



# **“Getting it Right the First Time: Fine Tuning a Transaction Tax System”**

Wednesday, July 16, 2008





## Housekeeping Items

- Today's webinar will last for 60 minutes, ending at 1pm eastern time.
- The last 10 minutes of today's program have been reserved for questions & answers.
- We will launch a brief survey at the conclusion of today's webinar. Those who complete the survey will be entered into a drawing for a **TomTom ONE car navigation system**.
- View our entire schedule of monthly informational webinars by going to [adptaxware.com](http://adptaxware.com) and clicking on the "webinars" tab.



**Jane Van Saun**  
*Marketing Manager*  
*ADP Taxware*

## CPE Credit

### Requirements

- Log in from same e-mail address that you used to register
- Stay for the full hour
- Answer 2 out of 3 polling questions

Receive your certificate via e-mail in approx. 30 days.



**Are you applying for CPE credit for today's webinar?**

- A. Yes
- B. No
- C. Not applicable





## Today's Speakers



**Bob Meador**  
*Director of GeoTAX  
Product Management  
Pitney Bowes Group 1  
Software*



**Tim Walsh**  
*Senior Director,  
Product Management  
ADP Taxware*





## Agenda

- Accuracy Issues
- Geocoding
- Postal data issues
- Address Level
- Future gets better



## Polling Question 1

### Requirements

- Log in from same e-mail address that you used to register
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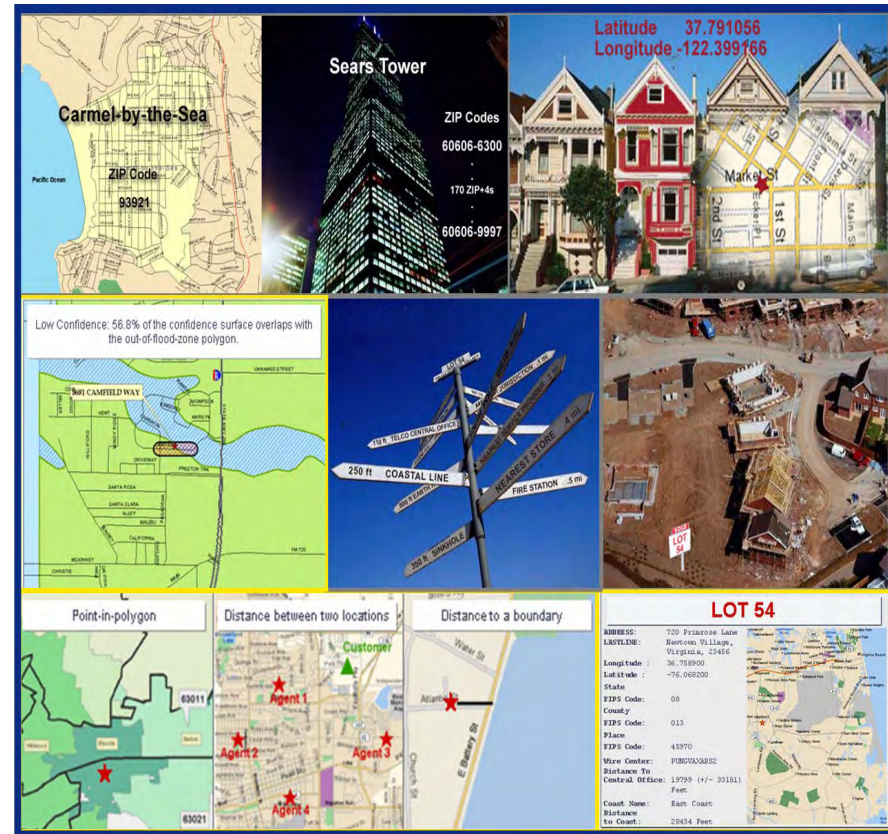
**How confident are you that your current sales and use tax system is correctly assigning tax jurisdictions 100% of the time?**

- A. Very confident
- B. Somewhat confident
- C. Not confident
- D. I don't know
- E. Not applicable

## Companies and Government Agencies Need Accuracy

*Accuracy matters when making decisions based on location*

- Insurance companies, telecoms, utilities, and a variety of other organizations in the public and private sector know the importance of precise geographic determination
- Business Geographics: the science of using geography to solve location-based business problems





## Business Reasons for Improved Accuracy

- Businesses need the most current, accurate tax jurisdiction assignment to customer and employee address records.
- States moving to destination-based Sourcing
- A more accurate tax jurisdiction assignment process
  - Lessens class action suit exposure
  - Reduces audit risk
  - Meet hold harmless provisions
  - Leads to correct disbursements
  - Leads to correct reimbursements
  - Leads to fair-share
  - Increases customer satisfaction
  - Automates process





# Tax Jurisdictions Change



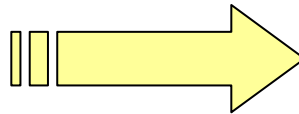
- Constantly changing tax boundaries
  - Incorporations
  - Annexations
  - Mergers
  - Consolidations
  - Dissolution of local government entities
- Increasing number of special tax districts
- Up to 25% of municipal boundaries change every year
- New taxes and fees assessed by different governmental bodies from the federal to the state and local level

## Geocoding is...

An automated process that assigns  
a latitude/longitude coordinate to an address.

### Input:

4383 Apple  
Boulder CO 80303



### Output:

4383 Apple Ct  
Boulder CO 80301-1745  
-105.248599, 40.054337

## Polling Question 2

### Requirements

- Log in from same e-mail address that you used to register
- Stay for the full hour
- Answer 2 out of 3 polling questions

**Receive your certificate via e-mail in approx. 30 days.**

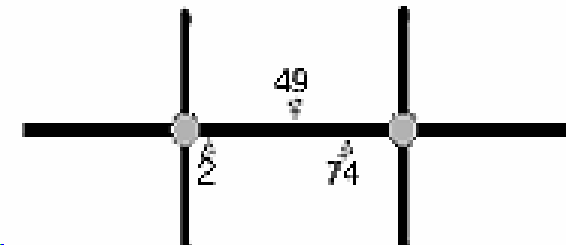
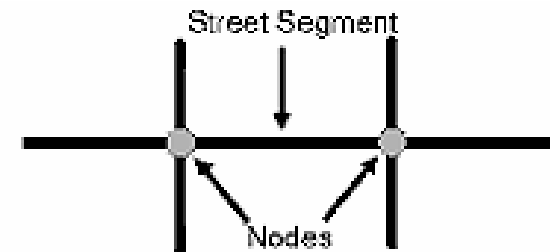


**Do you currently use a third party solution for address cleansing?**

- A. Yes
- B. No
- C. I don't know / not applicable

## Geocoding – Address Interpolation

- Addresses are geocoded using street network reference databases
- Files contain street segments which are defined by the:
  - Street name
  - Address ranges on each side of the street
  - Boundary nodes (intersections)
- Geocoding approximates the location of an address based on:
  - Length of the segment
  - Address range assigned to the segment



***An address of 49 Main Street is halfway into the address range, so it is located half way along the segment on the odd side***



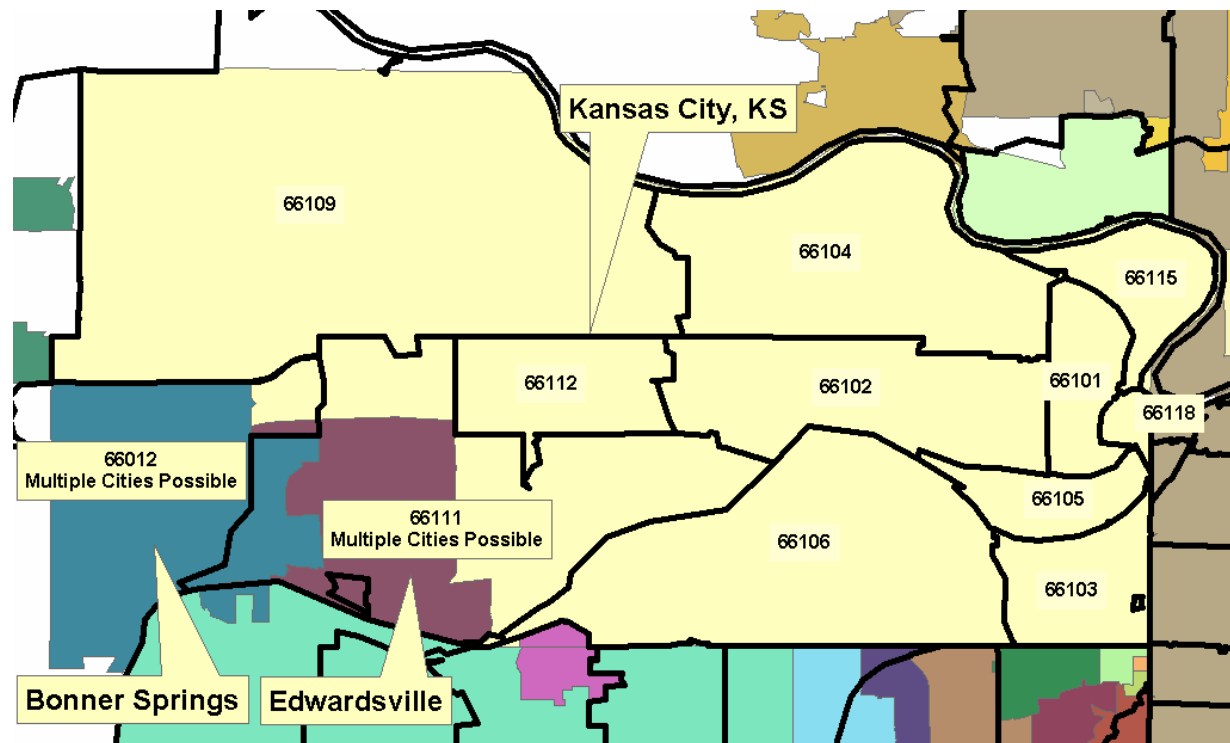
## Why Not Use Postal Data?

- Street address geocoding assigns to each customer address the most accurate state, county, and city code combination compared to a ZIP code based methodology
- ZIP Code-based methodology is not up to the task of fully automating the tax jurisdiction process
  - Results in too many choices
- Why?
  - Certain ZIP Codes may intersect one or more counties
  - Certain ZIP Codes may intersect one or more cities (municipalities)
  - Certain ZIP Codes contain the city name associated with the post office not the municipality.
  - Certain ZIP Codes may intersect unincorporated or county remainderment areas.

# Understanding Geography

- **Postal Geography**

- The United States Postal Service has its own system for sectoring the United States. This system is more familiar to most people because it is based on codes we use much more frequently — ZIP Codes and ZIP+4 Codes.



AO1

## Slide 14

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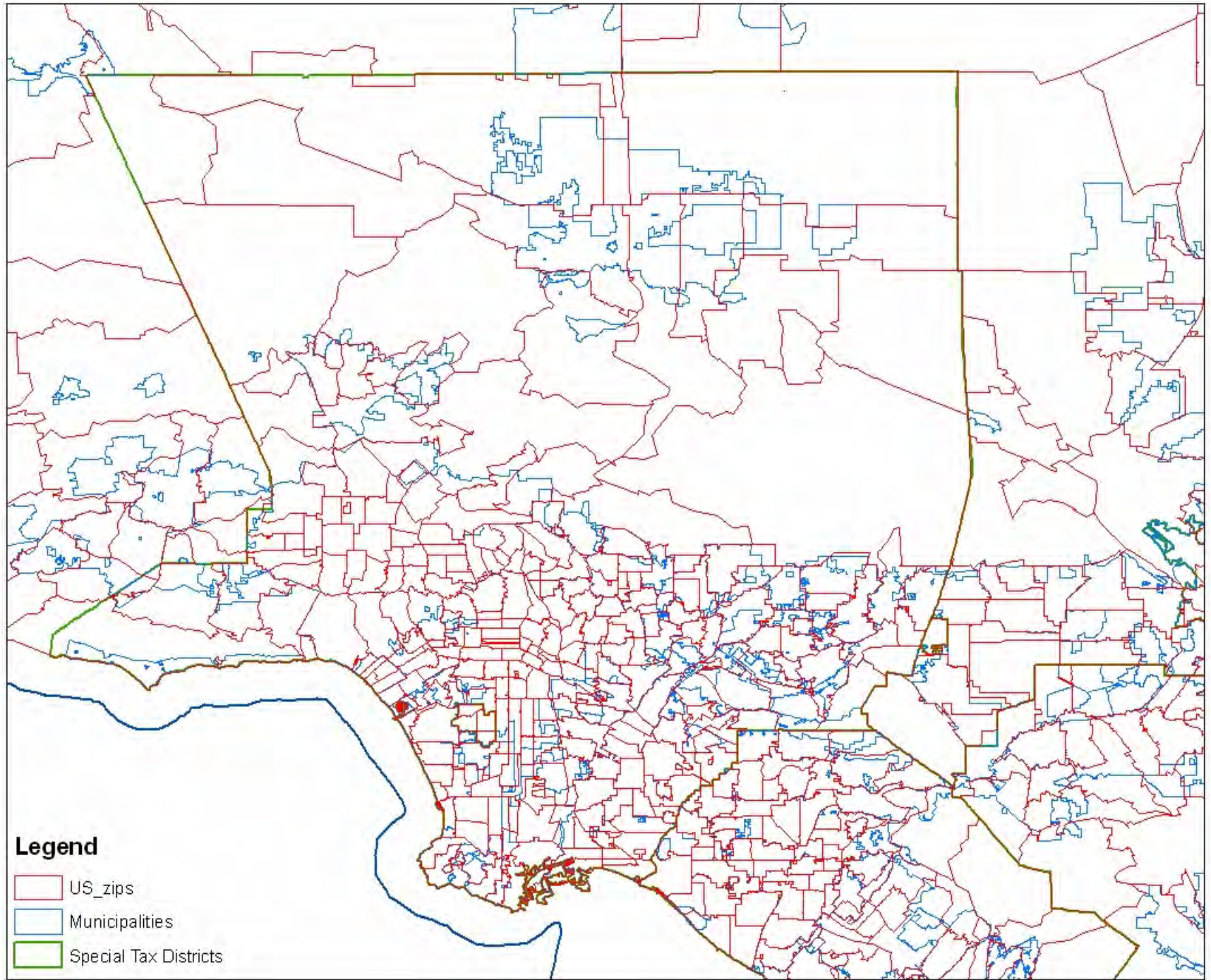
AO1

Need a simple map with Zip codes

Alvie Oate, 1/8/2004

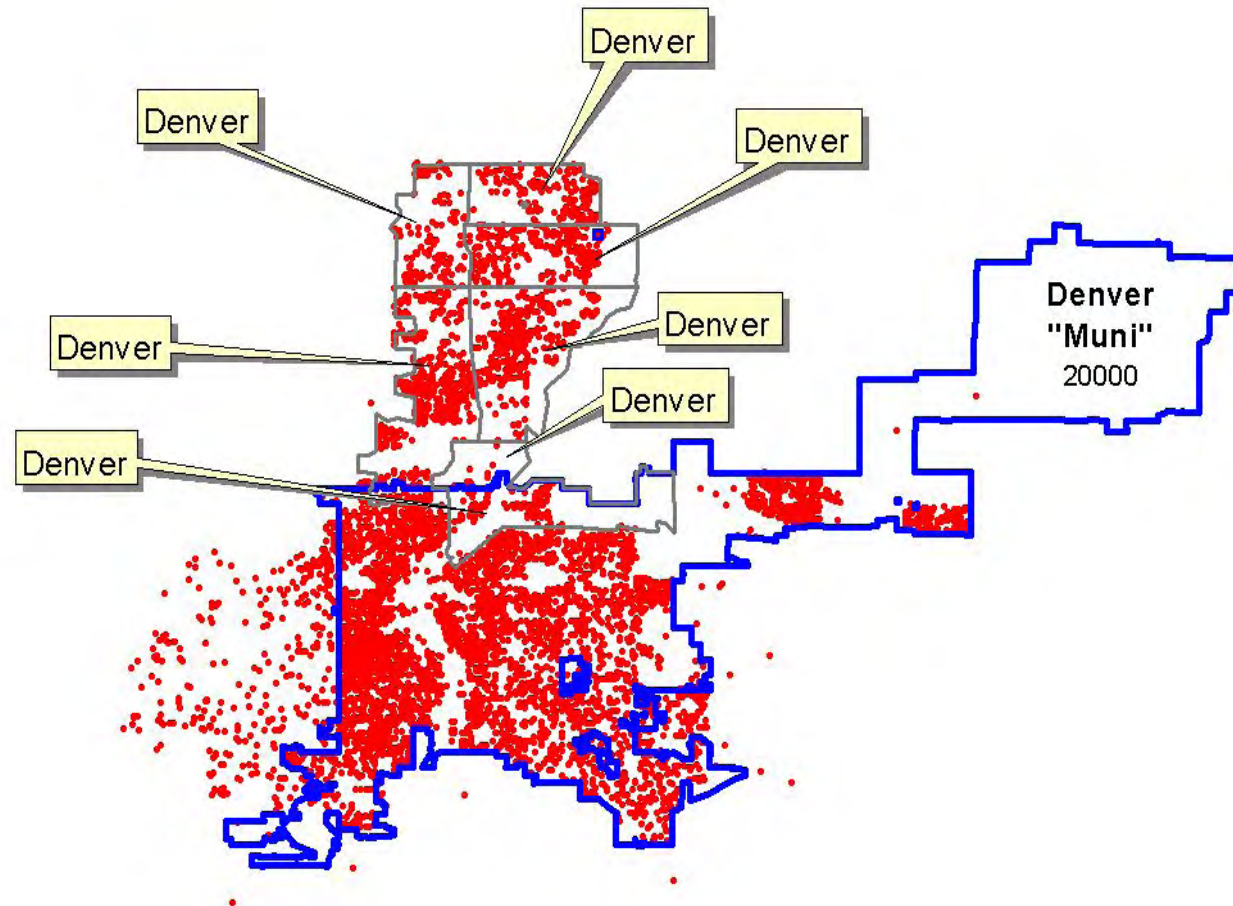


## Taxware Webinar Tour





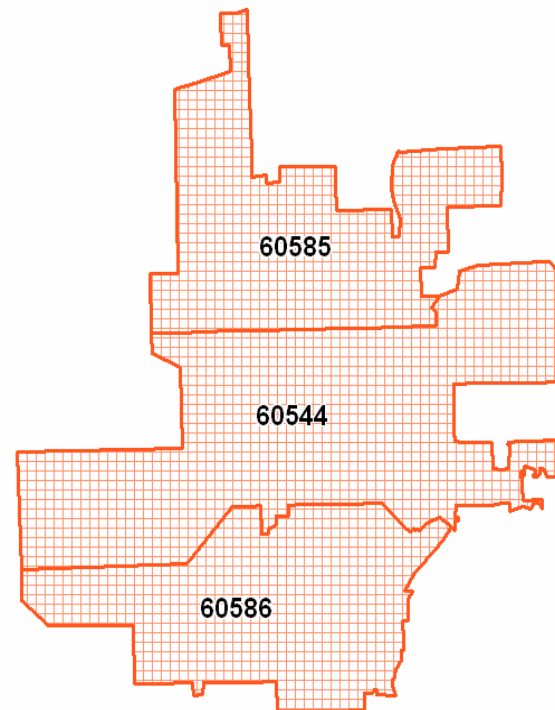
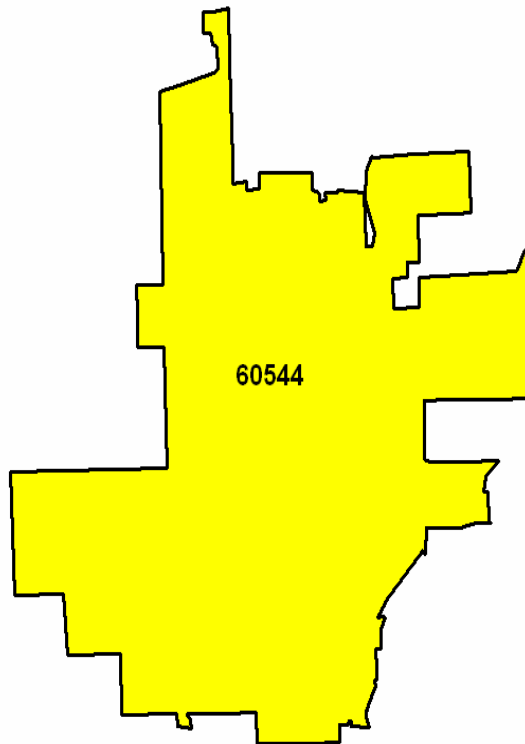
## ZIP Code Level



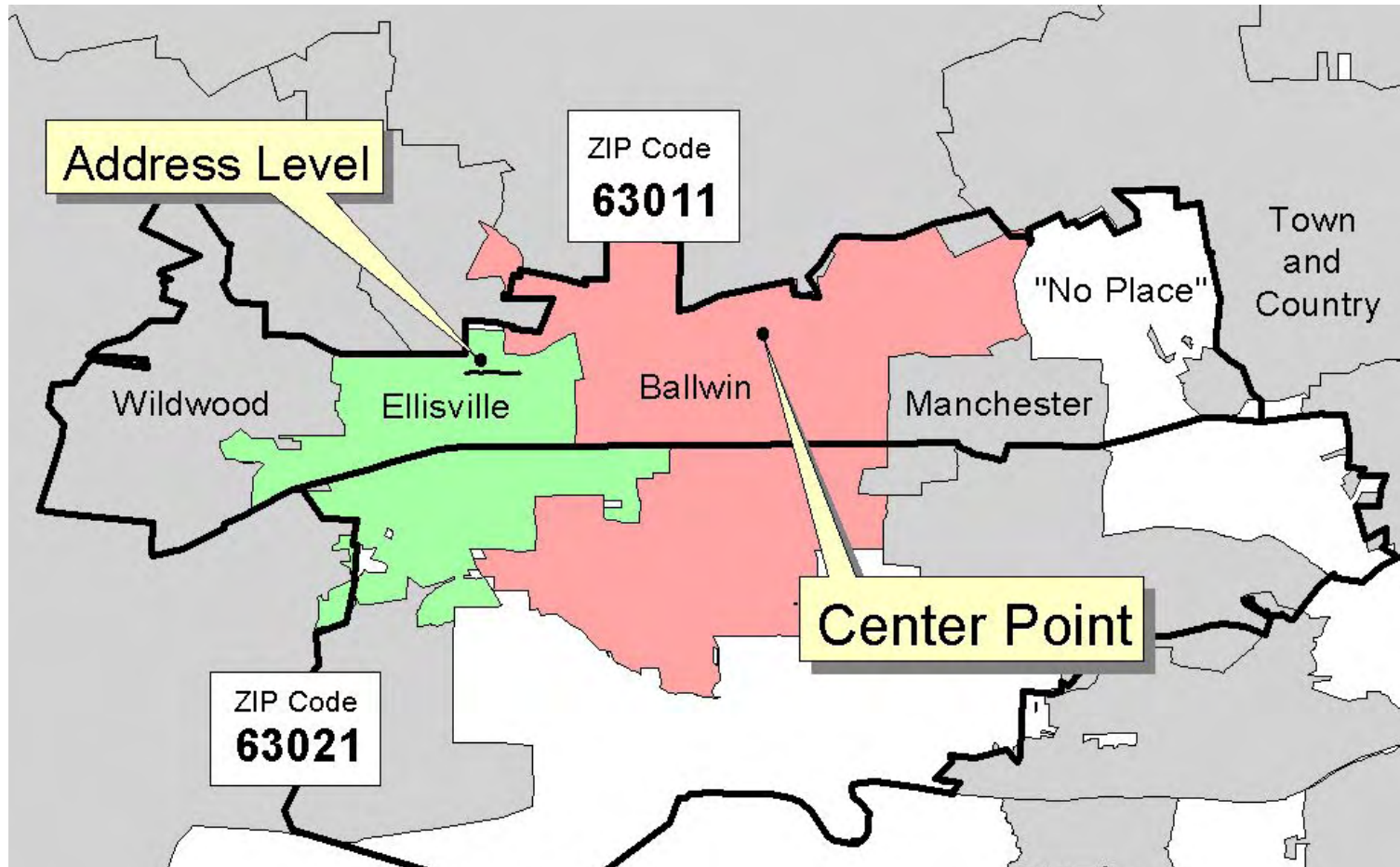
**ALL the customers shown above in red have been taxed at the Denver, CO municipality rate since the postal city for each of the customers above had a Denver, CO postal city label. Street level geocoding locates only those records inside the Denver blue boundary shown above.**

## ZIP Codes Change Frequently

- ZIP Code 60544 in 2005
- ZIP Code 60544 split into three separate ZIP Codes in 2006

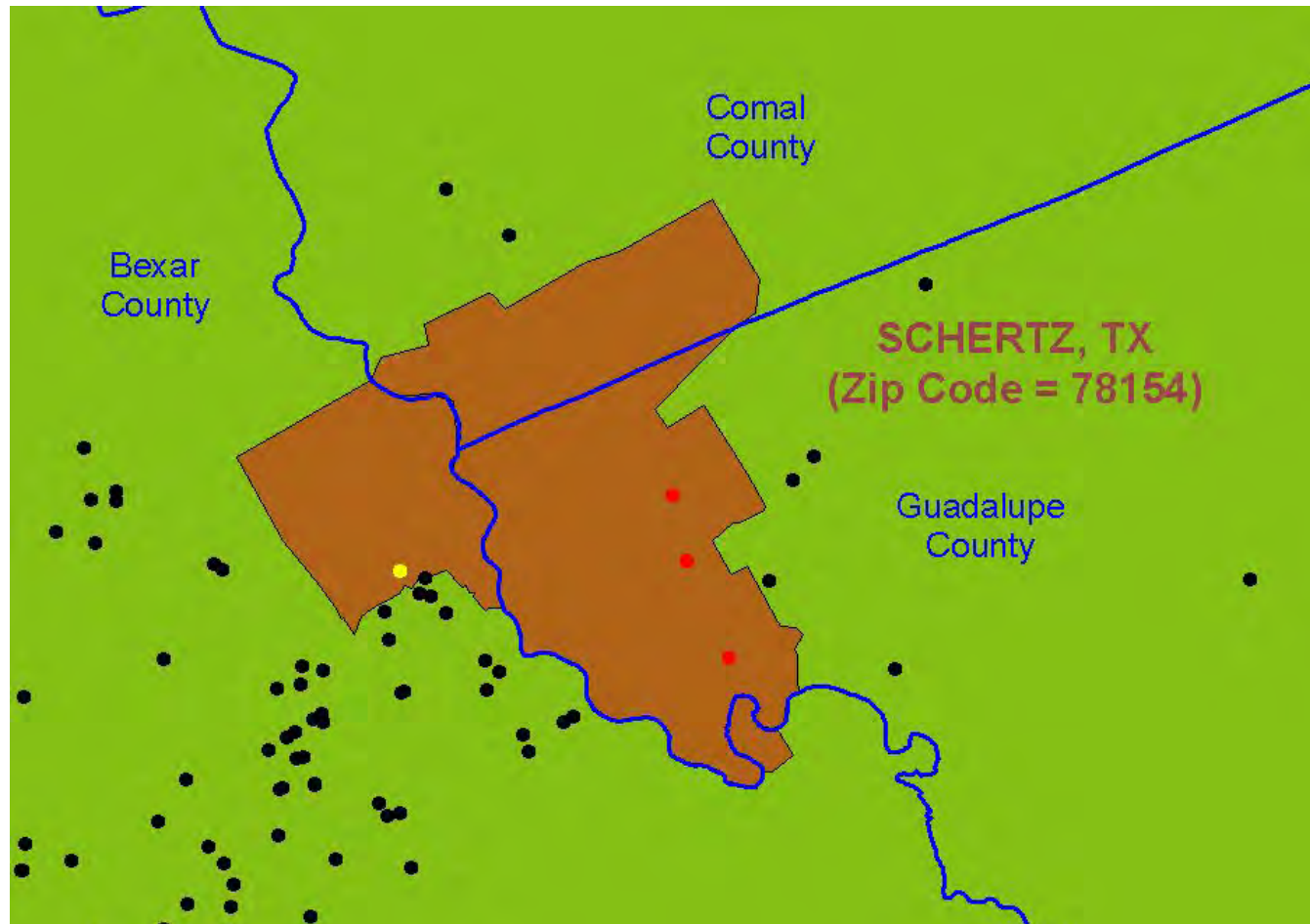


## ZIP Code Level



The center point or Ballwin ZIP code 63011 intersects four additional combinations or municipalities in addition to an area that falls into the county remainderment area. An address level methodology would return not Ballwin but Ellisville – given the “address level” point above.

## ZIP Code Level

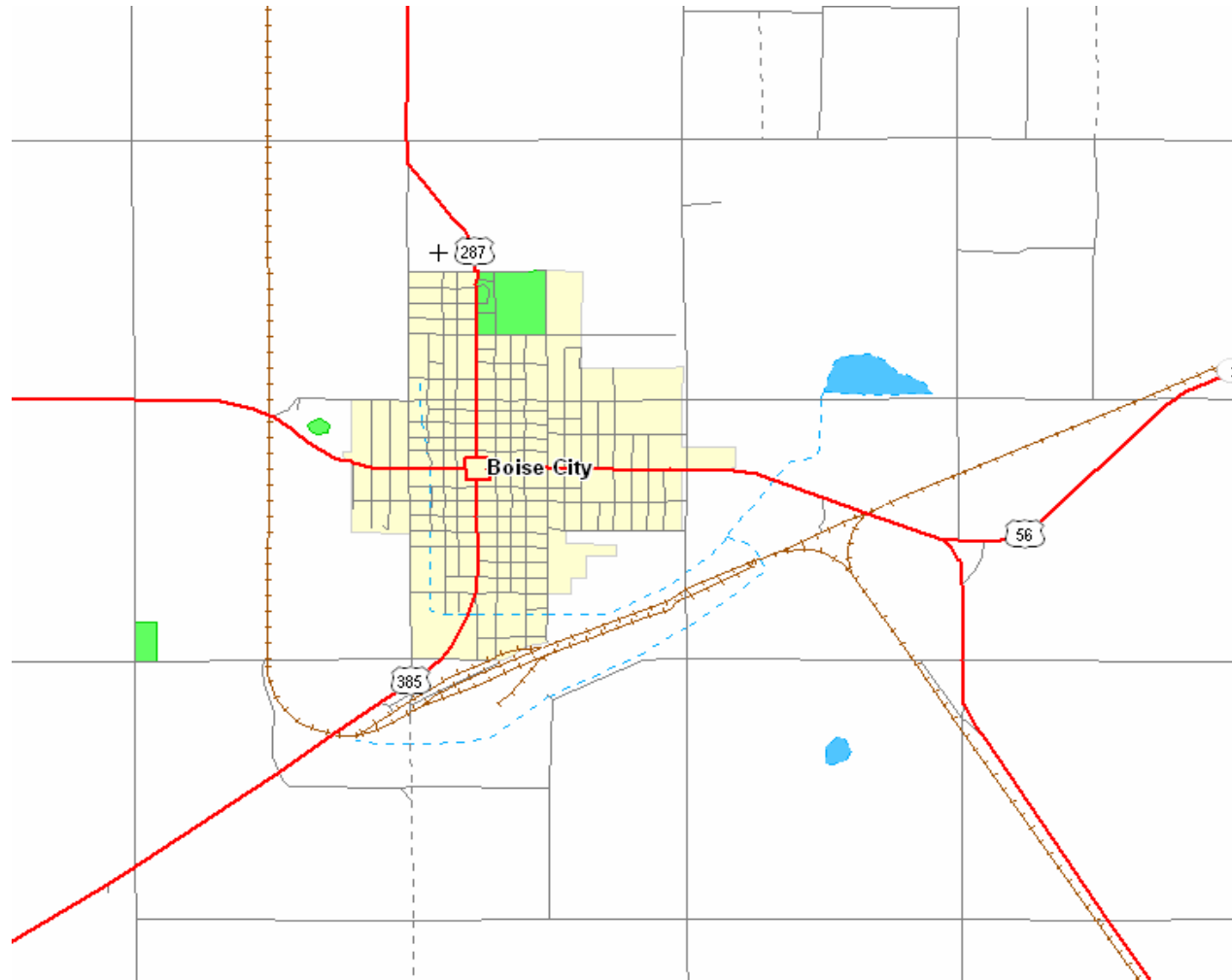


**The ZIP Code above in Schertz, TX falls into three different counties. ZIP Code creates two false combinations. Geocoding will eliminate the two bad ones.**



## Boise City, OK

*No ZIP+4/USPS Address Coverage*



# 318 3<sup>rd</sup> St North, Boise City, OK

*USPS Can't Find, but Geocoding Does*

## ZIP Code Lookup

It's a snap to find a ZIP Code™ and more.

► Lookup a ZIP Code

By Address

Please fill in the following information: (\* Required fields)

We're sorry! We were unable to process your request.  
Please complete the field(s) indicated below.

\* Address 1

318 3rd St North

The address you entered was not found in Boise City, OK in our database. Please confirm the spelling and the number of the address and try again.

Address 2

\* City

Boise City

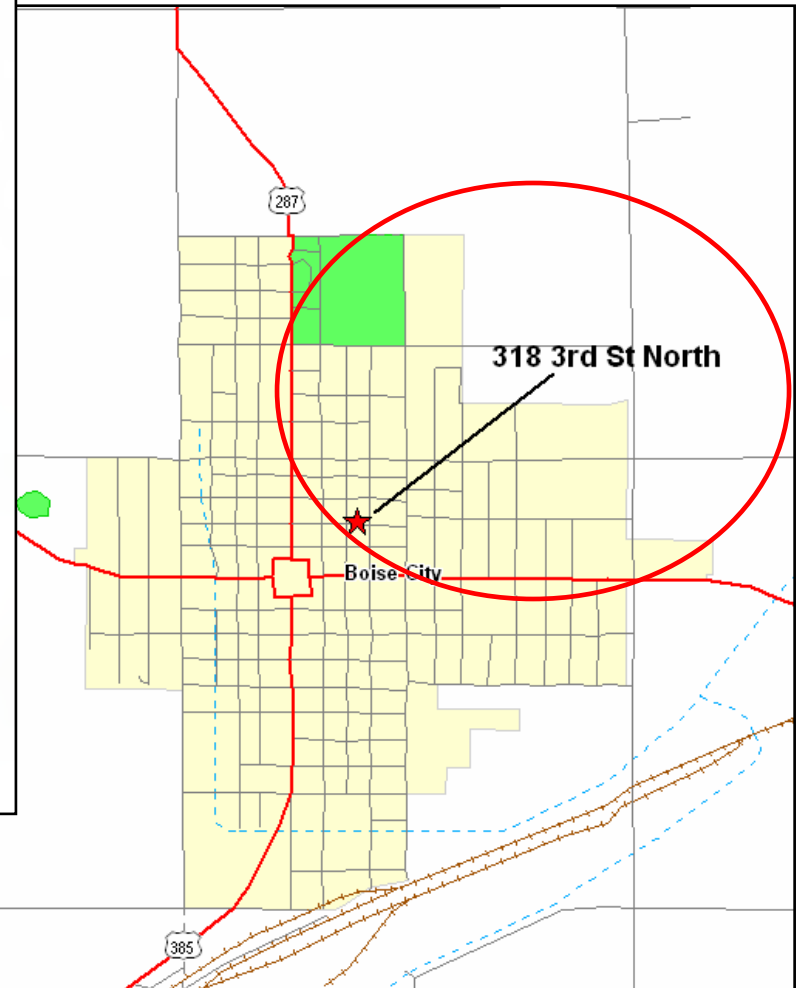
\* State

Oklahoma(OK)

ZIP Code

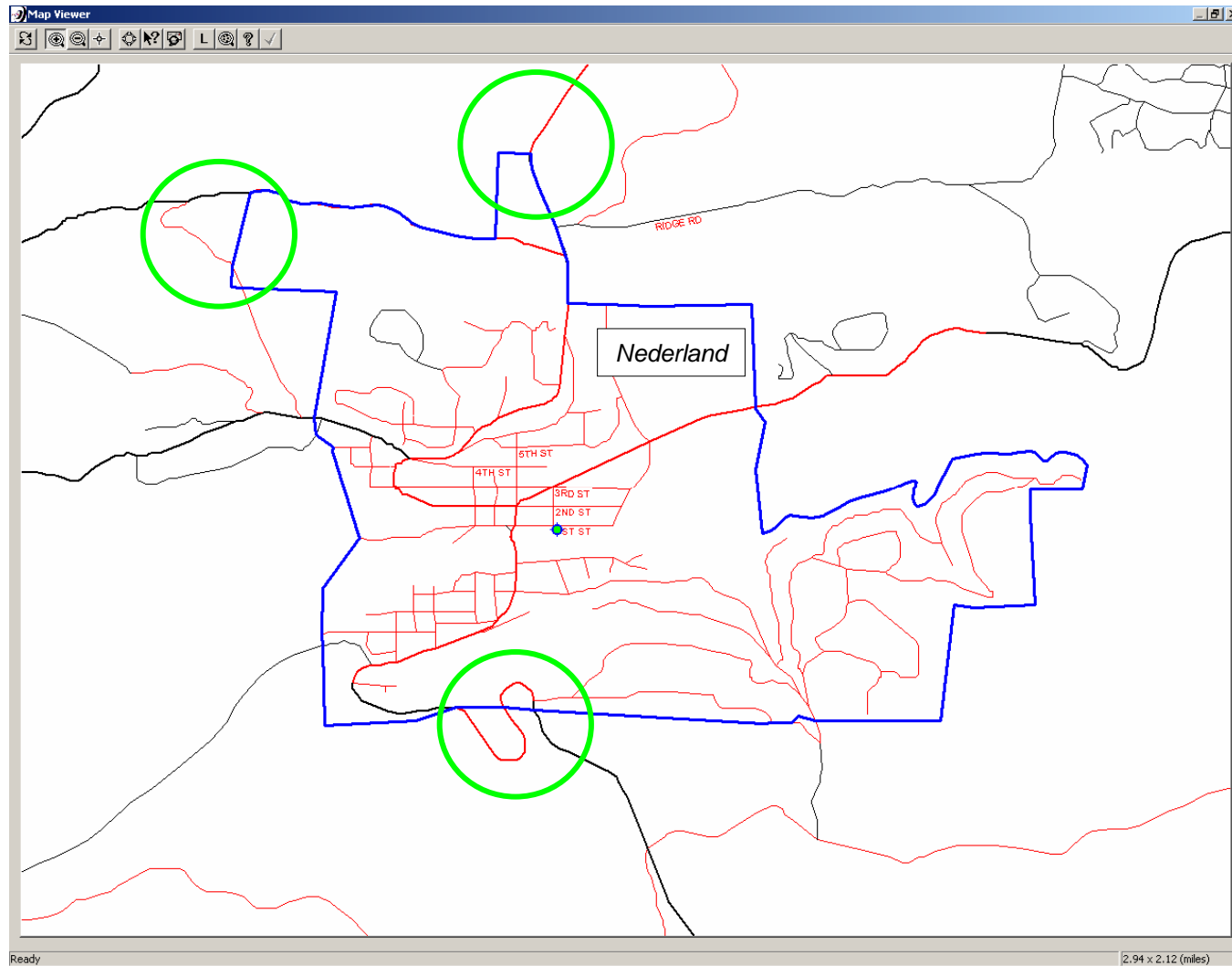
Submit >

(Required when City/State are not provided.)



# Nederland, CO

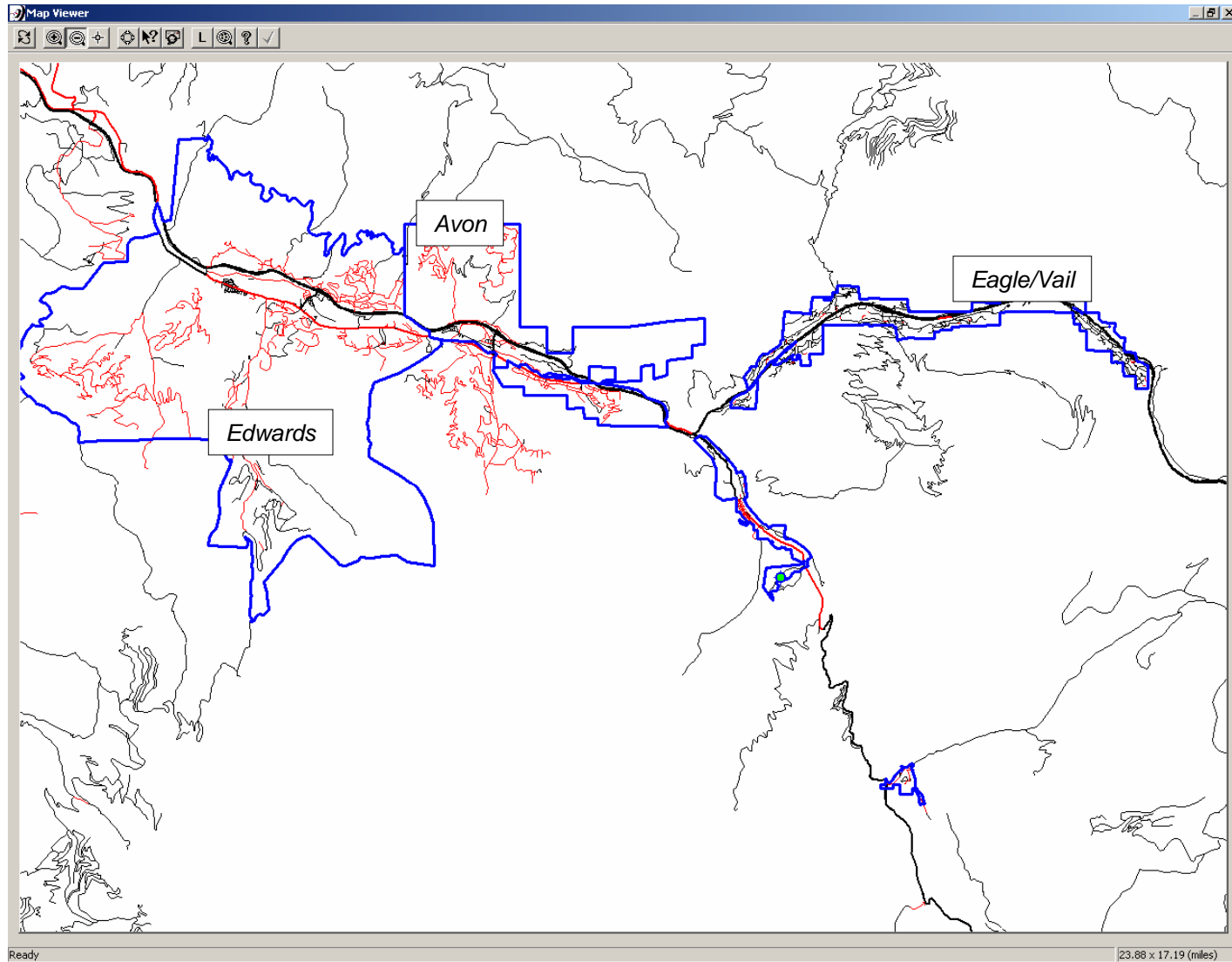
*Almost No Streets Have USPS Information*



**Streets in Red have No USPS Information**

# Vail/Avon CO

*Most of the Streets in Resort Towns Have No USPS Information*

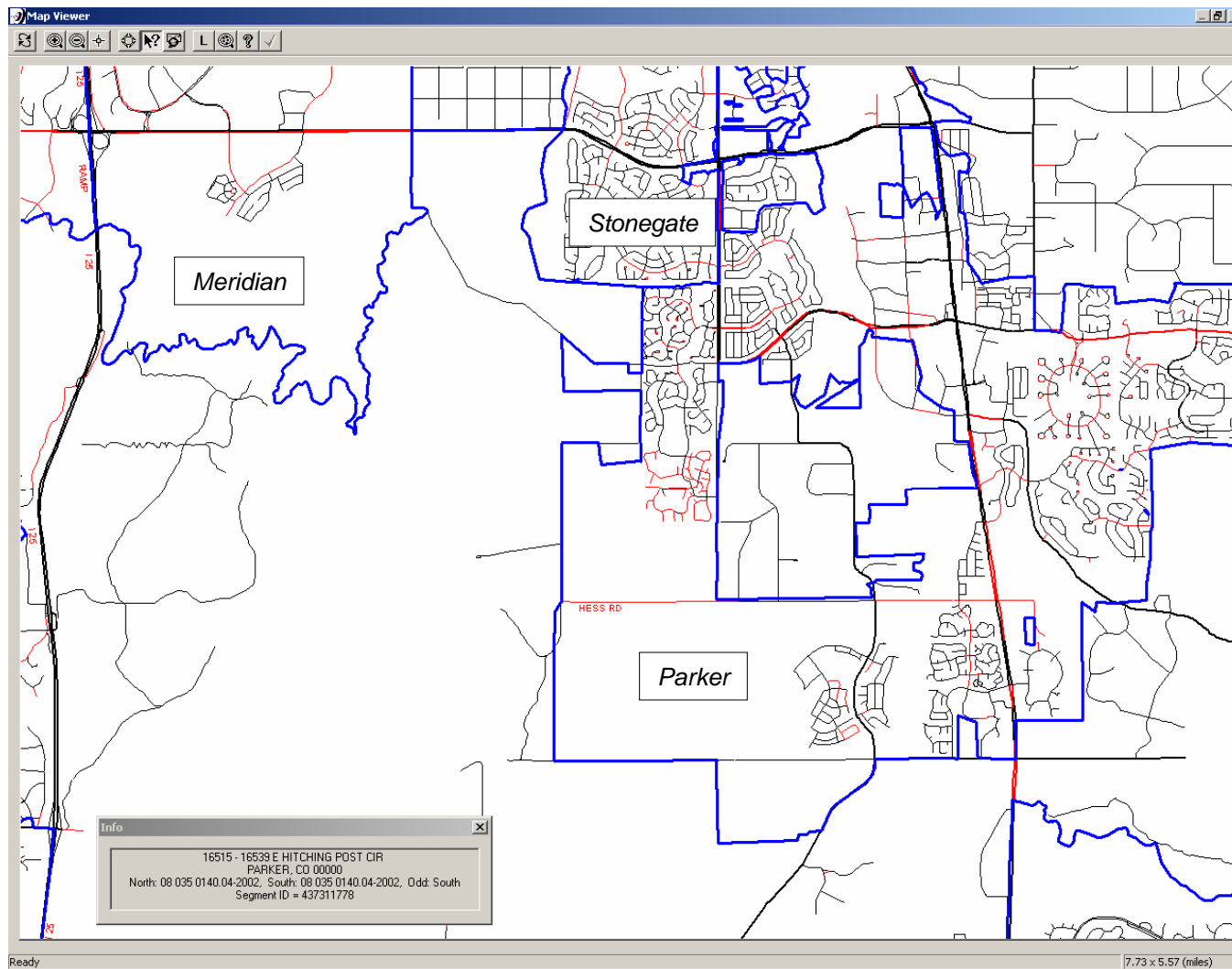


**Streets in Red have No USPS Information**



# Parker, CO

*Streets in Gated Communities Generally Do Not Have USPS Information*



**Streets in Red have No USPS Information**

## Polling Question 3

### Requirements

- Log in from same e-mail address that you used to register
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- Answer 2 out of 3 polling questions

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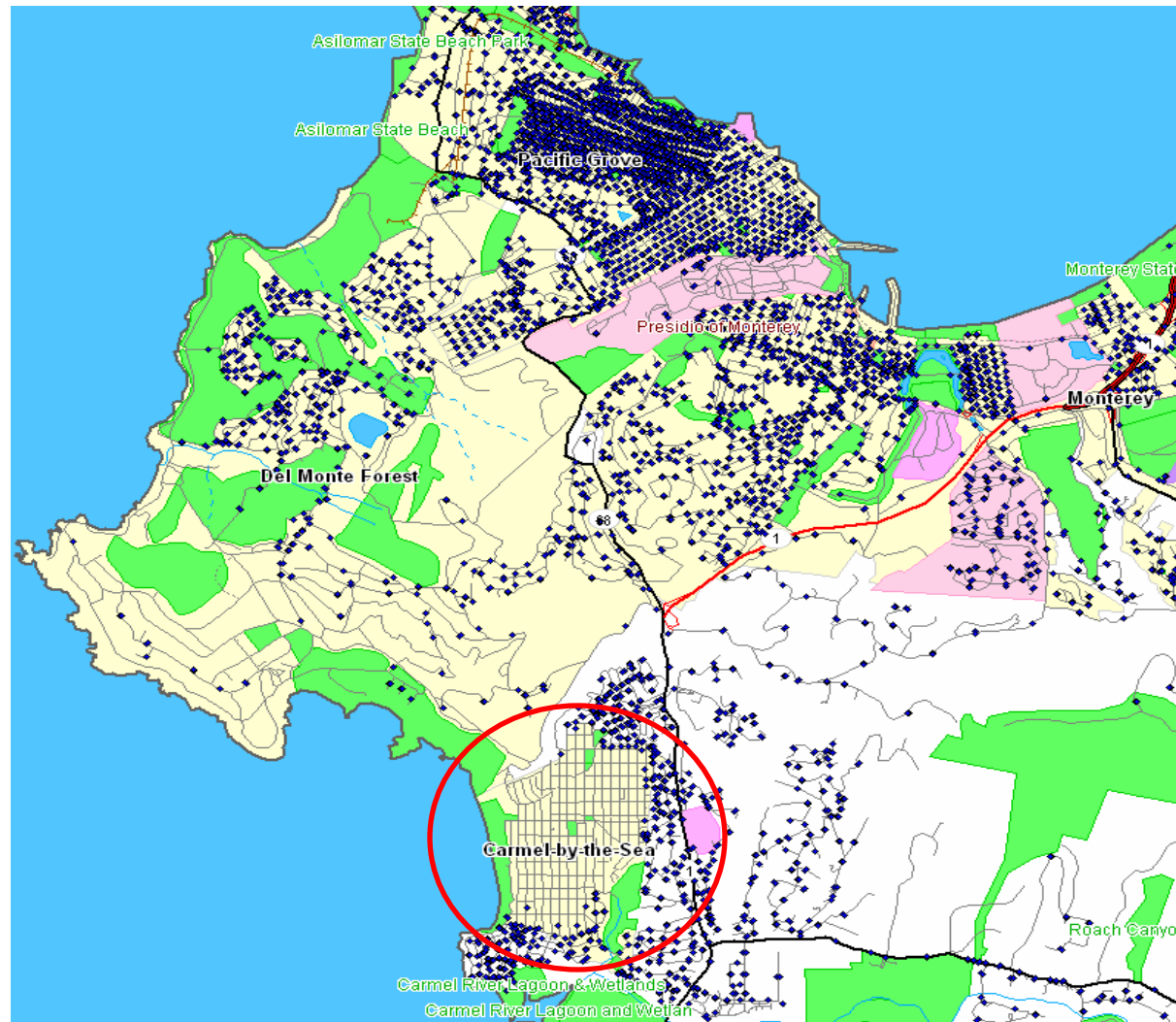
### What are you doing today to solve your Zip Code cross boundary issues?

- A. Current ADP Taxware Client: picking correct geocode from pop-up list
- B. Updating my Zip Codes monthly
- C. Using Zip +4
- D. Running a second batch with rules
- E. Selecting the lower tax rate
- F. Other
- G. I don't know
- H. Not applicable

## ZIP+4 Methodology

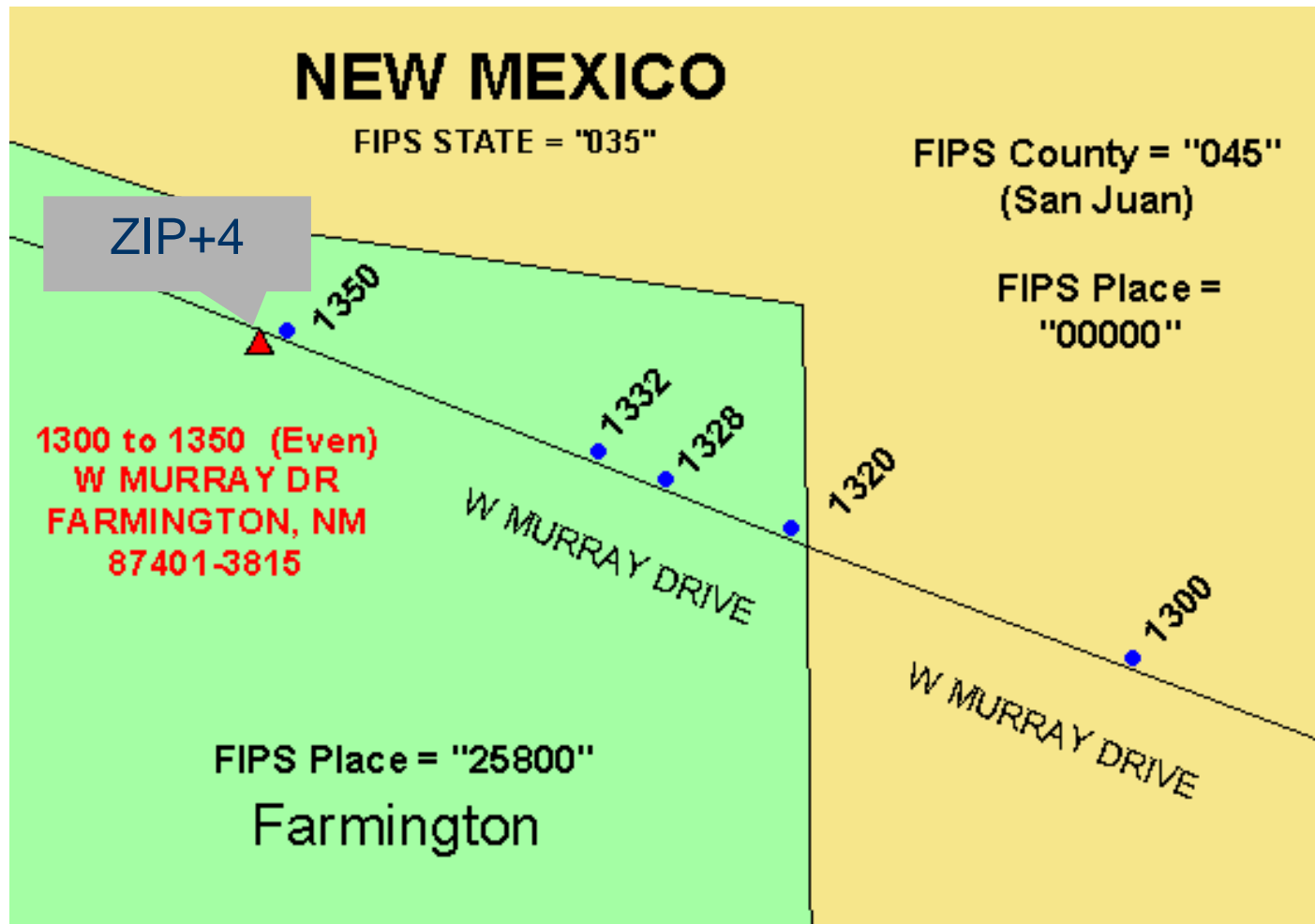
- A ZIP+4 or street segment may sometimes cross a county and/or municipal boundary
- A ZIP+4 is not assigned to all physical streets, just those to which the post office delivers.
- A ZIP+4 can change on a monthly basis.
- There are over 40 million ZIP+4's nationwide
- There are over 600,000 changes every month to the ZIP+4 file

# Carmel and Monterey Peninsula



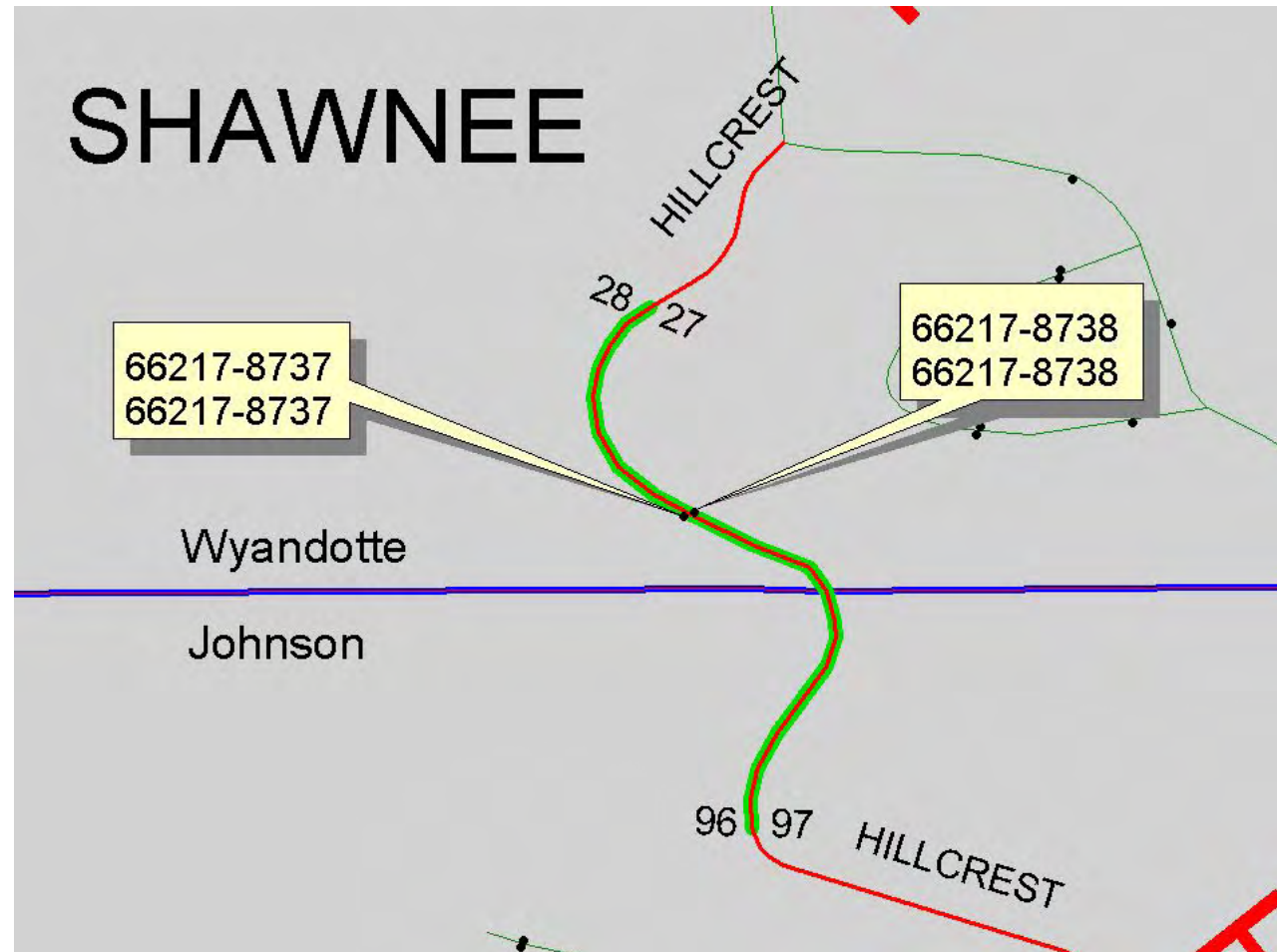


## ZIP+4 Level



The street segment above crosses the Farmington municipality in New Mexico. The customer at 1300 W. Murray Drive should only be taxed at the state/county level – no local tax!

## ZIP+4 Level

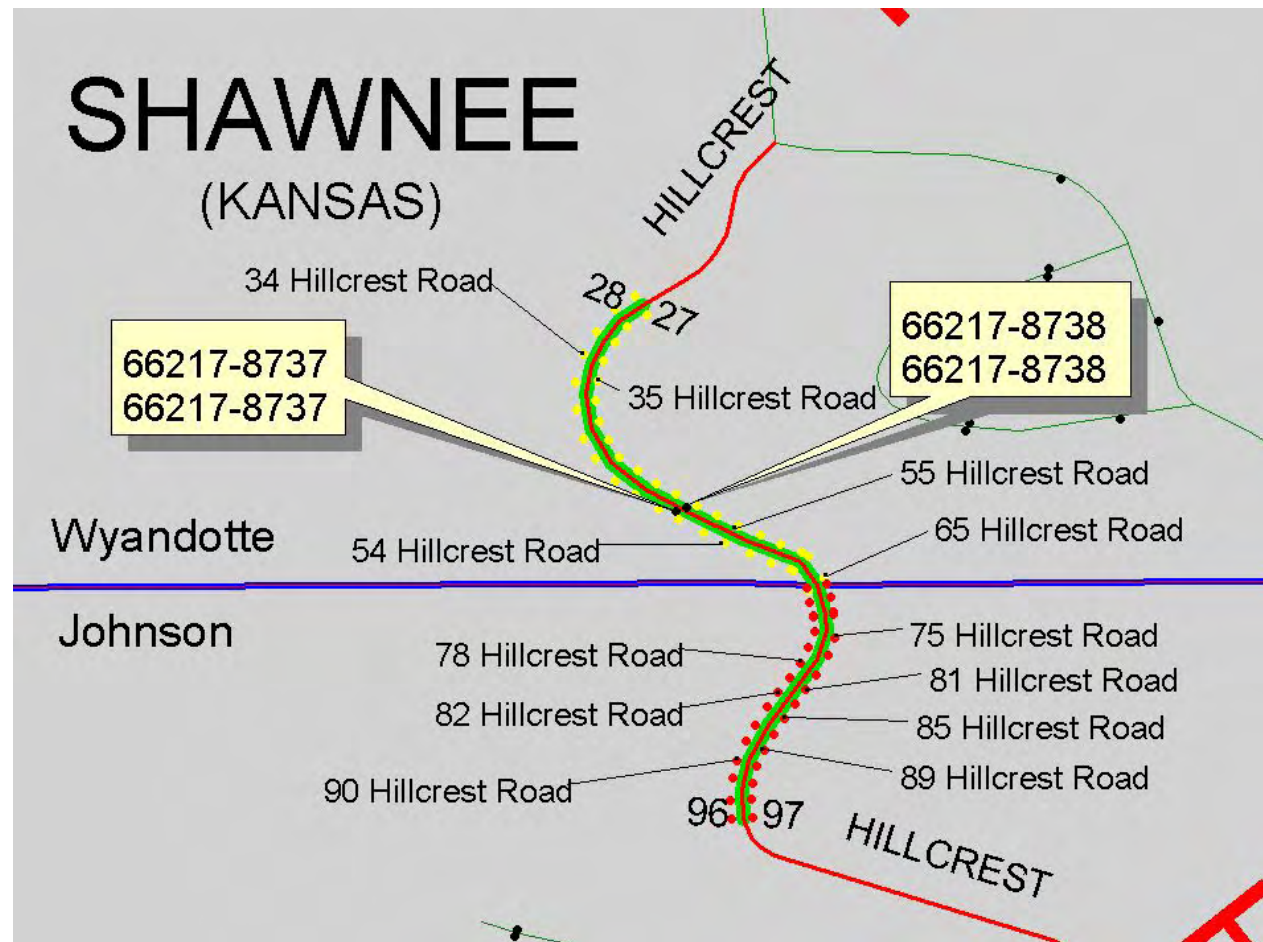


The street segment above in green represents two ZIP+4's odd and even. The centroid representing this street segment falls into one county – not good enough!

## Street Level Methodology

- A Street Level answer is the most accurate assignment that can be automated today using Geocoding.
- This is a detailed example using the previous ZIP+4 example and how street level impacts the answer for approximately 50% of the total number of potential outcomes.

## Street Level



**A street level answer above will put a specific address into the most accurate county, where as, a ZIP+4 level answer does not allow for this additional accuracy.**

## Geocoding – Levels of Accuracy

Example :  
1400 W Gateway Cir  
Fargo, ND 58103-3530



## 5 digit ZIP Code

## ZIP+ 4

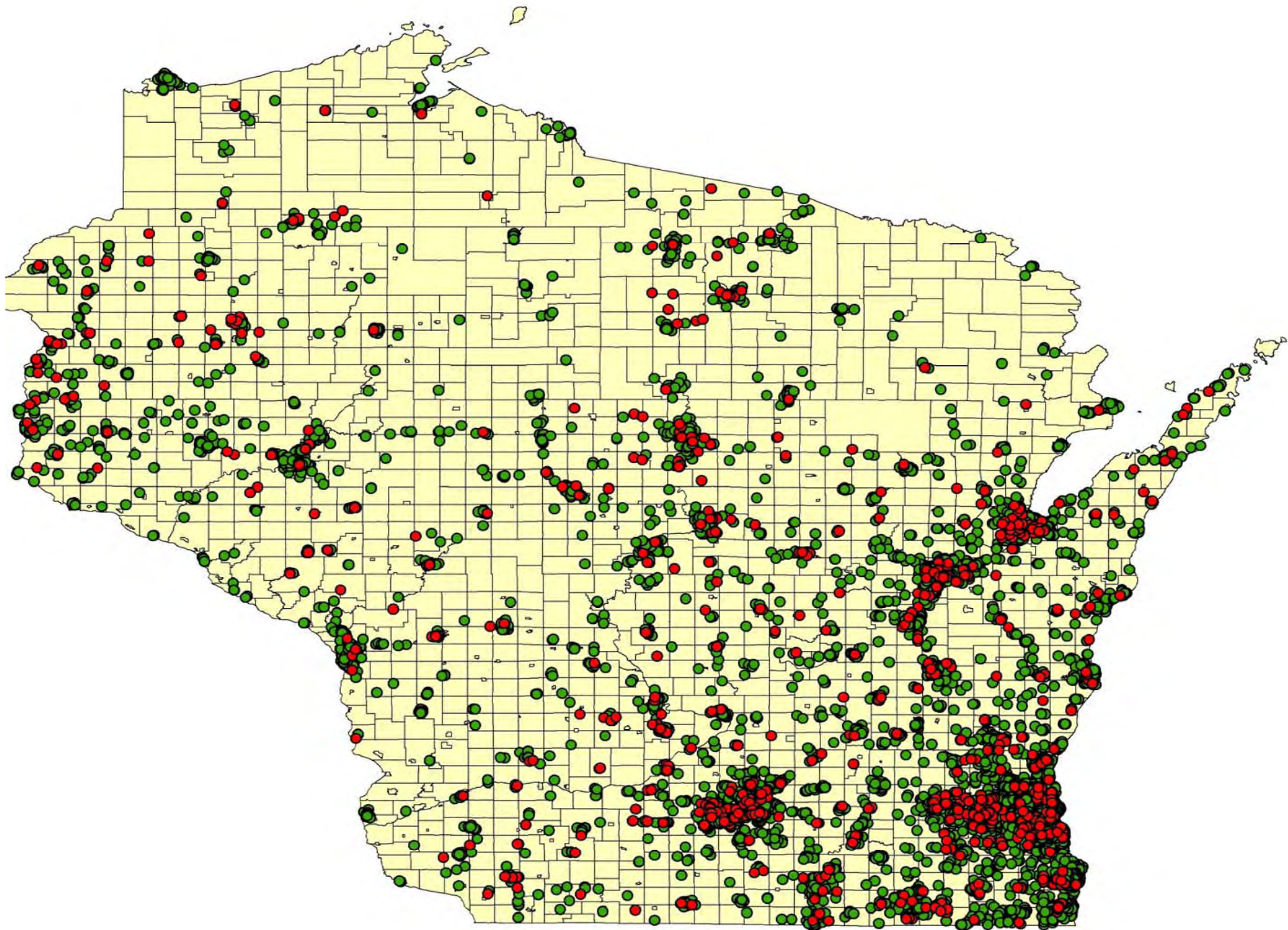
## Address Level/Rooftop



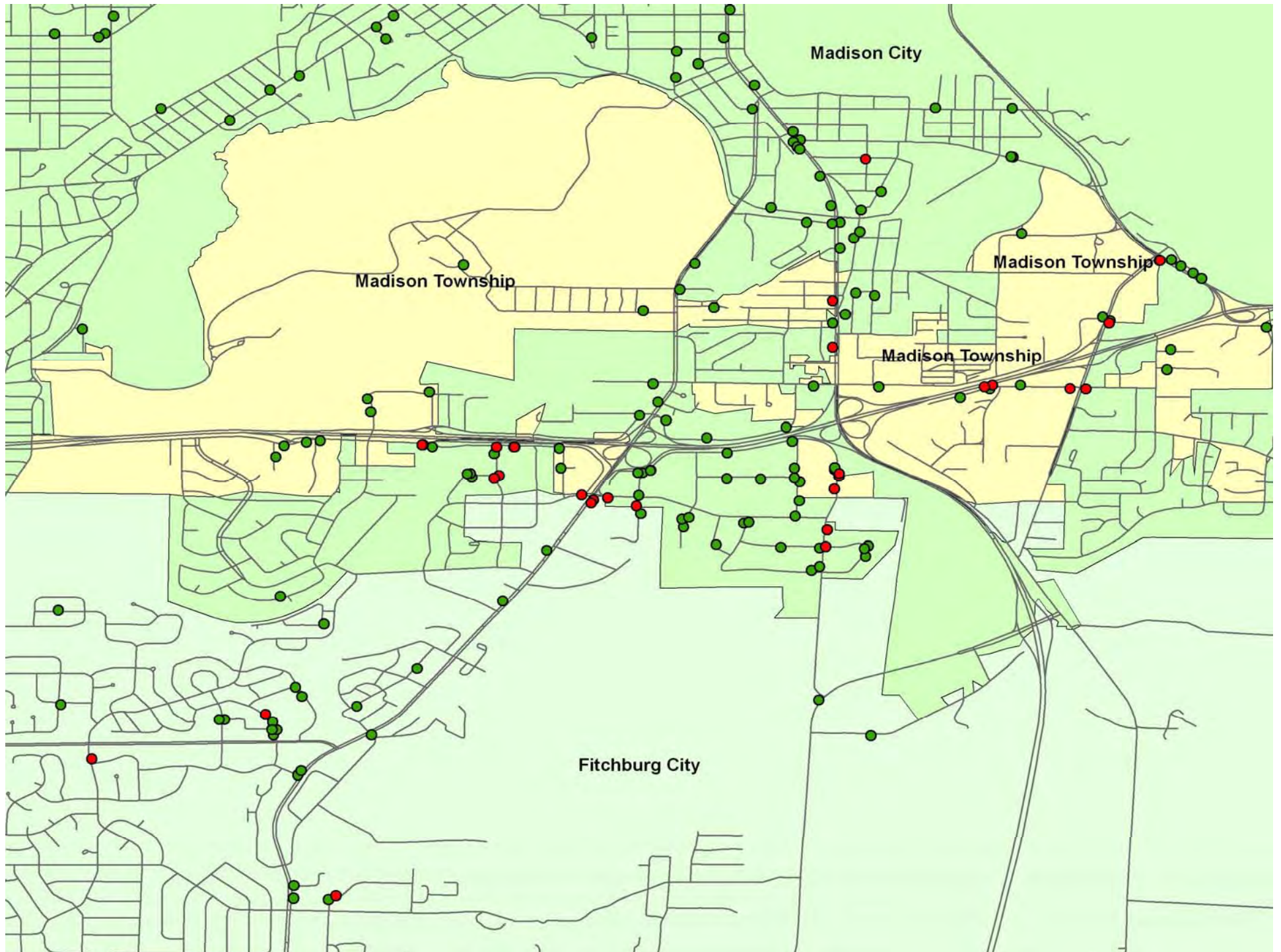
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33







# Special Purpose Districts

- Special Purpose Districts are updated on a quarterly basis through an exclusive relationship with ADP Taxware
- The Special Purpose Districts are calibrated to the TeleAtlas line file data to ensure consistency
- Special Purpose Districts include:
  - Library Districts
  - Fire Protection/Police Districts
  - Rapid Transit Districts
  - School Districts
  - Arena Districts
  - Science & Cultural Districts





Address verification and tax jurisdiction assignment based on multiple layers of geography:

Municipalities

Counties

Street Network

Data After GeoCoding:

Address: 971 Hover Ridge  
Last Line: Longmont, CO  
80504

Address: 971 Hover Ridge  
Circle  
Last Line: Longmont, CO  
80501-4142  
Longitude: -105.245820  
Latitude: 40.027939  
Location Code: ASO-rooftop

State FIPS Code: 08  
County FIPS Code: 013  
Place FIPS Code: 45970  
Confidence Level: 100%

FIPS → GNIS codes



## Some States Are Using Address Level Data Today

- Some Streamlined Sales Tax states are providing address range data
  - WA, KS, SD, others
- CO, TX, FL, AZ
  - Hold Harmless in CO
- [www.GeoTAX.com](http://www.GeoTAX.com)

## What the Future Holds: Point Level Accuracy

- Driven by satellite imagery
- Highly accurate – parcel centroid or house point
- Database is expanding rapidly

# Cul-de-Sacs are a Special Challenge with Interpolation

Example: 3877 Bosque Ct, Boulder, CO 80301





# Street Address Ranges Sometimes Extend Beyond Existing Address Numbers



## Summary

- Using Postal Data for Jurisdiction Assignment is problematic
- Street address level geocoding is very accurate
- Data currency is critical
- Data quality is critical
- GeoTAX is the Pitney-Bowes product that adds street address level geocoding capabilities to ADP's sales tax systems.



## Final CPE Question

### Requirements

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**Were today's program materials relevant and did they contribute to the achievement of the learning objectives?**

- A. Yes
- B. No
- C. Not applicable

## Questions & Answers



**Bob Meador**  
*Director of GeoTAX  
Product Management  
Pitney Bowes Group 1  
Software*



**Tim Walsh**  
*Senior Director,  
Product Management  
ADP Taxware*



## Closing Items

- Reminder: CPE certificates will be e-mailed within 30 days for those of you who met all of the requirements.
- Complete our on-line survey – you could win a **TomTom ONE** car navigation system.
- Next Webinar
- **Sales and Use Tax System: Insider's Tips**
- **Wed., August 6, 12-1pm EST.**

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## Webinar Tour 2008



**ADP Taxware**

2/13	Automating Your Entire Sales Tax Process
3/12	The Growing Influence of SST
4/16	The Ever-Changing Puerto Rico Taxes
5/14	What American Companies Need to Know About VAT
6/12	ADP Taxware and SAP: A Closer Look
7/9	Case Study
8/6	Sales and Use Tax System: Insider's Tips
9/18	ADP Taxware and Oracle: A Closer Look
10/29	What US Companies Need to Know About Doing Business under the North American Free Trade Agreement (NAFTA)
11/12	Drop Shipments
12/3	POS Case Study

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