 3.09 Mb |            | Nov 26, 2018, 12:10 |
| Business_vr_sonoma-2018-11-26_1204-UNLICENSED-TOT.XLSX     | xlsx | 3.09 Mb |            | Nov 26, 2018, 12:10 |
| Business_vr_sonoma-2018-11-26_1204.XLSX                    | xlsx | 3.13 Mb |            | Nov 26, 2018, 12:10 |
| Business_vr_sonoma-2018-09-28_1011-UNLICENSED-TOT.XLSX     | xlsx | 2.83 Mb |            | Oct 4, 2018, 15:52  |
| Business_vr_sonoma-2018-09-28_1011-UNLICENSED-PERMITS.XLSX | xlsx | 2.83 Mb |            | Oct 4, 2018, 15:52  |

| Operator   | Operator | Rental License | Rental License 2 | Matched Rental Property License | Matched Rental Operator        | Distance | Phone        | Other listings URI                    | Website | External Website | Property Type | Room Type       | Room Size | Floor | Number of Units | Minimum # of Days | Shortest Booked # of Days | Shortest Booked Period   | Rate    | Tax rate | Taxable | Non-taxable | Calendar Last Modified | Page Last Modified | Date First Review | Date Last Review | Date First Four |
|------------|----------|----------------|------------------|---------------------------------|--------------------------------|----------|--------------|---------------------------------------|---------|------------------|---------------|-----------------|-----------|-------|-----------------|-------------------|---------------------------|--------------------------|---------|----------|---------|-------------|------------------------|--------------------|-------------------|------------------|-----------------|
| CA         | 54941    |                |                  | ***                             | ***                            |          |              | 5717578                               | website |                  | house         | Entire home/apt | 4 BR 2BA  |       | 12 (8 allowed)  | 30                | 1                         | 2018-09-29 to 2018-09-29 | = 794   |          |         |             | 2018-06-13             |                    | 2013-11-11        | 2018-08-19       | 2017-04-28      |
|            |          |                | 917N             | ***ZPE11-0493                   | ***917N (licensee is 030-130)  |          |              | 81bd318-1196-49ac-95f5-0bbcfeb6ace0   | website |                  | Estate        | 6 BR 6.5 BA     |           | 1     | 12              | 3                 | 2                         | 2018-11-02 to 2018-11-03 | = 2,200 | 12       | = 475   |             | 2018-04-05             | 2017-04-24         | 2011-09-14        | 2018-09-19       | 2017-04-26      |
| California | 55472    |                |                  | ***                             | ***951N (licensee is 076-040)  |          |              |                                       | website |                  | house         | Entire home/apt | 2 BR 1BA  |       | 5 (4 allowed)   | 30                | 176                       | 2018-09-08 to 2019-03-02 | = 377   |          |         |             | 2018-09-03             |                    | 2010-11-23        | 2017-12-31       | 2018-04-04      |
| CA         | 56067    |                |                  | ***                             | ***                            |          |              |                                       | website |                  | house         | Entire home/apt | 3 BR 2BA  |       | 6               | 30                |                           |                          | = 457   |          |         |             | 2018-07-16             |                    | 2012-07-30        | 2018-08-16       | 2018-07-27      |
| CA         | 55452    |                |                  | ***ZPE14-0475                   | ***1383N (licensee is 050-180) |          |              | 2682014                               | website |                  | cabin         | Entire home/apt | 1 BR 1BA  |       | 4 (2 allowed)   | 30                |                           |                          | = 260   |          |         |             | 2018-02-07             |                    | 2015-02-08        | 2017-10-07       | 2017-04-28      |
|            |          |                |                  | ***ZPE17-0186                   | ***3015N (licensee is 127-750) |          |              | 39942679                              | website |                  | house         | Entire home/apt | 1 BR 2BA  |       | 4 (2 allowed)   | 30                |                           |                          | = 620   |          |         |             | 2018-08-04             |                    | 2015-08-10        | 2017-10-08       | 2017-04-28      |
|            |          | ZPE14-0269     | 1304N            | ***ZPE14-0269                   | ***1304N (licensee is 120-240) |          | 415-515-7778 |                                       | website |                  | Estate        | 6 BR 6 BA       |           |       | 14 (12 allowed) | 13                | 2                         | 2018-10-12 to 2018-10-13 | = 2,482 | 12       | = 400   | = 262       | 2017-04-25             | 2017-04-25         | 2013-09-24        | 2018-08-28       | 2017-04-28      |
|            |          |                |                  | ***                             | ***                            |          |              |                                       | website |                  | house         | Entire home/apt | 2 BR 1BA  |       | 4               | 31                | 1                         | 2018-09-08 to 2018-09-08 | = 261   |          |         |             | 2018-06-17             |                    | 2015-08-30        | 2018-07-15       | 2017-04-28      |
|            |          |                |                  | ***                             | ***                            |          |              | 5717578                               | website |                  | house         | Entire home/apt | 2 BR 1BA  |       | 8 (4 allowed)   | 30                | 1                         | 2018-10-06 to 2018-10-06 | = 298   |          |         |             | 2018-06-13             |                    | 2013-09-04        | 2018-07-13       | 2017-04-28      |
|            |          |                | TOT1487N         | ***ZPE15-0180                   | ***1487N (licensee is 028-170) |          | 707-406-1079 | b11328f2-4883-414e-90af-e8121037baad0 | website | page-not-found   | Estate        | 5 BR 7.5 BA     |           |       | 12 (10 allowed) | 12                | 1                         | 2019-02-23 to 2019-02-23 | = 2,500 | 14       | = 750   |             | 2018-06-13             | 2017-04-26         | 2014-04-18        | 2018-09-12       | 2017-04-26      |
| CA         | 54941    |                |                  | ***                             | ***                            |          |              | 5717578                               | website |                  | house         | Entire home/apt | 2 BR 1BA  |       | 8 (4 allowed)   | 30                | 1                         | 2018-10-06 to 2018-10-06 | = 258   |          |         |             | 2018-05-23             |                    | 2013-09-16        | 2018-08-05       | 2018-04-04      |

# Mapper



# Thank you!



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## PRICE QUOTE for Colorado Springs, CO

Below are costs of each component over a 3-year term (Year 2 and 3 are option years).

| Costs *** All Listings ***  | Initial Report/Year 1 | Year 2          | Year 3          |
|---|-----------------------|-----------------|-----------------|
| Listing Detection (Airbnb, VRBO/HomeAway + Affiliates, FlipKey/TripAdvisor + Affiliates, Booking, Craigslist), Archived Listing Information, Web Portal, Dashboard Report | \$30,000              | \$24,000        | \$24,000        |
| Monitoring Fee (performed weekly)   | Incl.                 | Incl.           | Incl.           |
| <b>Total</b>  | <b>\$30,000</b>       | <b>\$24,000</b> | <b>\$24,000</b> |

### Advanced Archiving

| Item    | Description  | Cost                    |
|---------|--|-------------------------|
| Level 1 | Detect websites for listings that are up/down from the previous month. Websites checked on a weekly basis staggered over day/night and over weekday/weekend. Report includes 4 columns for each time-stamp of previous 4 checks to see if listing was up/down  | Included with agreement |
| Level 2 | All features of Archiving Level 1, with additional archive folder of the date/time of check, and containing <b>the captured listings (HTML, Images) and rendered as a PDF</b> for each listing found each time a check is run.   | \$9,000 per year        |
| Level 3 | All the features of Archiving Level 2 with additional <b>change tracker XLS for differences between the current and previous version of the listing (tracked changes)</b> . Note there is no guarantee that the changes are attributed to the Host, and it may incorrectly flag website "layout changes" as a false positive despite nothing changing in the listing. It still requires human scrutiny and detective work to confirm which changes were due to the host. | \$13,500 per year       |

