Retail Sales Allocation Tool
Understanding Customers and Where They Shop

December 2013

Retail Sales Allocation Tool (RSAT)

Agenda

- What is RSAT (30 Minutes)
- Questions (15 minutes)
- Break (15 minutes)
- Potential Uses of RSAT (30 minutes)
  - Case 1
  - Case 2
 - Case 3

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Definitions

- <u>Upstream incentives</u>:
  - Incentives provided to manufacturers or retailers to induce change in stock practices

- <u>Leakage</u>:
  - Installation of qualified product outside of the service territory

- <u>Breakage</u>:
  - Purchase and installation of qualified product within the service territory, yet no rebate/incentive application is submitted

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Retail Sales Allocation: Why

Upstream programming is cost-effective, but we need to know:

- Where are products going?
- Does distance play a role?
- How to handle border stores?

With data and analytics we developed a Retail Sales Allocation Tool (RSAT) to help us better understand customer behavior.

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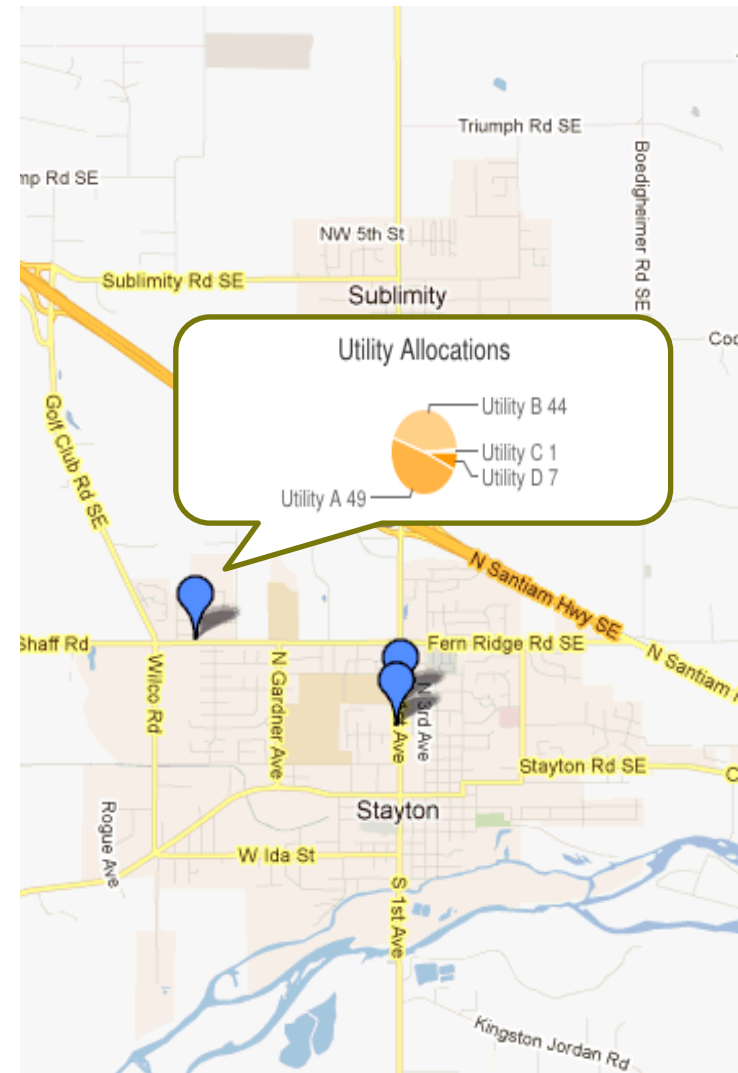
Retail Sales Allocation: Why

We also need to know about our customers:

- Who are they?
- What are their shopping preferences?
- How do different products adjust shopping behavior?

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How RSAT Works

Step 1: Retailer Class **+** Product Type **+** Urban Density **=** DRIVE TIME — Minutes, Not Miles

Step 2: Drive Time **+** GIS **=** RETAILER TRADE AREA (Where Customers Drive From)

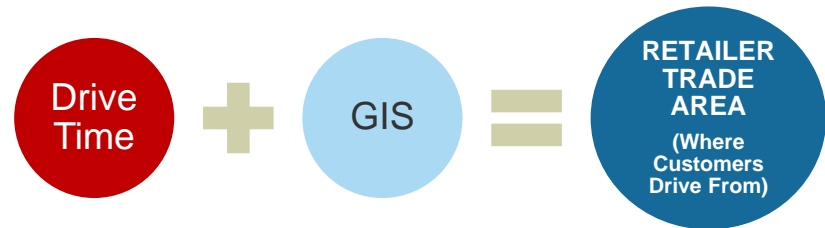**Step 3:** Retailer Trade Area **+** Customer Segments **+** House Counts **+** Utility Territory **=** RETAIL SALES ALLOCATION — By Utility
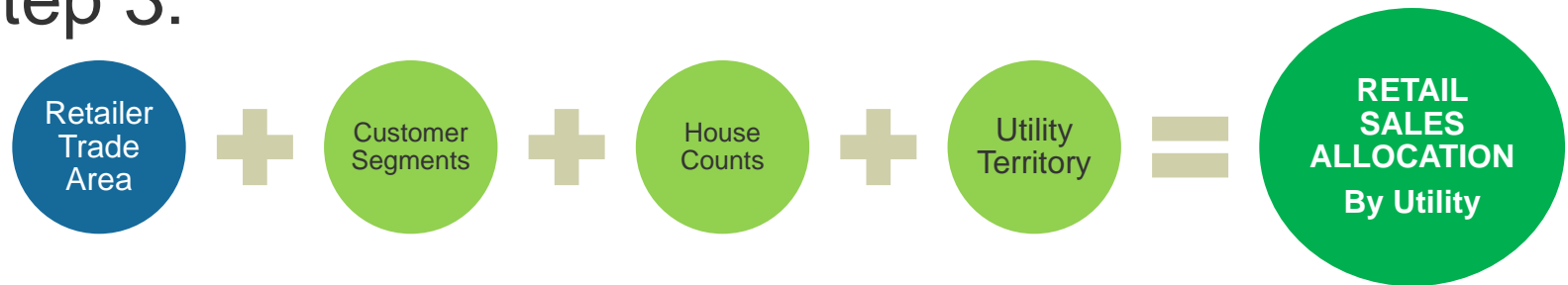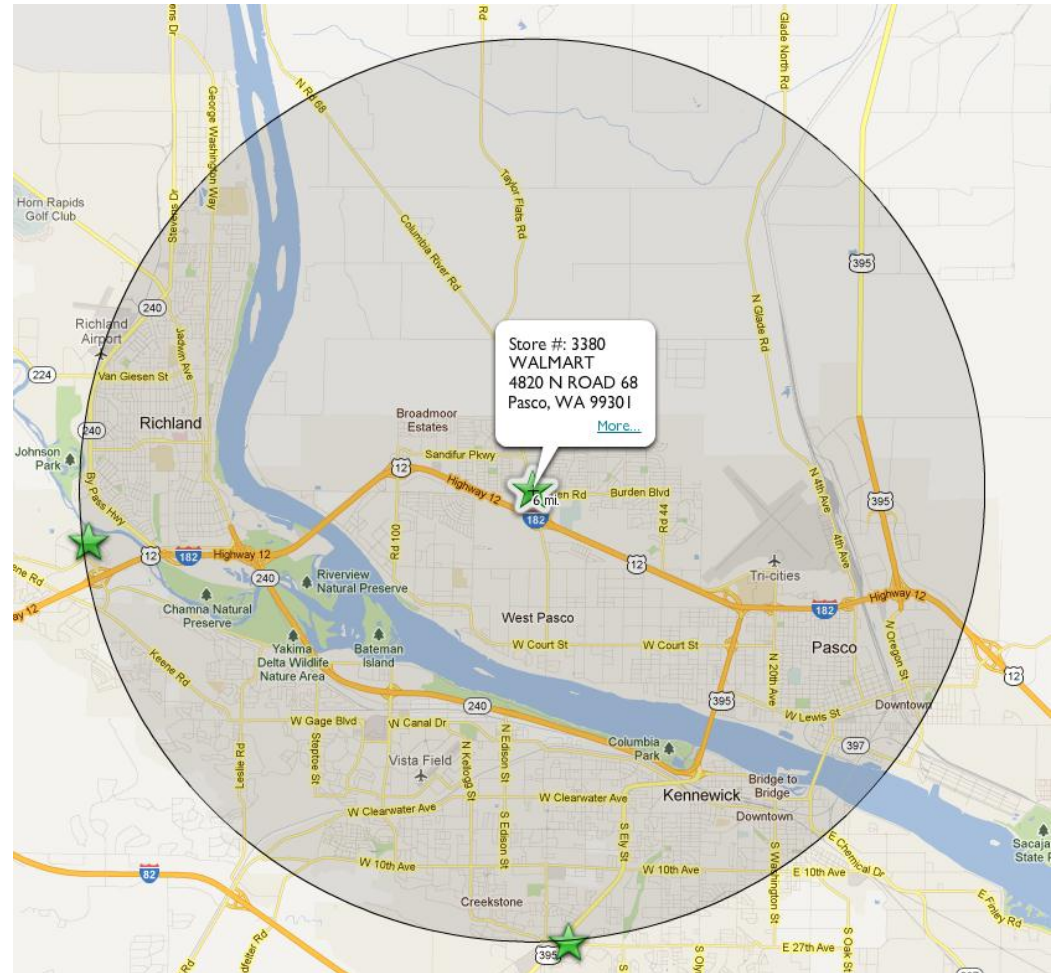
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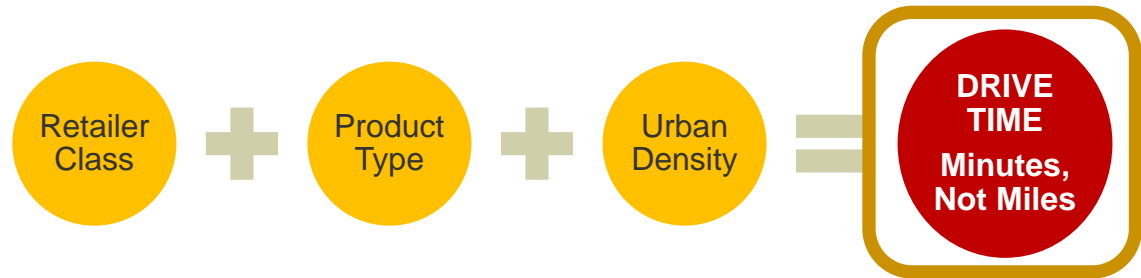
Drive Time, Why Does It Matter?

Distance rings don't account for key factors such as:

- Geographic obstacles like rivers, bridges, lakes, etc.
- Road types, speed limits
- Urban density

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Drive Time, Why Does It Matter?

Distance is measured in time

- Area in blue represents 10 minutes of drive time from the same store.

- Notice all the populated areas that are within the ring but not within the drive time.

Store #: 3380
WALMART
4820 N ROAD 68
Pasco, WA 99301
More...

DRIVE TIME
Minutes, Not Miles

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Drive Time by Product

How far customers drive also depends on the product

- Some products naturally draw from larger trade areas

- One location may have multiple trade areas due to the different products

DRIVE TIME
Minutes, Not Miles

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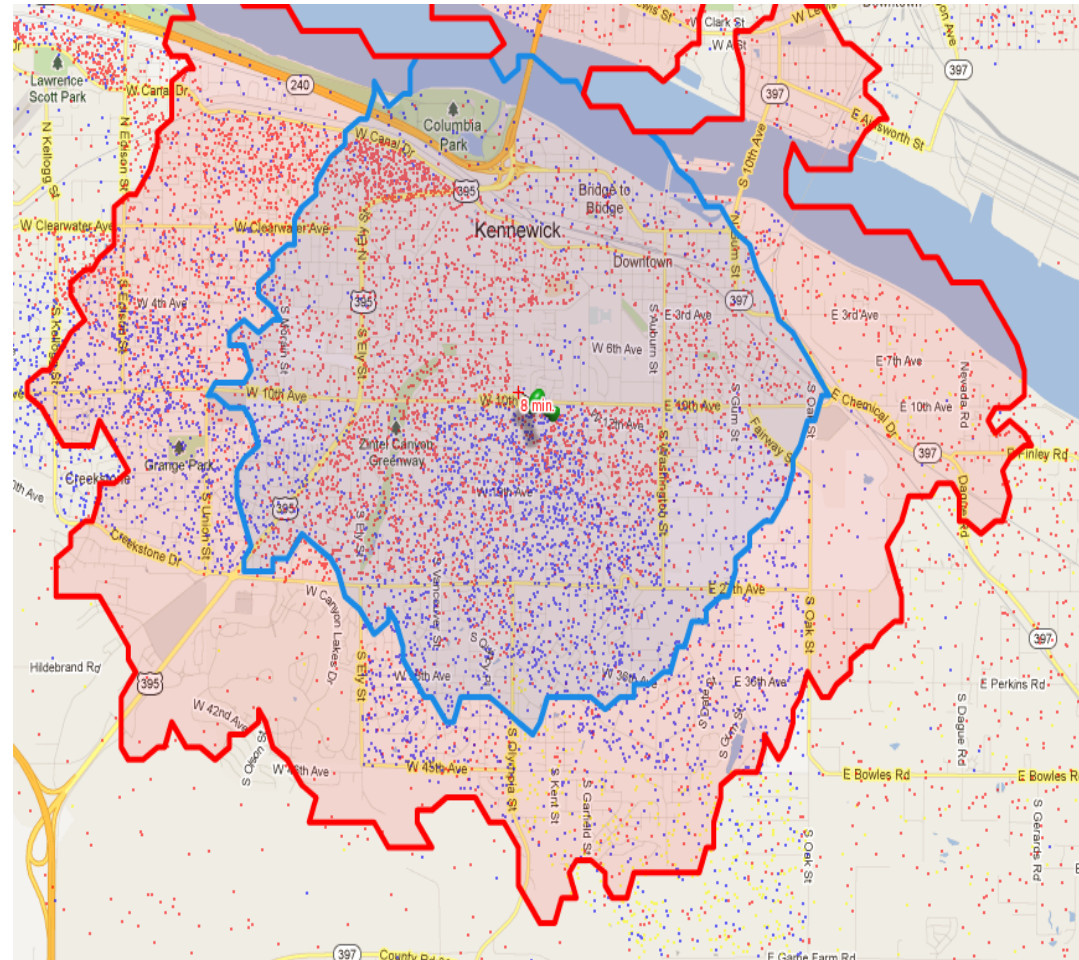
Drive Time, Other Factors

Retailer
- Different brands draw different customers

Urban Density
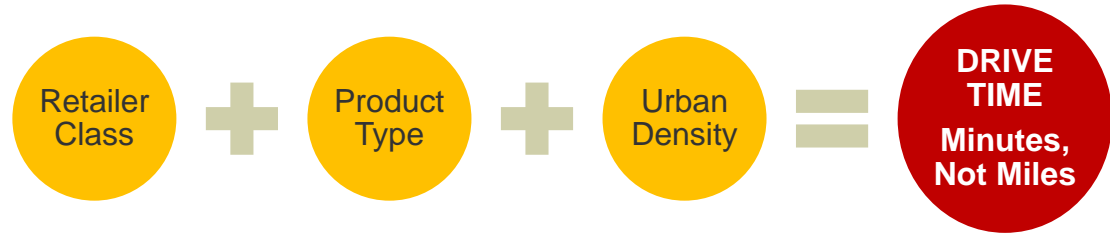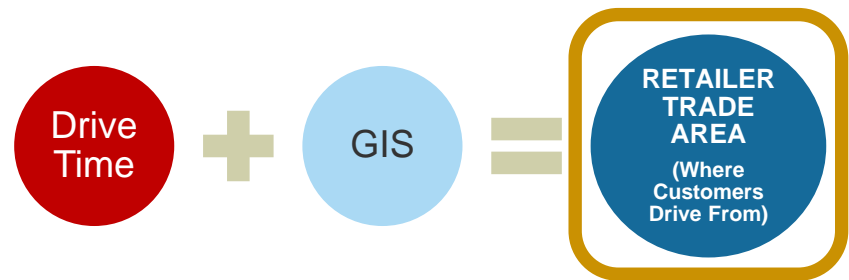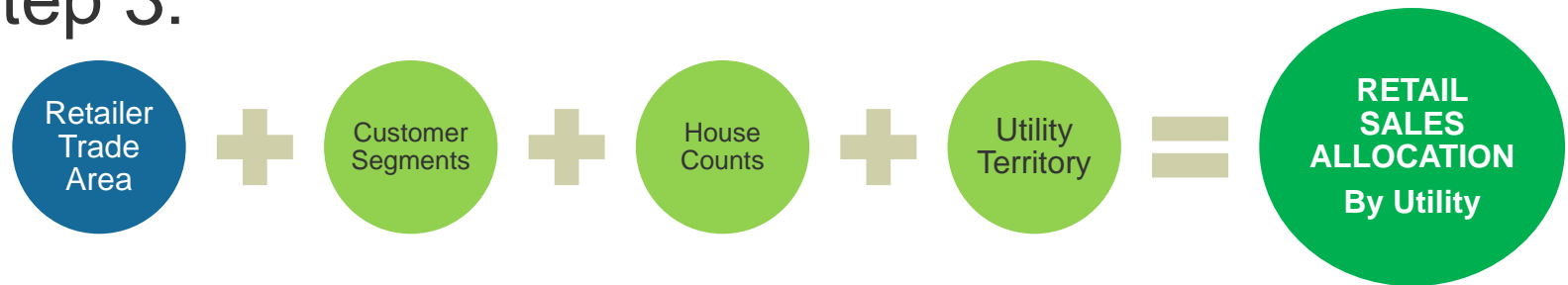- Where customers live influences how long they are willing to drive

 vs

DRIVE TIME
Minutes, Not Miles

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RSAT Model

Step 1: Retailer Class **+** Product Type **+** Urban Density **=** DRIVE TIME — Minutes, Not Miles

Step 2: Drive Time **+** GIS **=** RETAILER TRADE AREA (Where Customers Drive From)

Step 3: Retailer Trade Area **+** Customer Segments **+** House Counts **+** Utility Territory **=** RETAIL SALES ALLOCATION — By Utility
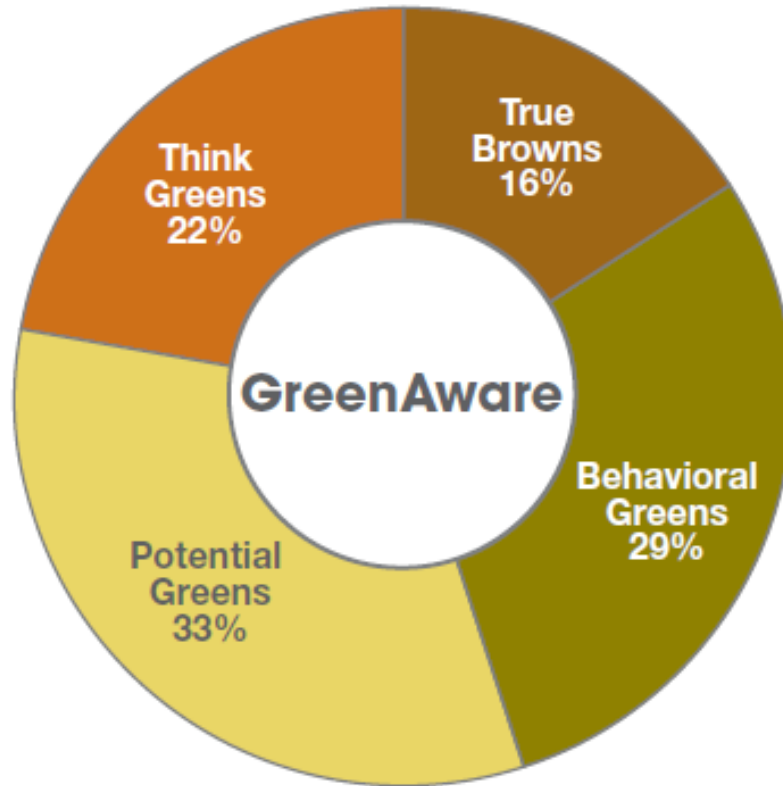
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Retailer Trade Area, Segments

PECI uses *The Mosiac Segment Classification* (72 US market segments).

GreenAware Segments are weighted more heavily

Source: Simmons NCS/NHCS Spring 2007 Adult Full Year

Retailer Trade Area, Segment Ex. Profile Q62 "Reaping Rewards"

Top 10s

Top 10 Most Represented Characteristics

- Head of household age: Age 76+ years
- Head of household's occupation: Retired
- Someone in household's occupation: Retired
- Financial accounts: Own other Bonds
- Category of Websites visited: Computers and Internet - e-greetings
- Leisure activities/hobbies: Belong to country club
- GreenAware^{SM}: Behavioral Greens
- Magazines: Metropolitan/Regional/State
- Newspapers: TV or radio listing - section
- TrueTouch^{SM}: Look at me now

RETAILER TRADE AREA (Where Customers Drive From)

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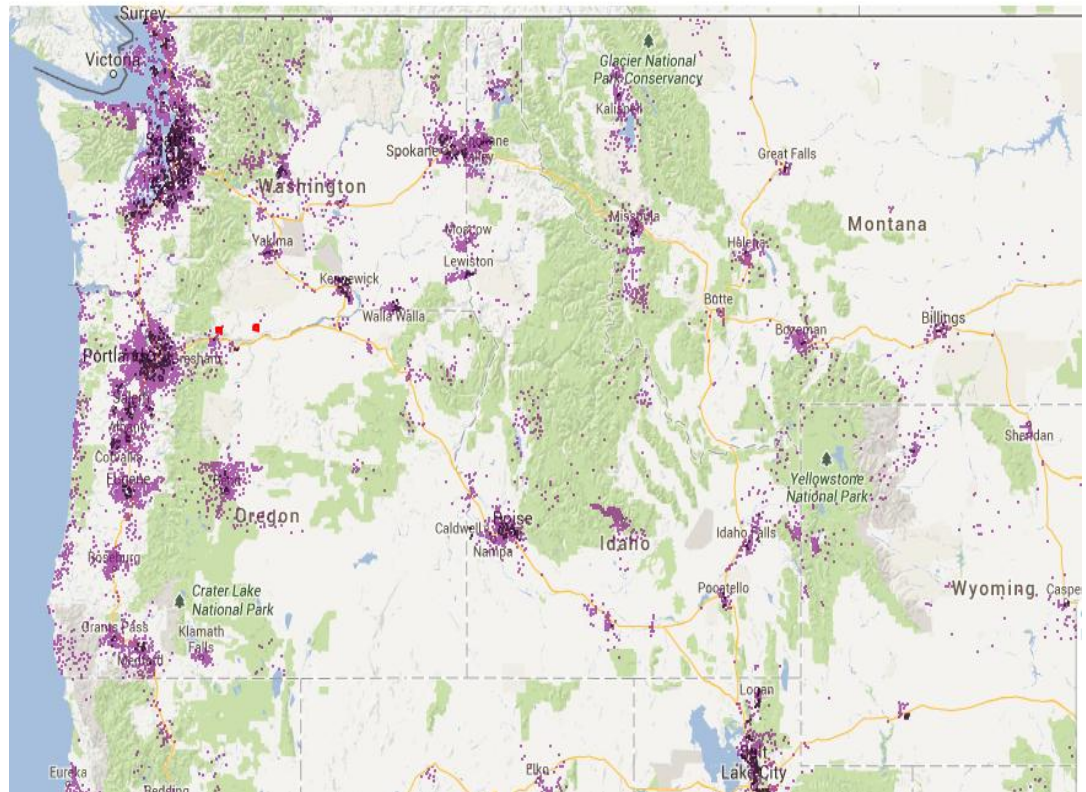
Retailer Trade Area, Core Segments

Core Segments: Each retailer chain has an identifiable profile of most frequent shoppers

RSAT oversamples Greenaware and Core Segments per zip code to identify those who are more likely to shop for energy efficient products

RETAILER TRADE AREA (Where Customers Drive From)

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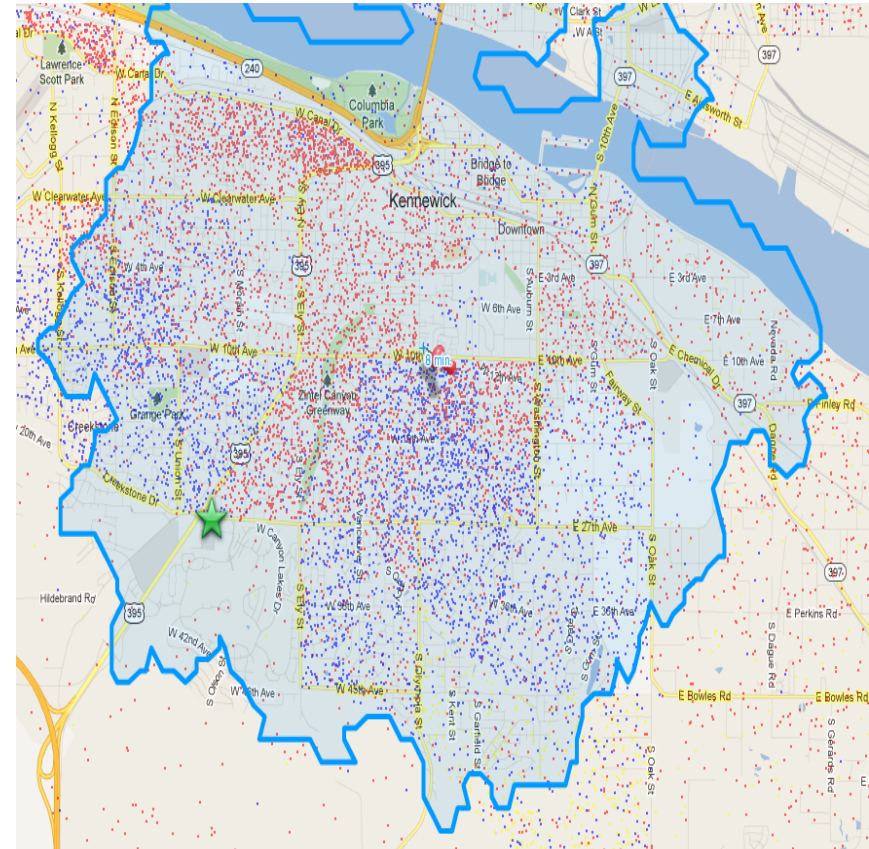
Utility A (900 / 3430) = 26%
Utility B (1667.5 / 3430) = 49%
Utility C (862.5 / 3430) = 25%

1800
Utility A = 900
Utility B = 900

165
Utility C = 165
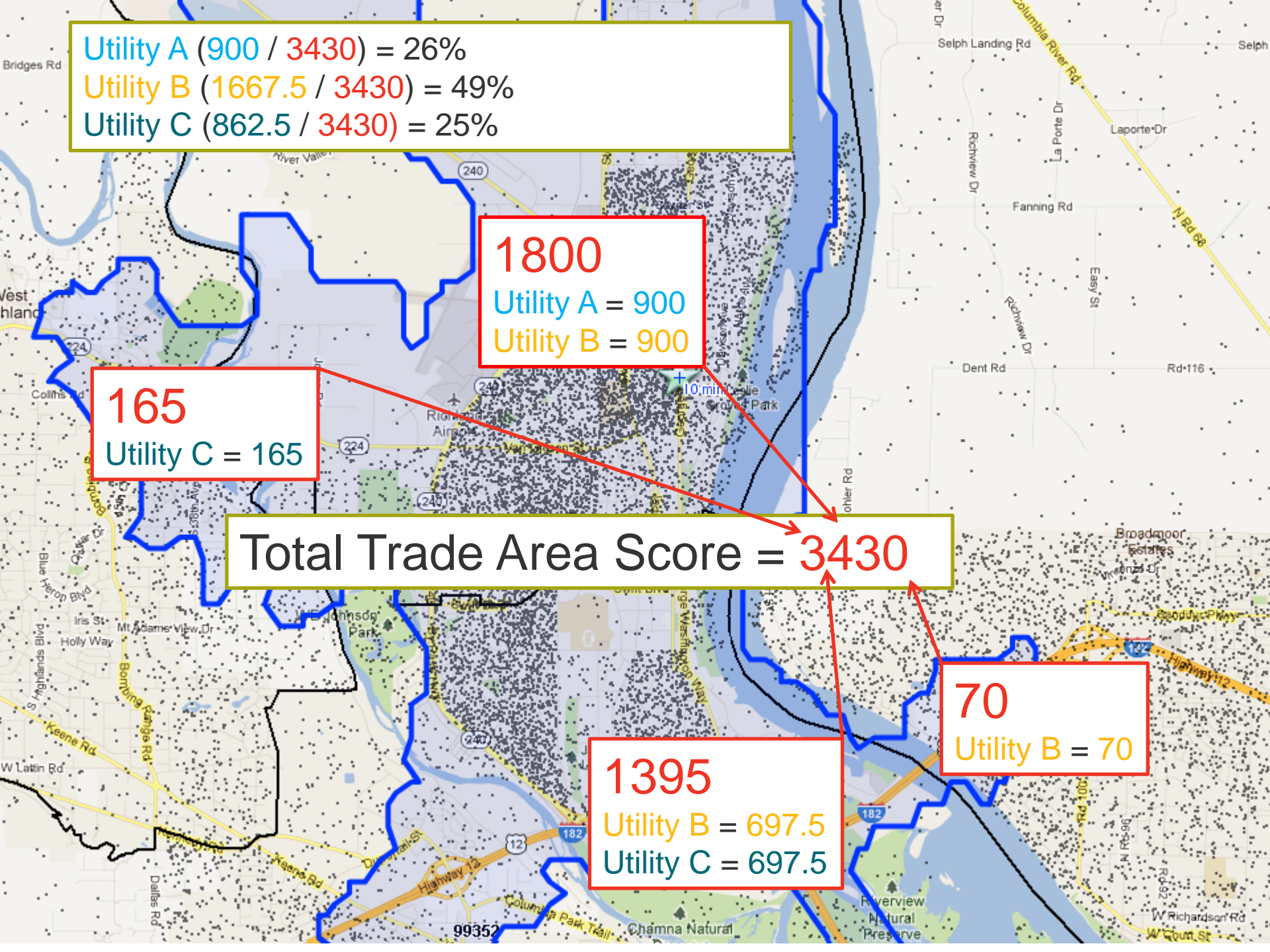
Total Trade Area Score = 3430

70
Utility B = 70

1395
Utility B = 697.5
Utility C = 697.5

RSAT Allocation by Utility, The Math

Let p=1 if the utility is the primary and 0 otherwise; *m*=1 if utility is a municipal and 0 otherwise; U=number of Utilities, M=number of municipal utilities. Then the weight w of the ith utility is expressed:

$$W_i = \frac{p_i + m_i + 1}{U + M + 1}$$

Thus, the **Total Utility Score** $= \sum Z_k \, W_i$

Where Z_k is the weight of the kth zip code for the retailer, given the market segment distribution

RETAIL
SALES
ALLOCATION
By Utility

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Retail Sales Allocation Tool Provides:

- Ease of implementing upstream **cost effective** incentive models

- **Access** to smaller utilities to upstream models

- **Leakage** estimates (prior to evaluation)

- **Insights** for Net to Gross savings adjustments prior to evaluation

- Choice of most **equitable locations** to include in programs

- More targeted and/or effective **marketing**

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Questions / Discussion

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15 Minute Break

RSAT Potential Use Cases