

GIS Assisted Customer Analysis & Marketing

GIS For WM Business

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THINK GREEN.®



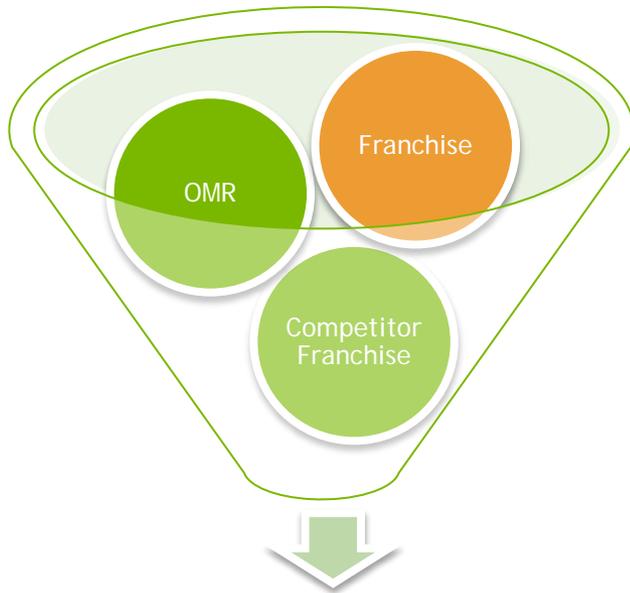
Content

GIS for WM Business

- Contract Management
- Territory Assignment
- Order to Cash (OTC)
- Parcel Data Analysis (PDA)
 - Audit Map
 - Mobile Audit Tool_ArcGIS Mobile Solution for the Field Audit
- Open Market Residential Mailing Campaign (OMR)
 - Custom GIS web application to draw target area
 - GIS Mapping to identify suspect area
- Market Share Analysis
- Sale Operation
- Pricing Analysis

Background & Problem Definition

Supporting Contract Management in Franchise Area

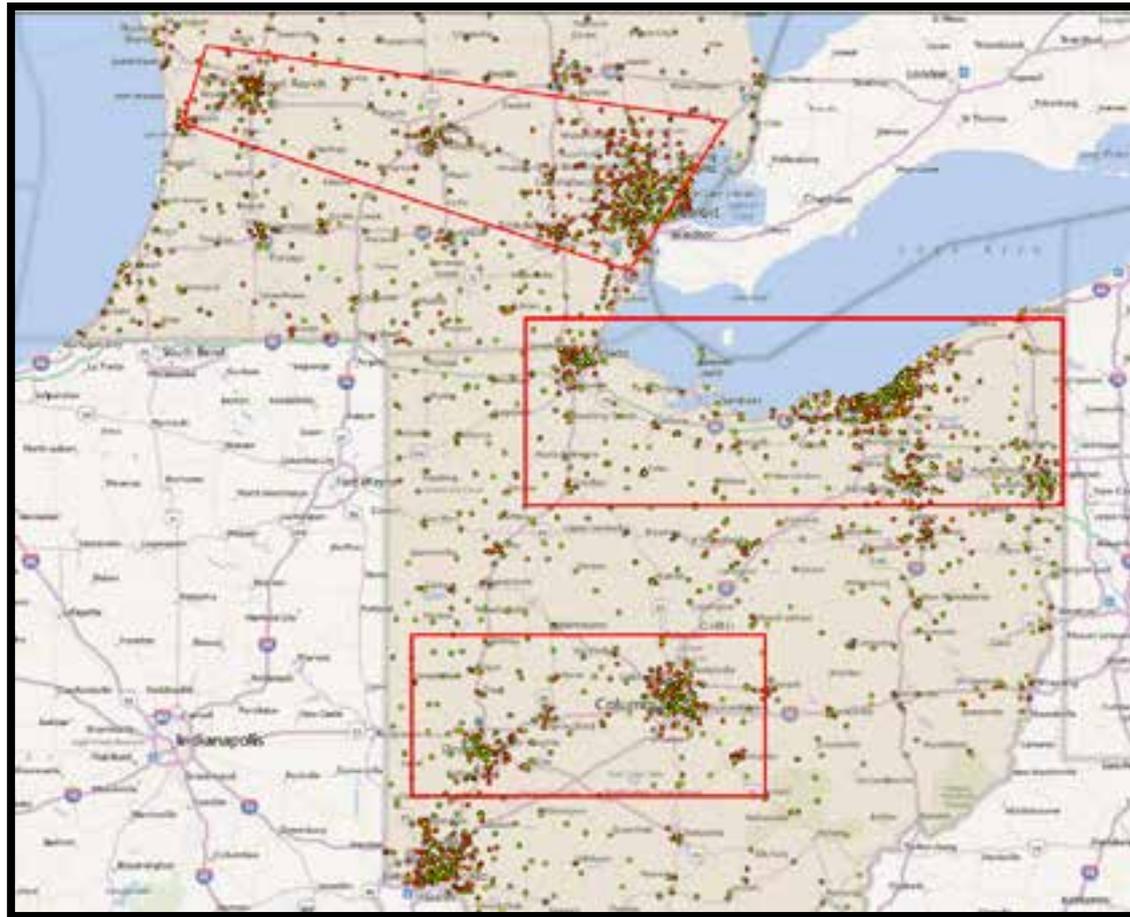


- Assign the territory to PS reps
- Help identify the right time to visit the right places
- Integrate with OTC
- Report contract Performance automatically
 - Rerouting
- Support contract compliance
 - Overbilling vs. under billing

Using GIS Opens Up Endless Possibilities

Background & Problem Definition

Assign the territory to PS reps



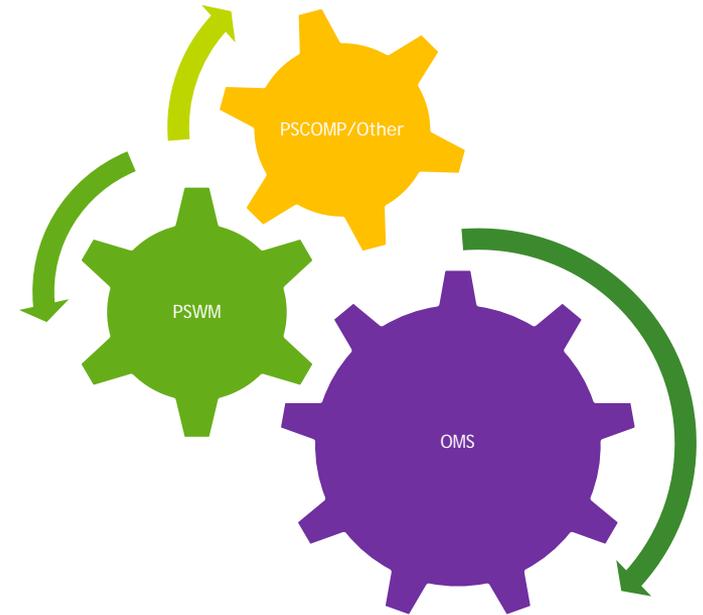
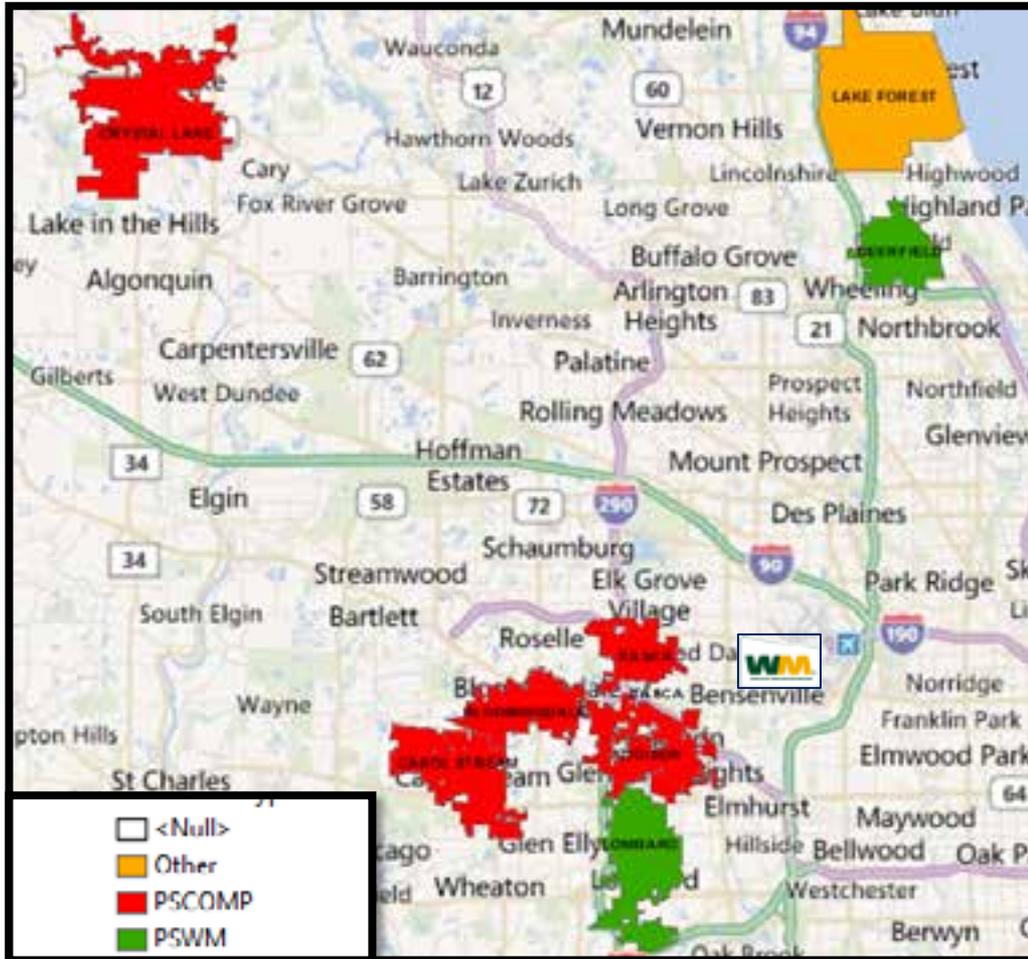
Legend

- Prospects - Higher Education
- Prospects - Public K-12
- Prospects - Private K-12

- Better targeting
- Save transportation expense

Background & Problem Definition

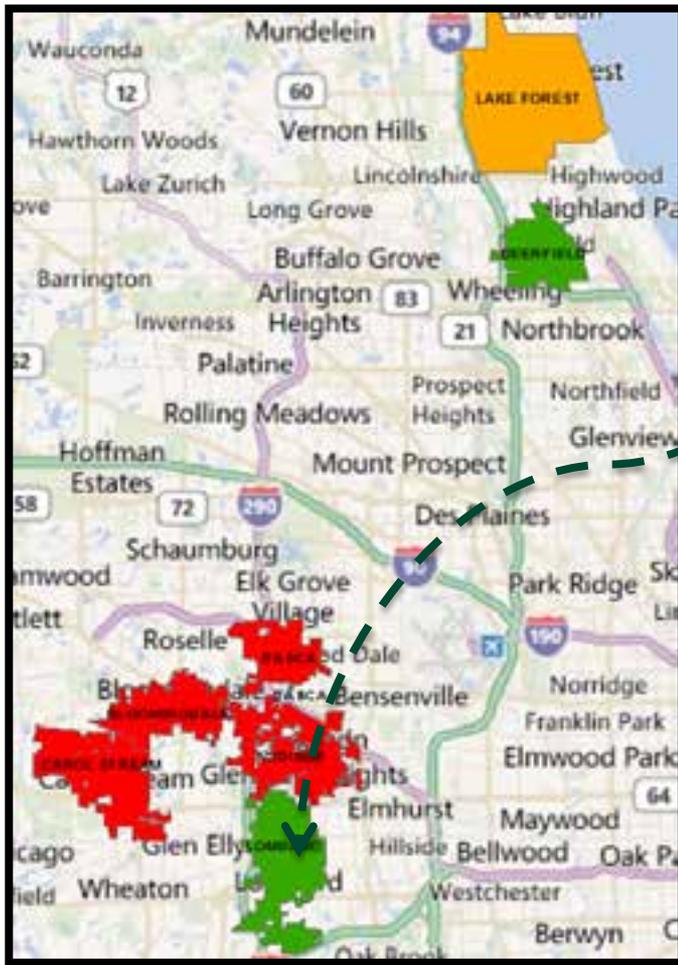
Help identify the right time to visit the right places



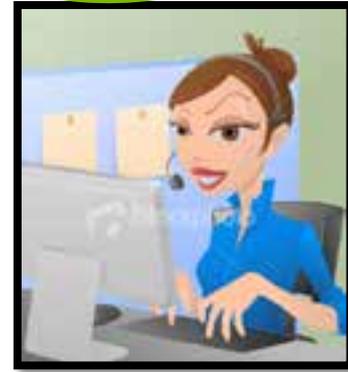
- Retain WM franchise areas
- Target new franchise areas
- Help effective targeting the right places at the right time!

Background & Problem Definition

Integrate with OTC



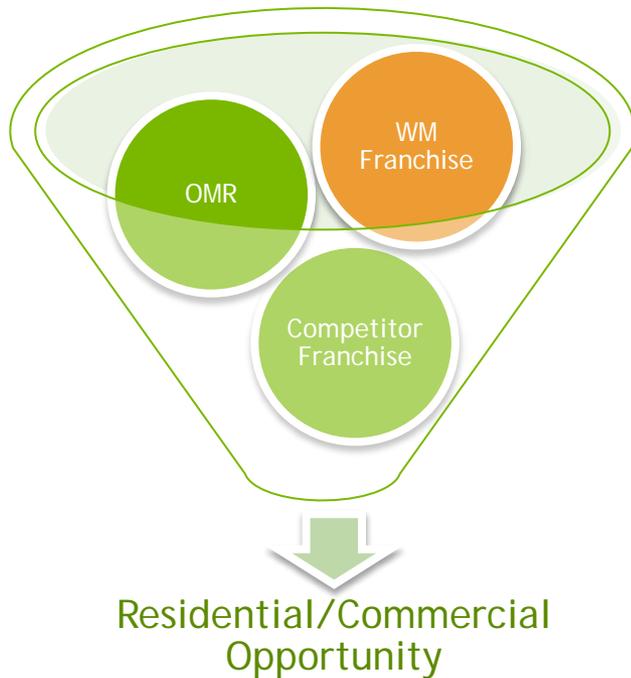
My address is ...



- Assign the right price
- Promote the work efficiency of Customer service
- Better communication with the customers via the internet or via the phone

If it's not right, YOU pay the price!

PDA can HELP!

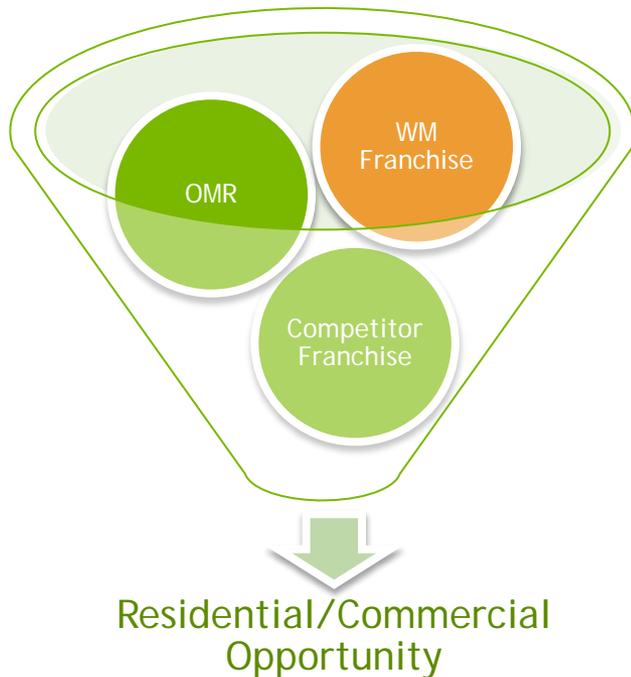


- *There's a lot at risk.* People are examining bills more closely.
- If you're overbilling there could be litigious exposure.
- If you're under billing, or not billing, the customer won't say a word, and the City is now providing unaffordable FREE SERVICES.



Background & Problem Definition

Supporting PDA in Franchise Area



- Ensure we are getting paid for what we are servicing.
- Help increase Revenue on Existing Contracts
- you could be losing 2-3% of revenue potential.
- maximizing the contract's worth that would work toward a strategy of not having the contract go out for bid.
- Putting the audit maps online and routing at the real-time increases the efficiency of the field audit process

Using GIS Opens Up Endless Possibilities

Audit Map for PDA

Suspects are highlighted



Background & Problem Definition

Supporting PDA in Franchise Area-it is not just for residential audit

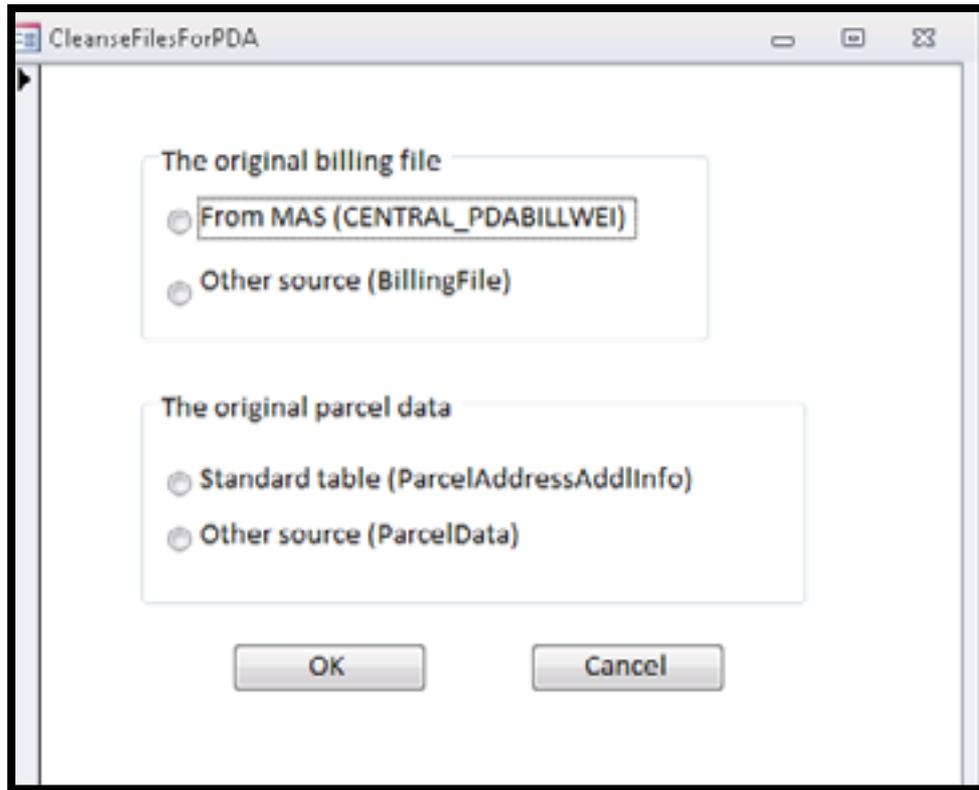


- Help audit the container size on active commercial accounts
- Help audit the suspect commercial properties

Address	CSTUNIQ	2 YD	4 YD	6 YD	8 YD	96g TOTE	COMMENTS
10 HARBOR BLVD	71964563003	1	1	0	0	0	
26 HARBOR BLVD	4541333000	0	1	0	0	0	
53 HARBOR BLVD	61655843001	0	0	0	1	0	
66 HARBOR BLVD	4544253000	0	1	0	0	0	
210 HARBOR BLVD	4541843003	0	0	0	1	0	
210 HARBOR BLVD	4542903008	0	0	0	1	0	

PDA Automation

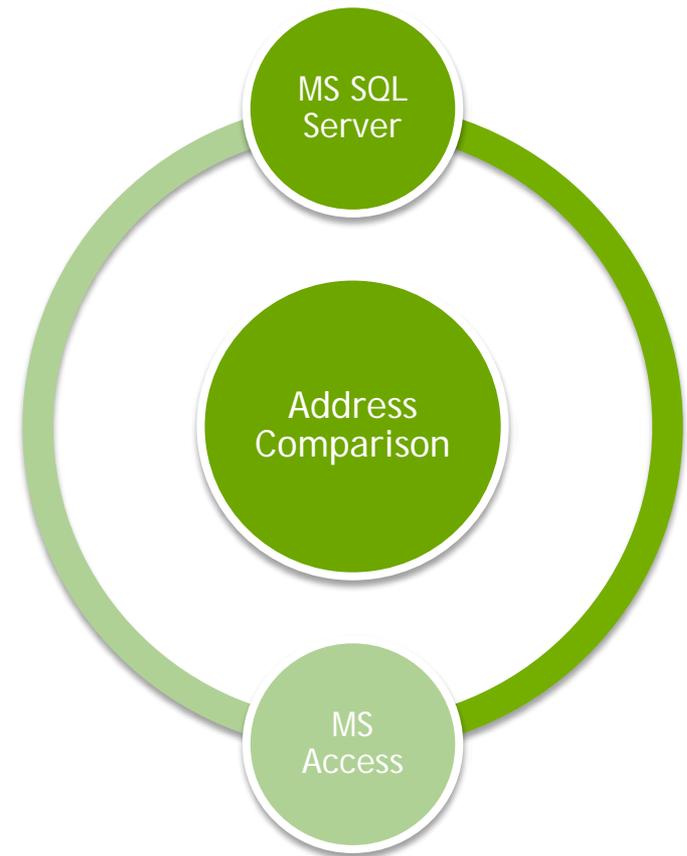
Address Cleansing



PDA Automation

Address Comparison

The screenshot shows the 'Parcel Data Analysis' application window. It features several configuration sections: 'PDA Type Selection' with radio buttons for 'PDA Only' (selected) and 'PT And PDA'; 'Commercial and Roll Off Customers' with radio buttons for 'Yes', 'No', and 'N/A' (selected); 'City/ZipCode' with radio buttons for 'Yes' and 'No' (selected); and 'Input Data' with a text field containing 'Input Data (*.mdb)' and a 'Select' button. At the bottom, there is a 'Run PDA' button.



PDA Automation

PDA Data Analysis



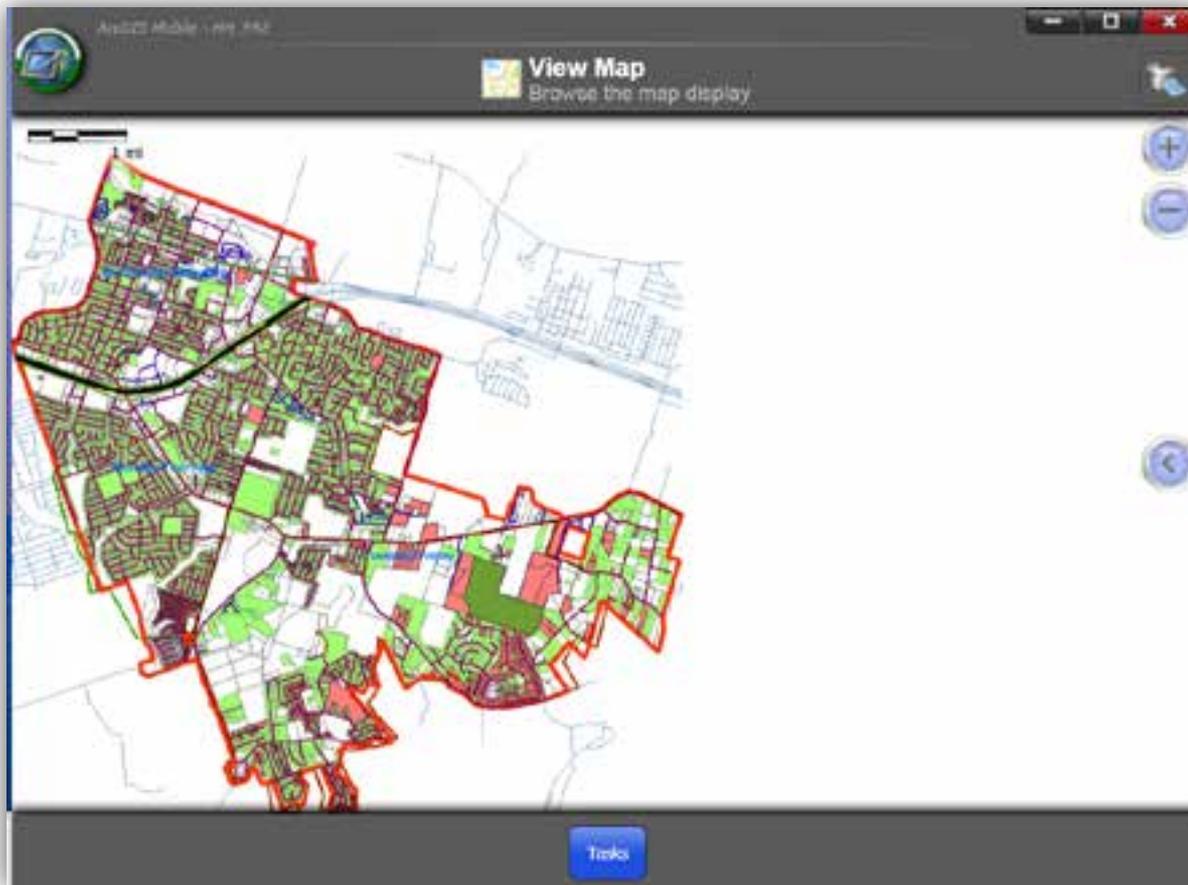
- MAS
- Trillium
- Outlook
- MS Access

- MS SQL Server
- MS Access

- Easy to use interface
- Communicate among access, MAS, Trillium, Outlook, and SQL Server
- Run queries and stored procedures behind scenery
- Promote work efficiency
- Free the manpower from manual work

PDA Automation

Field Audit_ArcGIS Mobile Solution (e.g. Harker Heights, TX)



- Synchronization of data between mobile & server
- Offline editing
- Provide simple, easy to use interface that requires little to no knowledge of GIS software
- An automated way to collect attribute information
- Reduces dual entries

ArcGIS Mobile for the Field Audit

Zoom in & select parcel polygon



ArcGIS Mobile for the Field Audit

Edit Attributes

ArcGIS Mobile - 141_FA2

Edit Attributes

Click an attribute to edit its value

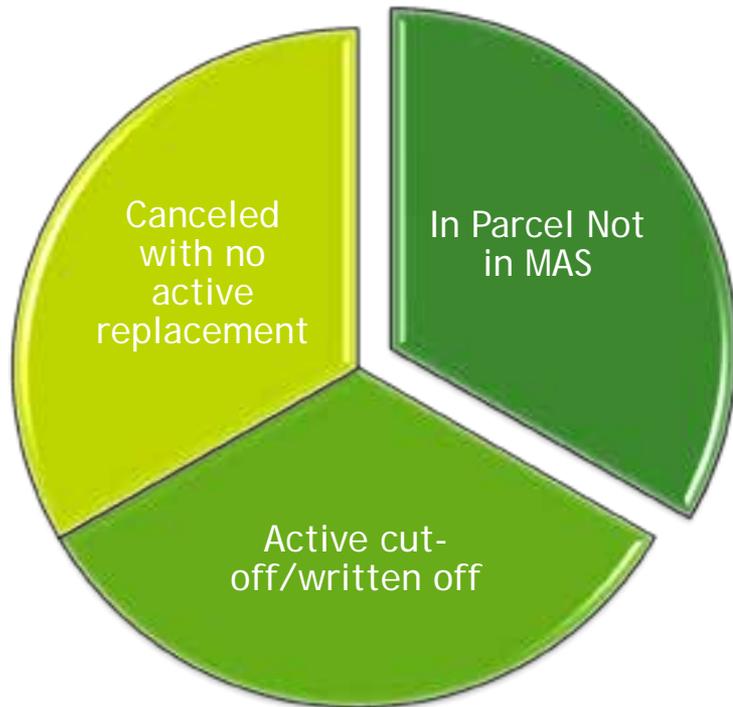
Property Status	<Not Defined> <small>Field value is not valid. You must enter a valid value to continue.</small>	>
SID_1	539	>
Site Address	2000 VERNA LEE BLVD	>
Property Status Description	<Not Defined>	>
Trash 96 Cart	<Not Defined>	>
Yard Waste	<Not Defined>	>

Cancel Finish

WW WASTE MANAGEMENT GREEN

Background & Problem Definition

PDA & OCS



Do not service list

- Highlight the “Do not service” customers in OCS
- Help promote route efficiency
- Service the right customers in the franchise area

Background & Problem Definition

Supporting OMR Growth



- OMR offers largest margin opportunities
- Currently losing market share without appropriate focus and marketing support
- Unable to easily identify various types of residential areas makes it difficult to market to the right prospects
- Residential customer types do not follow normal boundaries and these boundaries are ever changing

Using GIS Opens Up Endless Possibilities

Background & Problem Definition

Supporting OMR/Franchise

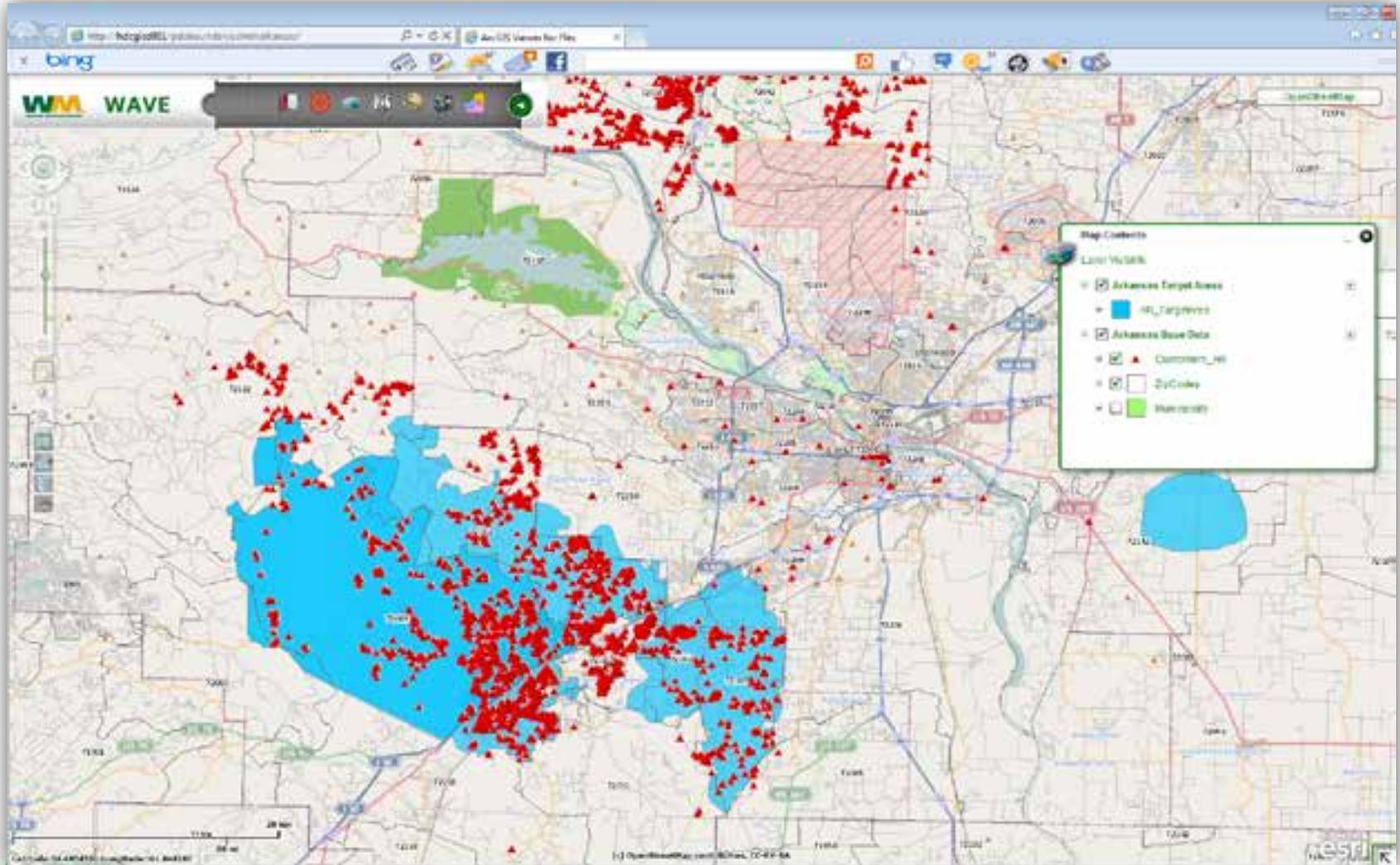


- Density analysis on open market areas
 - Low density-increase density or discard the area
 - Medium to high density-get franchise
- Increase density
 - Where to focus-along the routes, close to the facilities, assign the service day etc.
 - When to target-prioritize the prospect customers
- Franchise area swap
 - Market share analysis
- Contract bid
 - House Count
 - Mapping for container set up

Using GIS Opens Up Endless Possibilities

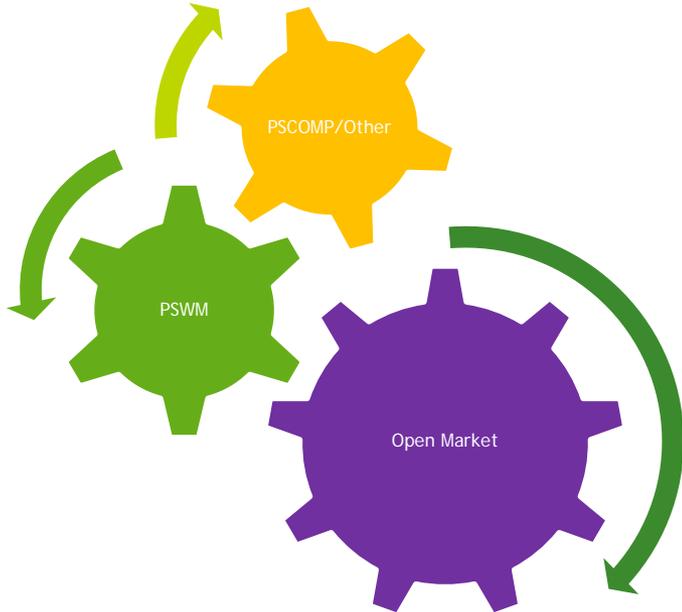
Open Market Residential Mailing Campaign(OMR)

Custom Web application to draw target area boundary



Supporting S&M Business

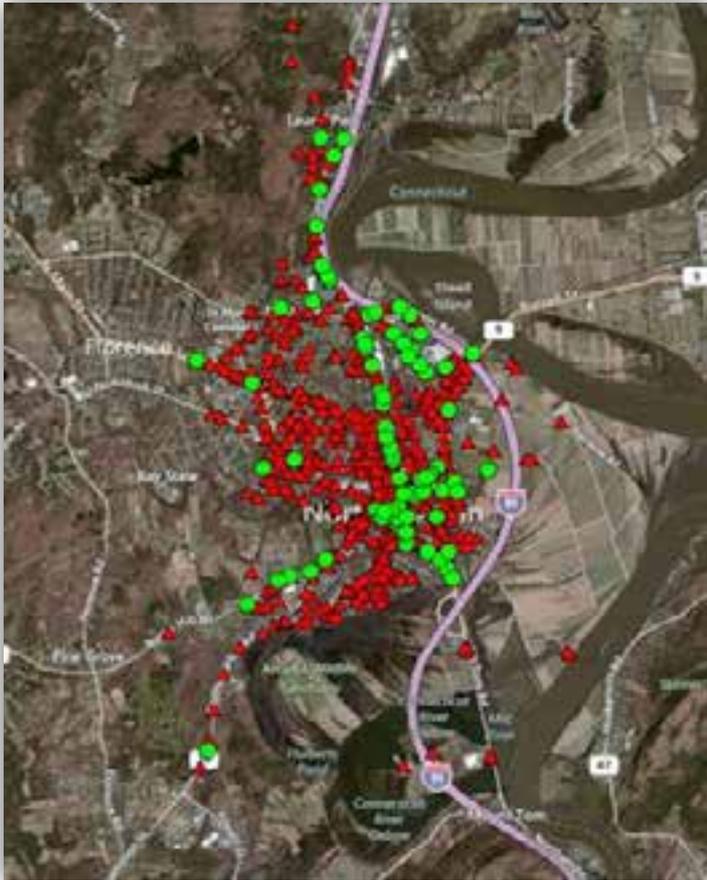
Customer Attribute Analysis



- Open Market
- Front Load
- Never be WM customers V.S. cancelled customers
- DSG score

Supporting S&M Business

Prioritize the potential customers_Location Analysis

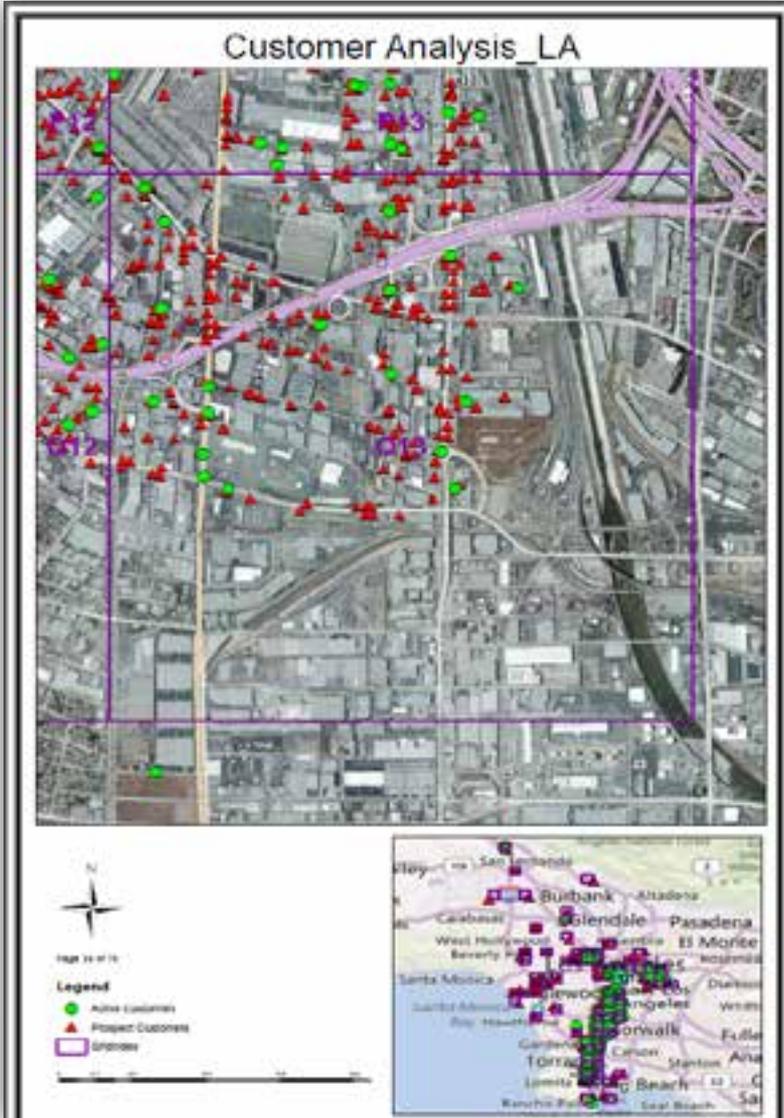


Prioritize the potential customers based on

- the relative location to the current customers,
- the distance to the current routes,
- the distance to the disposal and hauling sites,
- the density etc.

Supporting S&M Business

Prioritize the potential customers_Route analysis



- Build up volume in a way to promote route efficiency with minimum influence to the current routes
- focus on the routes that need to build up volumns-1.1 loads to 2 loads
- Consider the prices of the nearby active customers who signed in 3 months
- Consider the lease code/business type
- Consider the service day and/or service route convenience

More to come

Market Price Analysis, Floor Price Calculation

