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Megan McFarlane

Megan has been involved in the MLS industry for twelve plus years.

She has been a panel speaker at the Zillow MLS Forum and a presenter at the MLS Customer Training Conference for the last three years. McFarlane created an MLS Orientation presentation that has been distributed to and used by MLS's nationwide.

She is an active member of the National MLS Users Group, as well as a member of the Council of MLS and Real Estate Standards Organization. She currently sits on the MLS User Acceptance Group Council for MLSs.

In 2010 she received her Train-the-Trainer certification for the MLS platform, in 2017 she received her CMLX1 Professional Designation and in July 2018 she received her CMLX2 Executive Designation. In 2019, she was juried selected for CMLX3 Leadership class and graduated in October 2019.

A circular portrait of Megan McFarlane, a woman with blonde hair, smiling, and her dog, a Bernese Mountain Dog, sitting next to her. The portrait is set within a circular brushstroke on the right side of the slide.

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This course complies with all international, national, and state antitrust and competition laws.

This course increases competition among its attendees by providing information.

This course's actions do not function to reduce competition.

This course provides a forum for a free and open discussion of diverse opinions without in any way attempting to encourage or sanction any particular business practice.

This course is not a forum for MLSs to develop collective action plans that would reduce competition.



Antitrust Compliance

The sponsor and instructor of this course fully complies with all **ANTITRUST AND COMPETITION LAWS**

MLS ROAD TRIP

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THE CAR LOT

DRIVING OFF THE LOT



MLS ROAD TRIP

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The car lot

BENEFITS OF USING DATA TO MAKE DECISIONS

It has been said that what gets measured gets done, and this is perhaps the key factor in why data analytics leads to a higher performance level by those who _____.

In the Real Estate Industry, it is the data _____ and _____ that indicates the path of least resistance to success. In contrast, making decisions without properly utilizing and analyzing data can impede a buyer from purchasing their ideal property.

Real Estate purchase decisions can only be made after the data has been clearly _____. Data that has been collected and analyzed and fully interpreted.

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The car lot

BENEFITS OF USING DATA TO MAKE DECISIONS

WHAT IS DATA?

Anything that is _____

WHAT IS THE BY-PRODUCT OF DATA?

WHAT DO WE DO WITH DATA?



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MLS ROAD TRIP

That which is measured is improved

MLS ROAD TRIP



OUTCOMES

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The car lot

MINING & ANALYZING THE DATA

At a first glance, we see:

Then we define what we see:

Finally, we go one-by-one and look internally:

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The car lot

DATA IS NEUTRAL AND THAT'S A GOOD THING

Data is necessary in making **effective decisions** and solving problems specifically because it has no personal agenda. Data is _____; it simply tells a factual story.

Human beings are the ones that hold differing opinions that often shape decisions which could lead to lesser results. Buyers and Sellers are the ones that make data _____.

In order for the data to do its job though, a buyer must be able to _____ it accurately.

This will ensure that buyers do not “find” something in the data that is not valid but simply supports their own personal views.

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The car lot

DATA SETS PROPERTY DETAILS APART FROM COMPETITION

Data gathering allows a buyer to examine their current strategies and past performance in order to make educated decisions regarding future property purchases.

For most buyers, knowledge derived from data mining can be the one thing that sets a property apart from the competition and gives them that all-important edge.

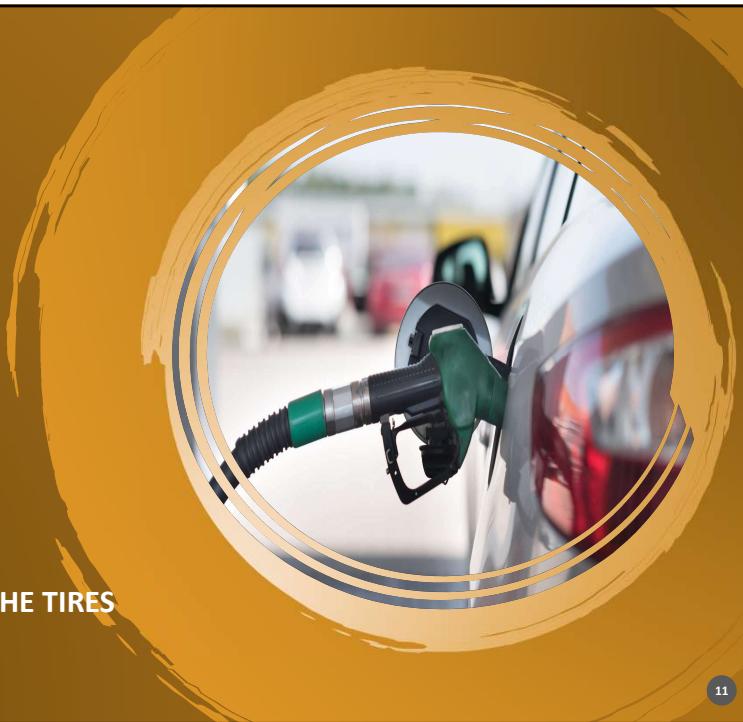
Making effective decisions based on data gathered and analyzed and refining when necessary is the true path toward any buyer's final purchase.

MLS ROAD TRIP



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FUELING UP

BEFORE YOU GET ON THE ROAD...

FILLING THE TANK - CHECKING THE TIRES

MLS ROAD TRIP

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Checking under the hood

NAR Ruling on DETAIL ON LISTINGS FILED WITH THE MLS

A Listing Agreement or Property Data Form, when entered into the MLS, shall be _____ in every detail which is ascertainable by property data sheet.

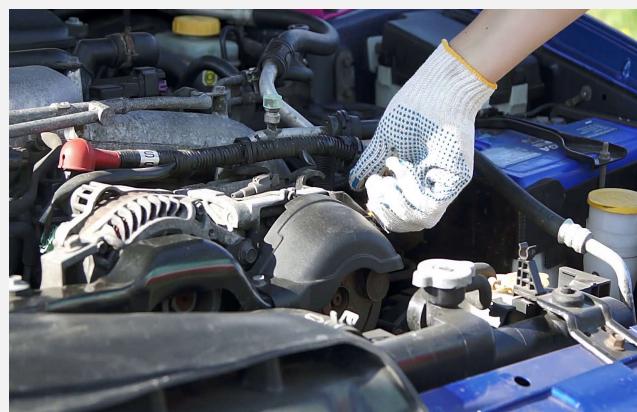
EVERY LISTING ENTERED INTO THE MLS MUST _____ THE DATA RECEIVED OR ALL REQUIRED DATA ENTERED INTO THE APPROPRIATE FIELDS.

WHAT IS COMPILATION?

Any format in which the property listing data is _____ to the Participant, including but not limited to bound book, loose-leaf binder, computer database, card file or ANY OTHER FORMAT.

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Kicking the Tires

NAR Ruling on CONFIDENTIALITY OF MLS INFORMATION

Any information provided by the MLS to the Participant shall be considered official information of the MLS.

Such information shall be considered
 _____ & _____ for the
 use of Participants and those Subscribers/Users affiliated
 with such Participants

What does that mean? _____ the members of your
 MLS get to see and use the data in its entirety



MLS ROAD TRIP

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Cleaning the Windshield

NAR Ruling on THE SERVICE'S RESPONSIBILITY FOR ACCURACY OF INFORMATION

The information published and disseminated by the MLS is communicated _____, without change by the MLS as filed with the MLS BY THE _____. The MLS does not verify such information provided and disclaims any responsibility for its accuracy.

Each Participant agrees to:

- 1.
- 2.
- 3.

Against any liability from any _____ or _____ of the information the Participant provides



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Checking the oil

NAR Ruling on REPRESENTATION

WHAT DOES LISTING CONTENT INCLUDE?

- PHOTOGRAPHS
- IMAGES
- AUDIO & VIDEO RECORDINGS
- VIRTUAL TOURS
- DRAWINGS
- DESCRIPTIONS
- REMARKS
- NARRATIVES
- PRICING INFORMATION
- **ALL OTHER DETAILS**
- **ALL OTHER INFO RELATED TO LISTING**



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The Super Duty F450 XLT with a Hemi Engine

When a Broker signs a listing agreement, they enter the property information, corresponding support documents, and photographs into the MLS. Once this information is in the MLS, Buyer's Brokers may access the information as well as arrange showings for their clients.

As property information fills the tank, the MLS now has a collective _____.

This DATABASE is filled with _____ and _____ real estate listings and sales information in a local area. The DATABASE is then created, maintained and paid for by the MLS membership.

Big Data



- Refers to the storage of massive amounts of data that has piled up over the years
- Or, is being generated at breakneck speed to be used in
 - **predictive analytics**,
 - **user behavior analytics** or
 - other algorithms to discover valuable insights.

PREDICTIVE ANALYTICS



The practice of extracting info from existing data sets in order to determine patterns and predict outcomes and trends

BEHAVIOR ANALYTICS

Allows future actions and trends to be predicted based on the collection of such data – reveals new insights into the behavior of consumers on e-commerce platforms, online games, web and mobile application

How many of you have click on a site and then when on facebook, their ad appears

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The Super Duty F450 XLT with a Hemi Engine



BEHAVIOR ANALYTICS

What does this mean?



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The Super Duty F450 XLT with a Hemi Engine



Big Data in Real Estate

- At a macro level, curated information from massive data bases finds itself into easy to consume lists such as
 - **Proximity trackers,**
 - **Real-time traffic estimations,**
 - **Walk scores**
 - **Parks**
 - **Outdoor activities**
 - Plethora of reviews and more....



As far as brokers are concerned, their entire set of consumers have been bundled up with just a click away.

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The Super Duty F450 XLT with a Hemi Engine



Digital Footprint

- The Average Consumer is going to multiple websites to look
- Brokers need to get to the consumer faster and quicker
- They don't care who you are
- _____
- _____
- _____



Hurdles....

- _____
- _____
- _____
- _____
- _____

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The Super Duty F450 XLT with a Hemi Engine



Digital Footprint

What is being tracked?

- _____
- _____
- _____
- _____
- _____
- _____
- _____



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The new models coming off the line

Big data in real estate is not aiming just at improving business or refining trade. Data analytics and associated technology are showing signs of improving lifestyle and quality of living for the buyer, which is an additional advantage.



Location Intelligence for House Scouting

Expanding the use of Geographic Information Systems by government agencies and real estate managers to capture, store and visually display location information.

As of now, worldwide navigation systems and maps use this technology to help drivers but incorporating this in the real estate industry could make house hunting and location scouting more real than ever.

Real-time virtual imaging can help plug the flaws with existing scouting methods done through agents and brokers.

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Building Management Technology

Internet of Things (IoT) is definitely helping certain aspects of real estate management as well.

Sensors that read everything from air temperature and condition of equipment inside buildings and townships are available in the market.

Such systems reduce wait time for maintenance and minimize the expenses while proving to be highly convenient for tenants and residents.



IoT for Mapping Air Quality

It is quite interesting how technology feeding off big data analytics is influencing factors as basic as the quality of life.

Many cities have started integrating air quality sensors to their infrastructure in order to track air quality.

Such data sets could have a direct impact on where people choose to live, thus influencing buying and selling patterns.

What else is IOT affecting?

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Internet of Things....

And what else?



INTERNET OF THINGS.....

- AC/HVAC
- MUSIC
- RING DOORBELL SECURITY
- REFRIGERATORS
- GARAGE DOORS to CARS
- ALEXA
- LIGHTS



WEBHOOKS

What is a Webhook?

A Webhook is an



STABLE DIFFUSION

It is quite interesting how technology feeding off big data analytics is influencing factors as basic as text to image.

What does this mean? Turning

into _____

What does this mean for Listing Photos?

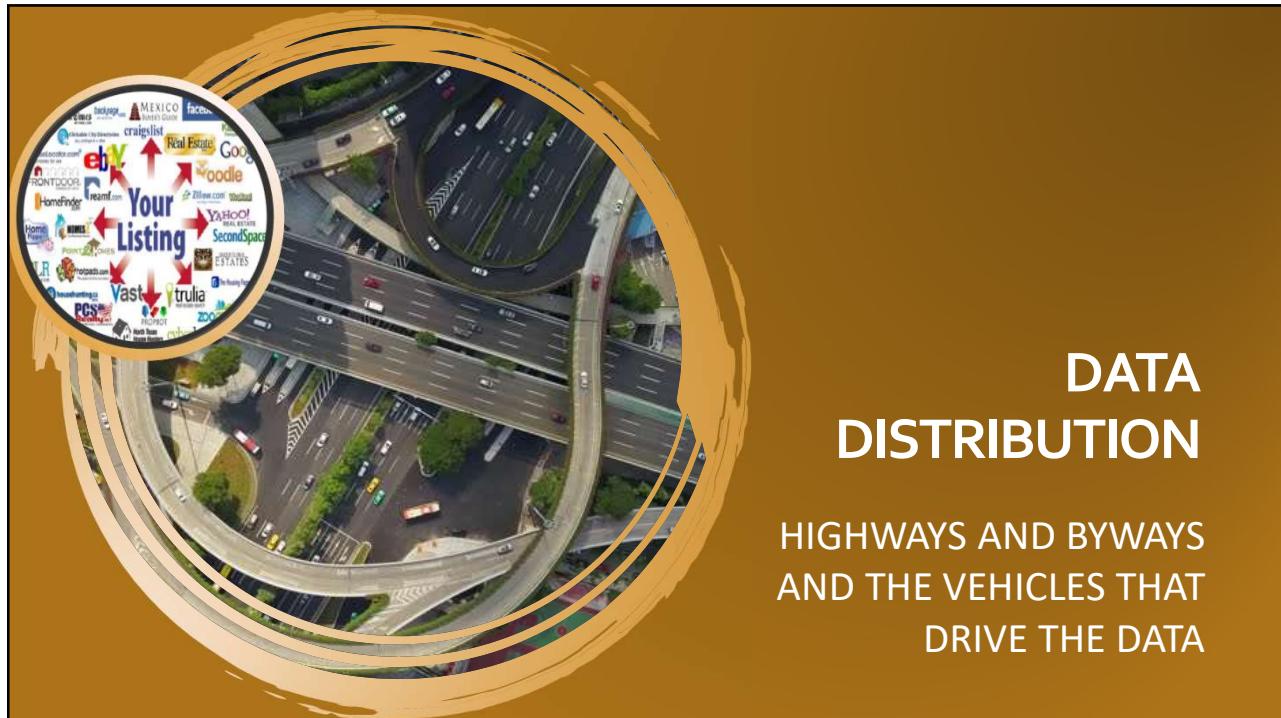
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THE BEST ROUTE

THE DIFFERENCE BETWEEN SCENIC HIGHWAYS AND FASTEST ROUTES

MLS ROAD TRIP

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Dirt Road or a 4 Lane Freeway

SMART FRAMING
FRAMING INSIDE THE WEBSITE

FTP
FILE TRANSFER PROTOCOL

ORGANIC
MLS MIGRATION
CONNECTING THE FEEDS

RETS
REAL ESTATE
TRANSACTION
STANDARD

WEB API
APPLICATION
PROGRAMMING
INTERFACE

The Highway to Success

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A Smart Frame or Iframe is an HTML Document embedded inside another HTML Document on a website.

SMART FRAMING

What is SF?

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SMART FRAMING

SMART FRAMING is different from FTP, RETS, and Web API

 Smart framing is displaying another site's IDX search page within the "frame" of your website.

IDX appears to be on your web-site but it is hosted on another server and made to appear as if on your site. Smart Framing is _____ only and does not _____.

It is different than FTP, RETS and Web API because MLS data is not transferred to a website that is using smart framing. The website is "framing" the listing display from another website host.



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SMART FRAMING

SMART FRAMING is different from FTP, RETS, and Web API



It will appear to consumers that they are searching MLS listings on the broker web-site but the search section of the broker's site is just the broker's _____ around someone else's IDX search program.



Many IDX vendors offer this option to brokers. Typically, MLS approval is still required to add the "framed" IDX display to a broker or agent website.

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SMART FRAMING LOOKS SOMETHING LIKE THIS...



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An organic MLS integration connects your website directly to the MLS server and pulls the data directly to your website.

This gives you the greatest SEO benefit.

ORGANIC MLS MIGRATION

What is OM?

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ORGANIC MLS MIGRATION

CONNECTING THE MLS FEED DIRECTLY TO BROKER SITES

Companies providing organic MLS migration, connect the MLS _____ to agent sites instead of hosting the data on an IDX server and migrating it from there.

Essentially, it eliminates the _____ and reroutes the IP addresses of MLS property pages to agents' sites so they get all of the SEO value.

Organic MLS Integration

A powerful combination of raw data and user-friendly options.

How does it WORK?

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ORGANIC MLS MIGRATION

CONNECTING THE MLS FEED DIRECTLY TO BROKER SITES



MLS migration is a common solution for getting listings to display on a personal website, most often involving an IDX company storing MLS data on its servers and migrating that data onto an agent or broker's website.

It provides a more on-the-go means of MLS data access.

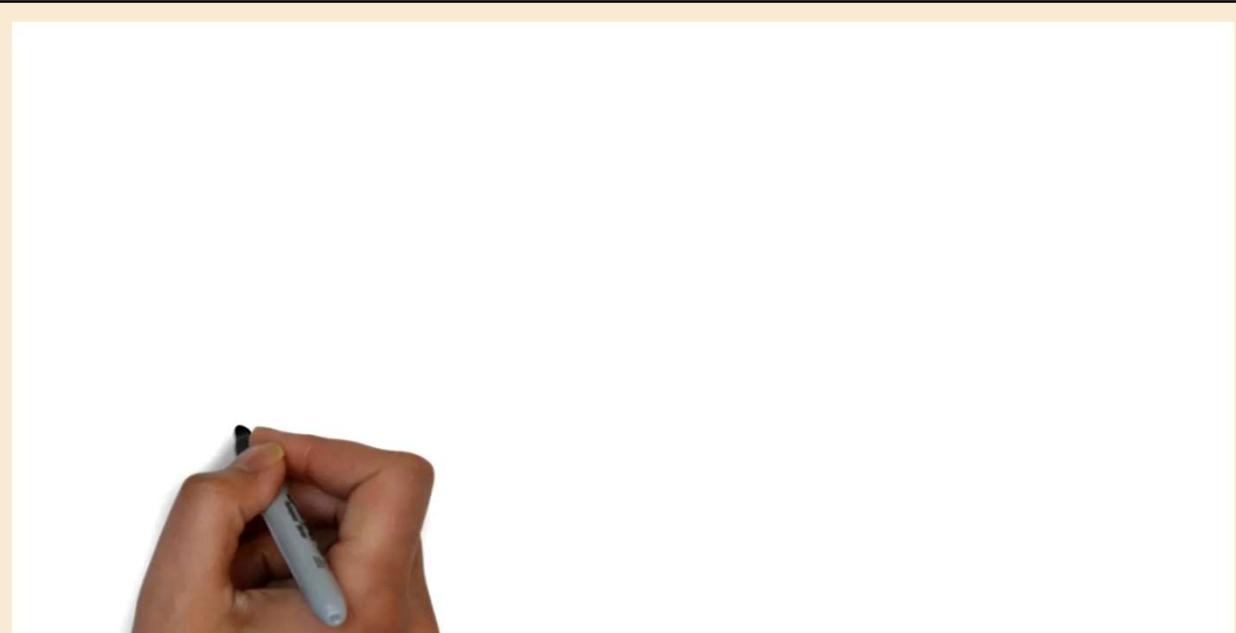
Traditional websites for listings won't go away but they will surely be the lesser-used platform.



MLS ROAD TRIP

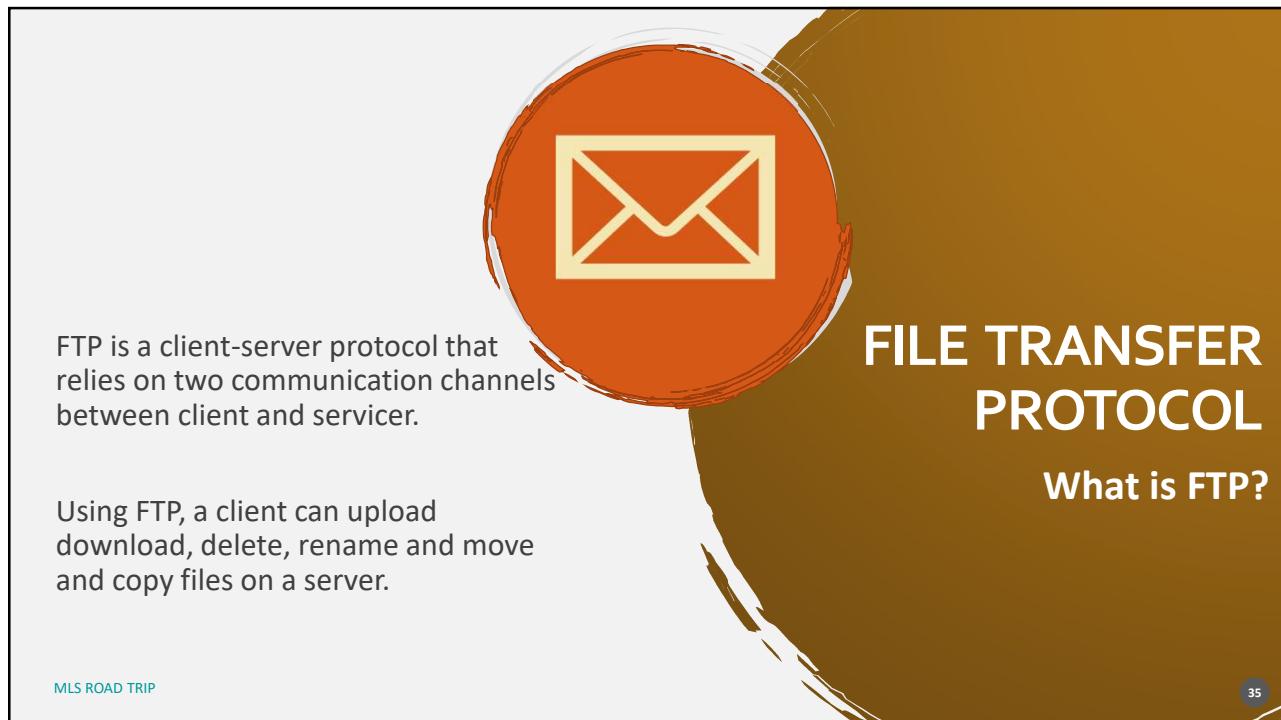
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FTP is a client-server protocol that relies on two communication channels between client and servicer.

Using FTP, a client can upload, download, delete, rename and move and copy files on a server.

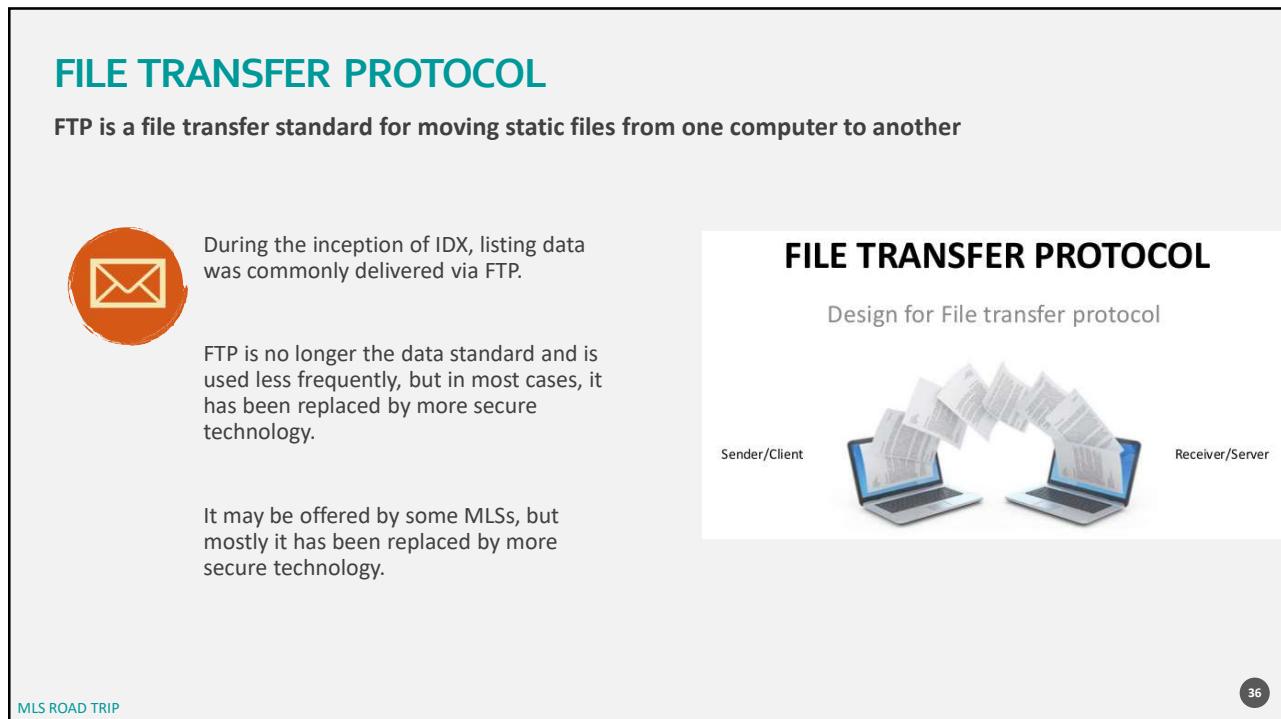
FILE TRANSFER PROTOCOL

What is FTP?

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FILE TRANSFER PROTOCOL

FTP is a file transfer standard for moving static files from one computer to another

During the inception of IDX, listing data was commonly delivered via FTP.

FTP is no longer the data standard and is used less frequently, but in most cases, it has been replaced by more secure technology.

It may be offered by some MLSs, but mostly it has been replaced by more secure technology.

FILE TRANSFER PROTOCOL

Design for File transfer protocol

Sender/Client Receiver/Server

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FILE TRANSFER PROTOCOL

FTP is a standard network protocol used for the transfer of computer files between a client and server on a computer network



FTP is built on a client-server model architecture using separate control and data connections between the client and the server. FTP users may authenticate themselves with a clear-text sign-in protocol, normally in the form of a username and password.

The first FTP client applications were command-line programs developed before operating systems had graphical user interfaces and are still shipped with most operating systems.

Many FTP clients and automation utilities have since been developed for desktops, servers, mobile devices, and hardware, and FTP has been incorporated into productivity applications, such as HTML editors.



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REAL ESTATE TRANSACTION STANDARD

What is RETS?

RETS was created to help consolidate the content and structure of property listings for real estate professionals wanting to share and distribute MLS data and to overcome shortfalls of the old FTP method.

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REAL ESTATE TRANSACTION STANDARD

RETS is an acronym which stands for Real Estate Transaction Standard



RETS is a framework used by the real estate industry to facilitate the exchange of data. RETS was launched in 1999 by the NAR.

RETS was originally created to overcome the difficulties presented by the existence of a large number of organizations desiring to share and distribute real estate information with others.



Prior to RETS, much of the data exchange was done using the FTP, which did not allow for _____, and required transfer of _____. The inefficiencies of this approach meant that to generate a query such as "new listings since yesterday", the entire data set had to be downloaded again and compared with a local copy.

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REAL ESTATE TRANSACTION STANDARD

RETS is an acronym which stands for Real Estate Transaction Standard



A RETS feed is a personalized raw data connection between your website and your MLS based on the Real Estate Transaction Standard, allowing you to import property listings, and with the right software, and display them on your website.



Rather than basing a solution on alternatives used by other industries to allow for such queries, RETS was created from the ground up as a new framework to attempt to address the need for a _____ standard for the exchange of real estate data.

Most MLS data exchange service providers use the RETS protocol. Although the implementation of the protocol has offered some standardization, the field names of the underlying datasets still vary widely between markets.

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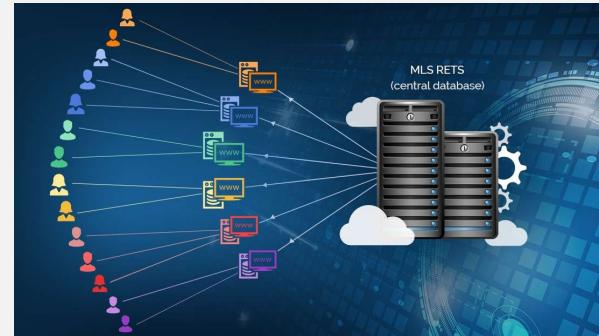
REAL ESTATE TRANSACTION STANDARD

RETS spawned dozens of real estate technology companies that help brokers build property searches into their websites.



For software developers and for providers of services like IDX sites, RETS means having to write programs to use only one language, the language of RETS, in order to work with many different MLS systems.

A common language enables computers like the one on your desk to receive information from many different real estate systems or MLSs without being specially trained to understand the information from each.



This means _____ and _____ among vendors, and faster implementations of new systems, all of which directly benefit people who work with real estate information as a living.

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REAL ESTATE TRANSACTION STANDARD

RETS spawned dozens of real estate technology companies that help brokers build property searches into their websites.



RETS provides an interface for brokers/agents to easily access data through a RETS compliant MLS.

Additionally, vendors who offer RETS compliant utilities allow you the ability to use their services without having to perform _____ as well as gives brokers/agents the option to _____ to new services or systems.

RETS creates a way to easily share information allowing you to focus more on using the data than getting the data.

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REAL ESTATE TRANSACTION STANDARD

Today, virtually every MLS has a RETS server of a database of its listings that conform to RETS



RETS is a framework that can be adopted by computer systems to receive data from the MLS servers, as well as those of other real estate systems, provided they also have the RETS software installed designed to communicate using the RETS framework.

The National Association of Realtors refers to RETS as a _____.

The common language standardizes the content and structure of property listings.



Multiple other systems exist which support the secure and standardized transfer of datasets and associated access control requirements in a secure and efficient manner, such as MySQL.

These other systems enjoy widespread adoption across most industries, whereas RETS is for one specific industry. RETS is generally not used outside North America.

In 2018, the Real Estate Standards Organization announced that it planned to _____ and _____

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IFRAME vs. FTP vs. RETS

	SEO BENEFIT	DATA UPDATES	CUSTOMIZATION OPTIONS	EASE OF USE
IFRAME	★★★★★	★★★★★		★★★★★
FTP	★★★★★	★★	★★★★★	★
RETS	★★★★★	★★★★★	★★★★★	★★★

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Comparing Dodge vs. Ford vs. Chevy

Recapping the different Data Distribution channels or downloads

Smart Framing	FTP	RETS
Provides a portal for users to view listings that reside elsewhere on the web	Involves a full download of the MLS database	Allows for incremental updates based on XML
		
MLS ROAD TRIP		45

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APPLICATION
PROGRAMMING
INTERFACE

What is API?

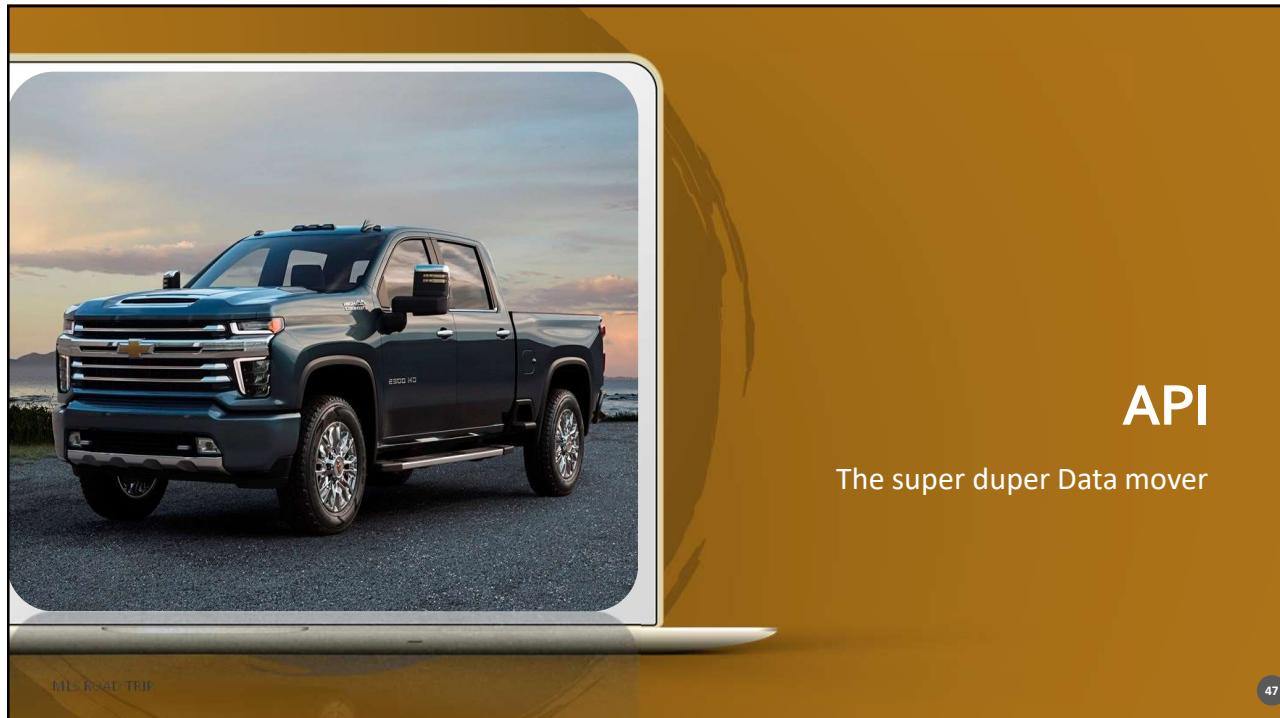
Web API is used to transfer property listing data from an MLS to an agent website or a syndication.

API is unique as a data transfer technology in that it allows for a great deal of simplification.

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API

The super duper Data mover

WEB API

 Web API or Application Programming Interface allows for data calls directly from the MLS. When a client runs a property search on your site, instead of searching a database on your servers, it searches the MLS database _____.

Web API is the next evolution of data standards for real estate technology.

Rolled out in 2016 the Web API is designed to do two things.....

- Address the weaknesses of RETS
- Accelerate the convergence of real estate data across MLS

 It allows for rapid development of applications and brings real estate data exchange in line with other industries.

There are several entities working to consolidate MLS feeds and offer access to multiple MLSs from a centralized API feed.

Their goal is to facilitate innovation and make access easier for developers across multiple real estate markets

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WEB API

The link between the MLS And the agent's website must be dynamic



What does this mean?

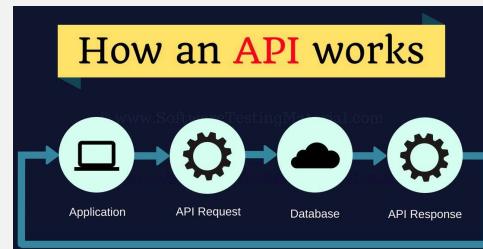
- Limits the need for large amounts of local hosting
- Reduces security concerns (less duplication of databases across the web)
- Standardizes the structure of property listings
 - MLS will be required to use a limited number of data fields when creating and storing property listings.
 - This helps limit the amount of coding companies must do for each individual client.

MLS ROAD TRIP



Why Web API?

- Fragmentation of the real estate industry
- Instead of a single body warehousing data across the country, there are more than 580 MLSs to pull directly from



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WEB API

Web API is the next generation of real estate data exchange



API's provide the rules and processes for the retrieval of this information.



API also provides flexibility to agents and developers. Its efficiency gains over other technologies means that agents can call MLS data on the fly or as it is requested by users in a search on the agent site.

The great advantage of API is that it packages these rules and processes into a single component.

This simplifies the retrieval of data from the MLS by decoupling it from agent sites. Instead of coding to the MLS database, developers code to the API, which allow for a uniform, efficient transfer of information every time.

This rapid retrieval _____ agents need to maintain on their web servers, which can reduce hosting and compliance costs. Of course, if agents want to replicate data locally (usually for SEO reasons) they still can.

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WEB API

Billed as the RETS successor, MLSs had to comply to RESO's new standard by the end of 2018



What Is RESO Web API?

RESO Web API is a standard for using API to connect MLS and agent websites. This standard was released by RESO in 2016.

The new standard is based on **O-Data**. This gives developers a large range of tools to use when developing products with RESO Web API.

RESO hopes this open approach helps drive the real estate industry deeper into mobile and social applications.

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What is O-Data?

O-Data or Open Data is a widely used global technology protocol. O-Data provides a level of consistency with other technologies and frees developers from having to learn and write unique code.



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WEB API



What Is RESO Web API?

RESO Web API is different from RETS because it is an application programming interface rather than an XML feed, which allows for direct calls to the MLS in response to a user search.

There is no question that RETS transformed the real estate industry. But it came with a tradeoff—storage. RETS works by keeping a database of property listings on an agent's web servers and updating that database incrementally with new and modified listings from the MLS.

It's a system that works. But it's no longer the most efficient way to go about a data transfer.

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What Are the Advantages of RESO Web API?

1. Streamlined data transfer procedures
2. Common protocol for product development
3. Lower hosting costs
4. Enhanced security for MLS data
5. Easier integration with third-party applications
6. Reduces coding requirements

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WEB API

Provides a streamlined access point to an MLS database



Where RETS required developers to duplicate the MLS database on local servers and update it incrementally, RESO Web API packages MLS access into a single component.

This decouples the MLS database from websites and other applications, while retaining the ability for users to query the data in real time.



RESO Web API also takes advantage of a more open approach to data real estate transfers by using a Representational State Transfer (REST) architecture.

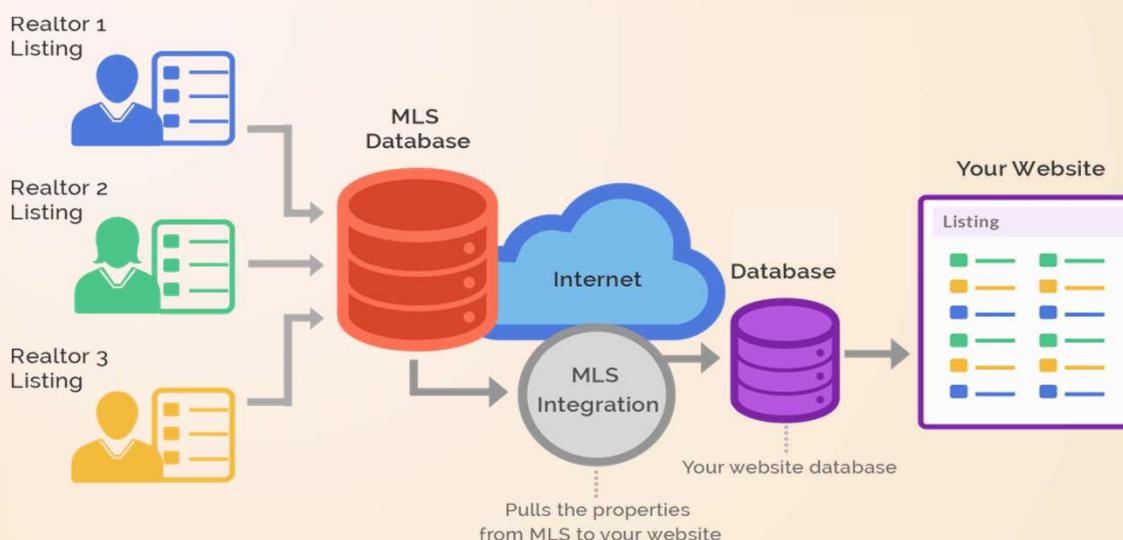
REST has a community of tens of thousands of developers worldwide, and it should help drive real estate technology development deeper into mobile and social media applications.

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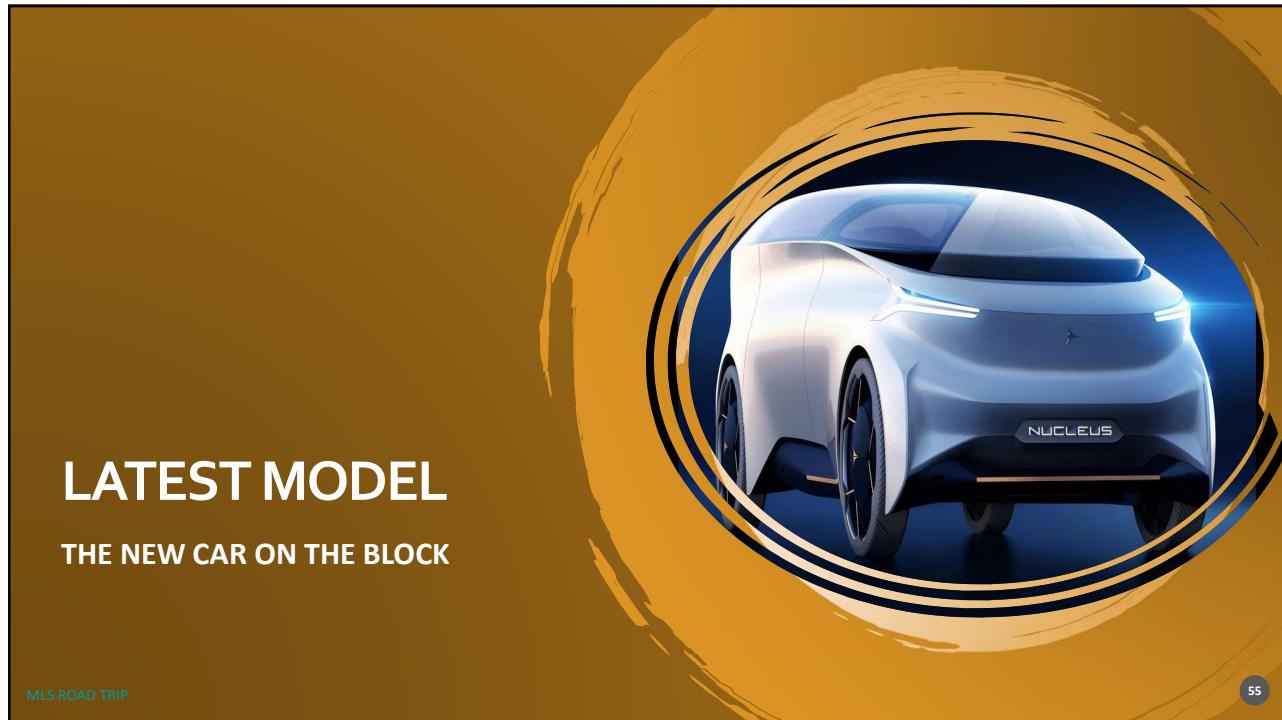
How the gears work



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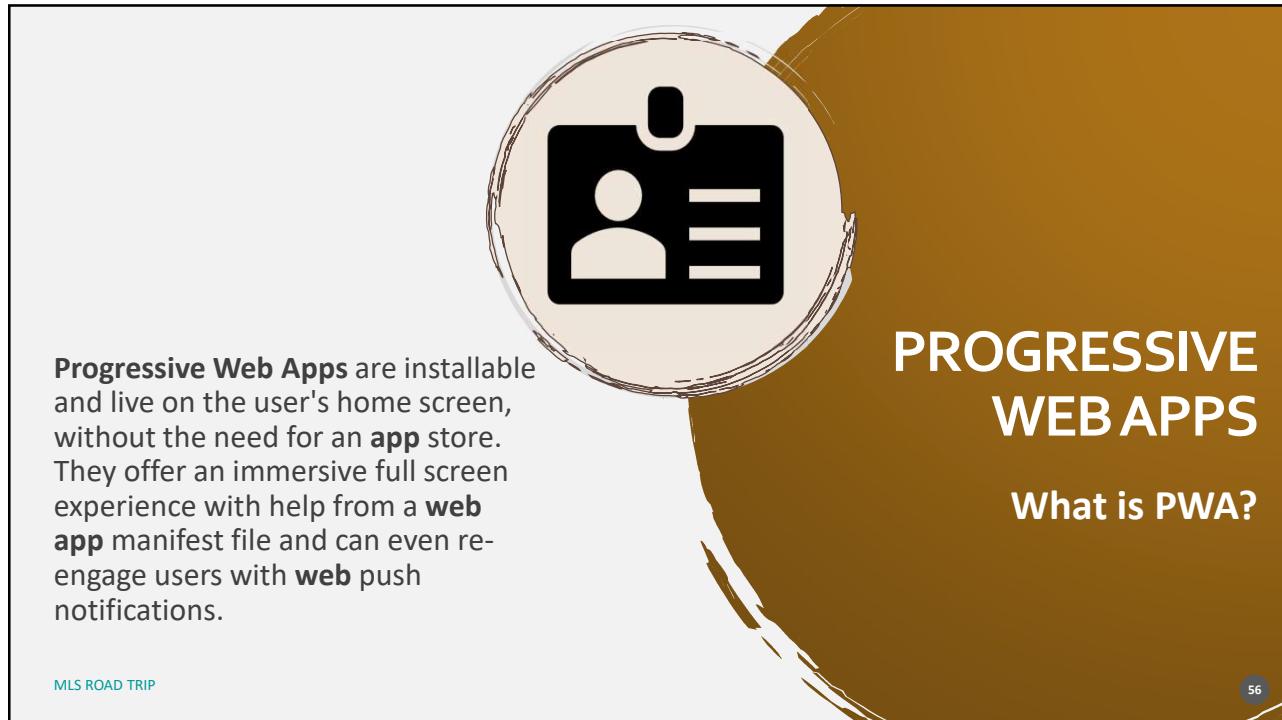


LATEST MODEL

THE NEW CAR ON THE BLOCK

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PROGRESSIVE
WEB APPS

What is PWA?

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PWA

What is PWA?



Progressive web apps are websites that look and feel like an **app**.

This means users can access all information and capabilities without downloading a mobile **app**.

Instead, **progressive web apps** use modern **web** technology to deliver **app**-like experiences to users, right in their browsers.



A **Progressive Web App (PWA)** is a **web app** that uses modern **web** capabilities to deliver an **app**-like experience to users.

You **can** deploy your **app** as a PWA as well as Native **app** and take advantage of both channels. PWA allows you to ship your **app** to not only the **app** store, but also deploy to the mobile **web** as a PWA.

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PWA

What is PWA?



A study has shown that, on average, an app loses _____ of its users for every step between the user's first contact with the app and the user starting to use the app.



However, a native app is definitely not all bad. Mobile applications with push notifications achieve up to _____ more retention than their counterparts without push, and a user is _____ more likely to reopen a mobile application than a website. In addition, a well-designed mobile application consumes less data and is much faster because some resources reside on the device.

A user must first find the app in an app store, download it, install it and then, finally, open it. When a user finds your progressive web app, they will be able to immediately start using it, eliminating the unnecessary downloading and installation stages. And when the user returns to the app, they will be prompted to install the app and upgrade to a full-screen experience.

A progressive web application takes advantage of a mobile app's characteristics, resulting in improved user _____, without the complications involved in maintaining a mobile application.

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PWA

What is PWA?



Progressive web apps could be the next big thing for the mobile web.

Originally proposed by Google in 2015, they have already attracted a lot of attention because of the relative ease of development and the almost instant wins for the application's user experience.



Progressive web apps take advantage of the much larger web ecosystem, plugins and community and the relative ease of deploying and maintaining a website when compared to a native application in the respective app stores.

For those of you who use both mobile and web, you'll appreciate that a website can be built in less time, that an API does not need to be maintained with backwards-compatibility and that the **app will generally be easier to deploy and maintain**.

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HAULING THE DATA

LEARNING THE DIFFERENT TYPES OF
DATA TRANSPORTATION

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Stick Shift or Powered Steering

Exploring the different Vehicles of Distribution

IDX INTERNET DATA EXCHANGE	AVM AUTOMATED VALUE MODEL	VOW VIRTUAL OFFICE WEBSITE	SYNDICATION THIRD PARTY DISTRIBUTION	BROKER FEEDS BROKER FEEDS
--------------------------------------	-------------------------------------	--------------------------------------	--	-------------------------------------

MLS ROAD TRIP

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INTERNET DATA EXCHANGE

What is IDX?

IDX (Internet Data Exchange) is how MLS listings end up on a website.

MLS ROAD TRIP

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IDX / Internet Data Exchange

The Internet Data Exchange, was implemented by organized real estate in the early 2000s to help brokers and agents display a limited amount of listings on websites.

Also known as _____, IDX encompasses the policies, rules and software that allow listings from the MLS database to be displayed publicly.

Subsequently, each MLS is required to make these limited listing details available to MLS participants unless an agent or broker has _____ of IDX.

Rules surrounding IDX vary from MLS to MLS, and policies reflect both association rules and state laws.



Internet Data Exchange (IDX)

MLS ROAD TRIP
63

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IDX / Internet Data Exchange

IDX is the preferred feed when displaying listings to _____ regardless of their relationship with an agent or broker.

IDX is ideal for websites built and operated by agents and brokers.

IDX is also commonly used in consumer-facing websites and apps.

When requesting an IDX feed, consider the _____, the _____, and the _____ to determine if an MLS's IDX feed is appropriate.



MLS ROAD TRIP
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IDX / Internet Data Exchange

IDX should not be confused with other feeds that are currently delivered to many popular syndication platforms and portals.

—

Please be aware that data, although standardized by RESO and NAR, can be disparate based on local laws and policy. For example, NAR has mandated that Sold Listings be included in all IDX feeds.

—

However, in non-disclosure states, such listing details are withheld.

Refer to this link published by the National Association of REALTORS for IDX policy:
<https://www.nar.realtor/sites/default/files/policies/2019/Internet-Data-Exchange-IDXPolicy.pdf>

MLS ROAD TRIP
65

65



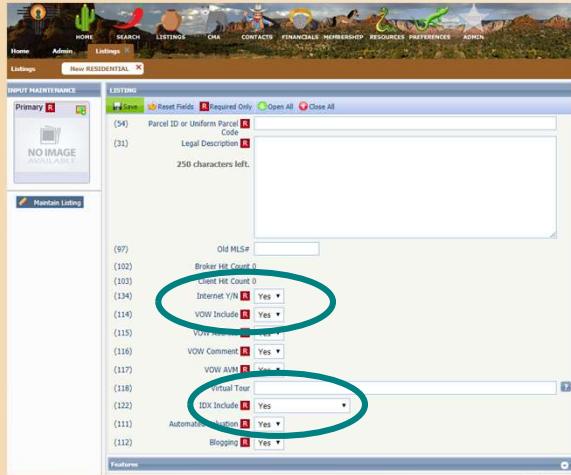
IDX / Internet Data Exchange

BROKER CLICKS “YES”

(Agrees to share all listings with other MLS brokers)

MLS ROAD TRIP
66

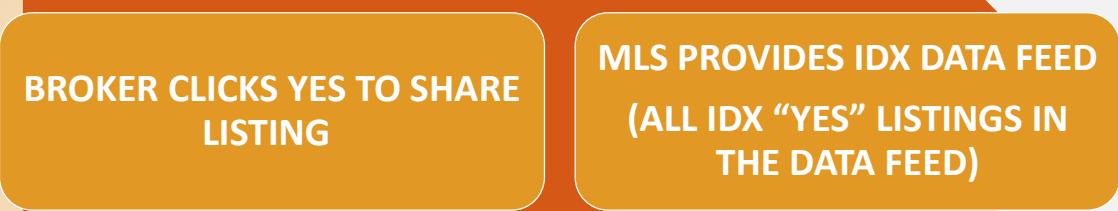
66



IDX / Internet Data Exchange

BROKER CLICKS YES TO SHARE LISTING)

67



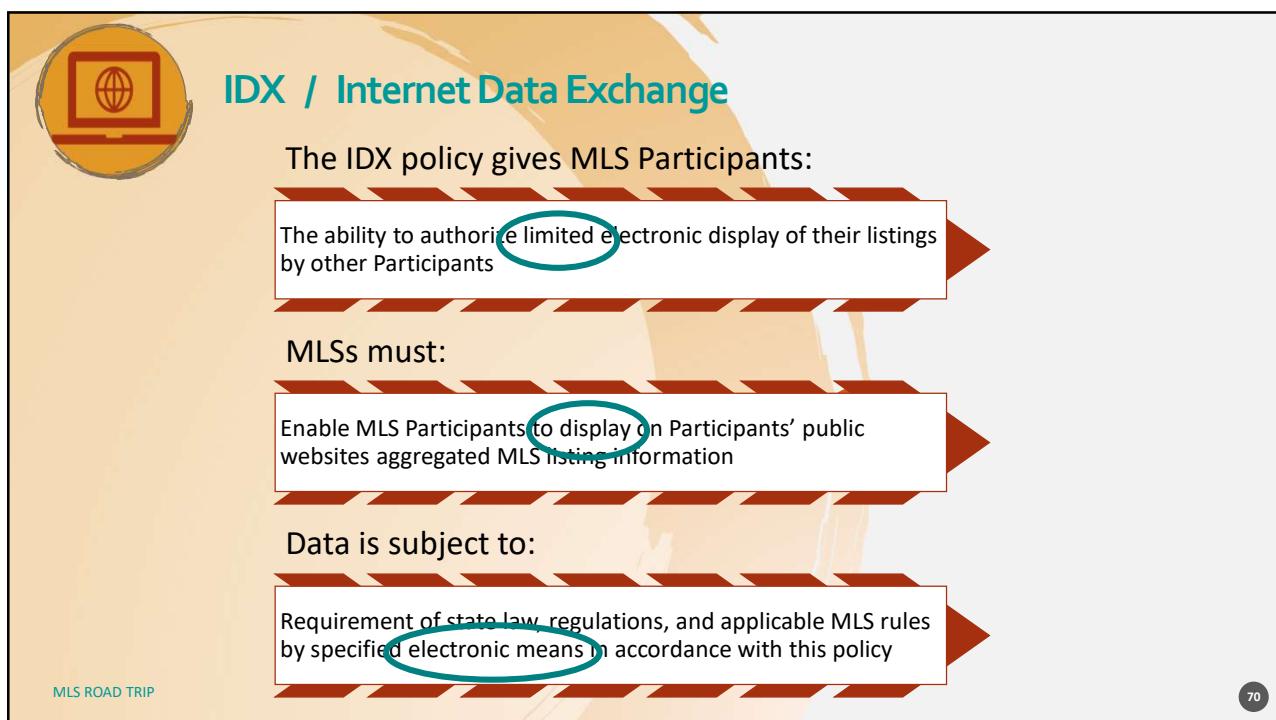
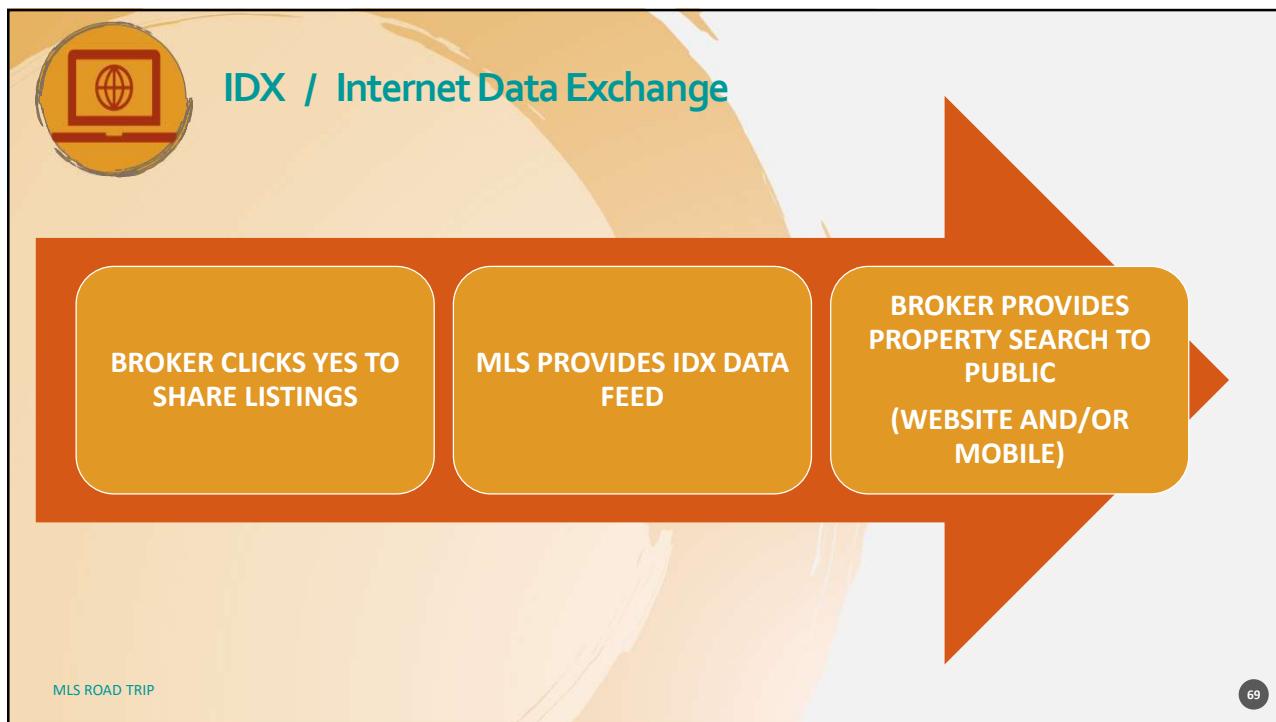
IDX / Internet Data Exchange

BROKER CLICKS YES TO SHARE LISTING

**MLS PROVIDES IDX DATA FEED
(ALL IDX “YES” LISTINGS IN THE DATA FEED)**

MLS ROAD TRIP

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IDX / Internet Data Exchange

Anytime you see properties on a website that come from an MLS, it was made possible through IDX.

Brokers today have the option to use basic home search tools provided by their MLS or build more advanced IDX solutions; usually with the help of an IDX vendor.

-
-



MLS ROAD TRIP
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IDX / Internet Data Exchange

MLSs MUST:

PROVIDE	MUST	EXCLUDE
<ul style="list-style-type: none"> • Basic downloading of all active listings • 3 yrs. of sold data • Non-confidential pending sale data or offer alternative display options including framing of MLS site 	<ul style="list-style-type: none"> • MLSs IDX download must be refreshed to accurately reflect all updates and status changes no less frequently than every twelve (12) hours 	<ul style="list-style-type: none"> • Exclude listing or property address at request of seller

MLS ROAD TRIP
72

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IDX / Internet Data Exchange

MLSs MAY:

REQUIRE	PROHIBIT	ESTABLISH
<ul style="list-style-type: none"> Participants to utilize security proportion, firewalls Various notices 	<ul style="list-style-type: none"> Display of intended for cooperating brokers Display of expired, withdrawn, or sold (unless public record) 	<ul style="list-style-type: none"> Requirements regarding display of listing office/agent Reasonable limits on amount of listing matches to inquiry Limits to rights to display IDX to Participants

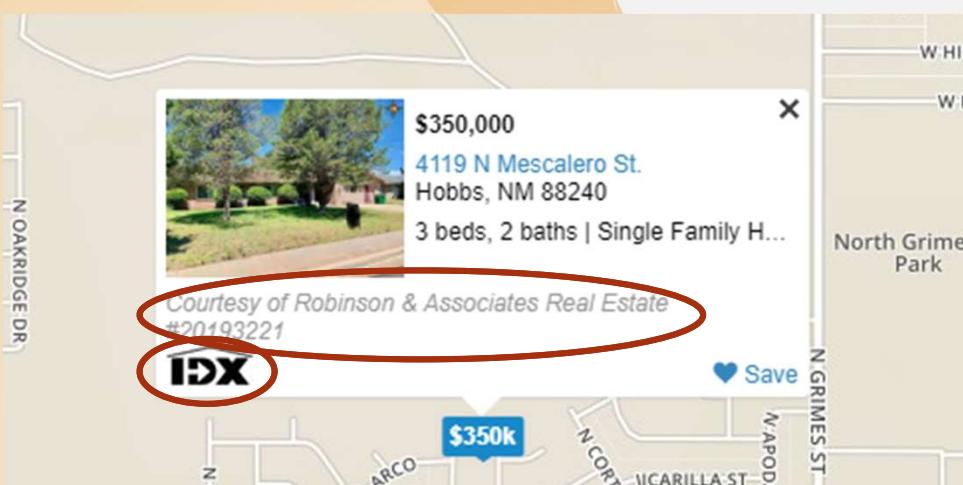
MLS ROAD TRIP

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IDX / Internet Data Exchange

COURTESY SHOUT OUT



MLS ROAD TRIP

And now you must add the contact information (of Listing Broker's choice)

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IDX / Internet Data Exchange

KEY IDX COMPONENTS:

- IDX site must be under the actual and apparent _____ of the Participant
 - Participant must have the ability to add, delete, modify and update information as required by this policy
- IDX data used for _____ only
- Opted In Out Offices and Listings

MLS ROAD TRIP 75

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AUTOMATED VALUE MODEL

What is an AVM?

AVMs are increasingly used by mortgage lenders to determine what a property might be worth for them to lend against the valuation.

MLS ROAD TRIP 76

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AVM / AUTOMATED VALUE MODEL

- An AVM or Automated Valuation Model is a tool that produces real estate values. AVMs are designed to **traditional appraisal reports** completed by professional appraisers.
- While some AVMs are used by popular websites, others are generated by internal systems used by valuation firms and financial institutions.

- AVMs can be useful tools to get a _____ but they are also controversial.
- AVM means a product that **provides automated real property valuations using mathematical modeling combined with a database.**
- AVMs are increasingly used by mortgage lenders to determine what a property might be worth for them to lend against the valuation.

MLS ROAD TRIP
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AVM / AUTOMATED VALUE MODEL

The advantages of using AVMs over traditional appraisals are that they _____ (e.g. there are no transport requirements), thus lowering the cost of valuing a property. AVMs remove the human element from the valuation process and rely on computer automation so as to remove _____.



MLS ROAD TRIP
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AVM / AUTOMTED VALUE MODEL

AVMs are particularly useful in assessing the value of a property portfolio.

Using an automated model can also be useful for valuing an individual property where the provider can deliver a suitable level of accuracy.

Many AVMs can be made and used with little cost, so more choices in valuation methodology are also possible.

It is claimed that unlike traditional appraisals, AVM outputs do not suffer from the same fraud risk although certain providers can have their systems manipulated intentionally or otherwise if property features are incorrectly entered.

Unlike a professional appraiser, an AVM valuates the property. Instead, it **assumes** that the property is similar to the other homes in the neighborhood.

AVMs use market data to estimate the value of a piece of real estate.

-


MLS ROAD TRIP
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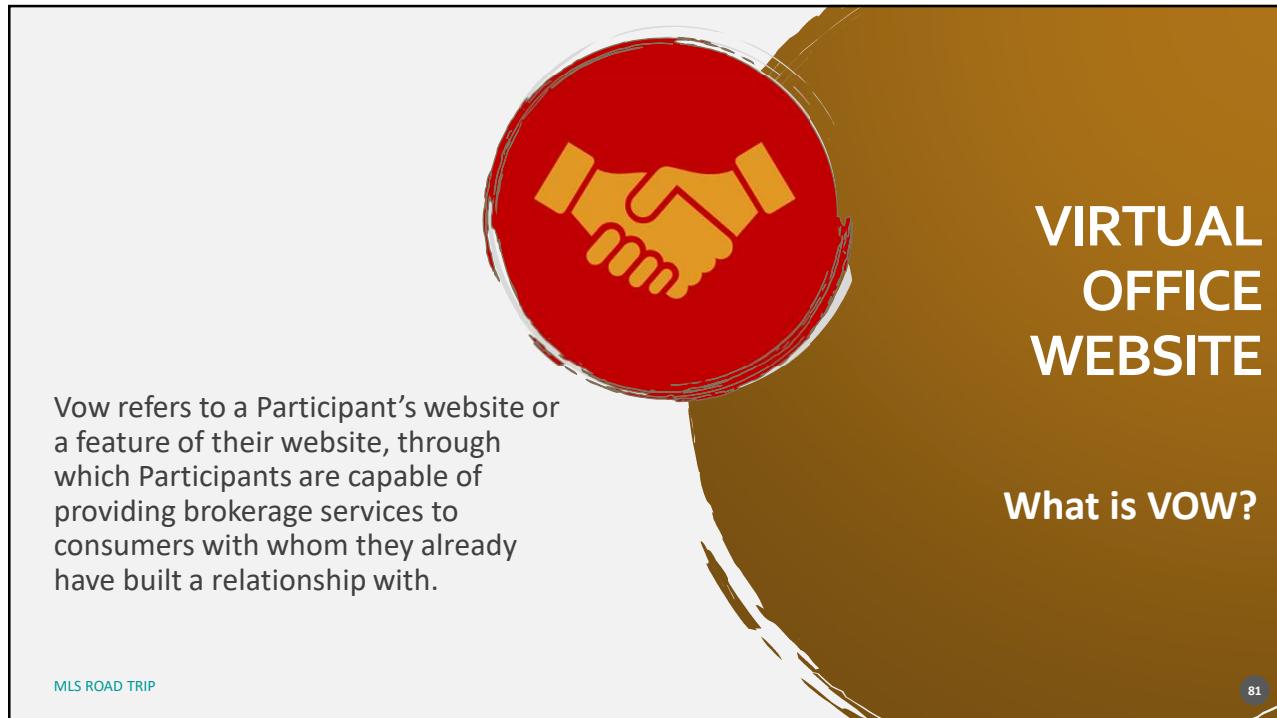


AVM / AUTOMTED VALUE MODEL

While AVM models vary in terms of both what factors they use and how they weigh them, you can usually expect an AVM to factor in a **property's tax assessed value and comparable sales in the area.**




MLS ROAD TRIP
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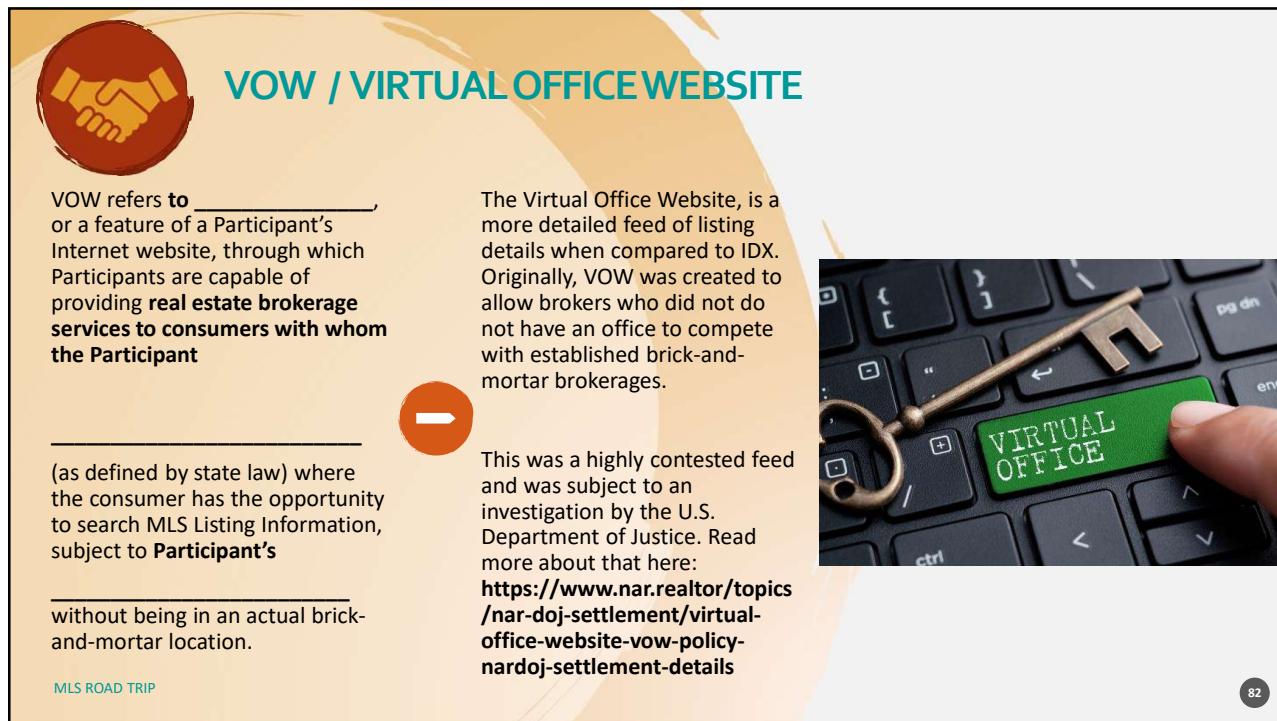
VIRTUAL OFFICE WEBSITE

What is VOW?

Vow refers to a Participant's website or a feature of their website, through which Participants are capable of providing brokerage services to consumers with whom they already have built a relationship with.

MLS ROAD TRIP

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VOW / VIRTUAL OFFICE WEBSITE

VOW refers to _____, or a feature of a Participant's Internet website, through which Participants are capable of providing **real estate brokerage services to consumers with whom the Participant**

_____ (as defined by state law) where the consumer has the opportunity to search MLS Listing Information, subject to **Participant's** _____ without being in an actual brick-and-mortar location.

The Virtual Office Website, is a more detailed feed of listing details when compared to IDX. Originally, VOW was created to allow brokers who did not have an office to compete with established brick-and-mortar brokerages.

—

This was a highly contested feed and was subject to an investigation by the U.S. Department of Justice. Read more about that here: <https://www.nar.realtor/topics/nar-doj-settlement/virtual-office-website-vow-policy-nardoj-settlement-details>

MLS ROAD TRIP

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VOW / VIRTUAL OFFICE WEBSITE

In almost every instance, the recipient of a VOW feed must be a licensed broker and MLS Participant.

Although debatable, the biggest benefit to a VOW feed is the

The inclusion of Sold Listing information has greatly decreased the advantage of obtaining a VOW feed versus an IDX feed.

BACK OFFICE: This feed is not available in all markets and is only made available to active participants of the MLS. As the name implies, this feed is to be used for in-house and back office uses.

Agreements to obtain this feed are and made directly with the MLS. Any vendor or partner accessing this data on behalf of the recipient must also enter into an agreement with the MLS. This data is very detailed, often including information not found in either VOW or IDX feeds.

Potential uses of this feed include powering customer relationship management platforms and recruiting tools for brokers.

The data, like VOW and IDX, should be delivered via a RESO-compliant API, but more often is treated like FTP with full data duplication.

Confidentiality and security should be treated with the highest priority, as back office feeds contain data not intended for consumers.

MLS ROAD TRIP
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VOW / VIRTUAL OFFICE WEBSITE



CLIENT

VOW LOGIN TO PARTICIPANT'S WEBSITE

UNLOCKED TO VIEW LISTINGS

MLS ROAD TRIP
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DRIVING FURTHER INTO VOWs

- Parity with MLS system – “virtual office”
- Client Commitment – _____
- Broker monitor requirements

MLS ROAD TRIP



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DRIVING FURTHER INTO VOWs

MLSs MUST:

- Permit Participants to operate VOWs
- Provide basic downloading of all non-confidential listing data
 - Provided directly to participant or “Affiliated VOW Partner” (AVP)
- Exclude listing or property address at request of seller

MLS ROAD TRIP

MLSs MAY:

- Require Participants to utilize security protection, firewall, etc.
- Not prohibit or regulate display of advertising or the identification of entities on VOWs (branding or co-branding), except to prohibit deceptive or misleading advertising or co-branding
- Not restrict the format of data display on a VOW or regulate the appearance of VOWs

MLSs MAY:

- Restrict data intended exclusively for other participants **IF** the same requirements apply to **ALL** other delivery mechanisms
 - Expired, withdrawn, pending, sold, compensation, etc.

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DRIVING FURTHER INTO VOWs

KEY COMPONENTS:

- Participant may provide brokerage services via a VOW only to consumers with whom the participant has first established a lawful
- Must obtain the _____ of each registrant and obtain each registrant's agreement to terms of use.
- Analogous to "sitting with a customer".

KEY COMPONENTS:

- VOW has _____ access by the public.
- VOW has a _____ broad range of data content.



MLS ROAD TRIP
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Comparing the Vehicles

The Public finds you through IDX, cross the threshold into your "Office" by way of VOW registration

IDX

- Limited data to everyone
- Broad in reach – narrow in content
- Opted out offices have their listings removed
- Must give list office attribution

VOW

- Narrow in reach – broad in content
- No opt out option for brokers
- Not required to identify list office
- Virtual version of "sitting with the MLS Book"




MLS ROAD TRIP
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IDX & VOW

WHAT IS THE DIFFERENCE BETWEEN:



CONSUMER

Someone - somewhere else in the world



CLIENT

From a signed contract/agreement you have built a relationship



CUSTOMER

Consumer on the way to being a client

THEY ENTERED INTO YOUR SPHERE AS A CONSUMER THROUGH IDX AND THEN BECAME A CLIENT THROUGH VOW

MLS ROAD TRIP

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DESTINATION DISTRIBUTION or SYNDICATION

What is DD?

Syndication is another term for Destination Distribution of a broker's inventory to one or multiple public sites

MLS ROAD TRIP

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SYNDICATION/DESTINATION DISTRIBUTION



The syndication agreement's scope determines how the broker's listings will be _____ and where the listings will be displayed by the third-party.

— Data feed is a mechanism for users to receive updated data from data sources. It is commonly used by _____ applications in point-to-point settings as well as on the World Wide Web.



MLS ROAD TRIP

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SYNDICATION/DESTINATION DISTRIBUTION



Syndicated data is information that is available for **purchase** by anyone.

Commonly used to _____ a specific audience.

It is the act of publishing the _____ on many websites and generally used to monetize data assets.

Data feed of MLS Listings

Re-packaged for delivery to website

ZILLOW

TRULIA

HOT PADS

MLS ROAD TRIP

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SYNDICATION/DESTINATION DISTRIBUTION



Syndication commonly refers to an agreement between a broker and a _____ to advertise the broker's listings on non-MLS websites.

The latter is also called web feed. News feed is a popular form of web feed. RSS feed makes dissemination of blogs easy.

Product feeds play increasingly important role in e-commerce and internet marketing, as well as news distribution, financial markets, and cybersecurity.

— Data feeds usually require _____ that include different labelled fields, such as "title" or "product".



MLS ROAD TRIP

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SYNDICATION/DESTINATION DISTRIBUTION



Data fields delivered to a third-party vendor are decided by both policy and/or individual **business decisions** enacted by brokers and/or an MLS.

Primary problems occur when vendors and MLSs do not clearly communicate data sources.

For example, miscommunication may occur if a vendor requests a data feed on behalf of a broker and is instead delivered an IDX feed.

— Effective questions and requests for clarification can ensure that an MLS accurately determines what data feed access is needed and should be granted.

— Each MLS should strive to quickly and accurately define the needs of the company or contractor requesting data.

Not understanding the nuanced differences between similar business requests can lead to poor data distribution. If you received a data request that is vague, or if you recognize that their understanding of organized real estate is limited, this document serves as a recommended resource.

MLS ROAD TRIP

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SYNDICATION/DESTINATION DISTRIBUTION

An active conversation that expands beyond the status quo will ensure that the MLS remains the primary source of listing data.

The MLS must also consider the evolution of technology and realize that lines may become blurred as new business models emerge. Do not let situations such as these result in automatic denials. Instead, encourage natural curiosity to ensure that requesting parties find the right data.

The MLS should be focused on supporting technology with free-flowing data, so the innovators do not instead supplement their products with similar but non-MLS derived data.

Tips:

- Clarify what type of party is requesting data and what their exact needs are.
- Misunderstandings arise when data requests do not properly articulate who will be using the data.
- Streamline API approvals for IDX and brokers. These are the easy requests and will free up much needed time for more complicated customers.

MLS ROAD TRIP

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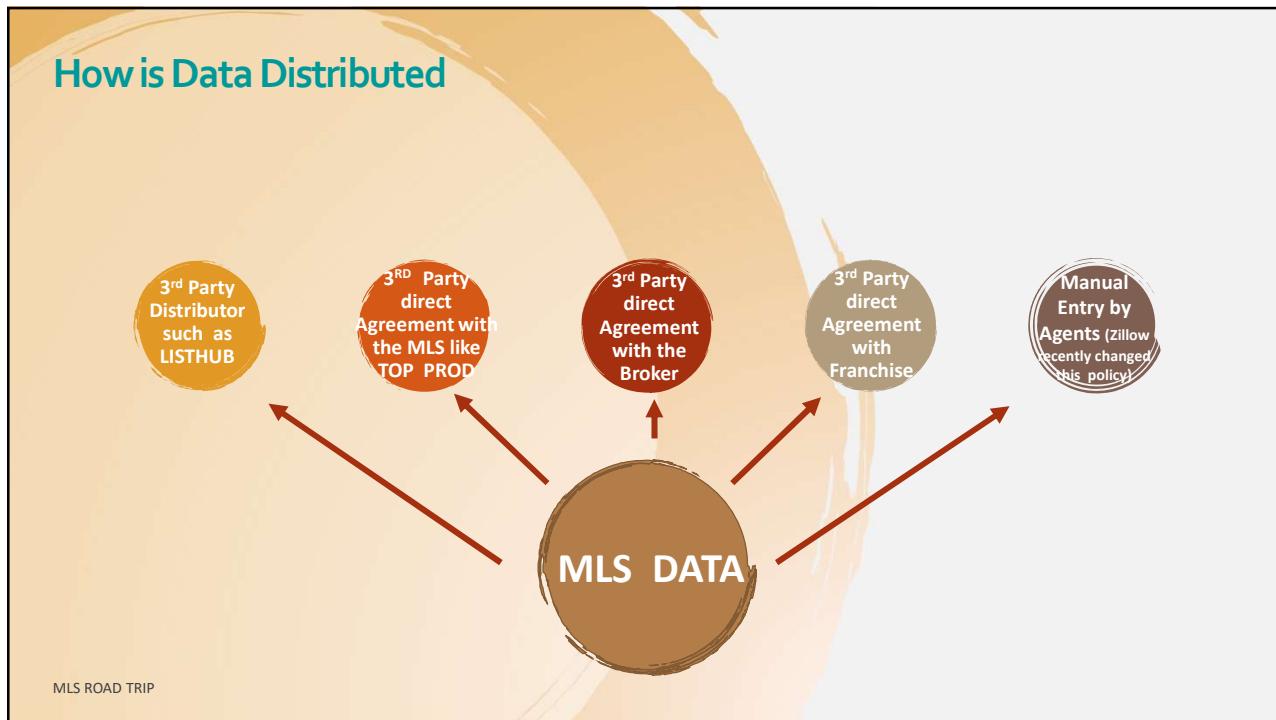
THE HUBCAP OF DATA DISTRIBUTION

Matching up all the tires

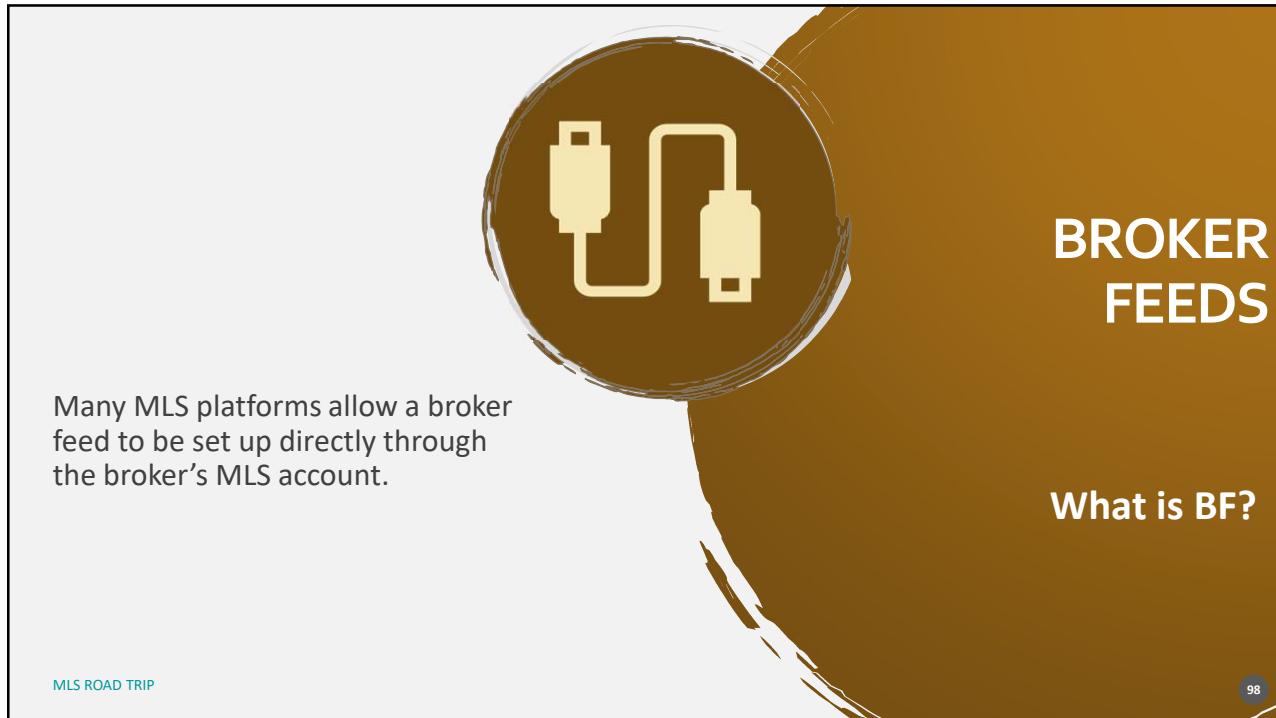


MLS ROAD TRIP

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BROKER FEEDS

Broker Feeds showcase only that _____ listings and may include all data fields or a predetermined amount of data.

—

A broker feed brings the broker's data to their specific destination but only their data.

—

A broker feed is a mechanism for Participants to receive updated data from the MLS data source of only their brokerage listing data.

There are many uses for a broker feed - most MLS's do not put any limitations or restrictions on the use of the feed.

Data feeds usually require a set amount of data that include different labelled fields. In broker feeds, additional and/or all fields may be included.

Many MLS platforms allow a broker feed to be set up directly through the broker's MLS account. Most often, these are provided by an MLS for free, and are very easy to use.



MLS ROAD TRIP
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REST STOPS

KEEPING YOUR VEHICLE CLEAN



MLS ROAD TRIP
100

Avoid potholes and speedbumps

ERRORS ACCURACY INCONSISTENCIES

HAVING A CLEAN DRIVING RECORD

WHY IT IS SO IMPORTANT

MLS ROAD TRIP

101

101

Keeping your suspension stable

ERRORS AND OMISSIONS INSURANCE

Professional Liability Insurance is also called Professional Indemnity Insurance, but most commonly known as Errors & Omissions.

E & O is a type of professional liability insurance that protects companies, their workers, and other professionals against claims of inadequate work or negligent actions.

It covers your _____ (errors) and _____ (omissions). If you're sued over a professional mistake or oversight, this policy can help you pay for legal expenses.

When someone is paying for your expertise, it's a good idea to have insurance that can cover you if you slip up.

An E & O Insurance Company likes a record that is free of claims, violations, and errors.

MLS ROAD TRIP

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WHY IS CLEAN EMISSIONS SO IMPORTANT?

You could be wrecked financially

- YOUR COULD BE SUED
- YOUR E & O INSURANCE COULD BE AT RISK



E&O REAL ESTATE PROFESSIONAL LIABILITY INSURANCE

MLS ROAD TRIP

103



ERRORS

Although MLSs have made real estate transactions much more efficient, they still have their issues.

Chief among them is _____. Remember, brokers provide the information that goes into the MLS listing.

Errors are bound to happen such as incorrect addresses, listing data, property specifications or missing pictures.

MLS ROAD TRIP

**BETTER
SAFE
THAN
SORRY**

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ERRORS

The result of these errors is misinformation and lack of good information about the property.

9 out of 10 spreadsheets contain at least 1 error.

Nobody likes surprise errors, especially your customers. Avoid careless errors.



MLS ROAD TRIP

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ACCURACY

But Officer.....

The truth, the whole truth and nothing but the truth

Generally, MLSs are the most accurate source of data.

And.....

MLS listings are considered the most _____ as far as property details on the internet or elsewhere.

This is due to _____ that are strictly enforced, even fining members who do not adhere to the structure and content rules.

It can help to keep accurate records of all transactions and interactions with clients in defense of these issues. For example, some agents keep electronic or handwritten journals that document client names, dates of interactions, and topics of conversation.



MLS ROAD TRIP

106



ACCURACY

But Officer.....

The truth, the whole truth and nothing but the truth

Nothing is more frustrating for a lead (seller or buyer) than receiving incorrect or out-of-date information. If you have errors on your site, you can expect to lose any leads that find them.

You may think, "that does not apply to me because my agents are careful."

But when you consider that your site is just one of several where your agents are posting leads, the possibility of errors becomes much more real.

How can you expect perfect accuracy when agents are posting to 5+ platforms (IDX, MLS, Zillow, Facebook, Trulia, etc.) and each has a unique format?

You cannot control errors made elsewhere, but you can control what is on your site.



MLS ROAD TRIP

107



ACCURACY

But Officer.....

The truth, the whole truth and nothing but the truth

List Price: A \$1 million listing entered without the final zero skews the average price for the entire market, as well as that specific area. Also, searches for properties within a targeted price range may not be included in search results. So, buyers and buyer agents searching for a \$1 million home will never find your listing.

Tax Id: This information is necessary to link to the tax database to locate tax, assessment and sales information and to link listings within our history database. Omitting or using an incorrect tax id number removes essential information about the property from your listing. Learn more.

Addresses: This field should include the street number, street name, street directional and unit number, when applicable. This can make a huge difference in locating a property. If the buyers and their agents cannot find the property, it will be more difficult to sell the home. USPS Addresses might vary from the address given by seller.

MLS Area: Agents often search for properties within a specific MLS area. If you enter an incorrect area, agents may not find your listing.

MLS ROAD TRIP

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ACCURACY

But Officer.....

The truth, the whole truth and nothing but the truth

Zip Codes: If you use an incorrect zip code, a buyer searching for a property within that zip code won't find your listing. Using the correct information when uploading listings will ensure accurate search results.

School District: Buyers may be looking for homes within a specific school district. When conducting a search for properties within that district, users may not get a complete list of the properties that are near the potential buyer's school of choice if this information is inaccurate. Learn how to use the School District Lookup.

Property Details: Listing a property as a four bed-room when it is in fact an existing three bed-room home with the potential to add-on a fourth bedroom is an exaggeration of the property description. In searching for a 4-bedroom property, imagine how disappointed a potential buyer may be when they discover that the home that they could easily see themselves owning doesn't suit their needs for this one reason. While the intent may be to make the property more attractive to potential buyers, doing so may have an adverse effect.

MLS ROAD TRIP

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ACCURACY

But Officer.....

The truth, the whole truth and nothing but the truth

Buyer Broker Compensation: The purpose of the MLS is to provide cooperation and extend offers of cooperative compensation to **participating brokers**, so listings marketed in an MLS must include an offer of cooperative compensation. The arrangement must be expressed as a flat dollar amount, a percentage of the gross sales price (base sales for new construction) or a combination of a flat dollar amount and a percentage of the gross sales price. The omission of this information may warrant an unnecessary call to the listing office, potentially lead to a commission dispute or your listing may be by-passed by other agents.

Status changes: Listing statuses are one of the most important factors used when searching for listings to match potential clients with properties. Listings must be updated in an MLS within 1-3 business days. Failure to accurately reflect the true status of a listing, results in wasted time, frustration and disappointment for you, your clients and the MLS community at large.

Reporting Sales: This is a crucial aspect of the listing process. Settlement information, which includes the final sales price, settlement date, financing terms, seller concessions, and selling agency information are invaluable pieces of information and should be recorded accurately and in a timely manner. This data may be used to determine market trends, median and average sales prices. It may also be used as comparables for appraisals.

MLS ROAD TRIP

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NO NOs

THIS IS NOT COOPERATION

RECORDED NAME
WHO THE HELL IS MR. CLO? PUT THE CORRECT OWNERS NAME

FLOOD ZONE
LOOK IT UP DUMMY

DUPLICATE LISTINGS
COULD BE A REMEDY FOR THIS

FULL MONTY
ENTER A PHOTO THAT ACCURATELY DEPICTS THE PROPERTY

NO LBP
FEDERAL LAW – PRIOR TO ACCEPTANCE OF OFFER

FORWARDING REMARKS
NO! THE MLS IS NOT AN ADVERTISING TOOL

MLS ROAD TRIP

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INCONSISTENCIES

Inconsistencies cannot both be true or right

Inconsistency is another shortcoming with the MLS.

Different MLSs can have overlapping information, or lacking information on a specific area that another MLS has information on.

Brokers must find their own way to work around these inconsistencies, which takes away valuable time and money that would be better spent servicing their clientele.

MLS ROAD TRIP

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ROAD RAGE

THE CONSEQUENCES OF YOUR BAD DATA

MLS ROAD TRIP

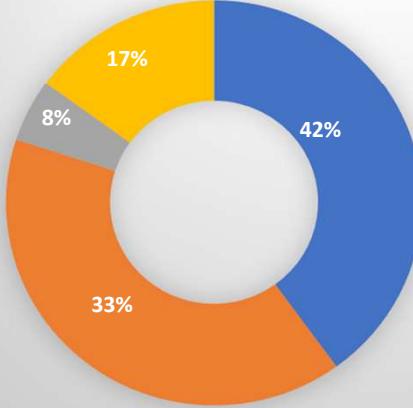
113



HOW PASSENGERS VIEW BAD DATA

People are put off by errors and inconsistencies

How website visitors react to errors and inconsistencies in spelling and grammar



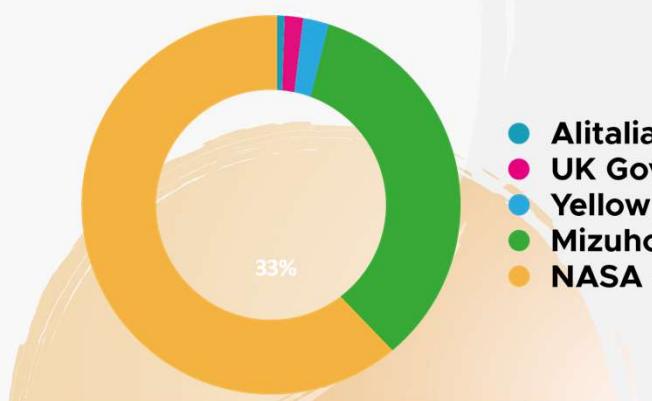
Reaction	Percentage
Form negative impression	42%
Do not fully understand	33%
Have no problem	8%
Leave your website immediately	17%

MLS ROAD TRIP



FAMOUS AND COSTLY TYPOS
It gets expensive...

Famous & Costly Typographical Errors



Organization	Cost (M)
Alitalia Airlines	\$7.2M
UK Government Agency	\$14M
Yellow Pages	\$19M
Mizuho Securities Co.	\$340M
NASA	\$620M

MLS ROAD TRIP

115

How Errors and Inaccuracies can hurt your business

%

PERCENT OF AMERICANS
SEARCH THE WEB
BEFORE MAKING
PURCHASING DECISIONS

SEC

YOU HAVE ____ SECONDS TO
MAKE AN IMPRESSION
BEFORE A USER DECIDES TO
LEAVE YOUR WEBSITE

%

PERCENT OF USERS
ARE LESS LIKELY TO
RETURN IF THEY
HAD A POOR USER
EXPERIENCE

MLS ROAD TRIP

116

WHY IS CLEAN EMISSIONS SO IMPORTANT

- Bad data enters into the internet world
- Sellers get tweaked
- Buyers sue
- Skews CMAs and Appraisals
- Frustrating to other brokers
- Frustrating to Appraisers
- Makes your MLS organization look bad



MLS ROAD TRIP

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ADDING THE DETAILS

WHAT IS DATA CONVERSION?

MLS ROAD TRIP

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DATA CONVERSION

If you're in real estate and you have a website, landing page, or Facebook page – it's nice to know how many people visit, but it's even more important to understand how many people convert. What is a good conversion rate in real estate and what are some easy steps you can take today to improve?

FIRST – WHAT ARE WE TALKING ABOUT?

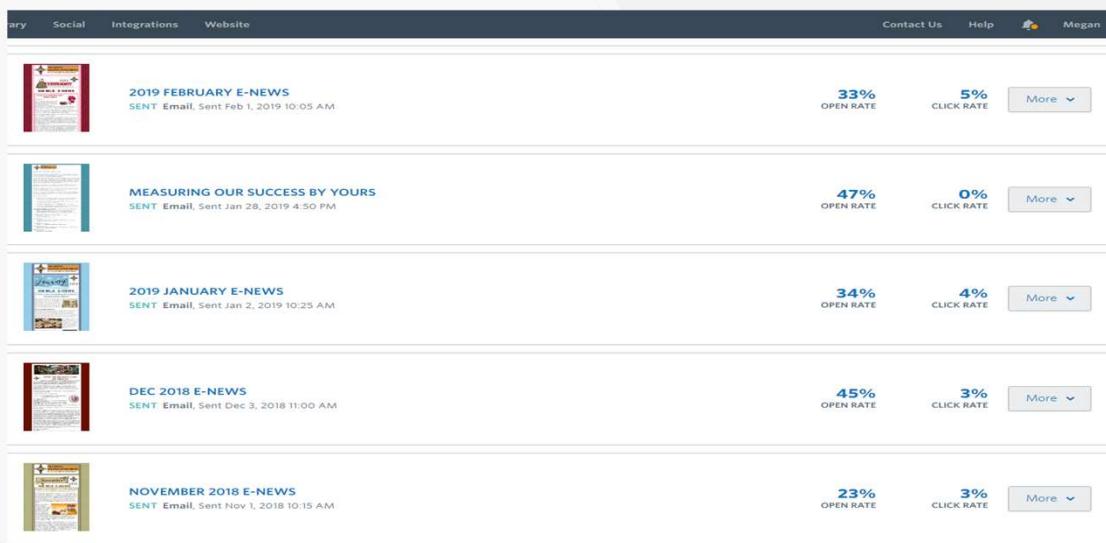
What are we talking about when we talk about digital conversion rates? We are looking at the total number of visitors who **complete a lead generation form divided by the total number of visitors to a page or website**. Essentially, these visitors are going beyond just viewing your page. By releasing their contact information, they become a lead for your agents.

The average conversion rate across industries is _____ according to WordStream. Inside Real Estate claims that number is closer to _____ for real estate. That means if 100 people visit your landing page, 1 person will leave their contact information.

MLS ROAD TRIP

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DATA CONVERSION



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DATA CONVERSION

THE ASSEMBLY LINE

Correct data conversion should ensure the following:

MLS ROAD TRIP

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DATA CONVERSION

WHAT ARE SOME WAYS TO IMPROVE CONVERSION RATES?

1. Rethink your offer or call to action - Many real estate websites or landing pages have the same call to action, something along the lines of “Speak to an Agent Today” or “View this Property.” Get more creative: “Take a tour of the neighborhood” or “download a complete report on this property.” Test out different offers and see if you get a better response.

MLS ROAD TRIP

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DATA CONVERSION

WHAT ARE SOME WAYS TO IMPROVE CONVERSION RATES?

2. Make sure your page is loading quickly - _____ of visitors will abandon your site if it takes more than _____ seconds to load. The more videos, information, graphs, and photos you have on a site, the slower it will load. If the site doesn't load within three seconds, see what changes you can make to speed things up. Your conversion rates will improve as a result.

3. Add testimonials - In the age of recommendations and social media, many visitors live and die by testimonials. How can you incorporate testimonials about your agency, agent, or even the home itself in your pages? This immediately builds trust and leads to higher conversion rates.

MLS ROAD TRIP

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DATA CONVERSION

WHAT ARE SOME WAYS TO IMPROVE CONVERSION RATES?

4. Minimize your fields

The more questions you ask, the more people will drop off. So review every question you ask a lead and make sure it's necessary to your sales process. If you're asking them to fill out 15 fields of information, your conversion rate will plummet. If you're looking to identify more of the visitors coming to your site or page, consider limiting the number of required fields in your lead form.

5. Take another look at your buttons

The buttons on your call to action should be eye-catching and appealing. If they are blending into the rest of your page, people might miss them. Your call to action buttons essentially announce what you want your visitors to do, so make sure they are clear. Many of the clients of our engagement system, for example, use graphics or widgets as part of the button to pull in more contacts.

MLS ROAD TRIP

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DATA CONVERSION

The present-day challenges to ensuring a smooth and successful data conversion include the following:

- Challenges of migration of data from legacy systems and replacements to new systems as well as system consolidations: this process is associated with high failure because of the size, breadth, and complexity of the projects.
- Complexity of data: the merging of structured and unstructured data creates new difficulties. This renders it more difficult to convert such data into a particular format.
- Project timelines: this creates challenges in completing the task.
- Effect on the quality and accessibility of the data: challenges persist in ensuring that the quality and accessibility remains unchanged following the conversion.

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DATA CONVERSION

THE ASSEMBLY LINE

DATA CONVERSION & CONSOLIDATION

Large-scale technology conversion and modernization efforts go hand-in-hand in accordance with changes in business thinking and developments on the information and technology front.

One major consequence of this is that information systems regularly undergo changes including mergers, migration, and installation of new databases, accompanied by changes in the data comprising that database.

IMPORTANCE OF DATA CONVERSION

Data conversion is a critical process in the migration of information from existing databases to new ones

Efficient data conversion is vital to ensure that quality and viability of the data is retained

It is critical data does not suffer from the frequent changes of information systems

DATA CONVERSION STRATEGIES

Strategies of Successful Data Conversion

- Proper Planning
- Ensure Business Engagement
- Implement Data Standards
- Data Profiling
- Data Cleansing
- Data Management
- Data Governance

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