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## AN EASI DEMOGRAPHICS WHITE PAPER:

### 2010 CENSUS – CREATING BLOCK GROUP BENCHMARKS

#### INTRODUCTION

Easy Analytic Software, Inc. (EASI) is a New York-based independent developer and marketer of desktop and internet demographic data and software solutions that provide demographic reports with unique search and analysis tools. EASI provides targeted site analysis software and updated demographics and related data for standard and customized geographies including Block Groups, Census Tracts, ZIP Codes, Cities, Counties, CBSAs, States, and the US.

Included with all software is a simple to learn mapping tool that performs street lookups, point maps, ring studies, create quintile analysis, and much more. EASI has been in business since 1995 with over 1,500 clients who use our databases, software, and on-line services.

#### THE EASI RESEARCH METHODOLOGY – OUR PHILOSOPHY

*The cornerstone of our methodology is the creation of a proper benchmark or starting point for a data series.* We use proprietary procedures, models, and algorithms to create that benchmark and then update and forecast the data elements in a manner that allows for accountability and accuracy; we call it **Publication Quality**.

*Publication Quality data must make sense.* EASI works hard to be good “data accountants” and ensure that all tabulations logically sum to each other where expected, regardless of their distinct sources, or the rounding issues inherent in generating Block Group level data. These are our concerns, **not** our clients concerns.

*Published numbers, and numbers publishers, must be accountable.* Clients often have questions, numbers are often surprising, and at EASI we believe our job does not end when we publish our data. We welcome the opportunities to answer client questions, and because we control every step of our updates in-house, we are able to do so thoroughly and quickly.

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# EASI STRATEGIES FOR INCORPORATING CENSUS 2010

## WHITE PAPER OVERVIEW

We have received inquiries from clients concerning EASI's strategies for addressing the changes in the 2010 Census data collection. In this discussion we will focus first upon the challenges created by the shortened 2010 Census Form, followed by a clear outline of how EASI will be able to provide you with ongoing quality estimates in spite of these issues.

The 2010 Census, with its limited 10 question range, is a marked departure from the detailed Decennial data collection efforts of past years. This lack of detailed sample information will require EASI to maintain the high quality estimates of past decades, with less direct 2010 Census input than ever before.

This change has caused statisticians and demographers to re-think many of the procedures that were previously used in producing updated demographic estimates. Fundamental data elements such as Population, Households, Race and Age will still be available from the 2010 Census. However many key indicators such as Income, Home Value, and Employment will not be released as part of the Decennial Census.

Data providers will be now responsible for creating their own benchmarks for non-released demographics. Benchmarks will need to be developed from multiple, often diverse sources, creating more challenges for demographers than ever before.

## EASI'S POSITIONING TO MOVE FORWARD

It has been an EASI philosophy, to not merely report and repackage Census data, but to develop procedures which resolve the inconsistencies within the different Census data sets and present our customers with data that is Publication Quality. These techniques and procedures represent 35+ years of experience in preparing Census input starting with the 1970 Census.

We now have over 5 years experience studying the new American Community Survey (ACS) data, and are adding the Public Use Microdata Samples (PUMS) to our library of inputs. These are the data we will need to create the high quality, consistent Block Group demographics our clients have come to expect from us.

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## KEY ISSUES

*The single most crucial issue concerning detailed demographics in the Census 2010 era is that ACS is not a “Census Replacement”.* The Census goal by law is true population counts (for new Congress, redistricting, etc.), while the ACS is NOT about population counts but about demographic characteristics.

In past decades, the SF3 Census File was a statistically significant sample covering the entire country, created once every 10 years; whereas ACS is a large multi year survey conducted annually. ACS represents a span of several years (up to 5 years), rather than the “snapshot in time” that the Census represents (i.e. 4/1/2010). Additionally the ACS data set is not an exact replacement for the SF3 Census data.

*What this really means is:* We can determine the exact Population and Household counts of Eugene, OR, from the Census Bureau’s 2010 Population Estimate Program but if we want to learn the social characteristics of Eugene, such as Education Attainment and Age by Sex, we have to turn to ACS.

*The next most significant issues are the inherent inconsistencies found between multiple input sources as well as the specific definitional differences between Census and ACS data.* These differences require far more expertise and attention to detail than ever before. Sources must be evaluated for accuracy and usefulness, inconsistencies must be resolved, and methods must be developed to integrate the best possible resources. For example, while the CPS (Current Population Survey) is a smaller sample than the ACS, it is optimized for accurate Population counts, and will be our source for updated Population and other variables.

Several specific areas of concern include:

- Inconsistent housing units. ACS uses a “2 month rule” of length of stay whereas the Census question is “what is your usual residence”. The Census includes no seasonal residences in their housing counts but ACS does.
- Inconsistent Income definitions. ACS income is inflation adjusted, Census income is not. We will be using the Census P60 Income data at the US Level for the purposes of consistency.

*Most importantly, despite these obstacles, the ACS actually provides a major opportunity for constantly improving EASI’s annual estimates.* ACS survey data (5 year version) can be used for a Summary type file substitution on an annual basis compared with the previous decennial releases of SF3. Each year ACS adds a new year and drops an old year, keeping the survey fresh. EASI will make modifications to previous benchmarks as the ACS release more closely coincides with the desired April 1, 2010 actual Census date.

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## ACS STRENGTHS AND LIMITATIONS

*Since so much of the backbone of future estimates will be coming from the ACS, it is important to understand some of the strengths and weaknesses of these data.* As previously stated the most significant improvement in data collection is that the ACS is collected annually. This will keep the details of our annual estimates more up to date than ever before.

The greatest advantages of utilizing ACS are:

- **Benchmark Accuracy:** Since the ACS is being released annually we will be obtaining new information to marry with previous year's data and over the next 5 years the accuracy of these benchmark data will surpass the detailed data previously available from the Census. Each additional year will allow EASI to fine tune our benchmark data and ensure that the starting point for updates will be equal to or surpass what we used in previous censuses
- **Update Accuracy:** Substantial increase in the availability of more localized data for use in models. Specifically Block Groups and Census Tract level changes will be supplied annually through ACS. This will generate greatly improved information about how very small areas such as Block Groups change demographically over time.
- **Increased Data Detail:** In the past we were limited to variables which we knew we could reliably update during the 10 years between Census releases. Now that ACS is available annually at the local level, we are able to provide more detailed data than ever before. Specifically, more tables which can be differentiated by race and gender.

The primary limitation of ACS:

- **Input Confusion:** ACS survey results are released in single year files, in 3 year files, and in 5 year files. Because of the smaller ACS sample sizes there are reliability issues with some single year and 3 year data releases. Certain tables in each geography level may be excluded because of unacceptably high sampling errors. To overcome this, experienced vendors such as EASI will lean heavily on the more reliable 5 year ACS files and enhance the data with the 1 and 3 year files when analysis proves them to be reliable enough for Publication Quality estimates. This provides the optimal mix of accuracy and detail.

EASI will also use the ACS PUMS (Public Use Microdata Sample) files to generate important tabulations that are not a part of the standard releases of the Census or the ACS. One such key tabulation is the Age of Head of Households by Income Groups. The ability to create these tabulations from PUMS will allow EASI to create more significant benchmarked tables, as well as higher quality updates each year.

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## EASI METHODOLOGY

*Without divulging our exact proprietary methods, we want our clients to have an overview of how we will be handling the Census changes in order provide assurance that EASI will be doing the detailed and complex work necessary to resolve these Census changes in a manner that will be transparent to you and your applications of the data.*

EASI has developed algorithms that create comparable data between the new Census counts, the current ACS estimates, and the 2000 SF3 counts. We use the ACS data from the 5 year ACS release, which offers users the best and most usable set of data. During this procedure we capture data for over a thousand demographic variables. This wide data capture net will allow us to continue to publish all of the same data we have been publishing, and allow us to add additional tabulations to the EASI Data Library.

Once we have gathered, cleaned, and organized all of our input data, EASI will follow this general outline to provide continuous quality estimates and forecasts, using procedures developed over the last 15 years, and modified for ACS input over the last 2 years:

- EASI will evaluate Census, CPS, ACS, and ACS PUMS input data and, for each tabulation, select the data set that will provide the most accurate and reliable numbers.
- Every year until 2014 EASI will create a new Benchmark file for 2010 (April 1, 2010) using the ACS 5 year files.
- EASI will use as much 3 year data and 1 year data as is reliable enough for inclusion.
- PUMS will be used for creating tabulations not available from the 2010 Census or ACS releases.
- All tabulations will be controlled and standardized to meet the EASI commitment to Publication Quality data.

This additional level of complexity is one important reason that users will be well served to select a vendor with EASI's expertise in creating and updating Census Demographics.

## SUMMARY

The next several years of demographic estimates and projections could be a bit disconcerting for those not using EASI as a source. Our goal as a vendor is to absorb changes as they arise and keep them transparent to our users. The integration of ACS into these estimates will be challenging, BUT with the procedures and techniques developed at EASI over the past 15 years and 35+ years in the demographics business our estimates will continue to be of Publication Quality. And as more ACS data become available our estimates will reflect the positive improvements that these data offer and, in many instances, to a degree not previously possible.

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