



## New at CareerOneStop

CareerOneStop offers a range of tools and resources for analysts, database administrators, and other LMI professionals. There are two recent updates that you may find useful.

### New Web API Services

CareerOneStop has updated their Web Services offerings to Web API. [CareerOneStop's Web API](#) offers a wide variety of career, employment and education data for seamless integration into state LMI and other websites.

Web APIs are a secure, standardized exchange between different software applications. Data is requested and delivered via the Internet using standardized protocols. Web API customers then have complete control over what and how information is displayed to their own customers.

CareerOneStop's Web API services offer these benefits:

- **Get access to a wide range of quality-controlled data sets.** CareerOneStop does the work of collecting, verifying, and updating data. You determine how to display and integrate CareerOneStop resources into your own website.
- **Enjoy seamless integration of new data into your existing website.** CareerOneStop provides technical documentation and instructions to assist you.

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## 2017 NAICS Impact

*Steve Rosenow, National Crosswalk Service Center*

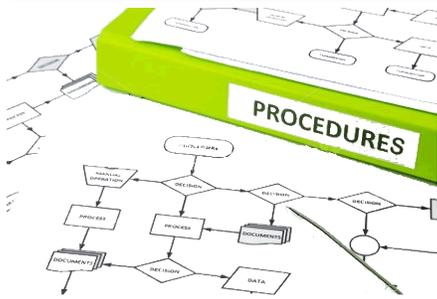
A new version of any classification, whether occupation, industry, educational, geographic or other, can create a variety of issues for those who maintain relational databases that incorporate them. Workforce Information Database administrators are familiar with this, having experienced changes in the SOC, CIP and statistical area delineations. It's the nature of this type of categorization to change over time to reflect changes in the subject matter they represent. The impending 2017 revision to the North American Industry Classification System should raise fewer concerns with WID database administrators than other taxonomy updates.

The National Crosswalk Service Center, working with the ARC Structure Committee, conducted a simple analysis of the new

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## Is Your Office Prepared?

*Nicole Kennedy, North Carolina Database Administrator*

You know that proverbial bus we sometimes joke about - the one that hits the person who knows how to do everything at the office – leaving you to figure out how to do their job? Last year, I felt like that “bus” had hit when I was charged with taking over the administration of the WID. I came into the job finding that there was nothing in writing – no procedures manual, no note, or tips. To further enhance the stress I was feeling, I learned that I was unable to talk with the previous administrator who controlled our WID for 15 years.

When my new responsibilities began, I stumbled my way through learning how the loaders worked; what transformations were made to the data with scripts; what stored procedures and triggers are and how they were interacting with the tables. Did I mention I also had to learn SQL?

I decided right then and there I would never let this happen to another administrator in my state, and I began my documentation quest.

I started by creating a document for each data provider that included only the tables relevant to them. I documented where the data are to be placed when ready for loading, and I also created a section called ‘notes’ with information about the data. This is useful because I also load into GeoSol, and our WID is somewhat customized, and transformations have to be made to some tables using scripts to export for loading to GeoSol.

I then met with each group and together we reviewed the document. I asked them to add information about steps they take to prepare the data for me. This process actually turned out to benefit all of us. Many groups didn’t have a full understanding of what was happening to their data once it was submitted for loading. We were also able to automate some of the tasks, saving time. I began requiring each group to review their data in a test environment once it is loaded and before it is pushed to production.

Next, I created a group of all data providers to meet quarterly to discuss geography changes, data issues and upcoming items such as the implementation of new NAICS codes. I found that getting the data providers involved helped everyone know where changes happen and what is affected. Now the groups understand more than just their data – they also understand how it all comes together.

I continue to work to bring it all together so that it includes diagrams of data flow from start to finish, each data process and contact, and how the loader works with specific information. It is still a work in progress, but it is definitely more than what I came into the job with.

During this process, I have learned that no matter what is ultimately created it will have to be fluid. Our data, technology and processes seem to change frequently. Workflow has been streamlined, and we no longer have a system that only one person understands and if the bus hits me, I feel confident that someone has a good starting point to successfully do their new job.

I hope to share my documents with you in the future to serve as a template so that each administrator can develop their own plan.

## How to Suppress Data

*Steve A. Duthie, State of Montana*

Recently I lead a training exercise about the data suppression fields included in various tables in the Workforce Information Database (WID). Currently, there are 13 data tables in the WID that have suppression fields. While five of these tables are marked for deprecation, this doesn't mean that they can't be used. There may also be tables and/or fields that have added suppression. You may ask, "Why is there data that needs to be suppressed?"

The WID was designed to allow for labor market data to be compared across boundaries or areas in an apples to apples type of environment. This gives an analyst with approved security credentials access to all of the data, while restricting data to others. Data suppression also ensures that the various confidentiality agreements made with the various individuals, agencies, and businesses are met.

Confidentiality and security are the two major areas of concern with data extraction. With the speed of technological advancement, new tools allow for data to be published directly from the WID. While these tools are helpful, it is essential that steps be taken to ensure that confidential data is not displayed.

There are various types of suppression fields in WID tables. These fields can suppress an entire record, multiple fields, or a single field. In the case of the employer database, there are limits to what can be displayed to various types of users according to the contract with Infogroup. If you have users with rights that allow them access to the database, but they don't understand suppression, they could release data that can subject them and your agency to fines, penalties, and even incarceration.

There are various ways to handle suppression. One way is to sanitize all of the data before you load it into the WID by deleting any data that needs to be suppressed. This works for systems were it is only going to be accessed by the general public. This can be a lengthy process to ensure all confidential information has been deleted.

Another way to suppress data is with a query used to retrieve data from the WID. This can be done by either not listing a field in your SELECT statement or by not selecting the entire record.

In all tables that have suppression, a "0" (zero) value represents "No Suppression." For all other tables with suppression, except for the deprecated OESWAGE table, a "1" (one) represents "Suppress Data." For the OESWAGE table, a "1" represents "Suppress Employment Data," "2" represents "Suppress Wage Data" and "3" represents "Suppress Employment and Wage Data."

To just show the unsuppressed data all that you need to do is add the suppressfield='0' to the criteria of the Where statement in your query. I'll use the BED table as an example in the following SQL query.

```
SELECT *
FROM bed
WHERE suppress='0';
```

This query will now show all of the fields in each record of the BED table that haven't been suppressed. As you can see this is quick and easy and excludes the entire record. When you only need to suppress a field or fields, additional coding will need to be added to the query. This type of suppression is usually done by replacing the data with something that lets the user know that the data has been suppressed. Currently, there are three tables in the WID (CES, IOWAGE, and OESWAGE) that have multiple suppression fields in them. Your state may have more tables with multiple suppression fields, so you will always want to check each table to make sure.

Using SQL we can handle the suppression with CASE and CAST statements.

A **Case** statement is equivalent to IF-THEN-ELSE. It can have multiple if statements, and will cycle through until one of the statements are true

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## Geography as You've Never Seen it Before

Steve Rosenow, National Crosswalk Service Center

The United States Geological Survey (USGS) has been tasked with keeping track of everything, and where everything can be found. The USGS was created in 1879, and began mapping public lands, evaluating mineral resources and related activities. Through its history, the agency added to its mission and, through technological progress, greatly increased its collection of earth and biological data.

The USGS has almost as many methods for delivering this information as it has datasets to distribute. Maps are among the most popular media. Visit the [National Map](#) to see illustrations how USGS is working with other agencies and governments to improve mapping data and applications.

While maps are popular, they tell only part of the story about the kinds of data and media used for delivery. The list of products at the [USGS home page](#) includes real time data, APIs for use to incorporate their data into other applications, science datasets, maps of all kinds, multimedia resources, software, publications, and the standard resource for geographic concepts and related information, the [Geographic Names Information System](#) (GNIS). The GNIS database contains state and county information along with geographic coordinates for over 2.2 million natural and manmade features. The database contains records for 63 types of features, ranging in number from 1 for "lava" and "Arroyo" to 13,261 for "Church" and 16,894 for "Streams." We have a [document](#) available for downloading that contains counts for the different types of areas.

The National Crosswalk Service Center has downloaded the complete GNIS file and created an Access database with its contents. The database is available for [downloading](#). The download also contains documents describing the file's structure and listing the counts of each of the types of features.

### Using the GNIS16 database with the Workforce Information Database

At first glance, this database may appear to be more interesting than potentially useful. Obviously using this database in its entirety with the WID presents some issues. The addition of over 60 additional area types would require some creative area type additions. Please take a look at the database with an eye towards application development that may or may not fit in the WID. Please send your comments, suggestions, etc. to the [NCSC](#) for further evaluation.

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## 2017 NAICS Impact *continued from page 1*

version of the NAICS and concluded that changes will not necessitate creation of a new code type or a separate table for the new codes. The NCSC compared industry codes flagged as new in the 2017 NAICS with codes from the 2002, 2007 and 2012 versions and found only one that had appeared in earlier versions of the classification. The code existed in the 2002 NAICS, disappeared in 2007 and reemerged in 2017. The code and the 2001 and 2012 titles are:

51731

2002 Title: Telecommunications Resellers

2017 Title: Wired and Wireless Telecommunications Carriers

Due to the massive changes that occurred during the period, the NCSC concluded that for the purposes of the WID, no problems would be created by including the code with the 2017 title in the current version of the WID. Send questions to the [NCSC](#).



*Nicole Kennedy*

Nicole works for the North Carolina Department of Commerce, and is a member of the Analyst Resource center Consortium.

**How long have you been involved in the LMI world?**

I have been in the NC Labor Market Information Division for 19 years. I started as an intermittent doing data entry for the OES program. Over time I have worked in several roles in LMI to most recently taking over the WID.

**What is your current job title?**

Business and Technology Application Technician

**Are you originally from North Carolina?**

I have lived in NC all my life. Fun fact, the building we previously were housed in was the hospital I was born in.

**What is your educational background?**

I am currently one semester from completing my Associates Degree.

**What is the most frustrating or challenging aspect of your current job?**

Lack of written process and instructions for performing the day-to-day work in regards to the WID, changes and processes to and from the data groups.

**What is the most rewarding aspect of your current job?**

Understanding the powerful use of the information we disseminate for Individuals as well as policy makers. Making sure that people use the data correctly, understand the limitations as well as the possibilities of the data.

**What is the most interesting or awe-inspiring place you have been to?**

Most recently I went to Washington D.C. I had never visited D.C. before and am planning to return with my family because there is so much to do and see not to mention the history.

**What are your interests outside of work?**

Since my daughter is grown, I have been looking for a hobby. So far I have been trying my hand at metal detecting. While in school I have very little time to dedicate to it, but it gets me outside and I love finding stuff.

**What is the strangest job you have ever had?**

I was a security officer for Glaxo in my early twenties. I am a big scaredy-cat, and was working the third shift. If faced with intruders, I probably would have just let them storm the place.

**What training have you taken recently that you would recommend to other DBAs?**

Most recently I took the training class offered through the ARC and along with the great information offered I was able to make some great connections for future questions. That is priceless since this work is unlike any other.

**What about your family?**

I have one daughter, Kaitlynn who is 23 and finishing up her degree this December. My husband John and I have a boxer named Libby who is very needy but a large part of the family.

## CareerOneStop *continued from page 1*

- **Reduce maintenance costs and increase your website's efficiency.** You don't need to reinvent content and data. You can develop your own applications much faster and at lower cost using CareerOneStop's standardized, tested data sets.

Visit CareerOneStop's [Web API Technical Information](#) to find details about the following available data sets:

- Job listings
- Education and training programs and institutions
- Certifications
- O\*NET skills
- LMI data including wages and employment
- Military occupation crosswalk
- O\*NET's Tools & Technology
- American Job Centers
- Apprenticeship offices and sponsors
- State unemployment insurance programs
- TAAACT grant-funded projects

### Updated Career Videos

CareerOneStop continues to create new career videos that bring to life the details and settings for a broad range of occupations. Ultimately, the project will depict more than 800 different careers, replacing videos that were developed more than a decade ago. Check out the newest additions at CareerOneStop's [New Career Videos](#). You'll also see links to CareerOneStop's videos from resources such as O\*NET's [My Next Move](#) and the [Occupational Outlook Handbook](#) from the Bureau of Labor Statistics.

The videos give career explorers, students, and job searchers a portrait of life in hundreds of careers—from Actor to Web Developer. All details are based on authoritative occupational and labor market information from the U.S. Department of Labor's Occupational Information Network (O\*NET) program and the Bureau of Labor Statistics.



## Training News

The Analyst Resource Center recently sponsored DBA training in St. Paul. We had 21 people come for 2 ½ days of training on topics ranging from basic terminology to data visualization. Those attending ranged in experience from first day on the job to over 20 years working with the WID. We know that there were people that were unable to attend the training, and that there will be new DBAs that may benefit from this training. We plan to have training videos up on the ARC website in the near future. Our goal is to also add additional training videos on a wide range of topics. If you have something you think would be a good topic to provide training on, please let [us know](#).



Plans are underway to revamp the existing ARC website, and to incorporate the Xwalk Center website into the new site. Let us know if there is information that you would like to see on our new site: [ncsc.arc@iowa.gov](mailto:ncsc.arc@iowa.gov)

## Data Suppression *continued from page 3*

or default to the ELSE if none of the others statements are true. The statement looks like this:

```
CASE
WHEN expression THEN result1
WHEN expression THEN result2
ELSE result
END
```

The **Cast** statement converts a data type to another data type. When you are converting to one of the text types, length is an optional field. If converting a number type to another number type, it may truncate or round the result. In example, we will be converting a number to text. The CAST statement looks like this:

```
CAST (expression AS type (length))
```

This statement can be nested inside the CASE statement like this:

```
CASE WHEN expression THEN CAST (expression AS type (length)) ELSE result END
```

Using the CES table as an example, we can change it to say Non-Disclosure when the data is suppressed, except in the case where the entire record is suppressed then it just doesn't show.

```
SELECT c.periodyear AS Year, c.period AS Month, s.seriesstls AS Industry, c.empces AS 'Total Employed',
(Case WHEN c.suppw = '0' THEN CAST(c.empprodwrk as varchar) ELSE 'Non-Disclosure' END) as
'Production Employment',
(Case WHEN c.suffem = '0' THEN CAST(c.empfemale as varchar) ELSE 'Non-Disclosure' END) as 'Female
Employment',
(Case WHEN c.supphe = '0' THEN CAST(c.hours as varchar) ELSE 'Non-Disclosure' END) as 'Avg Hours
Worked Per Week',
(Case WHEN c.supphe = '0' THEN CAST(c.earnings as varchar) ELSE 'Non-Disclosure' END) as 'Avg Wkly
Earnings',
(Case WHEN c.supphe = '0' THEN CAST(c.houearn as varchar) ELSE 'Non-Disclosure' END) as 'Avg Hrly
Earnings',
(Case WHEN c.suppheallwrkr = '0' THEN CAST(c.hoursallwrkr as varchar) ELSE 'Non-Disclosure' END) as
'Avg Hours Worked Per Week All Workers',
(Case WHEN c.suppheallwrkr = '0' THEN CAST(c.earningsallwrkr as varchar) ELSE 'Non-Disclosure' END)
as 'Avg Wkly Earnings All Workers',
(Case WHEN c.suppheallwrkr = '0' THEN CAST(c.houearnallwrkr as varchar) ELSE 'Non-Disclosure' END)
as 'Avg Hrly Earnings All Workers'
FROM ces AS c
INNER JOIN cescode As s ON c.seriescode = s.seriescode And c.stfips = s.stfips
WHERE c.stfips = '30'
AND c.reatype = '01'
AND c.adjusted = '0'
AND c.supprecord = '0'
ORDER BY c.periodyear DESC, c.period DESC, c.seriescode
;
```

Montana's stfips

*Continued on next page*

This is a long query, so let's go through it. A query doesn't work in the order it is written, so we will step through the query as it would operate. I am skipping the AS command which is used for changing to names to an "Alias". First the query is going to start with the FROM command and get the CES table, and then it will use the INNER JOIN command to match the series codes to the CESCO table so we will be able to display the title for the series code.

The query then will process the WHERE command it get the stfips - in this example it is using Montana's which is 30, (areatype='01') non-adjusted data (adjusted='0') that is not suppressed (supprecord='0'). This is the first suppression.

Next the query will return the results using the ORDER BY command starting with the latest year and period and then by the series code.

Finally, we get to the SELECT command where we are going to show the periodyear, period, seriesttl, empces, and then the fields that are affected by suppression, empprodwrk, empfemale, hours, earnings, houearn, hoursallwrkr, earningsallwrkr, and houearnallwrkr. Starting with empprodwrk it is affected by the supppw field so we start with the CASE statement since we are checking the value in the suppression field. If the suppression value is 0 (not suppressed) THEN we want to show the actual value in empprodwrk, but we have to use the CAST statement since the field value is numeric it has to be converted to VARCHAR since we want to show text. Since we only have two possible values for suppression (0 or 1) we don't have to check for another value in the supppw field, otherwise we would use another WHEN command to check for a different value like in the OESWAGE table where it could be (0,1,2,3). ELSE we want it to change it to show Non-Disclosed. This is continued through the rest of the fields, notice how the same suppression field is used for hours, earnings, and houearn. The same thing happens with hourallwrkr, earningsallwrkr, and houearnallwrkr.

If you want to see how the query actually works, you can copy it and try it on your system - just change the **stfips** to your state's code.

There are other ways of suppressing data, but this is the method that works best for me. If you have another way to handle suppression, or any other How-To requests, tips, tricks, or best practices for working with the WID, send them to us at: [ncsc.arc@iowa.gov](mailto:ncsc.arc@iowa.gov) They may end up in the next newsletter or on the ARC website.

The Workforce Information Database is a normalized, relational database structure developed for the storage and maintenance of labor market, economic, demographic and occupational information. The Analyst Resource Center is responsible for the Workforce Information Database structure development, update, and maintenance. Current members include Minnesota (lead), Connecticut, Florida, Iowa, Montana, Nevada, North Carolina, Oregon, South Carolina, Wisconsin, Texas, and ETA, along with the support from the National Crosswalk Service Center.

## ARC Newsletter

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