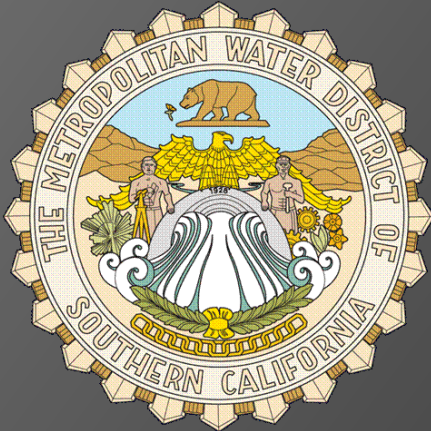


This presentation premiered at WaterSmart Innovations

watersmartinnovations.com



USING CENSUS DATA TO DESIGN CII WATER EFFICIENCY PROGRAMS



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RECLAMATION
Managing Water in the West

Metropolitan Water District of Southern California



- ⦿ Regional water wholesaler to 6 counties
 - 5,200 square mile service area
- ⦿ 26 Member Agencies
- ⦿ ~19 million residents
- ⦿ Regional economy: \$1 trillion
- ⦿ Retail demand:
 - 4 million acre-feet
 - Provide about ½ of retail demands

Overview of MWD



Recent History of MWD CII Programs

- ◎ Pilot program 2001
 - Menu style
- ◎ Full program started 2004
 - Menu style
- ◎ Custom Program 2005
 - Unique designs for special circumstances

Reason for the study

- ④ Find out who were the CII customers
- ④ Business types in certain areas
- ④ Increase CII program efficiency
- ④ Understand CII needs
- ④ Use data to improve program

Study Design

- ⦿ Literature review
 - Previous work on CII water efficiency program
- ⦿ Data
 - County business patterns
 - Census data
- ⦿ On-site surveys
 - 75 audits of business in the top water using categories
 - 5 categories
 - 15 surveys per category

Implementation

- ◎ **Task 1** Identify businesses
- ◎ **Task 2** Identify water uses
 - Recommendations

Identify Businesses

- ◎ Database of Business Types
 - North American Industrial Classification System (NAICS) codes
 - ID appropriate grouping
 - Create database of commercial business types
- ◎ Quantify business types

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North American Industry Classification System

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NAICS Search:

Enter keyword or 2-6 digit code

[2012 NAICS Search](#)

Enter keyword or 2-6 digit code

[2007 NAICS Search](#)

Enter keyword or 2-6 digit code

[2002 NAICS Search](#)

Introduction to NAICS

The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.

NAICS was developed under the auspices of the Office of Management and Budget (OMB), and adopted in 1997 to replace the [Standard Industrial Classification \(SIC\) system](#). It was developed jointly by the [U.S. Economic Classification Policy Committee \(ECPC\)](#), [Statistics Canada](#), and Mexico's [Instituto Nacional de Estadística y Geografía](#), to allow for a high level of comparability in business statistics among the North American countries.

This official U.S. Government Web site provides the latest information on plans for NAICS revisions, as well as access to various NAICS reference files and tools.

The official 2012 U.S. NAICS Manual includes definitions for each industry, background information, tables showing changes between 2007 and 2012, and a comprehensive index. The official 2012 U.S. NAICS Manual is available in print and on CD-ROM from the National Technical Information Service (NTIS) at (800) 553-6847 or (703) 605-6000, or through the [NTIS](#) Web site. Previous versions of the NAICS Manual are available.

Additional information on the background and development of NAICS is available in the [History](#) section of this Web site.

Announcements

[August 17, 2011](#) [PDF, 145KB]
Federal Register Notice-North American Industry Classification System; Revision for 2012; Notice. Vol. 76, No. 159.

[2012 NAICS Structure](#) [XLS, 249KB]

2012 NAICS Definition

T = Canadian, Mexican, and United States industries are comparable.

Search results for: 44

Number of records found: 167

[44](#) Retail Trade^T

[441](#) Motor Vehicle and Parts Dealers

[4411](#) Automobile Dealers

[44111](#) New Car Dealers

[441110](#) New Car Dealers

[44112](#) Used Car Dealers

[441120](#) Used Car Dealers

Results

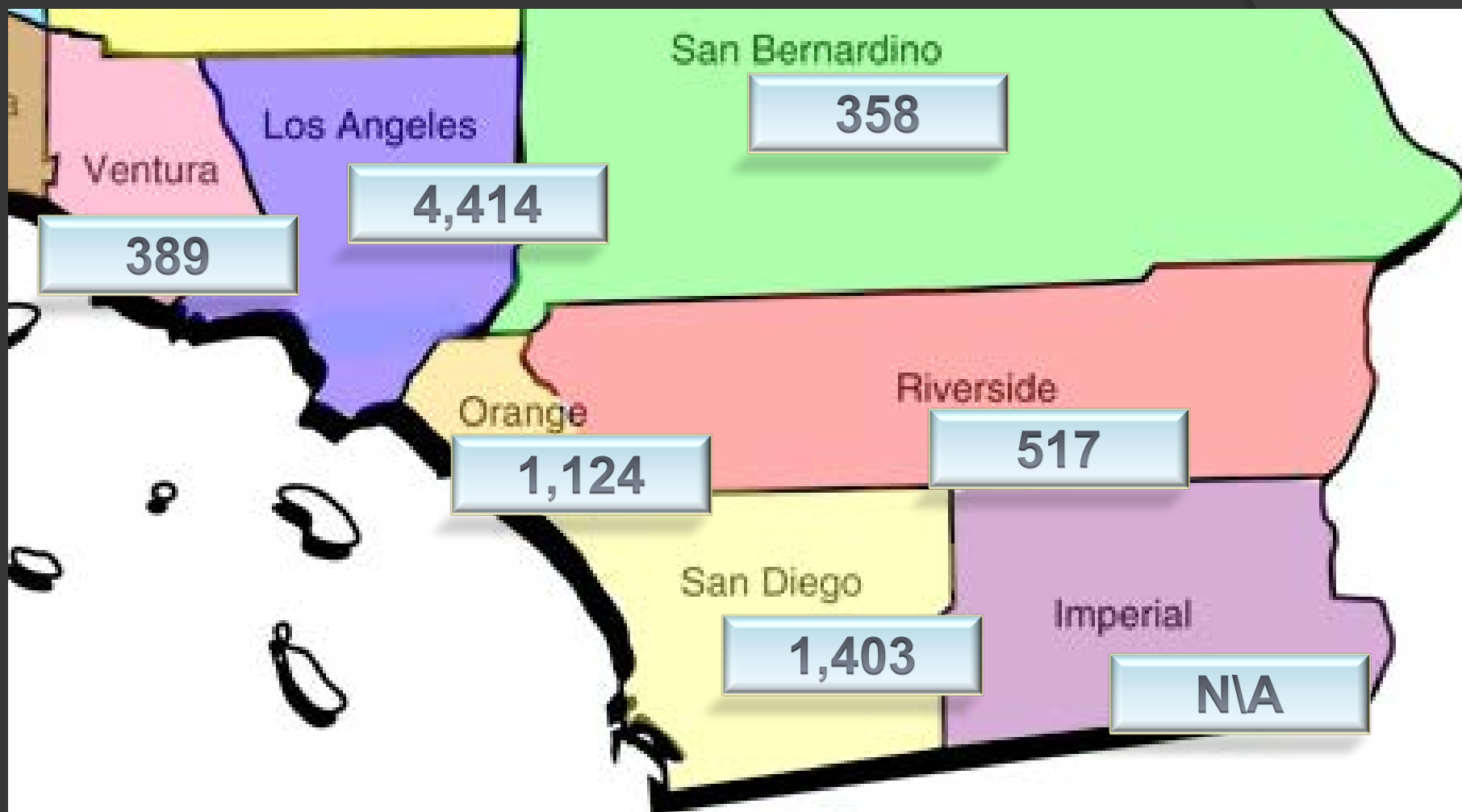
NAICS Level	# of Classifications
Two Digits	24
Three Digits	86
Six Digits	1059

# Establishments	# of Employees
458,739	7,179,475

3-Digit NAICS	Description	Employment	Establishments
722	Full-service restaurants	664,950	34,580
713	Fitness and recreational sports centers	92,529	2,853
621 & 623	Offices of physicians	383,316	41,438
812	Personal Care and Laundry	103,814	12,672
445	Supermarkets and other grocery stores	201,441	8,205

NAICS Code 445

Food Stores



8,205 Establishments 201,441 Employees

Business Water Use

- ⦿ ID specific end uses
 - By business type
- ⦿ ID water efficiency opportunities
 - Prioritize by type
- ⦿ ID current water use technologies
 - Investigate saturation levels
 - Estimate potential water savings

Preliminary Findings

	Food Stores
Count	(16)
Year Built (appx)	1975
Square Feet (appx)	24,207
turf sq. ft.	-
other veg sq. ft.	382

Preliminary Findings

	Food Stores
Persons (Weekly Total)	
Weekly Total Workers (hrs)	1684
Workers % male	53
Weekly Total Customers	8136
Customers % male	45

Percent male allows estimate of toilet & urinal flushes per day

Preliminary Findings - Toilets

	Food Stores
Toilet Types	AVG # Fixtures
Flushometer 5.0 (Blowout)	0.00
Flushometer 3.5	1.06
Flushometer 1.6	2.69
Flushometer 1.28	0.00
Flushometer dual	0.00
Pressure Assist 1.6	0.06
Pressure Assist 1.28	0.00
Gravity 3.5	0.06
Gravity 1.6	0.50
Gravity 1.28	0.06
Gravity Dual	0.00
Average #	4.4

Preliminary Findings - Toilets

Food Stores
445

NAICS

Toilet Types – gallons per flush	Average Number of Fixtures by Type
Flushometer 5.0 (Blowout)	0.00
Flushometer 3.5	1.06
Flushometer 1.6	2.69
Flushometer 1.28	0.00
Flushometer dual	0.00
Pressure Assist 1.6	0.06
Pressure Assist 1.28	0.00
Gravity 3.5	0.06
Gravity 1.6	0.50
Gravity 1.28	0.06
Gravity Dual	0.00

Not many are best available technology, still many 3.5 gpf fixtures

Preliminary Findings - Toilets

	Food Stores
Average GPF	2.74
Minimum GPF	1.28
Potential Reduction GPF	1.46
Potential Reduction %	53.3%

Next Steps

- ⦿ Review final data
- ⦿ Designing a program
 - Menu style
 - Custom program
 - Combination
- ⦿ Meeting the needs of the customers

Your Customers

Questions



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