



## User’s Guide for Metropolitan Area Market Analysis (MAMA) Reports

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## 2011 Q3 Changes to MAMA

### Overview

The Metropolitan Area Market Analysis (MAMA) includes major revisions this quarter. All reports have been simplified to a 1-page format which still includes the High Risk Indicator Summary (metro reports only), Risk Summary Indicators (state reports only), and detailed data and graphs on home prices, credit conditions, employment and affordability. Inventory data has been removed from the reports due to weaknesses in the survey data. In the employment section, % Receiving UI Benefits has been replaced by 1-yr Labor Force Growth and Unemployment Rates. A detailed description of data changes is provided below.

### Design Changes to Metro Area Reports

Previously, all metro reports began with a Summary Page, followed by 2 pages with detailed data, graphs and analysis.

#### **Old Design – Metro Reports**

*Page 1 (MAMA summary page; only for metro area reports):*

*Metro Area Risk Summary (bullet point format)*

*RMIC Market Classification*

*High Risk Indicators Summary*

*Page 2:*

*High Risk Indicators Summary*

*Raw Data Graphs: Home Price Appreciation, Employment Growth*

*4Q MA Graphs: Home Price Appreciation, Employment Growth, Initial UI Claims Rate*

*Section 1: Home Prices*

*Section 2: Employment*

*Section 3: Major Industry Concentrations*

*Page 3:*

*Raw Data Graphs: Unemployment Insurance Benefits, Balance of Income/Inflation/Housing Costs, Homeowner Vacancy Rates, Delinquency Rates*

*4Q MA Graphs: Home Price Valuation (RMIC), Homeowner Vacancy Rates, Delinquency Rates*

*Section 4: Affordability*

*Section 5: Housing Inventory*

*Section 6: Credit Conditions*

In order to reduce the MAMA metro reports from 3 pages to 1 page, the following revisions were made:

- Reformatted the High Risk Indicators Summary, with Warning and High Risk Indicators now shown above each report section
- Removed
  - Housing Inventory Data
  - All 4Q MA graphs
  - 2 Raw Data Graphs: Unemployment Insurance Benefits, Homeowner Vacancy Rates
  - 2<sup>nd</sup> copy of the High Risk Indicator Summary
  - Interthinx and RealtyTrac bullet points from Metro Area Risk Summary



The latest Metro Area MAMA reports are available for over 380 metro areas in an improved 1-page format:

***New Design – Metro Reports***

- Metro Area Risk Summary (Metro area reports only)*
- RMIC Market Classification (Metro area reports only)*
- Graphs: Home Price Appreciation, Delinquency Rates, Employment Growth, Balance of Income/Inflation/Housing Costs*
- High Risk Indicators Summary (Included above each report section)*
- Section 1: Home Prices*
- Section 2: Credit Conditions*
- Section 3: Employment*
- Section 4: Affordability*
- Section 5: Major Industry Concentrations*

Design Changes to State-Level Reports

Each state report previously included 2 pages with detailed analysis based on state-level data, followed by a summary of metro areas in the state on page 3.

***Old Design – State Reports***

*Page 1:*

- High Risk Indicators Summary*
- Raw Data Graphs: Home Price Appreciation, Employment Growth*
- 4Q MA Graphs: Home Price Appreciation, Employment Growth, Initial UI Claims Rate*
- Section 1: Home Prices*
- Section 2: Employment*
- Section 3: Major Industry Concentrations*

*Page 2:*

- Raw Data Graphs: Unemployment Insurance Benefits, Balance of Income/Inflation/Housing Costs, Homeowner Vacancy Rates, Delinquency Rates*
- 4Q MA Graphs: Home Price Valuation (RMIC), Homeowner Vacancy Rates, Delinquency Rates*
- Section 4: Affordability*
- Section 5: Housing Inventory*
- Section 6: Credit Conditions*

*Page 3 (summary of metro areas in the state; only for state level reports):*

- Section 7: High Risk Indicator Summary vs. **History** for all metro areas in the state*

To consolidate the information from 3 pages to 1 page, the state-level reports were revised as follows:

- High Risk Indicator Summary **vs. History** for all metro areas in the state moved to the top section of the report. Only the largest 15 metro areas are shown based on HMDA origination volume.
- Reformatted the High Risk Indicators Summary, with Warning and High Risk Indicators now shown above each report section
- Removed
  - Housing Inventory Data
  - All 4Q MA graphs
  - 2 Raw Data Graphs: Unemployment Insurance Benefits, Homeowner Vacancy Rates



New state-level reports are available for all states in this revised 1-page layout:

***New Design – State Reports***

- Risk Summary Indicators (summary of largest metro areas within the state)
- Graphs: Home Price Appreciation, Delinquency Rates, Employment Growth, Balance of Income/Inflation/Housing Costs
- High Risk Indicators Summary (Included above each report section)
- Section 1: Home Prices
- Section 2: Credit Conditions
- Section 3: Employment
- Section 4: Affordability
- Section 5: Major Industry Concentrations

Employment Data Revisions

The MAMA Employment section has been revised with the removal of 1 data element and addition of 2. This section now includes 1-yr Labor Force Growth and Unemployment Rates compiled by MEDC based on BLS data. These indicators are important factors for evaluating the economic health of local markets in terms of employment in both the short and longer term. The Insured Unemployment Rate (i.e., % Receiving UI Benefits) was removed from this section due to its declining relevance in the current environment. Many long-term unemployed have exhausted their unemployment insurance benefits now, reducing the efficacy of this metric in explaining trends in employment. Unlike the % Receiving UI Benefits, the 1-yr Labor Force Growth and Unemployment Rates are available at the metro area level of detail.

Major Industry Concentration Revisions

The Major Industry Concentration Section has been totally redesigned this quarter. Previously, each metro area MAMA report gave focus to major industry sectors with the highest proportion of total workers relative to proportions at the state and national levels. State level MAMA reports highlighted major industry sectors with higher proportions of total workers relative to the national level. Both types of reports provided the top 3 industry concentrations in the area.

Now each report focuses on the concentrations and growth rates for each of the 12 major industry sectors. Concentration percentages for each industry sector are compared with concentrations nationally to identify sectors with High and Low concentrations in the metro area or state. 1-yr growth rates are also calculated for each industry sector, with symbols used to classify the growth rates into one of three categories.

Housing Inventory Section Removed

The Housing Inventory Section was removed from the MAMA reports due to the small sample size used by the Census Bureau in its monthly Housing Vacancy Survey. This section previously included homeowner vacancy rates, rental vacancy rates, homeownership rate, and the ratio of residential permits to the total number of households in 1000s. Housing inventory data was also removed from the Metro Area Risk Summary, High Risk Indicator Summary, and raw data graphs.



#### 4Q MA Graphs Removed

In order to transition the 3-page MAMA report format to 1 page, all 4-quarter moving average (4Q MA) graphs were removed. These graphs showed how the “Very Low” – “Very High” comparison values changed over time. Six graphs were impacted by this change:

*1-yr Home Price Appreciation, 4Q MA*  
*Y/Y Employment Growth, 4Q MA*  
*Initial UI Claims Rate, 4Q MA*  
*Home Price Valuation (RMIC), 4Q MA*  
*Homeowner Vacancy Rate, 4Q MA*  
*60+ Delinquency Rate, 4Q MA*

#### Raw Data Graph Removals

Two raw data graphs were removed from the MAMA reports this quarter. The graph on homeowner vacancy rates was removed as well as the Unemployment Insurance Benefits graph since these data are no longer included in the MAMA reports.



## Focus of MAMA

The MAMA reports provide signals indicating when data has moved outside of "normal" levels. These warning signs focus on how current values for the area compare to historical values for the area. The data studied here includes both trailing and leading indicators of the health of an area's housing market. These data are segmented into four categories:

- Home Prices
- Credit Conditions
- Employment
- Affordability

Each of these categories influences borrower behavior, impacting future demand for housing, future home price appreciation, and default and loss rates. Areas with bright prospects will have few warning signs, while those with many high risk indicators will likely continue to struggle.

## Report Sections

### Overview

MAMA reports are available for over 380 metro areas and all 50 states, including the District of Columbia. While both the metro area and state-level MAMA reports have the same graphs and detailed data on home prices, credit conditions, employment and affordability, there are differences between the reports. Each metro area report includes RMIC's market classification and a bullet point summary of key data. This information is not included in the state reports. State-level reports, however, include a summary of **vs. History** indicators for the largest 15 metro areas within the state.

Below is an outline of report sections included in both the metro area and state-level reports. Each section is described in detail in the following pages.

### *Metro Area Reports*

- Metro Area Risk Summary
- RMIC Market Classification
- Graphs: Home Price Appreciation, Delinquency Rates, Employment Growth, Balance of Income/Inflation/Housing Costs
- High Risk Indicators Summary (Included above each report section)
- Section 1: Home Prices
- Section 2: Credit Conditions
- Section 3: Employment
- Section 4: Affordability
- Section 5: Major Industry Concentrations



*State Level Reports:*

- Risk Summary Indicators (summary of largest metro areas within the state)
- Graphs: Home Price Appreciation, Delinquency Rates, Employment Growth, Balance of Income/Inflation/Housing Costs
- High Risk Indicators Summary (Included above each report section)
- Section 1: Home Prices
- Section 2: Credit Conditions
- Section 3: Employment
- Section 4: Affordability
- Section 5: Major Industry Concentrations

These acronyms will be used in the remainder of this document to represent entities providing data sources:

- BLS: Bureau of Labor Statistics
- BOC: Bureau of the Census
- ETA: US Employment and Training Administration
- FHFA: Federal Housing Finance Agency
- MEDC: Moody’s Economy.com (Moody’s Analytics)
- NAR: National Association of Realtors

Metro Area Risk Summary (Metro Area Reports Only)

The Metro Area Risk Summary is designed to simplify understanding of the detailed information contained in the metro area MAMA reports. Key data on home prices, employment, delinquencies, and affordability are summarized in bullet point format.

RMIC Market Classification (Metro Area Reports Only)

This section displays RMIC’s current metro area market classification (Level 1/2/3) and policy effective date.

High Risk Indicator Summary

A High Risk Indicator Summary is included above each section of the MAMA report. Current values for home prices, credit conditions, employment, and affordability are compared to historical values and targeted control limits. Possible rating values include:

Symbol	Meaning	vs. History	vs. Control
●	“High Alert”	All measures indicate high risk	Key measure falls well outside control limits
◐	“Warning”	Some measures indicate high risk	Key measure falls outside control limits
○	“Normal”	No measures indicate high risk	Key measure falls within control limits



Separate ratings are provided for **vs. History** and **vs. Control** comparisons in the Summary. The **vs. Control** indicators isolate one key measure representing the category and determine if the measure currently falls within ranges typically associated with healthy housing markets. These ranges are:

Category	Key Measure	Normal Range	Warning	High Alert
Home Prices	1-yr Home Price Appreciation	2-8%	0-2%, 8-12%	< 0%, > 12%
Credit Conditions	60+ Delinquency Rate (Includes Foreclosures)	< 2.0%	2.0-5.0%	> 5.0%
Employment	1-yr Employment Growth	1% or greater	0-1%	< 0%
Affordability	Home Price Valuation (RMIC)	Not Overvalued	Overvalued	Substantially Overvalued

The **vs. History** indicators are based on multiple measures associated with the category. These ratings are made by comparing current values to historical levels observed for the specific area. Current values are classified as “Very Low”, “Low”, “Average”, “High”, or “Very High” depending on where they lie among the historical distributions. Following are the measures used to determine High Risk Indicators:

Category	Data	High Risk Values
+Home Prices	6-mo Home Price Appreciation	Very High, Very Low
	1-yr Home Price Appreciation	Very High, Very Low
	3-yr Home Price Appreciation	Very High, Very Low
Credit Conditions	60+ Delinquency Rate (Includes Foreclosures)	Very High, High
	90+ Delinquency Rate (Includes Foreclosures)	Very High, High
	Foreclosure Rate	Very High, High
Employment	Annualized 3-mo Employment Growth	Very Low, Low
	1-yr Employment Growth	Very Low, Low
	Unemployment Rate	Very High, High
Affordability	Home Price Valuation (RMIC)	Very High, High
	Avg Price to Income Ratio (RMIC)	Very High, High
	Mtg Pmt to Rent Ratio (RMIC)	Very High, High

*Example: High Risk Indicator Summary*

<b>Home Prices</b>	<b>vs. History</b>	
	<b>vs. Control</b>	<b>Current 1-yr HPA &lt; 0%</b>
<b>Employment</b>	<b>vs. History</b>	
	<b>vs. Control</b>	<b>Y/Y Employment Growth 0-1%</b>
<b>Affordability</b>	<b>vs. History</b>	
	<b>vs. Control</b>	<b>Home Prices Not Overvalued</b>
<b>Credit Conditions</b>	<b>vs. History</b>	
	<b>vs. Control</b>	<b>60+ Delinquency Rate &gt;= 5%</b>

The Summary begins with symbols indicating **vs. History** and **vs. Control** risk levels for each category. In this example, home prices show a “Warning” when comparing to historical values, but show “High Alert” when compared to control limits. Warnings show for Employment vs. History and vs. Control due to mixed results in **vs.**



**History** comparisons and a slow level of 1-yr growth. Affordability doesn't appear to be a problem here since all metrics are normal compared to historical values for the area, and the RMIC Valuation Score indicates the area is not overvalued. Since delinquency rates and foreclosure rates are very high compared to historical levels and the 60+ delinquency rate (including foreclosures) exceeds the 5% control limit, the credit conditions section is on "High Alert" for both **vs. History** and **vs. Control**.

If there are multiple categories for an area on "High Alert" **vs. History** or **vs. Control**, then there are multiple factors indicating the potential for poor performance in the short-term.

#### Raw Data Graphs

Each MAMA report includes four raw data graphs to show values over time for key measures. The graphs provide observed historical data without smoothing. These graphs are not based on 4-quarter moving averages, but simply provide the quarterly observed values. Note that the scale of the y-axis will vary from one metro area/state report to another.

1. 1-yr Home Price Appreciation Rate:  
Annual home price growth based on CoreLogic Home Price Index (Single Family Combined Tier Including Distressed Sales); provided for the nation and the metro area/state.
2. 60+ Delinquency Rate (Includes Foreclosures)  
Count-based percentage of first lien mortgages 60+ days delinquent (MBA status) or in foreclosure based on LPS McDash Core Database covering large segment of industry; provided for the nation and the metro area/state.
3. 1-yr Employment Growth:  
Percentage increase in total non-farm employed positions over the last 12 months; provided for the metro area/state. These data are compiled by MEDC based on BLS data.
4. Balance Between Income & Housing Costs (second page):  
Cumulative growth since 1980 in the CoreLogic Home Price Index (Single Family Combined Tier Including Distressed Sales) and Median Household Income; provided for the metro area/state.

#### Panel Data

The Panel Data in Sections 1-4 show current values and comparisons for multiple data elements. Under each category (Home Prices, Credit Conditions, Employment, and Affordability) classification values are shown on the left and current values on the right. The Panel Data assigns "VL" – "VH" (i.e., "Very Low" – "Very High") classifications for several data elements, focusing on how current metro area values compare to historical values, current state values, and current national values:

1. **vs. History:** Compare current values to historical levels over time for the metro area/state
2. **vs. State:** Compare current difference between metro area and state value to historical differences between metro area values and state values in the same state (**vs. State** comparisons are not relevant for State MAMA Reports)
3. **vs. Nation:** Compare current difference between metro area and national value to historical differences between metro area values and national values



Panel Data sections provide data as of the quarter end noted in the top, right corner of the MAMA Report. The “VL” – “VH” designations are based on where current values/differences lie among historical distributions. These levels are defined consistently for **vs. History**, **vs. State**, and **vs. Nation** comparisons as follows:

- Very Low (VL): 0-10<sup>th</sup> Percentile
- Low (L): 10-25<sup>th</sup> Percentile
- Average (A): 25-75<sup>th</sup> Percentile
- High (H): 75-90<sup>th</sup> Percentile
- Very High (VH): 90-100<sup>th</sup> Percentile

NOTE: All highlighted cells correspond to the data elements listed as High Risk Indicators for the area.

Major Industry Concentrations

The BLS produces estimates of the number of employed workers by various job categories in its Current Establishment Survey. The hierarchical nature of the job categories allows them to be aggregated to different levels of detail. MAMA reports provide analysis based on the highest level of aggregation, often referred to as economic sectors or major industry segments. There are 12 of these in MAMA:

- Education / Health Services
- Federal Government
- Financial Activities
- Information
- Leisure / Hospitality
- Manufacturing
- Natural Resources, Mining, and Construction
- Professional / Business Services
- State / Local Government
- Transportation / Utilities
- Wholesale / Retail Trade
- Other

In this section, the percentage of total nonfarm employment for each major industry segment is provided along with a symbol representing its year-over-year growth rate:

Symbol	Meaning	1-yr Growth
●	“High Alert”	1-yr Employment Growth ≤ 0%
◐	“Warning”	1-yr Employment Growth 0%-1%
○	“Normal”	1-yr Employment Growth > 1%

Industry concentrations and growth rates are shown on each MAMA report for the particular metro area/state and Nation. If a metro area is missing employment data in one or more industry segments, no data is included in the section and the message “Industry Concentration data not available for this metro area” is shown.

In order to compare the concentration of an industry sector in a metro area/state to the concentration in the nation, a “High”/“Low” value is provided to the immediate right of the concentration percentages. If the industry



concentration in the metro area/state is at least 2% greater than the national concentration, we consider it “High”. If the concentration in the metro area/state is at least 2% less than the national concentration, we consider it “Low”.

All data is sorted by national industry concentrations in descending order so that every MAMA report has the industries listed in the same order.

Risk Summary Indicators (State reports only)

The risk summary indicators are included in the top portion of the state-level MAMA reports. This section provides a summary of high risk indicators for the largest metro areas in the state. The summary includes **vs. History** ratings for each of the 5 risk categories. Data are shown for up to 15 metro areas on each state report.

**Data Element Definitions**

Following are descriptions of each data element included in the MAMA Reports.

*Section 1: Home Prices*

3-mo Home Price Appreciation	3-month home price appreciation based on the CoreLogic Home Price Index (Single Family Combined Tier Including Distressed Sales), NSA, Not Annualized
6-mo Home Price Appreciation	6-month home price appreciation based on the CoreLogic Home Price Index (Single Family Combined Tier Including Distressed Sales), NSA, Not Annualized
1-yr Home Price Appreciation	Year-over-year home price appreciation based on the CoreLogic Home Price Index (Single Family Combined Tier Including Distressed Sales)
3-yr Home Price Appreciation	Home price appreciation over the last 3 years based on the CoreLogic Home Price Index (Single Family Combined Tier Including Distressed Sales), Not Annualized



Section 2: Credit Conditions

30+ Delinquency Rate (Includes Foreclosures) *	Count-based percentage of first lien mortgages 30+ days delinquent (MBA status) or in foreclosure based on servicer data from LPS McDash Core Database covering majority of mortgage industry
60+ Delinquency Rate (Includes Foreclosures) *	Count-based percentage of first lien mortgages 60+ days delinquent (MBA status) or in foreclosure based on servicer data from LPS McDash Core Database covering majority of mortgage industry
90+ Delinquency Rate (Includes Foreclosures) *	Count-based percentage of first lien mortgages 90+ days delinquent (MBA status) or in foreclosure based on servicer data from LPS McDash Core Database covering majority of mortgage industry
Foreclosure Rate *	Count-based percentage of first lien mortgages in some stage of foreclosure process based on servicer data from LPS McDash Core Database covering majority of mortgage industry
Personal Bankruptcy Rate	Seasonally adjusted annualized rate of personal bankruptcies in the state for the most recent quarter / Average number of households in the state over last 4 quarters. Bankruptcy figures estimated by MEDC using data from US District Courts.

\*Delinquency Rates Include Foreclosures

Section 3: Employment

Annualized 3-mo Employment Growth	Percentage increase in total non-farm employed positions over the last 3 months, compiled by MEDC based on BLS data. The data is annualized for comparisons with Y/Y growth rates.
1-yr Employment Growth	Percentage increase in total non-farm employed positions over the last 12 months, compiled by MEDC based on BLS data
1-yr Labor Force Growth	Percentage increase in number of civilian population ages 16 and older that are employed or actively seeking work, based on BLS data
Unemployment Rate	Proportion of labor force that is unemployed despite actively seeking work, based on BLS data
Initial UI Claims Rate	Proportion of covered employment filing initial claims for unemployment insurance benefits. This is estimated by ETA as Initial UI Claims / Covered employment. These data are only available at the state level.



Section 4: Affordability

Home Price Valuation (RMIC)	Proprietary score representing percentage home prices are over-valued based on relationship between home prices and average income levels; Positive values are over-priced; Negative values are under-priced
NAR Affordability Index	Score produced by NAR representing housing affordability; Values over 100 are affordable; values under 100 are not affordable
Average Home Price (RMIC)	RMIC estimated average home price based on home price appreciation rates from the CoreLogic Home Price Index (Single Family Combined Tier Including Distressed Sales). The appreciation rates are applied to MEDC estimates of median home prices as of 2000 Q1.
Avg Price to Income Ratio (RMIC)	Ratio between RMIC estimated average home price and median household income based on MEDC estimates of income; household income is extrapolated using per capita income values due to an information lag of 2-4 quarters.
Mtg Pmt to Rent Ratio (RMIC)	Ratio between RMIC estimated average mortgage payment and RMIC estimated rent. The average mortgage payment is based on an 80% LTV 30-year fixed mortgage at the current market interest rate, with property value equal to the RMIC estimated average home price. Rent payment estimates are determined using a combination of data sources. Historical estimates (1982-2010) are found via <a href="#">UVA economics web site</a> and are based on annual rental price indices produced by economics professors Carrillo, Early, and Olsen. More recent estimates are based on projections of changes in asking rent values from <a href="#">Axiometrics</a> and <a href="#">Marcus &amp; Millichap</a> .



## Frequently Asked Questions

How should I think about the default risk in an area if there are mixed signals?

Think of MAMA's High Risk Indicators like the set of warning signals on your vehicle's dashboard. Each signal is a notice that some element of risk has reached a level where further attention is warranted, but the attention needed varies from indicator to indicator. For example, the oil pressure light or low fuel indicator is likely to generate a prompter response than the "service needed" or "check windshield wiper fluid" lights. Likewise in MAMA, home prices and credit conditions may demand more of our attention than affordability or employment, depending on our focus. However, for housing markets to appreciate at healthy levels, housing demand and supply must be in balance. This generally requires steady employment growth, affordable house prices, and low levels of distressed inventory.

*In the current environment, more focus should be given to employment and credit conditions data. Substantial employment growth is needed to increase demand for housing, and delinquency/foreclosure rates need to approach normal levels before positive home price appreciation patterns can return.*

Why don't you have a single score to rank areas?

The scores we have developed and the scores we have seen from other sources do not possess sufficient resolving power to warrant their use as single values to rank relative risk.

How do the "VL" – "VH" classifications relate to the warning signs?

Depending on the indicator, "VL," "L," "H," "VH," or some combination of these may correspond to heightened default risk. For example, both "VL" and "VH" home price appreciation levels are considered warning signs. When California home price growth was through the roof in the early-mid 2000s, it was reflecting a home price bubble inflated in part by speculators. Likewise, the recent strong depreciation in California is a bad sign since borrowers acquiring new loans may lose equity quickly after purchasing a new home.

The table on Page 8 indicates which classifications ("VL" – "VH") represent high risk signals for each data element.

Why do I get no high risk indicators when data are "VL" or "VH" in some cases?

Not every extreme of every indicator is indicative of heightened default risk. When an extreme reading of an indicator is not associated with heightened default risk, no warning is needed, and so none is given. For example, very low delinquency rates would reflect low levels of distressed inventory which typically leads to future home price appreciation.



What do **vs. History**, **vs. Control**, **vs. State**, and **vs. Nation** mean, and which of these is most important?

The comparison of a current area value **vs. History** places that value in the distribution of all historical values recorded for the area.

The comparison of a current area value **vs. Control** compares that value to fixed control limits. These limits were selected based on study of historical values across all areas over time. The same set of targets is applied for every metro area/state. A comparison **vs. Control** tells us if the current value falls in a range consistent with those typically observed in healthy housing markets.

The comparison **vs. State** is made in two steps. First, compute the difference between the current value for the metro area and the current value for the state. Second, place this difference in the distribution of all historical differences recorded between the state values and the metro area values for all metro areas in the state. A comparison **vs. State** tells us if the gap between the metro area value and the state value is extreme relative to all historical differences among the metro areas in the state.

The comparison **vs. Nation** is made in two steps. First, compute the difference between the current value for the metro area and the current national (average) value. Second, place this difference in the distribution of all historical differences recorded between the national values and the metro area values. A comparison **vs. Nation** tells us if the gap between the metro area value and the national average value is extreme relative to all historical differences between metro areas and the nation.

Which of the four categories (Home Prices, Affordability, etc.) is most important for projecting future default rates?

High home price appreciation levels can mask problems with the other categories, so it can be viewed as most important under certain conditions. Otherwise, the amplitude and timeliness of change in default risk is generally greatest in response to employment growth, with negative employment growth serving as a sign of growing default risk, and historically high employment growth generally associated with declining or stable default risk.

Extremely low affordability, especially when combined with low or negative employment growth is a danger sign, though there may be a significant lag in the timing of excessive default rates when home prices run ahead of household income. The greater the affordability gap when default rates climb, however, the greater the likely retreat of home appreciation, with the resulting greater severity of defaults that fail to cure. Probably the least forward-looking indicator of default risk would be the observed delinquency and foreclosure rates, unless these data suggest growing levels of future distressed sale activity, in which case the likelihood for home price depreciation rises.