

CANVAS™

Computer Assisted Neighborhood Value Abstraction System

CANVAS™ RESTRICTED USE APPRAISAL REPORT
Computer Assisted Neighborhood Value Abstraction System

The purpose of this analysis and report is to provide the client with a professional and unbiased opinion of best pricing and most likely selling price based on computational analysis of neighborhood characteristics.

File No. 123456
Case No: 654321

Address: 10146 E. Rainbow Meadow Drive	City: Tucson	State: AZ	Zip Code: 85747
County: Pima	Assessor's Parcel ID: 141-15-1090		
Borrower: Brown	Owner: Smith		
Client: First American Lending	Client Address: 4321 W. Speedway Boulevard, Phoenix, AZ 85015		
Intended User: Client as named	Intended Use: Pre-Mortgage Qualification		

PRIMARY CHARACTERISTICS

Characteristics	
Census:	0040.60
Subdivision:	Sunrise Meadow At RR
School Dist:	Vail
Site Area:	7,280 SqFt
Year Built:	1999
GLA:	1,411
Bedrooms:	3
Baths:	2.00
Basement:	0 SqFt
Fireplaces:	FP1
Pool:	No
Spa:	No
Garage:	2
Carport:	0
Amenities:	1
Sale and Listing History	
Currently Listed?	Yes Price \$ 169,000
Agent:	Anne Crooks
Agent Phone:	520-918-4800
Last Sale Date:	
Last Sale Price:	\$ 0
Under Contract?	No Price \$ 0

Comments on Subject Characteristics (including Data Sources, assumptions, etc.): Information regarding the subject characteristics were obtained from public records and MLS and are assumed to be accurate. Should there be any substantial errors in accuracy, this may have a significant impact on the analysis and conclusions contained here.

v.1 Build 72

developed by

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CHAPTER ONE

What is CANVAS?

CANVAS assists a valuation professional by quickly performing the tedious math and reporting functions, allowing the professional to concentrate on analysis and interpretation of the data.

The professional gathers a large set of data relevant to the subject's market neighborhood, then allows CANVAS to quickly and efficiently sort the data, gather statistical information, and perform regression on key quantitative items. Additionally, CANVAS can rank sales and listings as to their raw similarity to the subject taking into consideration many characteristics.

The professional is provided charts, summaries, and detailed metrics allowing him or her to make informed and more accurate conclusions about the market and market conditions. This is little different from what such a professional normally does, but the CANVAS system allows them to do it with a speed and accuracy far greater than he or she could do previously. What used to take several hours can now be done in seconds.

The regression performed determines the contributory values of various component items, such as Living Area, Garage Spaces, etc., and not only derives a concluded value for the subject when applying those values to the subject's characteristics, but also utilizes those component values as adjustments against the highest ranked sales and listings in the subject's market, providing two additional values.

The professional is running the ship with CANVAS. He or she can identify and eliminate anomalies, fine tune the importance of components upon the ranking, and make minor adjustments to the conclusions of the regression analysis using their knowledge of the market. The regression is run using Open Standard multiple linear regression "Least Squares Fit" routine that has been around for over a century and is an acceptable method of calculation. Nothing is "Black-Box" or proprietary, and the conclusion can be easily tested and verified by third-party software. You get the best of both worlds with CANVAS: real scientific analysis and the proper interpretation of the data by a qualified professional.

CANVAS is a distinct approach to valuation, just as the Cost, Income, and Market Analysis are all different approaches to value.

Can CANVAS be used on ANY Residential Property?

No. There may be many assignments for which the CANVAS approach may not be suitable. For example, a rural home, a highly custom home in a unique market, a market where there is a limited amount of sales and listings data are all examples of properties where it may not be appropriate to apply the Regression and Abstraction approach to valuation.

CANVAS requires a good set of data, including a viable amount of sales which would share similar market and are roughly similar in their "qualitative" characteristics. Generally speaking, you want at least 72 sales, at least 20% of which in the past 12 months. While it is not necessary for these properties to share the same PHYSICAL characteristics, they should share the same neighborhood influences as well as have roughly similar qualitative characteristics, such as school district, quality of construction, market appeal, condition, etc..

Can CANVAS be used with ANY Multiple Listing System?

No. Your MLS or other data source must be able to provide data for many key qualitative items. Some MLS systems do not have sufficient data available for export. If you have an additional data source, such as Win2Data

which may have the information which is missing in your MLS, then you can first import from your MLS and then supplement the data with the Win2Data information, which will fill in blank or "0" valued fields from the MLS. However, if you do not have a single or multiple data sources which contain the minimum required fields are not available, you will not be able to use CANVAS.

What is Regression?

The general purpose of multiple regression (the term was first used by Pearson, 1908) is to learn more about the relationship between several independent or predictor variables and a dependent or criterion variable. For example, a real estate professional might record for each listing the size of the house (in square feet), the number of bedrooms, the average income in the respective neighborhood according to census data, and a subjective rating of appeal of the house. Once this information has been compiled for various houses it would be interesting to see whether and how these measures relate to the price for which a house is sold. For example, one might learn that the number of bedrooms is a better predictor of the price for which a house sells in a particular neighborhood than how "pretty" the house is (subjective rating). One may also detect "outliers," that is houses that should really sell for more or less, given their location and characteristics.

In statistics, a regression analysis includes a variety of techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variable (a known result) and one or more independent variables (generally, the items which influence the value of the dependent variable). More specifically, regression analysis helps us understand how the typical value of the dependent variable changes when any one of the independent variables is varied, while the other independent variables are held fixed. Most commonly, regression analysis estimates the conditional expectation of the dependent variable given the independent variables — that is, the average value of the dependent variable when the independent variables are held fixed. Less commonly, the focus is on a quantile, or other location parameter of the conditional distribution of the dependent variable given the independent variables. In all cases, the estimation target is a function of the independent variables called the regression function. In regression analysis, it is also of interest to characterize the variation of the dependent variable around the regression function, which can be described by a probability distribution.

In Real Estate Analysis, the regression analysis can be used by taking the sales prices (the dependent variable) of a multitude of sales, and give consideration of the independent variables (the characteristics of the sales that influence value) to assist in determining the most likely value of those independent variables.

A large body of techniques for carrying out regression analysis has been developed. Familiar methods such as linear regression and ordinary least squares regression are parametric, in that the regression function is defined in terms of a finite number of unknown parameters that are estimated from the data. Nonparametric regression refers to techniques that allow the regression function to lie in a specified set of functions, which may be infinite-dimensional. The latter type is truly what is referred to modeling, and involves complex assignments and conversions of data and sometime numerous ancillary functions.

The performance of regression analysis methods in practice depends on the form of the data-generating process, and how it relates to the regression approach being used. Since the true form of the data-generating process is not known, regression analysis depends to some extent on making assumptions about this process. These assumptions are sometimes (but not always) testable if a large amount of data is available. Regression models for prediction are often useful even when the assumptions are moderately violated, although they may not perform optimally. However, in many applications, especially with small effect or questions of causality based on observed data, regression methods give misleading results.

History of Regression

The earliest form of regression was the method of least squares, which was published by Legendre in 1805, and by Gauss in 1809. Legendre and Gauss both applied the method to the problem of determining, from astronomical

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observations, the orbits of bodies about the Sun. Gauss published a further development of the theory of least squares in 1821, including a version of the Gauss-Markov theorem.

The term "regression" was coined by Francis Galton in the nineteenth century to describe a biological phenomenon. The phenomenon was that the heights of descendants of tall ancestors tend to regress down towards a normal average (a phenomenon also known as regression toward the mean).

CANVAS uses the a variant of the Least Squares Fit method based on multiple independent variables, commonly referred to as "Multiple Linear regression."

Is Regression an appropriate method of Valuation?

Yes! When the available data is statistically relevant, regression can provide incredibly accurate results. Regression is used in the valuation of many commodities, including real property, throughout the world.

Regression is used not only as an approach to value, similar to a Cost, Income or Market Analysis, but is also used to ASSIST in other valuation methods. For example, a "paired sales analysis" is an example of a regression analysis. It is often used to determine the values of various component items to use as adjustments in a Market Analysis.

In the case of CANVAS, we use regression to determine what values should be applied to certain characteristics in order to arrive at an accurate conclusion. These values may or may not be the actual value of the independent variables (such as fireplaces or GLA), but, through the application of regression, it has been determined that by applying such values to the characteristics of the observed, known sales, one is most likely to arrive at the sale prices of the known sales and, therefore, by abstraction, if one were to apply such values to the characteristics of the subject or use such values as adjustments, one is most likely to arrive at a reasonable sale price. Essentially, while CANVAS does provide a value as indicated by the regression analysis itself, which would be a clear Standard 6 of USPAP type of analysis, CANVAS uses these determined values in a Sales and Listings analysis, which, of course, should be given great weight if not at least equal weight to the value as determined by the regression analysis itself.

What are the Limitations of Regression?

As stated earlier, regression requires a good sample of data, called observations. Each observation has a dependent variable, such as the sale price, and independent variables, such as GLA, fireplaces, site area, etc. For regression to be most accurate, ALL the variables which affect the dependent variable (the sale price) must be included. In addition, regression also works best when all the variables are of the same type. For example, GLA is expressed as a number, but pool may be a yes or no (a 1 or a 0).

What many high-end CAMA models used by Assessors throughout the country do is equate everything to cost new. For example, instead of saying pool yes or no, they enter the average cost of a pool new, and instead of GLA, they enter the cost new per sqft times the GLA. By doing so, they equalize all the variables to be expressed in the same terms and, thus, the results tell them the VALUE of the individual items (irrespective of cost). Of course, some of these models cost them millions of dollars and are very detailed.

Another thing that can affect the results of regression, particularly in real estate, are the "qualitative" items, such as condition, finishes, quality of construction, school district, etc. While some regression systems may ask you to rate these on a scale of some sort for each observation, *doing so arbitrarily skews the regression and is exceptionally poor standard of practice*. It is best to try and find observations that have such qualitative items in common.

It should be noted that variance in the quantitative items is a GOOD thing. For example, you would not want to use only 3-bedroom sales because your subject is 3-bedroom: if you run such through regression, because all the

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bedroom counts are the same, it cannot tell you what the value for a bedroom is and will skew the values of all the other variables.

As Legendre noted in his 1820 published attack on Gauss, due to the priority of independent variables, particularly unknown or unquantifiable variables, the results of regression can indicate two different things. Firstly, if all the "qualitative" items are roughly equal and all major quantitative items are available, the results of the regression analysis may be very close to their ACTUAL values. In other words, the value indicated for a fireplace is likely to be the ACTUAL value of a fireplace in the market. On the other hand, if there is a wide variance in the unaccounted for qualitative variables, the best the regression can indicate for the variables such as fireplace are "what numbers when applied to these variables most often correlates to a calculation that matches or comes close to the sale price of that observation." In other words, the value indicated for fireplace may not be the actual VALUE of a fireplace in the market, but, when used as the multiplier, is more likely to come close to the sale price when testing the values.

Sometimes, you may have a regression analysis with very low deviation, very high covariance of value, and yet the values indicated for some variables (such as patio or fireplace) may be something ridiculous like "-\$125,000." In such a case, this tells you that there are other variables, most likely qualitative items, which have significant contribution to value and, as such, the best the regression can tell you is an appropriate number to apply to a variable and NOT it's actual value.

For regression to be completely accurate, certain assumptions must be met:

- The sample must be representative of the population for the inference prediction.
- The error is assumed to be a random variable with a mean of zero conditional on the explanatory variables.
- The variables are error-free. If this is not so, modeling may be done using errors-in-variables modeling techniques.
- The predictors must be linearly independent, i.e. it must not be possible to express any predictor as a linear combination of the others.
- The errors are uncorrelated, that is, the variance-covariance matrix of the errors is diagonal following close to a 45-degree and each non-zero element is the variance of the error.
- The variance of the error is constant across observations.
- All independent variables which influence the dependent variable must either be included in the analysis OR should be of equal value throughout the observations.

This can, however, produce some problems with the applicability of regression in many situations, including real estate valuation, where there are non-quantile items or unknown variables which may also affect the value of the dependent (known) variable. Also, available data can vary from property to property since these were not "inspected" specifically for the purpose of the regression.

For example, one may analyze data which clearly illustrates that fires with the most property damage also had the most fire-fighters assigned. Regression might conclude, therefore, that the more fire-fighters you send to a fire, the more property damage there will be. This is, of course, absurd, but I think you can understand.

In Real Estate, there are many known quantity items as well as unknown items which influence property values on a daily basis. Did that buyer simply buy the house because they were tired of looking and all houses were basically the same in their opinion? Did that particular buyer just love the purple walls in the bedroom? Were they looking to be in a particular school district? Did the buyer just happen to be a mechanic and was willing to pay the extra for the oil pit while all the other buyers said "no way." All the time, you can see two nearly identical properties sell for different prices. Every minute, every buyer, every seller, the way the wind blows, all have an impact on value of real estate, especially residential real estate, and these items cannot be quantified to put into a regression model.

Sure, some systems will tell you to rank a subdivision or a quality factor on a scale, but unless that scale is directly proportionate to the actual value contribution, it is meaningless and will only skew the results.

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Some people like to derive a value by the "price/SqFt" method. This is a meaningful as buying your car by the pound. If price per square-foot meant anything, than every property would sell for exactly the same price per square foot, yet we see at the time that the range in a neighborhood is enough to create a massive range in values. With regression, it is more like taking the average of ALL quantifiable items and applying all those variables. As such, it becomes much more reliable.

Regression is also what would typically be done in a "paired sales analysis," only in the case of CANVAS, it is run across several variables and across a multitude of sales, and done in a matter of seconds.

However, there are many cases where regression is simply not feasible. You need to have enough observations, or sales, that are impacted by similar influences (meaning your data is all impacted by the same things, such as GLA, site area, bedrooms, baths, etc., and do not have a large quantity of sales which are heavily influenced by quality items such as design, school district, etc.). You need to have variance, meaning you can't have all 3-bedroom, 2-bath homes, since it will not be able to calculate the values of variables if every observed data point has the same value. You need to be able to understand how to identify and eliminate anomalies. Most importantly, you need reliable and robust data.

Sometimes, and commonly in rural areas, these criteria cannot be met. But if you can meet these and have good data, most often the quality items that impact values will be inherent and contained within the values of the quantity items.

What will I need to get started and use the program?

You need to download, install, and register the program. You will also need to be familiar with the concepts of regression and being able to explain what you observe when looking at the results. Finally, you should be proficient in working with your MLS system and exporting data.

The registration process requires you setup your user account at the same time. This means you need to tell the program where to find your signature and password. Your signature and password NEVER leave your computer. This is NOT used in the registration process, but ONLY for setting up your user profile on your computer. Your signature is necessary because when you choose to sign a report, it needs to have a digital signature. Your password is REQUIRED, MAY NOT BE BLANK, AND IS REQUIRED TO SIGN REPORTS. Unless you give someone else access to you computer and your password, no one else will ever have access to it. Unlike some other programs, we want to be SURE it is you when signing a report and require the password every time, no exception.

Once you complete the registration form, you will receive via email the Registration Key. It will be sent to the email you provided on the registration form.

Are there any fees to use the CANVAS Program?

No. If you receive an order from one of Karma Technologies' resellers, there is no fee for use of the program.

If you start an order on your own, for example, to provide a "Comp Check" for a client, you still do not have to pay any fee; however, you will not be able to print or create a PDF of the report and the most you can do is deliver a USPAP compliant restricted valuation report which is sent via an Internet link in an email to the client you named in the report. If the client chooses to upgrade the report to a full CANVAS report, they will be given the ability to PAY for the report and, thus, YOU get paid. In essence, you can use this program for comp checks for your own clients, but cannot deliver a CANVAS report. Your client will receive an email with a link to a web page which gives them summary appraisal information in restricted format. They can accept that and move on, or upgrade it and PAY YOU for the report. However, there may be additional OPTIONAL service added to CANVAS, such as the ability to obtain public records information automatically, for which you MAY be charged. Such services will be optional and may incur a fee.

CHAPTER TWO

Get Familiar with your MLS

CANVAS relies on you obtaining information from your local MLS system. You need to be familiar with how to search, navigate, and export data, and save export formats from your MLS. Because there are literally thousands of MLS systems and services out there, we at Karma Technologies, LLC, cannot possibly know how to work with each one. We cannot assist you in learning how to search for properties or export data. This is your responsibility if you want to be a Certified CANVAS appraiser.

Learn How to Export Data and what options are available for exporting data

As stated above, you must know how to export data from your MLS. Most MLS systems have robust default export formats, but many more require you to build your own export format. Basically, an export format is a list of fields from the MLS system which you want exported for each record saved in a file where the data is separated by some delimiter, such as a Comma or a Tab (CANVAS prefers TAB delimited fields as most MLS systems mishandle Comma-separated values).

You will need to export a pretty robust set of data. If possible, just export ALL data fields and let CANVAS help you choose the fields you want or do not want.

We may, at an additional charge, assist you in setting up your MLS export and do some basic training. However, this will also require that we have access to your MLS system which you may have to provide. This can be done through a "web-connect" type meeting in which we never actually have access but it is done while we are logged into your computer and can see your MLS at the same time your do so that we can assist. As of June 1, 2010, this fee is \$100, but may be waived under certain circumstances. Also, any additional changes to exporting or mapping of data may incur additional fees.

Required and/or Desired Fields needed

See Appendix "A" for a complete list of fields, but, keep in mind the following...

MLS Number	GLA/GBA	Spa (Y/N)	Listing Status
Street Address	Site Area	Fireplaces (count)	List Date
City	Bedrooms	# of Patio/Deck/Balcony	List Price
State	Bath Count (2.5, NOT 3)	REO/Distress (Y/N)	Original List Price
Zip Code	Garage Spaces	Assessor's Parcel ID	Sale Price
County	Carpport Spaces	Year Built or Age	Sale Date
Basement (Area or Y/N)	Pool (Y/N)	Seller Concessions	Days on Market

Formats for Exporting Data

Common formats for exporting data are Comma-Separated (CSV) and Tab-separated values. CANVAS can handle really ANY delimiter for text file exports and can also handle dBase database exports (dbf). **THE PREFERRED FORMAT IS TAB DELIMITED.** While many MLS systems export to CSV, if the realtor who entered the record entered a single quotation mark in a comment or pressed the "ENTER" key while entering a value, CSV files do not always export properly. CANVAS has built-in functions to assist in correcting such issues, but this cannot be guaranteed. If at all possible, select Tab-delimited as the export file type.

CHAPTER THREE

Opening a report from an Order received via email

If you received an order from one of our resellers, it will be sent as an attachment to your email.

If the attached file has the extension ".xmc," then you can open it up directly from within your email application by either double-clicking on the attachment or right-clicking and selecting "open." This will automatically launch the CANVAS program and load the attached file. If you ONLY have the option to save the attachment, save it to your local hard drive, remember where you saved it, and open it from within the CANVAS program.

If the attached file has the extension ".doc," DO NOT OPEN IT IN WORD!!! Save the file on your computer and open it from within CANVAS.

To open an order saved on your hard drive, launch CANVAS if it is not already running, then either click the "Open File" button on the toolbar or select "File>Open" from the menu. When the "Open File" dialog appears, change the "Files of Type" to "CANVAS Order" and then navigate to the location where you saved the CANVAS Order File.

Starting a Report from Scratch

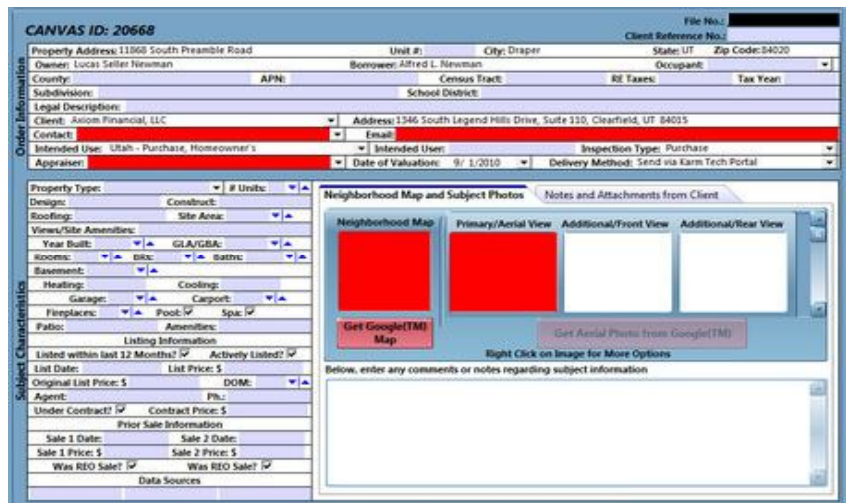
To start a new CANVAS report file, either click the "New File" button on the toolbar or select "File>New" from the menu.

Reports that you start from scratch (e.g. that were not started by opening an order received from one of our resellers) have one limited ability: you cannot print or create a PDF of the report. Instead, an email will be sent to the Contact Email you set on the Subject Information screen. This email will contain an Internet Link to a web page which has very cursory information about your report. They can choose to use the information as provided or upgrade it to a CANVAS Report, which requires that they PAY YOU through the Karma Technologies payment portal. In essence, you give them a very summary restricted report and if they want to upgrade, they PAY for it through our system. You will be notified of the payment and sent your fee.

The Subject Information Screen

This screen is the primary screen you encounter. Fields in RED are required fields, including the Neighborhood Map and the "Primary/Aerial Photograph" of the subject. In general, the other required fields necessary before you move on are the File Number, subject's address fields, including City, State, and Zip, Client name and address, Contact name and address, Intended Use, and Appraiser Name.

Although there are fields for subject characteristics, these items can be filled in later and are not required for you to move on to other portions of the program. For example, you may have a data source you want to import that has the subject characteristics. So, if the information is handily available, go ahead and fill this in; otherwise, you can see



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if it imports from your data source.

As stated, the Neighborhood Map and the Primary Photo of the subject (which can be the Google Aerial photo) are also required before you can move on.

To get the Google Map, simply click the "Get Google Map" button. This will launch a map window and attempt to locate the subject, which will be marked by a RED house icon. If you need to reposition the location of the subject, simply put your mouse over the house icon, HOLD the left mouse button, and DRAG it to it's proper location. In many more modernized and digitized communities, the geo-coding and location is accurate to the center of the parcel.

You can also draw a polygon to define the boundaries of your neighborhood if you wish. To do this, set the map in "Draw Polygon" mode by clicking the "Draw Polygon" button. Whenever this button is in the DOWN position, wherever you click on the map a new POINT will be added to the polygon. If you make an error, you can close the map and retry getting the map OR, if you see a "Clear Polygon" button on the map window, you can either clear the entire polygon and try again OR move your mouse over a point and DRAG it to it's correct location.

When you are satisfied with your neighborhood map, click the "Save Map" button. This will close the window and you will now see a thumbnail of the map on the Subject Information screen.

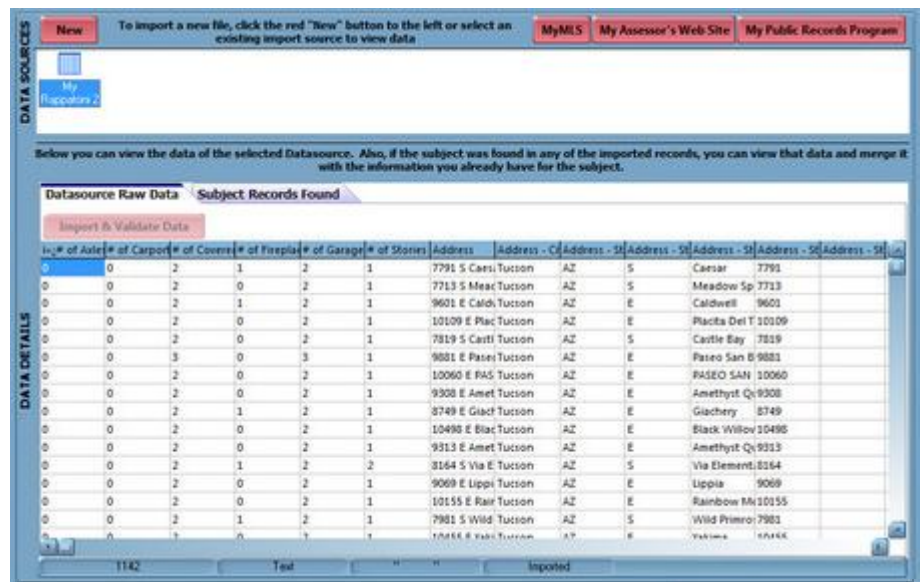
Once you have obtained a neighborhood map and geo-coded the subject property, you can then obtain an aerial photograph courtesy of Google. Again, clicking the "Get Google Aerial Image" button will launch a small picture window with a Google aerial image centered on the coordinates of the subject as set on the neighborhood map. Again, you can drag this to modify its location and also pan the window. You cannot reset the scale of the aerial image. Once you have completed all the required information, the "Data Sources" button will automatically enable itself and allow you to click it.

If this was an order you opened, you should be taken immediately to the Data Sources screen. If this is in order tour started on your own, the CANVAS program will attempt to obtain a unique CANVAS ID identifying this report which will be used later to notify your client. **YOU MAY NOT USE THE SAME CANVAS ID FOR OTHER PROPERTY ADDRESSES.** While we do provide some leeway for address corrections and report re-submissions, if Karma Technologies finds the same CANVAS ID being used repeatedly such as in a template, not only will these be undeliverable to the client at all, but we may disable your use of the program outside of using it strictly for orders received from our resellers.

The Data Sources screen

The Data Sources screen maintains all the data sources you import into the workfile. You can add multiple sources of data of the same or different types. For example, you can include MLS and Public Record data if you wish.

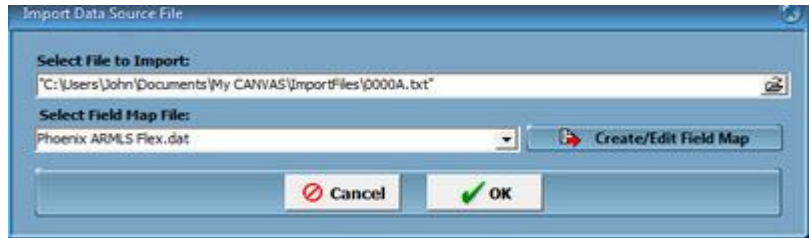
This window will show you the data in it raw format before importing. This is NOT the data that is used to perform all the calculations and metrics, but is all the individual files BEFORE they are imported into the "Working Database" from which



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such are made. These sources are also saved in their raw format as part of your workfile for your safety, security, and for USPAP compliant record keeping.

To add a data source, simply click the "New" button. This will launch a new window from which you select the file you want to import and the Field Map file which describes how to read and map the columns from the data source into the working database. Simply click the folder icon in the "Select File to Import" area and it will open a standard "Open File" dialog. Find the file you want to import and select it. Then, if not already selected, choose the Field Map File you want to use.



Initially, you may not have a Field Map File and it may read "[NEW]" in which case you must create a new Field Map File. *This is covered in the next chapter.* For now, we will assume you already have a field map file for the data you want to import.

Once you click the "OK" button, the data source will be added as an icon to the Data Sources window and the grid on the screen will load the raw data. Since the data has not been imported, you will be asked if you want to Import and Validate the data. This is essentially asking if you want to import the data from this data source into the "Working Database." You must have SOME data in the Working Database for the program to proceed. You can select "OK" to go ahead and import the data, or "No" and do so by clicking the "Import and Validate Data" button later. Anytime you see this button enabled when you click a data source icon, it means that data has NOT been imported into the Working Database.

You can add multiple data sources to your analysis. If a data source has already been imported into the Working Database, you will be presented for Import Options. You can choose to ONLY import new records, in which case if it finds a matching address it will ignore that record. You can choose to Allow MERGE with existing records, in which case, if it finds a matching address, it will, based on the other options you choose, either fill in EMPTY or "ZERO" fields or overwrite even existing data for that record with data from this record.



If you already have imported, say, data from MLS and are now importing data from something like MetroScan, you would likely choose "Allow Merge" so that it can use the public data from MetroScan and complete or modify (based on the option to only fill empty fields or overwrite all fields) the MLS data. If a data source does not have data for a particular field, it is ignored and no action is taken on that field if it finds a matching record.

During the Import and Validate process, you may be asked to supply a Yes or No or numeric value equivalent for data it comes across. For example, when it is checking the "Pool" field, which should be a Yes or No answer, it may come across the value of "Private" and will ask you how you want to interpret that value for pool whenever it comes across "Private" as a value. During the Importing process, keep an eye on the screen and answer any questions you may be asked.

If you need to delete data source, simply right-click on its icon and choose "Delete" from the menu that appears. If you delete a data source that has already been imported into the Working Database, the Working Database will be EMPTIED and you will need to re-import data to continue with the program.

What are the "My MLS," "My Assessor's Web Site," and "My Public Records Program buttons?"

These buttons are just Short-cut buttons similar to icons on your computer desktop. When you first click on them, you will be asked to provide the URL (Internet Address) or program location. Once you do, it will remember these and take you directly to that web-site or program. They are only meant for convenience so you don't for example, have to hide your window, load Internet Explorer, type in your MLS address, etc.. If you need to CHANGE the locations to which they point, simply RIGHT-click on the button and it will ask you if you are sure you want to clear it.

Again, they are only Short-cut buttons that you can OPTIONALLY set for convenience to launch a program or web site.

What is the Import and Validate Data button?

As stated earlier, if you click any Data Source icon and this button is enabled, this indicates that the selected data source has NOT been imported into the Working Database.

Clicking this will begin the process of importing. During the import process, it also validates the data. In some cases, this may require you to tell it how it should interpret a value it comes across. In other cases it is done in the background and is performing calculations or other functions to get the value for a particular field. For example, the BATHS field may be a calculation of the full baths plus the half baths, and the validation process will look at these two columns, perform the calculation, and set the result as the value for BATHS.

Getting Subject Information from a Data Source

While importing data, the address of each record imported is checked against the address of the of the subject (as well as records already existing in the database). A special algorithm is used to “normalize” address and account for possible misspellings or differences in the way it may be entered (such as “Drive” and “Dr”). If any record being imported is matched against the subject’s address, it will NOT be imported into the Working Database but, instead, will go into a list of Subject Data records. T is possible you may have records from several data sources if you import from more than one source. For example, it is possible that the subject was listed in MLS more than once, or you may have imported both MLS and public record data which may have subject information.

From here, you can grab data and fill in the blank fields for the subject.

If you click the “Merge All Blank Fields” button, this will go to each field that is blank for the Subject column, then from left to right, find the first record which has information and fill the subject’s data with that information.

Datasource Raw Data		Subject Records Found	
Merge All Blank Fields		SUBJECT	My Rappatoni 2
			My Rappatoni 2
			Merge to Blank Fields
			Merge to Blank Fields
MLS No		20915240	20915240
Street Address	10146 E. Rainbow Meadow	10146 E Rainbow Mea	10146 E Rainbow Mea
Unit No			
City	Tucson	Tucson	Tucson
State	AZ	AZ	AZ
Zip	85747	85747	85747
Listing Status	Yes	Active	Active
Sale Price			
Sale Date			
List Price	169000.00	169000.00	169000.00
List Date	03/19/2010	03/19/2010	03/19/2010
DOM		27	27
GLA/GBA	1411	1411	1411
Site Area	7280	7280	7280
Rooms			
Bedrooms	3	3	3
Baths	2	2	2
Permitted Area	NO	NO	NO

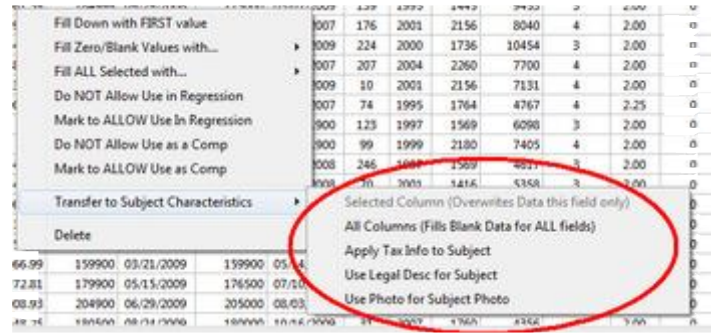
If you click the “Merge to Blank Fields” button at the top of each Record Source column, this will find each blank field of the subject and if the source record is not blank, it will use that data and apply it to the subject.

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Both of the above options merge only to fields of the subject which are BLANK or of “0” value. It will NOT overwrite data which already exists for the subject.

If you want to overwrite data for the subject with one of the fields from an imported record, simply **RIGHT-CLICK** on the individual field of the record and that value will be assigned to the subject. This **WILL** overwrite existing subject data.

If any of the fields contains listing status or sales information, it will prompt you and ask if you want to use that data for prior sale or listing status information of the subject. If any of the data sources has a link to an image, you will be asked if you want to use that image for the subject.



Also, later in the Imported Data screen, you will be able to select ANY record and apply data from that record as characteristics for the subject property. This would be useful for, as an example, if the subject is a tract home and one of the records is the exact same model: this would allow you to obtain the Subject’s characteristics from another home which is the same model.

Do all Data Sources have to be of the same export type?

No. You can export from a variety of sources and a variety of formats. For example, your MLS may limit you to the number of fields you can export each time. You can create TWO different export formats for each set of fields, and create different Field Maps for how to import each export format.

However, EVERY export format and Field Map MUST contain Address information so that it can check against other records and know when to modify or add a record or to determine if the record belongs to the subject.

Adding a New Data Source

Adding new data sources is quite simple. Simply click the “New” button on the Data Sources screen.

If you add a new data source and import it into the Working database, all calculations will need to be redone.

CHAPTER FOUR

What is a "Field Map" or "Field Link Map?"

The Field Map or Field Link Map files are simply a way to match columns from an import source to columns in the Working Database.

Think of the Working Database as a spreadsheet. Let's say Column 1 is the Street Address, Column 2 is the City, Column 3 is the State, Column 4 is the Zip Code, and Column 5 is the Number of Baths.

Now, also think of the data you are importing as a spreadsheet, only Column 27 is the Street Address, Column 31 is the City, Column 38 is the State, Column 110 is the Zip Code, and Column 14 is the Number of Baths.

A Field Link map simply tells the program, when importing, what field to go to in order to find the information for which it is looking.

A simple example, in the case of the examples above, would result in a field map of...

Working Database Column	Data Source Column
1 (Street Address)	27
2 (City)	31
3 (State)	38
4 (Zip Code)	110
5 (Number of Baths)	14

Now, the Field Map can contain more than just numbers, so, to differentiate a Column Number in the map from other text, the Column Numbers of the data source are surrounded by hard brackets (the “[” and “]” symbols).

For example, when actually building the field map, when you select field 27, it will be displayed as “[27]” so that the program knows to replace whatever it is looking for with the DATA from column 27. If the Field Map simply displayed “27,” every record would result not in the DATA of field 27, but the actual text “27.”

Field Link Maps can contain default text, column numbers, calculations using columns, and even some special Keyword Functions to get parts of data from columns of the source and any combination of these.

Selecting an initial sample file

As stated earlier, when you add a new data source, you will be prompted to select a file to import. This should be a file which is in a consistent format. You would select “[NEW]” as the Field Map File and then click the “Create/Edit Field Map.” This will bring up the Field Map Builder. If the same file name is not listed in the new window, select it. Also, when building and not editing a Field Map, make sure the Field Map Name is “[NEW]” as we will need to have a blank map file.

After you select the Sample or Import file, it should display data in a grid or column names in a list box below. If you do not see any data in the display window as show in the illustrations below, you will need to click the “Load Data” button. Then CANAVS will attempt to determine which type of file it is an load the data into a grid. If the file has column NAMES (names which describe the data for each column), be sure to click the “First Row contains Column Names” checkbox so that it is checked. CANVAS will attempt to determine the File Type and Delimiter

for the file.

Ensure Data is Properly Loaded and Formatted



The initial view of the Map Builder has several parts.

The **Field Map Name**: if this is a new map, select the “[NEW]” if it is not already selected.

The **Import/Sample File**: this is the actual file you want to import or a sample of the export format which you want to map.

The **File Type**: this is the type of file, such as Text based, Excel, or dBase database.

The **Delimiter**: a delimiter is a character or set of characters used to separate each column’s value for each row. Common delimiters are Comma Separated and Tab Separated, but it can be any character. When you create your export file from your MLS or other data source, if possible, choose TAB-DELIMITED as this is the best. Many MLS systems use Comma-Delimited by default, and, unfortunately, they do not always export very well due to data entry errors. For example, many comma delimited files also use quotation marks for sub-delimiters and, quite often, a realtor may put in a single quotation mark which can throw off the formatting of the data.

And a Checkbox for **First Row contains Column Names**: this tells CANVAS that it can display the field names to make it easier to find the right column, but also tells CANVAS that the first row is not actual data but merely the names of the columns of the data.

After loading data, you should go to the tab tha says “**Show Data as Grid**” and scroll down through the data. If the data looks uniform and does not look as if data columns are not aligned with similar types of data, then you may have to change the delimiter. However, this is very rare. Also, if the **File Type** drop down is not correct, please select the type of file.

Most commonly, most sources, export as Text Files, such as “CSV” or “dat” files. Some CSV files, however, need to be treated as Excel files. If the data does not appear to be displaying correctly in the grid view, try changing the File Type or Delimiter.

Once you have loaded the data and it looks as if it is displaying properly, click the “Next” button to begin mapping the individual fields.

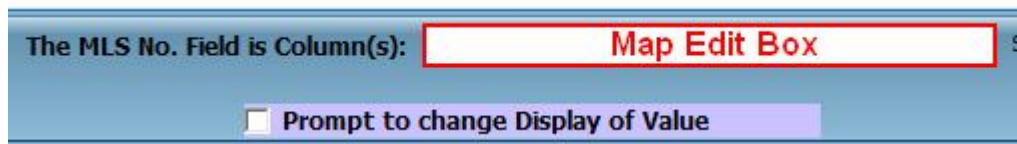
Match the Columns to the field that is being requested

Each subsequent screen asks you to find the column or column name that corresponds to a particular field in the Working Database.

If the tab sheet at the bottom is on the “Show Header or Field Names,” this means for each item it is requesting, find the name of the column that has that data and click it. For example, if it asks for the MLS field, find the column in the list that represents the MLS number and click it.

If the tab sheet is on the Show Data as Grid, then find the column that has the MLS data, and click on the header (top row).

The Map Edit Box will display the column(s) or formulae which corresponds to each field in the Working Database begin requested to map.



If you hold the “ALT” key while clicking and are on the “Show Header of Field Names” tab, this will NOT place that column number into the map, but ONLY show you a sample of values in that column so you can better understand what values that column truly holds.

If you hold the SHIFT key while clicking on a column name or column, it will ADD that column to the list. For example, if you already click on column 17 and the **map edit box** displays “[17]” then hold the shift key and click on column 20, the **map edit box** will now display “[17] [20].” If you click without pressing any keys, whatever column number you click will REPLACE whatever is on the **map edit box**.

If you DOUBLE-CLICK on a column, it will enter that column number as the value to use in the Field Map (and display it in the map edit box) and then immediately move to the next field.

Clicking NEXT takes you to the next field where it will ask you to “map” another column to a specific field.

Linking Columns from the Data Source when there is no single matching column

For the most part, you will only need to click on a single column. For example, it will ask for the column that has the MLS number, and you can click on a single column that will have that data exactly.

Sometimes there is no single column that has exactly the data being requested. For example,

- the street address might be broken into multiple parts of an address,
- or the baths might be broken down by counts of each type,
- or a link to a photo might be made from parts of listing data
- or the County name might contain an abbreviation or code
- Or, for yes/no type fields, these might be indicated by words or phrases used by the agents who entered the MLS data in a comment field.

Following are some topics that help you in situations where no single column has the info.

Concatenating columns into a "string" of text

Let's say there is no single field which has the full street address but, instead, has the individual fields for house number, street direction, street name, etc. You can use "concatenation" to put all the parts together. For example, let's say Column 12 is the house number, Column 18 is the Street Direction, Column 20 is the Street Name, Column 26 is the Street Type.

So, we have...

Column 12 = "1234"

Column 18 = "E"

Column 20 = "Happy"

Column 26 = "Street"

To concatenate this into a single value for the Address field, you would FIRST click on Column 12, then, WHILE HOLDING THE SHIFT KEY, click on the other fields in order.

The "map edit box" will now have a value of "[12] [18] [20] [26]." So, when importing the data, when it wants to import the Street Address, it will get the value from column 12, add a space, add the value of column 18, plus a space, then column 20, etc.. The result would be "1234 E Happy Street."

Let's say you want to put a period (.) after the street direction. You can modify the value on the Map Edit Box to be like...

[12] [18]. [20] [26] (notice the period after the closing bracket of column 18).

Again, this takes the values of the columns and replaces it based on the format of the string. So, the period and spaces would remain as they are, and anything within brackets would be replaced by the values of the respective columns. Now you would have "1234 E. Happy Street" with the period following the street direction.

Concatenation simply means to put all the values together into a single result. CANVAS uses the map edit as a template, and replaces the text within the brackets with the values from the import source, but leaves the text outside the brackets (except for math symbols) in place.

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For example, if you entered “**Hello, [36]**” in the map edit box, and column 36 of the import source has a value of “George,; when this gets imported the result will be “**Hello, George.**” If you entered “**Hello,[36]**” in the map edit (notice no space between the comma and the opening bracket of the column number indicator), the result will be “**Hello,George**” without the space after the comma.

Using Formulae

Sometime, the value being requested needs to be calculated from a column or several columns. For example, let’s say baths do not have a single field, but several fields with counts for each bath type.

Column 17 = Number of Full Baths

Column 20 = Number of $\frac{3}{4}$ Baths

Column 21 = Number of $\frac{1}{2}$ Baths

Column 23 = Number of $\frac{1}{4}$ Baths

You would enter in the Map Edit Box the following for Total Baths:

$$[17] + ([20] * 0.75) + ([21] * 0.5) + ([23] * 0.25)$$

That would perform a calculation using the value from the respective fields. Remember, anything in brackets means “use the value of column X” while everything outside brackets is either TEXT or calculation instructions.

NOTE: You cannot use BOTH concatenation AND calculations! If you use a math formulae, do not include anything outside the brackets which is NOT part of a typical math equation.

You can use brackets and standard functions in formulae. This mean, PLUS (+), MINUS (-), DIVISION (/), and MULTIPLY (*), as well as brackets, but no special functions such as *sin*, *arctangent*, etc..

Using Keywords to extract values from a column

There are certain Keywords which can be used INSIDE THE COLUMN BRACKETS which will perform certain functions. These are...

Keyword	Example	Results
a	[a17]	Splits the column at a comma and returns whatever precedes the comma Column 17 = “SLC, Salt Lake City” Returns “ SLC ”
b	[b17]	Splits the column at a comma and returns whatever follows the comma Column 17 = “SLC, Salt Lake City” Returns “ Salt Lake City ”
c	[c17]	Extracts the CITY from text containing CITY, STATE, and ZIP CODE Column 17 = “Salt Lake City, UT, 94138” Returns “ Salt Lake City ”
s	[s17]	Extracts the STATE from text containing CITY, STATE, and ZIP CODE Column 17 = “Salt Lake City, UT, 94138” Returns “ UT ”

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z	[z17]	Extracts the ZIP CODE from text containing CITY, STATE, and ZIP CODE Column 17 = "Salt Lake City, UT, 94138" Returns "94138"
l, (lower case L plus comma)	[l, -,17]	Split's the value of the column number at the text found between the commas and returns what is LEFT of that. It is a lower case "L" followed by a comma, then the text you want to split the value at (in this case " - " or space-dash-space). Column 17 = "SLC - Sale Lake City" Returns "SLC"
r, (lower case R plus comma)	[r,&,17]	Split's the value of the column number at the text found between the commas and returns what is RIGHT of that. It is a lower case "R" followed by a comma, then the text you want to split the value at (in this case " - " or space-dash-space). Column 17 = "SLC&Sale Lake City" Returns "Salt Lake City"
ln (lower case L plus lower case N)	[ln2,17] [ln4,17]	COUNTS the number of characters indicated following the "ln" and before the comma from the beginning of the value in the column and returns that as a string. Column 17 = "123456789" [ln2,17] Returns "12" [ln4,17] Returns "1234"
ln (lower case R plus lower case N)	[rn2,17] [rn4,17]	COUNTS the number of characters indicated following the "ln" and before the comma from the END of the value in the column and returns that as a string. Column 17 = "123456789" [ln2,17] Returns "89" [ln4,17] Returns "6789"
in (lower case I plus lower case N)	[inFox,17] [inbrown,17] [inLAZY,17]	Looks for the text following "in" and before the comma in the selected column and returns either YES or NO. Not Case Sensitive!! Column 17 = "The quick brown fox jumps over" [inFox,17] Returns "YES" [inbrown,17] Returns "YES" [inLAZY,17] Returns "NO" Can be used MULTIPLE TIMES. If ANY return YES, the who result is YES. For example... [inFox,17][inbrown,17][inLazy,17] Returns "YESYESNO" Since "YES" is found within the Return, the whole result is YES or TRUE. This is good for fields like REO where the word REO may be indicated in a COMMENT field of the data source, or Pool where they may indicate it as "gunite" in a comment field.

As you can see, although many columns may have a direct column to which to match, you have options to calculate or extract data from fields that may not be a perfect match.

Also, each field allows you to choose whether you want to change the way a field displays. For example, your MLS may abbreviate fields, and you want these to be the full name. A City Name is a good example of this. Your MLS may indicate the City as "SLC" and you want it to be changed to "Salt Lake City" whenever it encounters

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this. You can simply CHECK the checkbox for “**Prompt to change Display of Value**” and it will ask you how you want to interpret values you have not already defined. Once you define how you want to display a particular value, such as “SLC,” it will remember this and always display it how you chose when prompted.

Troubleshooting

Some examples of more difficult mapping are provided in Appendix B.

If your MLS has sufficient data but you are having difficulty mapping the fields yourself, you can send the files to us via the “Send Support Request” function in the “Help” menu.

Test and Validate the data

After you are done creating the Field Map File, it will be saved on your computer in your “My Documents\My CANVAS\Import Maps” folder. You will also be taken back to the Data Source screen and can begin importing the data. Initially, it will only display the raw data in a grid format. Again, make sure the data looks correct. When it isn't, you will notice it right away if you scroll through the rows and see data that doesn't seem to fit the format of previous rows. For example, Column 2 may have a bunch of dates and then all of a sudden, it displays some other type of data. In this case, do NOT “Import and Validate the data when prompted. Instead, start the New Data Source process again, select the map file you just created as well as the import file, and click the “Edit/Change Field Map” button to begin modify and correct the File Type or Delimiter.

If the data looks correct, when prompted or by clicking the “Import & Validate Data” button, import the data into your Working Database.

During the import process, you may be prompted to supply values for various fields if it cannot figure it out or if you selected for a particular field for it to prompt you to change the display of value. For example, for pool it may come across “personal” and you will be asked whether this means YES or NO. Or, for garage, it may come across a value of “Double” and you will be prompted to select the number of garage spaces this indicates. It will remember your responses and whenever it comes across those words it will apply the value you instructed. For example, if you chose “2” for “Double,” the next time it comes across “Double,” it will automatically apply a “2” for it's value.

Validation the data is simply a means to convert data that is not in a uniform format. While the columns may have been matched (for example, Pool from the data source has been matched to the Pool field of the working database), sometimes the data from the data source isn't of the right TYPE. Pool is a yes or no, but your data source may say “private,” or “gunite.” The validation process allows you to teach the CANVAS program how to understand the terminology used by your data source.

CHAPTER FIVE

The Imported Data screen

This screen shows all the data that has been imported into the Working Database. It shows all the data in grid format with the names of the columns at the top as the first row. The first row column names are called “headers.”

You can click on the headers to sort by that column. Each time you click, the sort order will change from Ascending to Descending. This makes it easy to find specific data.

There are also some filter buttons for **All Records** (the initial view of the data), **Sales Only**, **Active Listings**, which shows listings that were active as of the Effective Data (Subject Information screen), **Pending Sales**, and **Off Market Listings**, which includes expired, withdrawn, cancelled, etc..

You will notice the first two columns, which are “**Allow in Regression**” and “**Use As Comparable.**” Only records which are marked with a listing status of SOLD can be used in the regression, so initially these are checked. Also, Only SOLD or ACTIVE listings may be used as Comparables later on in the CANVAS program.

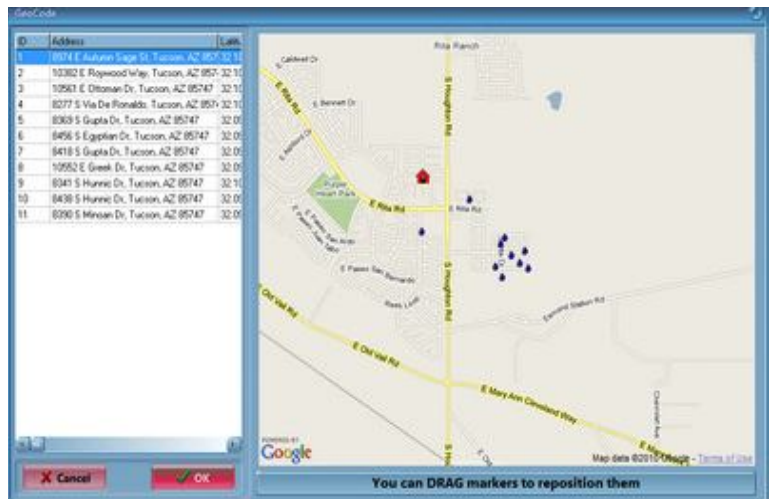
The "Geocode Addresses" button

Before you can proceed to the other program functions, the records in the Working Database must be Geocoded. Geocoding is simply obtaining the Latitude and Longitude coordinates of a property.

Most of the data sources allow you to export these coordinates and, as such, the properties will all be properly geo-coded. However, even if your source does export the Latitude and Longitude, it is possible that some of the records do not have such information.

If even one record does not have a valid latitude or longitude coordinate, the “Geocode Addresses” button will be enabled.

If you click this button, the program will attempt to find each property which does not have such coordinates and display them in a new window using Google Maps



The subject is displayed with a Red house icon, while all the other properties will be displayed with small Blue house icons.

Clicking on the icon will select the property in the list on the left.

Conversely, clicking on a property in the list on the left will center the window on the icon where Google located the property.

You can drag the icons to reposition them if you know the Geocoding to be wrong. In MOST cases where the address is properly formatted according to USPS standards, the location of the icon will be within 1 meter of either the parcel center or the center of the street frontage. However, if the address is not found in the vast database,

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Google will attempt to use standard address Geocoding techniques to locate an approximate location.

It is important that your data has properly formatted addresses. If the address is not formatted properly Geocoding will either completely fail or simply center the icon on the center of the Zip Code of the address.

Geocoding hundreds of records can take quite a while, so be patient.

If one of the data sources you used does not have latitude and longitude coordinates for your records, you will have to manually Geocode these, so be patient.

The "Score Comparables" button

All properties which can be used as a comparable (Sale or Listing) must be scored before you can proceed on to subsequent steps in the CANAVS program. Expired, withdrawn, etc, are not used as comparable and will not be scored.

Scoring is simply ranking each comparable in terms of raw similarity to the subject using various criteria such as proximity, GLA, baths, etc.. The algorithm used to initially score the comparables was developed over 15 years by a practicing appraiser. It compares and weighs differences similar to the way an appraiser would manually.

After scoring, properties will receive a "Score" from 1 to 1000 indicating how similar they are to the subject, with higher numbers being most similar.

The "Scoring Preferences" button

You can adjust how various items used in the Scoring process are weighted. For example, if you believe in a particular market that bath count is more important than proximity, you can click the "Scoring Preference" button and lower the priority of proximity or increase the priority of bath count or do both. After clicking "OK" the program will automatically rescore the comparables.

You can control the weight given to all used variables in the scoring, increasing or decreasing each one from a "0" priority all the way to 200% priority.

Generally speaking, after testing with thousands of properties, the scoring does an excellent job. But, since you know your local market best. You may need to tweak the weighting to be most appropriate with the importance of features in that market.

Editing data

Most, but not all, data can be edited. You can also edit MULTIPLE ROWS of data by selecting multiple rows, right clicking, and choosing from options in the menu that will appear.

To select multiple rows, CLICK in the cell of the first row you want to select then, while holding the SHIFT key, press the DOWN ARROW until you have selected all the records you want to modify. This is where sorting the records by clicking on the column header comes in handy.

After you have selected all the rows, right clicking will bring up a menu with various options.

You can also RIGHT CLICK on the Header of a column to edit multiple records at once. A menu will appear where you clicked and you can choose from several options to edit the date.

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You can also, of course, edit each cell individually. Please be sure to follow the format of the column when editing.

Selecting and Deselecting records to use in the Regression or as a Comparable

You can either click directly on the “Use as Comparable” or “Allow in Regression” checkbox for each record OR, by selecting multiple rows of ANY column, choose “Allow” or “Do Not Allow” to use as a comparable for all selected records.

For example, let’s say you don’t want to use as a comparable all records located in a particular Subdivision. You can go to the Subdivision column, click on the header to sort the records, and begin selecting all the records of the subdivision you want to exclude. Once you have selected all the rows, you can right-click on one of the selected records and choose “**Do NOT Allow Use as Comp**” from the menu.

As another example, let’s say you want to exclude properties which sold for less than \$50,000 from use in the regression analysis. You can filter by Sales Only, click on the Sale Price column header to sort by that column, click in the sale price cell of the first record, then, while holding the SHIFT key, press the DOWN ARROW until you have selected all records with a Sale Price less than \$50,000. Finally, just right click on one of the selected cells and choose “Do NOT Allow Use in Regression” and all the selected records will be unchecked from the Use In regression field.

What to do about empty values

Some empty values are okay. However, empty values for items which have significant contribution to value, such as Site Area or GLA should NOT be blank.

If ALL or MOST of the values for a particular variable are blank, you should EXCLUDE these variables from being considered in the regression.

If only a small percentage of the records have zero or blank values, you can fill these in with appropriate values.

CANVAS gives you the ability to fill in blank or zero value records with the AVERAGE (median, mode, or mean) for that variable based on the non-zero records in the database. For example, if you have 100 sales, and 10 of them have zero for Site Area, and the average for Site Area of the non-blank records is 8,000, you can right-click on the selected records or on the entire column header and choose to fill in the blank values with the average.

Is that accurate? NO. However, statistically speaking, this is more accurate than either including them in the regression with a zero value or excluding the entire record from the regression. After all, more than likely each property is going to be CLOSER to the average site area than “0” so you are actually improving the results of the regression.

You can also manually choose a value for any record, if you wish, and do these manually.

Suggestions on when to include or exclude records from the Regression

Generally speaking, since CANVAS works primarily on Quantitative items, it is best to include sales with share similar Qualitative characteristics or for which such qualitative items have little contributory value.

For example, you could have two different subdivisions with significantly different ages, sale prices, GLA, etc., but these physical characteristics mean the most of value. It would be acceptable to include them all.

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Now lets say you have two subdivisions where the ages, GLA, bath count etc are all relatively equal, but one of those subdivisions is of high-end custom homes with extreme finish detail and a gated subdivision while the other is a tract subdivision. In this case, you would include only the subdivision that is most similar to the subject.

In essence, you need to eliminate from the regression those properties which have a SIGNIFICANT difference in qualitative items from the subject. What is “significant?” generally speaking, anything that is outside 2-to-3 times the predominant.

For example, if the market has a predominant value of \$200,000, you would probably want to exclude anything below \$100,000 and greater than \$400,000. Obviously, if your subject is in a \$400,000 market in that neighborhood, you would likely want to exclude anything below \$200,000. These are just initial suggestions for a starting point.

You want to include in the regression those properties which are influenced by the same characteristics. In a similar manner. You want to EXCLUDE those records which are influenced by characteristics much differently than your subject’s market.

This does NOT, however, mean that you want to have ONLY properties which are similar in characteristics to the subject. In fact, quite the opposite. You want as much VARIANCE in characteristics in your data as possible. It is not the characteristics, themselves, that you need to ensure are similar but, rather, the INFLUENCE such characteristics have on value in the market being similar. If the value a one bedroom house is influenced in the market for bedroom count the same as a three bedroom house, you would want them BOTH.

If all your data is EQUAL and there is no variance, regression cannot tell you what the value of the equal variables are.

So, when deciding on what sales to USE or NOT USE in regression, think of it in terms of the MARKET BUYERS and not the physical characteristics, themselves. If the market buyers share many characteristics and give influence to various items similarly, you likely will include them no matter how different the actual characteristics of the property are. On the other hand, if the market buyers are vastly different, such as someone looking to buy a custom, high end, 3-bedroom, 2 baths, 2000 SqFt home not quite being the same as someone looking to buy a 3-bedroom, 2 baths, 2000 SqFt home built by KB Homes. Same characteristics of home, but vastly different market buyer.

You see, in residential appraisal, you are never really appraising real property but, rather, the people who buy in that market because your value is little more than what the typical buyer for that property will pay, on a monetary basis, for a property having the various component items. It is the buyer’s reaction to the property that we appraise and it is the buyer’s reaction to a property in terms of what they are willing to pay given its characteristics that account for the sales. As such, we want properties that share as much similarity in who the market buyers are.

CHAPTER SIX

This chapter discusses the data seen on the **Statistics and Trends** screen. This screen will only be available after the imported data has been Scored.

The Statistics and Trends screen initially show a “1004MC: type view of the last 12 months data, though 4 chart images are also displayed which show certain data going back as far as the earliest sale.

The other tabs on this page are a month-by-month view of the data and a larger view of the charts of the data that are displayed on the first tab.

How are the Statistics values calculated?

All the data from the Working Database are broken down on a month-by-month basis starting with the month of the earliest SALE. You may have listings that go back further, but it is during the month of the first SALE that we begin to have data which reflects the activity of SALES and LISTINGS. Obviously, until there are sales, data such as Sale-to-List ratios, average Price per SqFt sold and other data is meaningless or simply unavailable.

On the first tab, these values are also calculated by the month RANGES, such as Current-to-3 Months, 4-6 months, and 7-12 months.

Why do these numbers differ from a program I use for my 1004MC form?

Quite simply, better analysis of data.

Most 1004MC programs do not handle data properly. For example, a sale which occurred in the prior week was ALSO a listing for the Current-to-3 months period. In addition, if that sale which occurred last week was on the market for 4 months, it was, further, a LISTING in the 4-6 month period.

Many 1004 MC programs will count a Sale as a Sale during the period in which it occurred and ignore that it was also a listing. Additionally, a property which is actively listed NOW and has been listed for 4 months in many cases is treated as a LISTING in the period it was initially listed (4-6 months) and NOT any additional periods even though it may still be listed. Similarly, some of them fail to account for expired, withdrawn, or other listing statuses entirely.

Karma Technologies, LLC, cannot comment on the accuracy of other programs and will NOT justify why our values may be different from them. The real question should be, especially after we have tested some of these program, *Why are their numbers different from ours?* We have given a lot of thought and intelligence into the programming and know that as long as you give it the proper data, our statistics will not let you down.

How do I best utilize the information on the "Statistics by Month" tab?

Looking at 3 periods of statistics veering a one year period is fine, but it in no way tells the true story about the metrics of a neighborhood. One year's worth of data, particularly provided in only three periods, is insufficient to truly interpret the data and make decisions as to what the true trends are for a market area.

For that reason, CANVAS breaks the data down to each month covering from the date of the earliest sale to the effective date. In addition to the standard information displayed in the 1004MC type format, CANVAS provides additional information, including the High, Low, Predominant, Median, and Mean of price per square foot, number

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of bathrooms, GLA of sales, etc. This allows you to make better decisions as to what the true trends are.

For example, if the sale prices appear to have increased, most Realtors will say “Values are on the rise.” However, if, during the same period of time, the average size of a home has also significantly increased, well, in fact, sale prices in relation to the type of properties indicates that sale value may actually be down. Let’s sale last year the average sale price was \$150,000, and the average size of a home was 1,500 SqFt. This year in the same month, the average sale price is \$175,000, but the average size of a home selling is 2,000 SqFt. People are actually getting MORE for their money and, in fact, the sale price increases are due to a different type of inventory selling,

On the **Statistics by Month** tab, you can see these statistics on a month by month bases. In addition, the information is color-coded to tell you whether the values for any field are greater than, less than, or equal to the previous month.

With this color-coding scheme, you can quickly identify TRUE trends. In particular, you should pay close attention when an entire row of data has increased or decreased. In the image to the right, the average Price per SqFt has increased across the board from the previous month, while the median, mean, and mode GLA has stayed roughly the same. This indicates a mild increase in values EVEN THOUGH the predominant sale price shows a decline.

Factor	Low	High	Median	Average	Predominant
Sale Prices	\$120,000	\$255,000	\$175,000	\$177,711	\$145,000
List Prices	\$119,900	\$209,000	\$174,900	\$202,953	\$159,900
Sales DOM	6	182	35	31	6
Listings DOM	3	640	80	37	6
Sale Price/List Price Ratio	89.66%	111.43%	99.32%	99.29%	100.06%
Price per SqFt	\$79	\$124	\$107	\$104	\$104
Site Area	0	18,731	5,227	5,960	5,960
GLA/GBA	1,024	2,909	1,592	1,722	1,495
Year Built	3	40	11	11	15
Bedrooms	2	5	3	3	3
Baths	1.75	3.00	2.00	2.00	2.00
Basement	0	0	0	0	0
Garage	2	3	2	2	2
Carport	0	1	0	0	0
Fireplace	0	2	0	0	0
Pool	0	1	0	0	0
Spa	0	1	0	0	0

However, this type of month-by-month view can also expose true trends where an individual area may appear to indicate something other. For example, look at the monthly statistics below...

	Decrease from Previous Months		NoChange	Increase from Previous Months	
Factor	Low	High	Median	Average	Predominant
Sale Prices	\$114,000	\$268,500	\$195,000	\$193,500	\$193,500
List Prices	\$116,300	\$319,950	\$194,900	\$199,858	\$165,000
Sales DOM	12	231	84	94	94
Listings DOM	3	621	141	152	182
Sale Price/List Price Ratio	78.14%	100.00%	94.71%	92.71%	94.71%
Price per SqFt	\$75	\$133	\$104	\$104	\$104
Site Area	0	20,038	5,807	5,913	5,913
GLA/GBA	1,008	3,027	1,736	1,813	1,569

Sale prices, Median, Mean (average) and Mode (Predominant) all increased in this month from the prior month. However, if you look at the Average and Predominant Price per SqFt (which indicate DECLINES) and the fact that the site area and GLA factors INCREASED in all three factors, you can clearly see that VALUES did NOT, in fact, increase even though the SALE PRICES did.

This view allows you to look not only at the sale and list prices, but allows you to look at some of the key factors that influence those prices and, as such, gives you the tools and information you need to make an informed decision about the TRUE trends of the market.

CHAPTER SEVEN

This chapter deal with the Regression Analysis screen.

The regression analysis is run by clicking the “Run Regression Analysis” button.

The screen provides a view of the regression results, a scatter chart which represents the sales used in the analysis, and a “what if” view of the values from the regression being applied to the characteristics of the subject.

What is all the information I am seeing?

The grid at the upper left of the screen provides information about the analysis, specifically the values and ranges it developed for the independent variables (those elements being considered which contribute to the dependent variable or, in this case, the Sale Price). This grid contains the results for each variable, including a residual or the amount of contribution to value which cannot be directly explained by the independent variables. It also contains a range of value given the standard deviation. Next, it provides an editable “Expert’s Opinion” value for each variable which, by default, is the same as the concluded result. Finally, the grid contains a checkbox which allows the user to select or deselect whether a particular variable should be included.

The last row of this grid provides information about the analysis, particularly the Standard Deviation, R^2 , COV, and the number of observations which were used in the analysis.

To the right of the grid is a scatter chart of the observations. The blue dots represent the Actual Sale Price/Predicted Value (when testing the data using the results) for each observation. The red line is a slope which indicates two points and the line between the lowest sale price/predicted value and the highest sale price/predicted value coordinate pair which also represents the general slope of the regression function.

On the lower right corner is a grid which takes the values from the “Expert’s Opinion” column and applies them to the characteristics of the subject to derive a concluded value for the subject. It also provides a range given the standard deviation.

Can I delete records from being used on this screen?

Yes. You can DRAG sound the blue data points which will select the data which make up those points. A menu will appear and you can choose to exclude these records from being used in the regression. If you choose yes, their records will be marked as “Do Not use In Regression” and the regression analysis will be re-run without those records.

What is the Standard Deviation?

The most simple explanation of the Standard Deviation is the average difference between the results of the actual value and the predicted value when the data is tested. A value less than 10% is considered good.

What is the "R2" number?

R2 is simply the square of the sample correlation coefficient between the outcomes and their predicted values, or in the case of simple linear regression, between the outcome and the values being used for prediction. Typically, an R2 value as close to 100% is considered best.

What is the "COV?"

COV, or Coefficient of Variation, is the percentage difference between the prediction of a coefficient or test of multiple coefficients against the mean result of the data test. Most often, the COV is represented as a single number. Actually, it is a matrix of numbers. To simplify interpretation, a separate calculation of the covariance is made specifically on the relationship of predicted values to actual dependent variable values to arrive at a single number.

Most people, particularly those who have never performed the regression by hand and do not understand what is actually happening with the numbers, will tell you that a COV as close to 0 (or 0%) is most reliable and other people of the same misconception will tell you it should be as close to 1 (or 100%) as possible.

The truth is, it depends.

If all the variables affect the dependent variable positively (a positive influence variable), meaning that if the greater quantity of each variable the greater the overall value, then this number should be as close to 1 as possible. On the other hand, if greater quantity of a variable affects the dependent value negatively (a negative influence variable), the closer to 0 this number should be.

In terms of applying regression to real estate analysis, there is generally a mixture of positive and negative influence variables. So, when determining if the COV is indicating a reasonable analysis, you must consider what percentage of my independent variables impact the value negatively and what percentage impact it positively. Generally speaking, if all the variables are used in CANVAS, roughly 20-25% are negative influence variable, so a COV ranging from 70-80% is considered an indication that there is a very direct relationship with the independent variables and the dependent variable and that most influences are well accounted for.

What are "Observations?"

Observations are simply the records of data used in the analysis.

Generally speaking, you would want no less than 100 viable observations, but the more observations you have which share qualitative influences even if the quantitative influences differ, the more accurate the results of the regression will be.

The idea is to have as many sales as possible, regardless of how different the items used as variables in the regression are, as long as the variables that cannot be quantified, the “quality” type influences such as finish materials, views, etc., are similar.

Can I change the values of the variables manually?

The values of the “Expert’s Opinion” column are the values used throughout the program. Initially, these are what was determined via the regression. However, you can change the values of any variable used manually.

Anytime you change the default value of a variable, you should make a comment as to why. If you change the value within the indicated range of that value, in the report which your client will receive, the value will be displayed in **BOLD**. If you change the value OUTSIDE the range indicated, the value will be displayed in **RED AND BOLD**. This is why you should make comments anytime you change from the default values as determined via the regression process.

There are many legitimate reasons why you may want to change the value of a variable. Just explain in your comments.

Why do some of the results for variables seem so unrealistic?

If too many properties which are anomalies, too many properties which are outside the market spectrum, too many properties which are more than 3 times what is predominant for the data, or too many properties which are heavily influenced by qualitative type items (school district, views, finish, etc.) which are different from the predominant qualitative items, then the results can seem vary unusual.

Also, as explained earlier, the results may not necessarily be the “values” of the variables, but, rather, the BEST value to apply to the variables in order to result in the value of the dependent variable (sale price).

What do the results MEAN?

Reiterating, the values determined via regression are NOT necessarily the values of the component items.

In order for the results to be “perfect” indicators of the values of the independent variables (the component items such as GLA, Fireplaces, etc.), ALL variables which affect the dependent variable (the sale price) needs to be accounted for either by inclusion in the regression analysis or by being similar in nature across all samples so that their affect is “neutralized.”

Generally speaking, in neighborhoods of large tract-like projects with similar economic influences, the results of the regression will be the most appropriate values per unit for the independent variables, such as fireplaces, GLA, Site area, etc..

In areas where qualitative type items, such as views, age, quality of construction, finish, etc. vary greatly, the results of the regression will indicate, most likely, the BEST value to apply to each of the independent variables in order to achieve most closely the value of the dependent variable, the sale price.

Even if the values indicated are counter-intuitive, by applying the values directly and absolutely to the various characteristics, you are most likely to be within a statistical margin of error accurate. For example, you may have a regression analysis which results in a value for fireplace of -\$125,000. Of course this seems ridiculous as the actual value of a fireplace, but, but applying such a value along with the other values derived from the analysis, you are more likely to conclude a reasonable and accurate value. If you decide to modify this value alone, you may feel “more comfortable” about the value of a fireplace, but you will be much more likely to be very inaccurate with the analysis since that “absurd” value accounts also for all the other values derived and changing one without understanding it’s effect on the other values can produce very poor results.

In such a case, you will likely find that older homes of equal size and general characteristics have a fireplace but are selling for \$125,000 less than newer homes with similar characteristics even AFTER an “age” adjustment. Yes, we can see this, and, the best thing to do would be to eliminate such properties from the regression analysis that cause this. But, sometimes, due to the available data, we must include such observations.

Are the values indicated the actual values of each variable?

As stated above and earlier, the values for the results of the regression for the independent variables (things like the GLA, fireplace, site area, etc.) may or may not be the actual market value of such items. This is dependent on the quality of the information (observations) used in the analysis. The more similar they are in the influences that affect value that cannot be quantified or which are not included in the analysis, the more accurate these will be to the actual MARKET value or contributory value to the overall sale price. If the analysis includes observations which have significant varying degrees of qualitative items and even influences such as age, the results of the regression will likely indicate values that when applied to the variables will most closely match the sale price.

How do I interpret the Scatter Chart to help me understand the analysis?

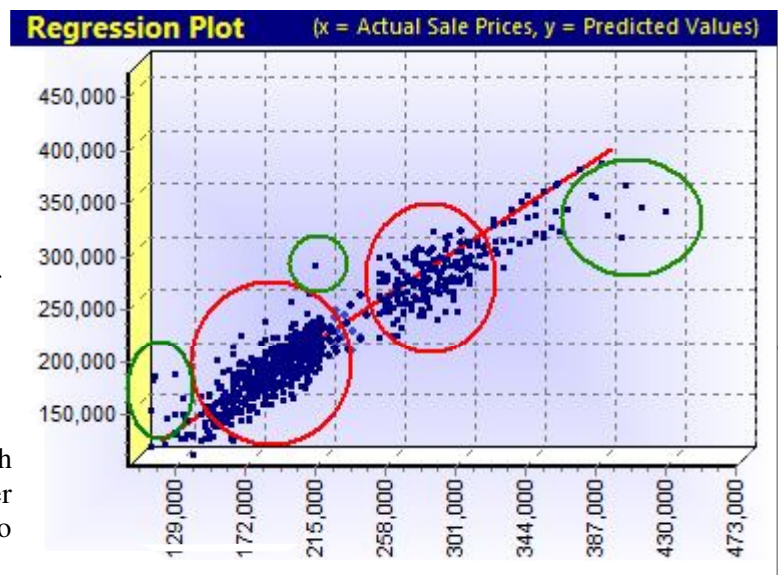
After the regression analysis is run, the results of the analysis are run against each and every observation used in the analysis. A scatter chart of this data is provided. The “X” or right-to-left coordinate is the point which represents the ACTUAL SALE PRICE of each observation. The “Y” coordinate represents the PREDICTED value of each observation when the results of each variable used is applied as the value for the characteristics of each observations. This is part of the testing.

The closer to a 45-degree angle, the more accurate the results. This would mean that the predicted value and the sale price were equal, indicating the values obtained from the regression were, in essence, perfect when applied to the observation.

What should I look for to see if the regression is reliable?

You want to see the samples follow as close to the 45-degree line as possible. This would indicate that the results of the data, when tested against each sale used, proved to calculate a projected sale price near the actual sale price, indicating the results for the variables can be relied upon to reproduce the results found naturally in the market. Also, clusters around a certain area can be used to identify different markets within the sample data. It is not uncommon to find several “clusters” of data in the regression chart where each cluster centers around a different value range: each of these clusters indicates a distinct market within the data.

The chart to the left illustrates two clusters of two different markets that are distinct and do not have many properties “between” them. These clusters are circled in RED. The first market is the large cluster that begins at near \$150,000 and continues to about \$215,000. A second, much smaller cluster, and, therefore, much smaller market, starts around \$250,000 and continues to about \$300,000.



Yes, there are a few small “dots” that indicate properties which have sold outside of those ranges, but the majority of the data centers around these two ranges, indicating separate markets.

The chart also indicates some properties which are anomalies, properties which either sold for much less than the model indicates they should have, or which sold for far less than the model indicates.

In most cases, when you have properties which sold for significantly less than their predicted values (meaning they are HIGHER from the bottom than they are FARTHER from the left of the chart), this is due to short sales, foreclosures, or some other influence, perhaps even poor condition, that negatively affected the actual sale price of the property. In cases where the predicted value is LOWER than the actual sale price, this is indicative of those properties likely having some qualitative items that greatly influenced their sale price that are not accounted for via the quantitative items.

If your data is limited, you want to remove as many of the anomalies as possible. When you have a larger data set, a few anomalies here and there will have little effect.

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If you have several distinct markets, but all of them are close to the “red line” which indicates the point of the lowest and highest sale prices, it is acceptable to include all the markets in your data, but it would be best to find which of the markets the subject property would fit into and exclude the properties of the other markets.

For example, if your subject property is most closely matched to the properties in the \$250k-to-\$300k range, and you have plenty of data for just that market, you would exclude all the data (not include the sales in the regression) which are of the lower market. Conversely, if your subject property has characteristics which, overall, match those sales in the \$150k-to-\$215k range, you would exclude all the properties from the regression outside of that range IF you have enough data from just that market to run the regression.

Also, when you see more data points BELOW the “red line” than above it, this indicates that the model is fairly conservative and that there are qualitative items that likely have a significant influence on sale prices. As such, your results for the variables, when applied directly to the subject or as adjustments in a comparative analysis will indicate a conservative value. This is something to consider when reconciling the values into your opinion of value.

Essentially, you want to see the blue dots which represent as close to the red line (which represents the 45-degree line of sale prices and predicted values being the same) as possible. This would indicate that the predicted values when the characteristics of each sale are valued using the results of the regression are the same or close to the actual sale price, so the model is good. It is okay to have data above or below this line: this is where the deviation comes from, but you want them not too far away from the line.

CHAPTER EIGHT

How are the adjustments made?

The Sales Analysis and the Listings Analysis screens take top ranked sales and listings from your data and then use the values derived from the regression to use as adjustment values for the differences between each sale or listing and the subject's characteristics. This is NOT a standard market analysis, but a market comparison using regression modeling as its basis.

The adjustments are based, as stated, on the appraiser's opinion of value for the various components. By default, these values are what was determined by the regression analysis, but may be adjusted by the user of the program. It should be noted that if the default values are adjusted, this will be indicated within the report that is generated. If the values are adjusted within the range of standard deviation, the report will indicate the value in **BOLD**, and if the value is adjusted OUTSIDE the range of standard deviation, the value will be printed in **RED and BOLD**. If you make any changes to the default values, you should make a comment in your report as to why such was done.

The adjustments for such items determined by the regression are made absolute. This means that every difference, no matter how small of a difference, is adjusted. Often, in a traditional appraisal, it is common not to make adjustments for small differences. For example, if your subject and a comparable are only 20 square feet different, you may not make an adjustment because the typical market buyer would not recognize such a small difference. However, because these adjustments were CALCULATED based on each and every little difference of all the supplied data, the adjustments are also applied in the same manner.

We are not adjusting the sales and listings based on MARKET BUYER perception, but on the mimetically values derived from the market data.

Can I manually add items to be adjusted?

Yes. As with most form type appraisal reports, the Sales and Listings Analysis forms have rows in the grid where you can provide a description and adjustments. These adjustments can be non-absolute, unlike those derived from the regression. You should make comments on any adjustments you manually make.

Can I modify the adjustments?

You can only modify the adjustments for the line items manually entered.

For all the standard regression-driven adjustments, these are absolute and you cannot modify the adjustment, but you CAN modify the characteristic on which it is calculated. For example, if the data stated the year built of a particular property to be 1954, but it was actually built in 1964, you can change the year built and the adjustment will then be recalculated. However, you should make a comment about such.

Reload the Subject information?

If there were changes to the Subject Information which are not being reflected in the Sales or Listings Analysis grid, simply RIGHT-click on the "SUBJECT" title and select "Reload Subject" from the menu that will appear.

SUBJECT		
Address	10146 E. Rainbow Meadow Drive Tucson, AZ 85747	7943 S Ne Tucson, A
Proximity to Subject		Approx. 0
Sale Price / \$ per SF		\$ 162000
List Price / List Date		\$ 165000

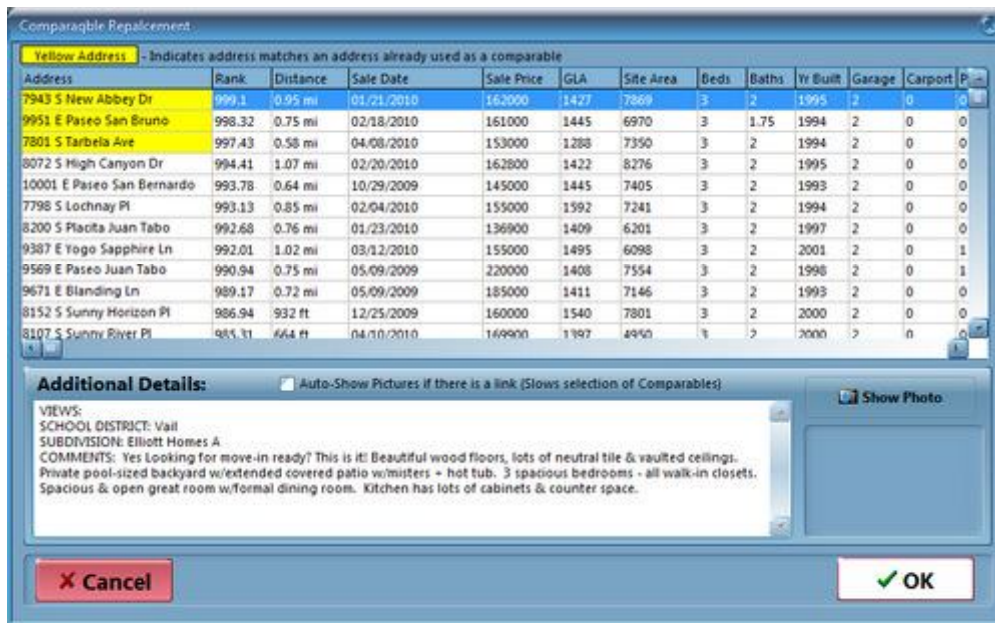
Swapping the order of the comparables

To swap a Comparable with another comparable (meaning to change the order of comparables), simply RIGHT-click on the title of the comparable, click or move the mouse over the “Swap Comparable [Sale/Listing] with...” option, then select the comparable with which you want to swap.



Replacing a Comparable with another comparable

Similar to swapping a comparable, to replace a comparable sale or listing with one from the database, RIGHT-click on the title of the comparable, then select “Replace Comparable [Sale/Listing]” from the menu which appears. This will bring up a new dialog which will display all the sales or listings.



This dialog will highlight the sales or listings which are already being used in YELLOW.

As you select a comparable from this list, detail information such as views, comment, and amenities will be displayed below. This is why fields such as VIEWS, SCHOOL DISTRICT, SUBDIVISION, and general COMMENTS are recommended to be mapped from your MLS.

This allows you to see more detail than would be displayed in the analysis grid and help you to decide whether the sale or listing is a suitable replacement.

In addition, if the PHOTO URL field has been mapped, you can also preview an image of the comparable.

There is a checkbox which, if checked, will automatically show available images, but this slows down scrolling through the comparables as it needs to download and display each photo individually.

To select a comparable, simply select the row of that comparable and click the OK button to replace the existing comparable in the analysis with the one selected in this dialog.

Editing or replacing photos of the comparables

If you DOUBLE-CLICK on the image area for the comparable, this will bring up a dialog box which will allow you to Load a new image or paste an image from the Windows Clipboard if an image has been copied from some other program. There is also an “Edit” button which will open the image in another, larger dialog and allow some minimal editing, such as adjusting contrast, brightness, rotate the or crop the image, etc..



Applying a value, including the Average or Weighted Value



You can enter any value you want for the Sales and Listings analysis. On the main menu bar, there are buttons which will allow you to replace the Average or Weighted Average of the adjusted comparables prices automatically.

Also, note that in the Listings Analysis, another button appears to apply the Average Sale-to-List-Price ratio to adjust the list price used as a forecasted sale price basis. You can manually adjust these, as well.

Getting a location map of the comparables

Again, on the main menu bar, a button will appear to obtain a location map. In addition to getting the map, this will also fill in the proximity information for each comparable.

When the button is clicked, a new map program using Google Maps will appear. Each sale will be plotted. You can drag on the icons representing each property to adjust their position.

CHAPTER NINE

The Reconciliation screen

This chapter deal with the Reconciliation screen. On this screen, you will be presented with a summary of all valuation data, including ranges and percentages of adjustments.

On this screen is where you reconcile all the value conclusions into a single value. In addition, this is where you would make any standard comments regarding the analysis and make any necessary explanations for the valuation decision.

Reviewing Data

Before you can proceed, the report must be reviewed and there must not be any errors.

The review simply checks for missing checkboxes on the Statistics and Trends page and for missing comments for any of the sections that have comment areas.

It is important that as you proceed through the report, complete each screen (Subject Information, Statistics and Trends, Regression Analysis, etc.), including providing comments for each section. If you do this initially, the review will pass.

If the review finds any errors, these will be described. Simply CLICK on the error and you will be taken directly to that error so that you can correct it.

Once the review has passed and no errors have been found, you can proceed to the Report View screen.

CHAPTER TEN

The View Report screen

This screen takes all the data from the analysis on the prior pages and generates a formatted report.

The format of the report and the pages included will depend on many things, including the data available and the type of assignment.

For example, if no comparable photos were available, the photo pages for these will not be included. Also, if the inspection type was a desktop only, the additional subject photos and sketch page may not be visible.

The report will, however, always include the necessary USPAP required statements, such as Scope, Limiting Conditions, Certification, etc...

The reports are ALWAYS a restricted report format.

Signing the Report

If any data changes within the workfile, the report must be resigned. The signing date will always be the date the “Sign” button is pressed. This ensures that any existing reports delivered can be identified as being different from any reports that may have later changed and re-submitted.

Signing the report is a necessary step in order to deliver the report. It must be signed and will be signed with the credentials of the appraiser identified on the Subject Information page.

Delivering the Report

The “Deliver” button handles delivery of the report to your client.

If the order was assigned to you and is not an assignment you started yourself, a PDF of the report will be created and delivered to the client through the Karma-Technologies, LLC. Web services. In such a case, you can also print a report or create a PDF of the report.

If the report is one you started yourself for your own client, **YOU CANNOT EITHER PRINT THE REPORT NOR CREATE A PDF OF THE REPORT.** In addition, your client will also NOT receive the report as you view it. Instead, your client will receive an email (based on the Contact Email Address you provided on the Subject Information screen) which will contain an Internet URL Link to a web page which will display to them ONLY the concluded value and some other cursory information as well as a USPAP-compliant information they need to have to protect YOU. On this web page they will be given the option to PAY for the report at which time they can receive the full PDF of the report as you viewed it. Once payment is received, you will be paid for that report minus a small transaction fee.

Why can't I Print or Create a PDF of the Report?

As stated above, if the report is based on an order not received from Karma-Technologies or one of its resellers, you may not print or create a PDF of the report. Instead, you will only be able to send your client a web-link to a web page we create for you that will give your client details about your analysis, but not allow them to have the full report unless they pay for the full CANVAS report.

CHAPTER ELEVEN

Making appropriate comments

When completed and delivered, your client will receive a report which is not only full of information regarding the data in your analysis, but also includes many explanations and definitions by default so you do not have to spend a lot of time explaining such topics. For example, the report includes definitions of terms used in regression as well as an explanation of regression. It also explains how the adjustments are applied to the sales and the listings analysis.

However, it is important that you provide comments regarding the actions and decisions you personally made. For example, you should explain your sources for subject information. Did you get it from MLS, Public records, etc.?

You should also explain how you made your conclusions on the trends of the neighborhood, your opinions of the feasibility and reliability of the regression analysis, your opinion of the comparables, and finally, your rationale in making your final reconciliation of value.

If you adjust and of the recalculated values, such as the values determined by the regression, you should explain why.

As long as you make comments as to your decisions, you will not have any questions regarding your work.

Try to keep your comments brief but informative. Remember, this is a restricted use analysis prepared in a restricted summary format.

Saving and Retrieving default comments

To SAVE a comment as a “common comment,” while in the comment field simply hold the SHIFT key and press the F2 key. This will bring up a dialog box that will display either ALL the text or the SELECTED text in that comment field and ask for an abbreviation to identify that comment.

So, to save ALL the text you have in a comment field as a standard “common comment,” without having any text selected, press SHIFT+F2. If you only want to save PART of the text you have typed, select that text as you would in any Windows program and THEN press the SHIFT+F2 key combination.

Once a common comment has been saved, whenever you are in that field, you can retrieve that comment by pressing F2 by itself. You will be presented a dialog box which will help you choose which of the saved responses you want to use and also be given the option to REPLACE the existing text or INSERT the common comment at the current cursor location.

Field Link Troubleshooting

The Help Files included with CANVAS contain detailed instructions on linking fields from your data source to the CANVAS program. There are also some videos referenced in the help files.

If you are having problems mapping your MLS or other data source, you should refer to the Help files within the program.

APPENDICE

Required and/or Desired Fields

The following table is a list of fields used by CANVAS and some notes. Your export file should have the required fields at a minimum.

Field	Required	Notes
MLS Number	*	Not required UNLESS it exists in the import source
Street Address	Yes	Should not include Unit Number. In some MLS systems, this is made from several fields, such as Number, Direction, Name, and Type
Unit Number	*	Only if it exists in the import source
City	Yes	You can enter a default value
State	Yes	You can enter a default value
Zip Code	Yes	
County	Yes	You can enter a default value
APN	*	If available
Tax Year	No	
Real Estate Taxes	No	
Year Built	Yes	If Age is given and not year built, this will be automatically calculated.
Property Type	No	If not included, all data from the source will be considered the same type
Site Area	Yes	Just as with Living Area, some MLS systems give only a range for this. You can choose a converted (for example, average) value for this to improve the math functionality.
Site View Amenities	No	
Number of Units	No	
Living Area	Yes	Some MLS systems only export as a RANGE such as "800-1000." You can define a conversion value for this which will improve the functionality of the math.
Total Rooms	No	
Bedrooms	Yes	
Baths	Yes	You do NOT want QUANTITY, but actual bath type breakdown count. For example, you want 1.75, not 2, if available. Some MLS systems break these down by type, and they can be summed to get an accurate bath breakdown count.
Basement	*	If Available, use Basement overall Area
Heating Type	*	If available. Some MLS systems have Heating and Cooling in a single field. Use THAT single field.
Cooling Type	*	If available. Some MLS systems have Heating and Cooling in a single field. Use THAT single field.
Fireplace Count	*	If available

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Pool	*	If available. Some MLS systems include both Pool and Spa. In this case, use that single field.
Spa	*	If available. Some MLS systems include both Pool and Spa. In this case, use that single field.
Patio/Porch	*	If available
Design Info	No	
Construction (Ext Walls)	No	
Roofing Type	No	
Sale Price	YES (For MLS Sales)	
Sale Date	YES (for MLS Sales)	Actual CLOSING Date, NOT Contract Date
List Price	YES (for MLS data)	This is the CURRENT or LAST List Price
List Date	YES (for MLS data)	
Original List Price	*	If not available, List Price is assumed.
Days on Market	YES (for MLS data)	"CUMULATIVE" (TOTAL) preferred if available
Listing Status	YES (for MLS data)	If not available, no sale price indicates listing
Prior Sale Price	*	If available
Prior Sale Date	*	If available
REO/Short Sale/Distress Sale	*	If available
Seller Concession in \$ amount	*	If available
Fix-Up Status indicator	*	If not, all considered equal condition
School District	*	If available
Census Tract	*	If available
Flood Status/Insurance Required	*	If available
Subdivision	*	If available
Latitude	*	If available
Longitude	*	If available
Legal Description	*	If available
Garage Spaces	YES	Some MLS combine carport and garages: use this in this case.
Carport Spaces	YES	Some MLS combine carport and garages: use this in this case.
Comments	No	Realtor remarks, information about subject property
Financing Type	No	
Location	No	(Urban, Suburban, Rural)
Agent Name	*	If available
Agent Phone	*	If available
URL/Link to Photograph	*	If available. Some MLS systems require this to be built from characters. Karma can help with this.