Creating, gathering, and utilizing GIS data to help the State of Michigan Land Bank recycle land to productive use

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Brian Woodin- Property Analyst

11 June 2019

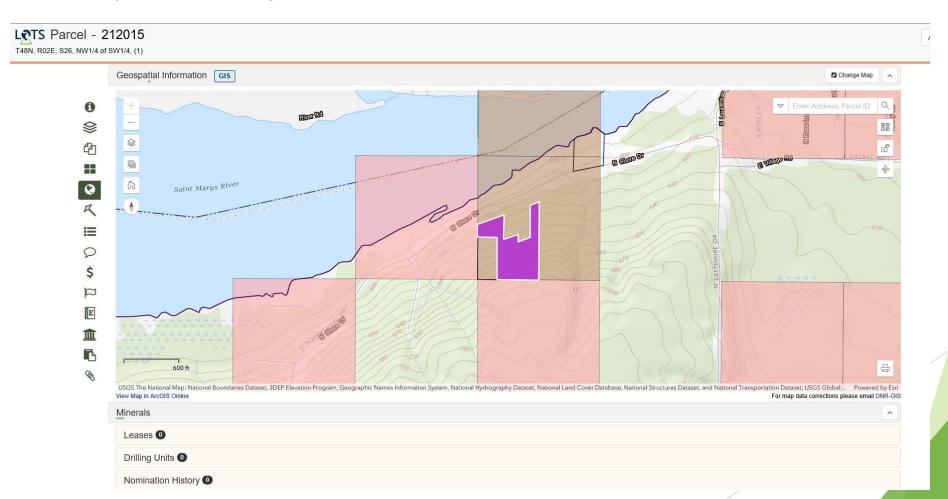


Overview of the State of Michigan Land Bank Fast Track Authority (MLB)

- Created by Public Act 258 of 2003
- Mission: To create positive economic impact to Michigan communities by recycling land to productive use
- Ability to work across government entities and with developers, non-profits, private citizens, etc.
- Long term holding (banking) or short term selling of land
- How we receive properties:
 - a) Local unit of government tax foreclosure process
 - b) State property deemed surplus (MDOC)
 - c) Department of Natural Resources (especially at MLBs inception)
 - d) Voluntary acquisition (strategic purchases)

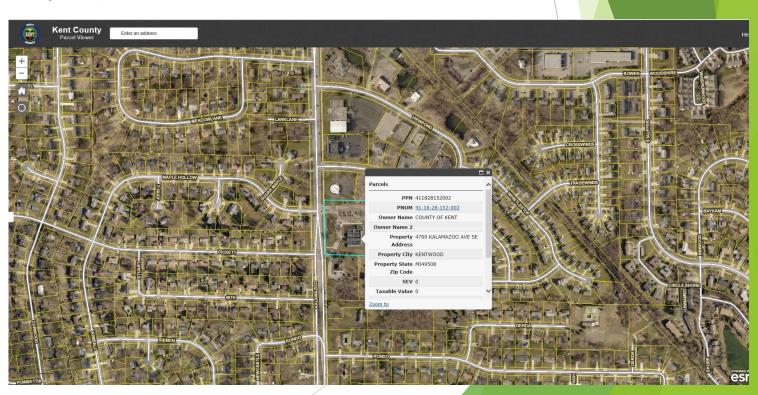
Gathering the data (internal)

- ▶ DNR: LOTS database
 - a) Relevant historical documents
 - b) Spatial data being added



Gathering the data (publicly available)

- County's own GIS website (58 of 83)
- Register of Deeds website (different levels of access in each county)
- BS&A website
- Acre Value (rural areas)
- ► LARA (statewide search for subdivision plats)
- ► EGLE (formerly DEQ)
 - a) Enviro Mapper
 - b) Wetlands inventory
- Google Maps





Verifying the data

- Imagery
 - a) Age of available images

415 E Water St Greenville

Bulk storage tanks or community garden?



Data creation using Unmanned Aerial Systems

- Imagery
 - Large sites where more detail is needed(Caro State Hospital cottages)





Data creation using Unmanned Aerial Systems

- Imagery
 - a) Document progress of on-going projects (former window factory in Lennon)





Data creation using Unmanned Aerial Systems

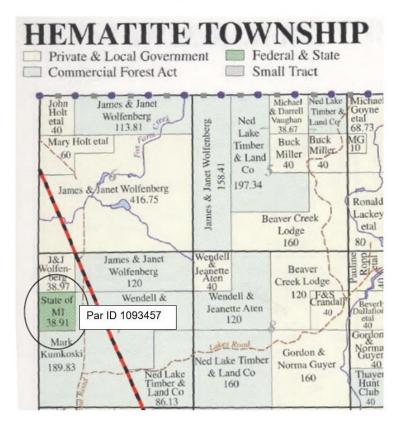
- Site specific data to assist planning and decision making
 - a) RFPs







Iron County T46N, R33W, Sec. 07



UAS integration

- Site accessibility
 - ▶ N End Road, Hematite Township, Iron County



UAS integration

- Exploring new ways to leverage capabilities
 - Marketing and communications(Avalon Village, Highland Park)





Center for Shared Solutions Parcel Repository

▶ Partnership and data exchange between State and County government

Data Exchange Partners

Data Exchange Partners

Data Exchange Partner

Parcel Repository Partner

Oth

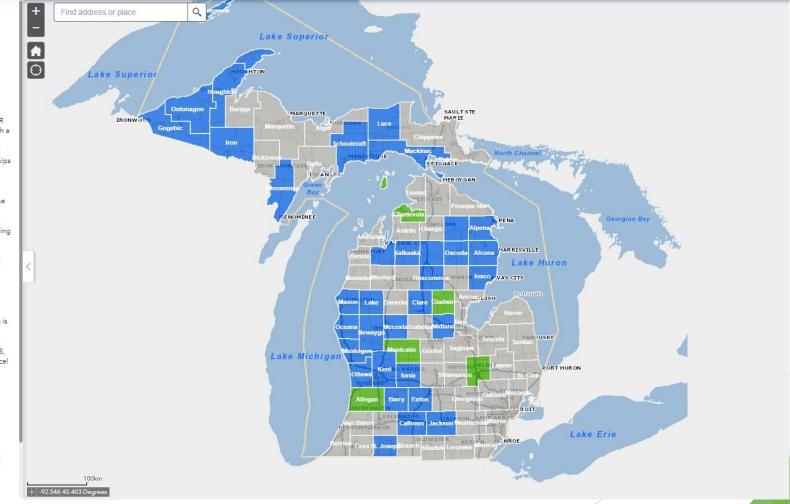
Other

The MiSAIL program is a cross governmental collaboration of successful aerial imagery and LiDAR collection for Michigan that began in 2010. Through a standardized contract that meets industry specifications at a favorable price, DTMB Center for Shared Solutions (CSS) has been building partnerships with Federal, State, and Local governments to the benefit of users of serial photography and LiDAR.

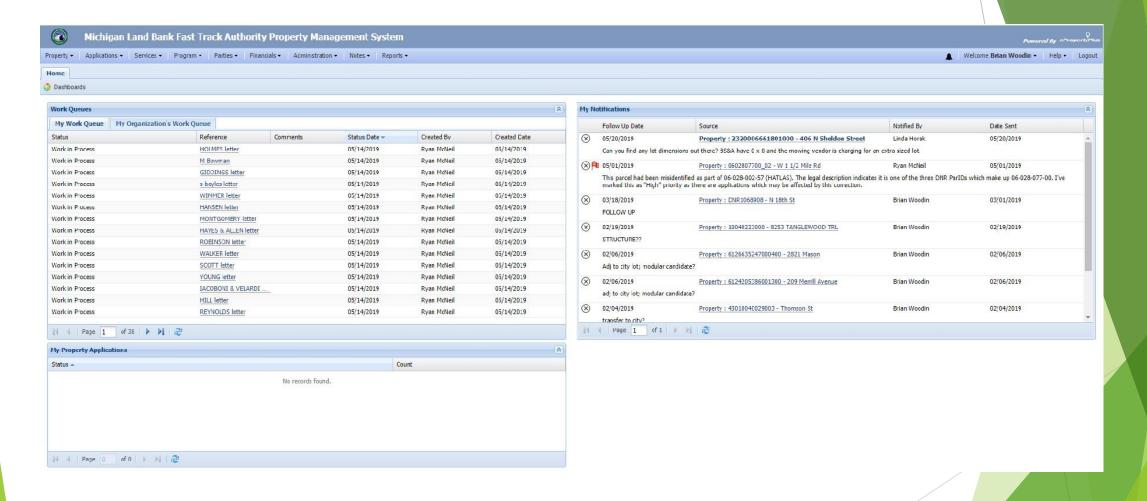
Beginning in 2018, Michigan counties may exchange local, authoritative GIS (geographic information systems) data for 12-inch aerial imagery. Partnering counties share with the State of Michigan the following GIS data: percels, address points, and road centerlines. In return, counties receive 12-inch imagery at no cost as well as discounted rates for 3-inch or 6-inch buyups.

This Data Exchange Partners map shows those counties that have signed the Intergovernmental Agreement (IGA) and have entered into this partnership. The GIS data provided by the counties is for internal use only by State agency personnel in support of their day-to-day operations. Prior to the availability of the imagery for data exchange in 2018, the counties shown in green participated in the parcel repository partnership.

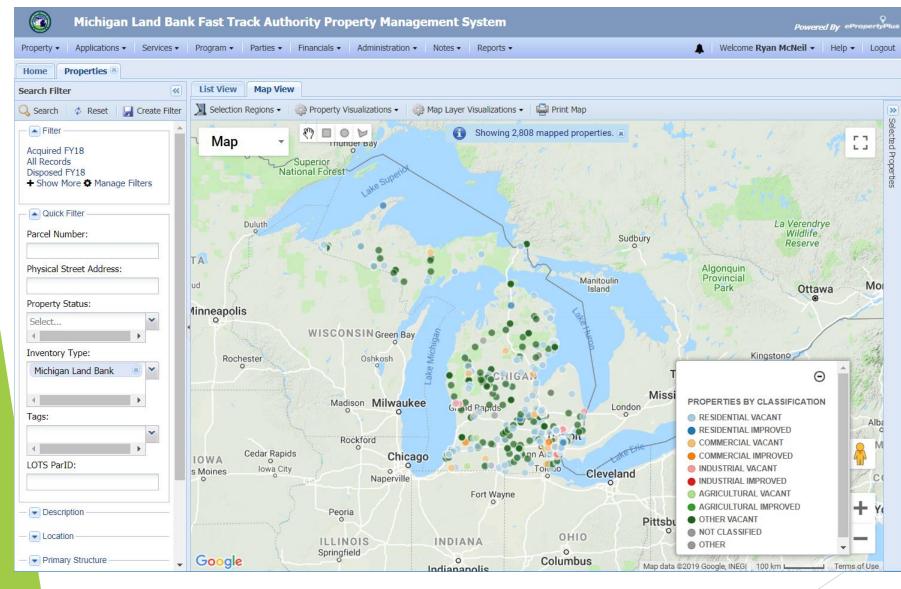




What becomes of all of this data?



Statewide Inventory - Points



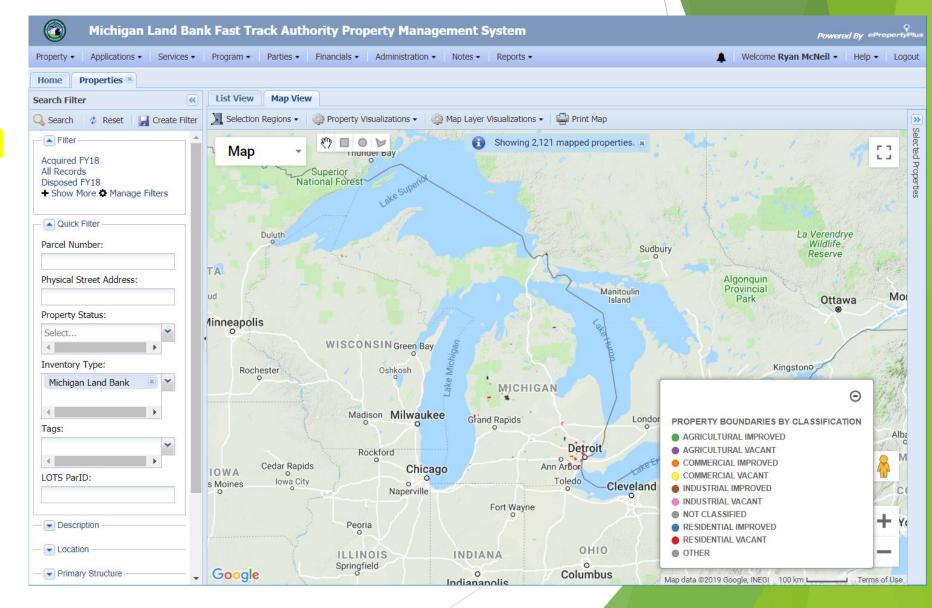
- Inventory: 2808 parcels
- Counties w/MLB parcels: 69

Top Ten	
County T	otal
Wayne	938
Mecosta	632
Lake	201
Iosco	177
Oakland	169
Newaygo	106
Genesee	100
Jackson	53
Saginaw	45
Berrien	42
Grand Total	2463

Statewide Inventory - Polygons

- Parcels with boundary coordinates: 2,121
- Parcels with point-only location: 787

Top Ten	
County	Total
Wayne	938
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Lake	201
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Oakland	169
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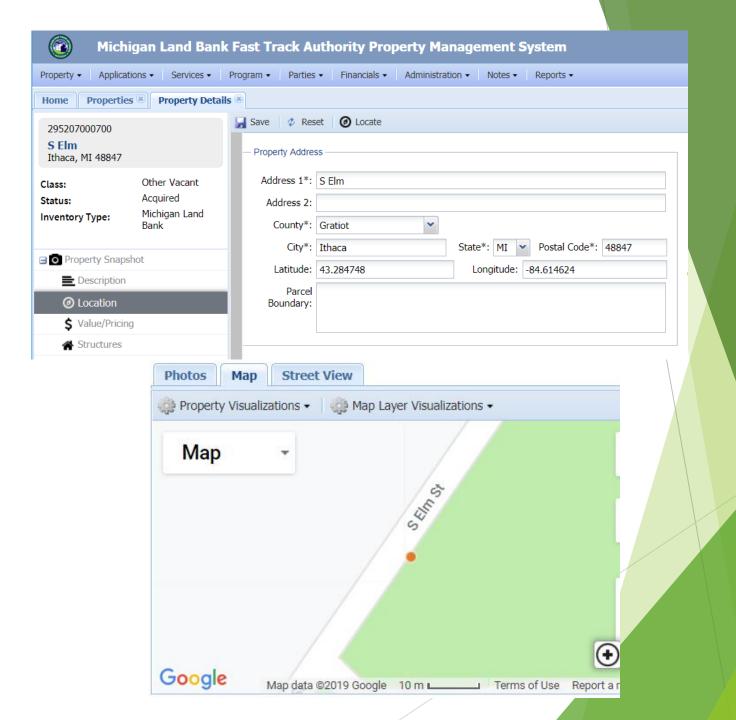


Statewide Inventory -From Points to Polygons

- Parcels are typically assigned a location based on address (geocoding) or tax parcel identification number (spatial data)
- At time of import to inventory system, geocoding engine will make attempt location based on best available address data
- Many parcels entering MLB inventory lack address location and/or tax parcel identification number
- Reconciliation necessary to accurately portray location

Statewide Inventory - From Points to Polygons

- Gratiot County Example
 - Tax Parcel ID: 52-070-007-00
 - Address: S Elm St., Ithaca
- Geocoding engine assigned latitude/longitude based on 'S Elm St., Ithaca'
- Without a numeric value for street number, point is dropped at estimated mid-point of S Elm



Statewide Inventory - From Points to Polygons Polygons

- Gratiot County GIS Authority makes parcel data available through web viewer
- Parcel boundaries can be extracted from page source data and uploaded into MLB inventory system



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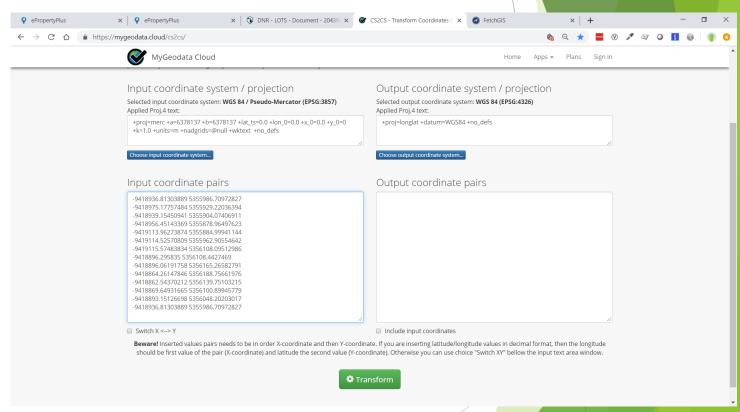
Statewide Inventory - From Points to Polygons

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         ▶ 0: [-9418936.81303889, 5355986.70972827]
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         ▶ 2: [-9418939.15450941, 5355904.07406911]
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         ▶ 3: [-9418956.45143369, 5355878.96497623]
         ▶ 4: [-9419113.96273874, 5355884.99941144]
         ▶ 5: [-9419114.52570809, 5355962.90554642]
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         ▶ 6: [-9419115.57483834, 5356108.09512986]
         ▶ 7: [-9418896.295835, 5356108.4427469]
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         ▶ 8: [-9418896.06191758, 5356165.26582791]
         ▶ 9: [-9418864.26147846]
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  objectIdFieldName: "OBJECTID 1
                                    objectIdFieldName: "OBJECTID 1"
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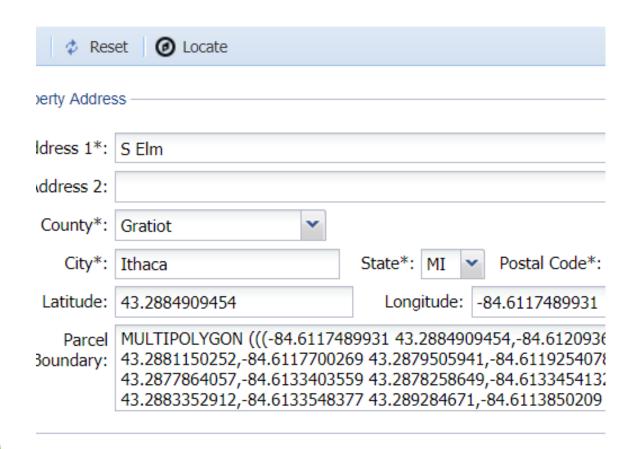
Parcel boundaries are

Statewide Inventory - From Points to Polygons

- Coordinate pairs need to be converted from NAD 83 to WGS 84
- Spatial reference
 - wkid: 4326
 - ▶ WGS 84
- Web tools like MyGeodata Cloud can perform this transformation



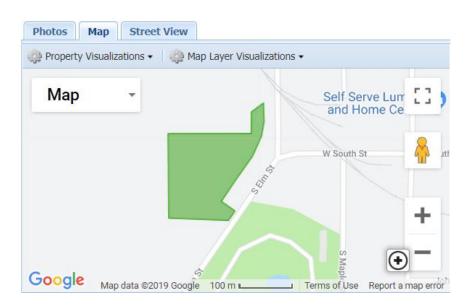
Statewide Inventory - From Points to Polygons

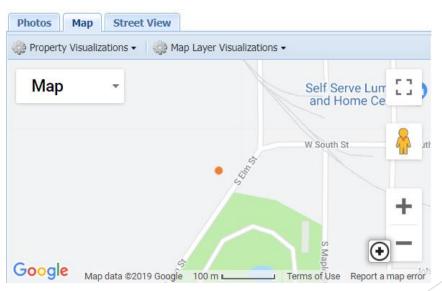


- Output coordinate pairs are entered to eProperty Plus in WKT format
- Values for latitude and longitude are updated using one of these coordinate pairs

Statewide Inventory - From Points to Polygons

- Parcel record now includes accurate representation of boundaries
- If necessary,
 coordinates for point
 feature can be further
 adjusted to fall within
 centroid





Statewide Inventory -From Points to Polygons

Direct access to parcel boundary data greatly improves workflow

Many counties make parcel data available through open data sites or through web services

Some counties have opted to restrict availability and/or request fees for access

Opportunities exist for strategic data sharing



STATE OF MICHIGAN AERIAL IMAGERY EXCHANGE FOR LOCAL DATA

Beginning in 2018, Michigan counties may exchange local, authoritative GIS (geographic information systems) data for 12-inch aerial imagery. The County would share with the State of Michigan the following GIS data: parcels, address points, and road centerlines. In return, counties will receive 12-inch imagery at no cost.

- The GIS data provided by the County would be for internal use only by State agency personnel in support of their day-to-day operations.
- If the County does not have this information in GIS format, the State is still interested in discussing a potential exchange.
- An intergovernmental agreement (IGA) would be entered into by the County and the State. The IGA defines roles and responsibilities of each partner. The IGA is available for review.
- Proprietary online access to the imagery would be provided through the Michigan Imagery Solution (MIS) for up to five County users. The State will also deliver a copy of the County's most current 12-inch imagery on an external hard drive. There is no fee for either delivery option.
- Buyups at 3-inch and 6-inch resolution are also available. This is most cost effective if planned during a regularly scheduled flight year.
- > The Michigan flight schedule map is attached.

For more information, please contact:

Everett Root at roote@michigan.gov (517-335-7180)

Ulrika Zay at zayu@michigan.gov (517-335-7011)

Statewide Inventory - From Points to Polygons

- MiSAIL Michigan Statewide Authoritative Imagery Program
- Counties receive authoritative 12-inch imagery in return for sharing parcels, address points, and road centerlines
- Information shared with the State is for internal use only

GIS and Property Disposition



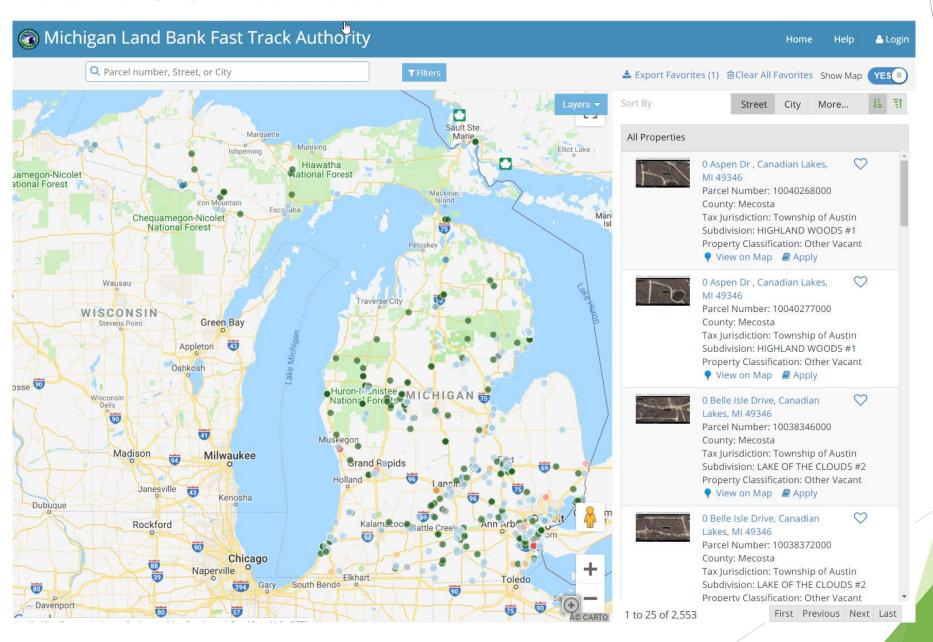


29 First Street

View details

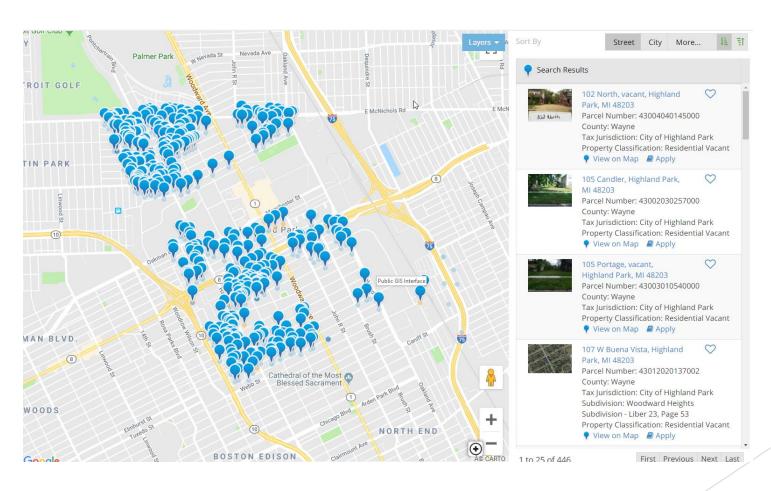
- Applicant Focused
- Public Interface
- ► GIS Data Entry And Property Information
- Disposition Planning
- Parcel Data Benefits vs. Geo-point Information

Public GIS Interface

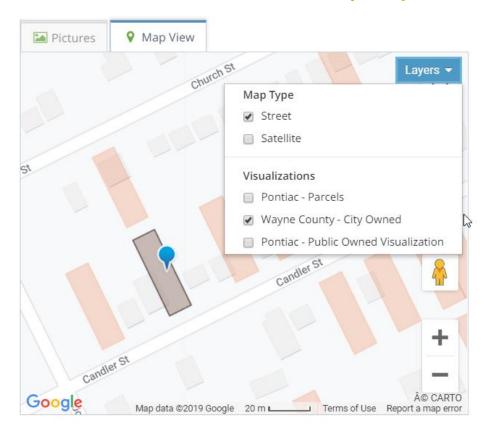


GIS Data Entry and Property Information

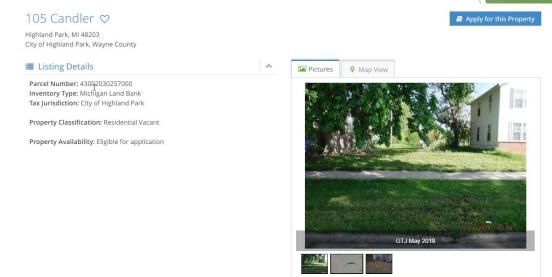
- Highland Park Case Study:
 - ▶ Partnership with Wayne County, Wayne County Land Bank, and Highland Park.

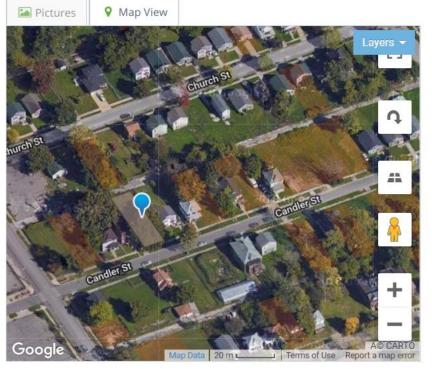


Property Information



- Applicant is able to gather information on multiple properties of interest to determine which property(ies) they will apply to purchase.
- b) Parcel data shows other publicly owned properties within the area.
- c) Satellite Imagery



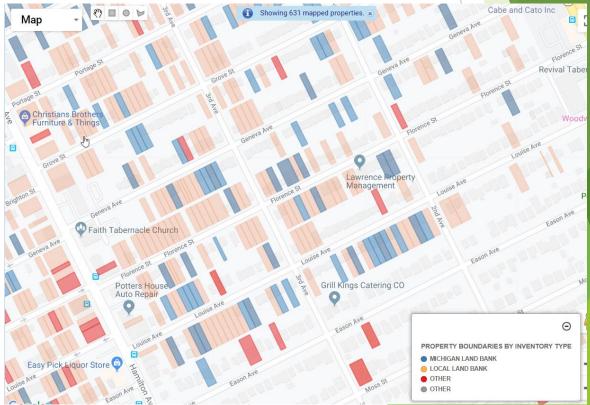


Disposition Planning

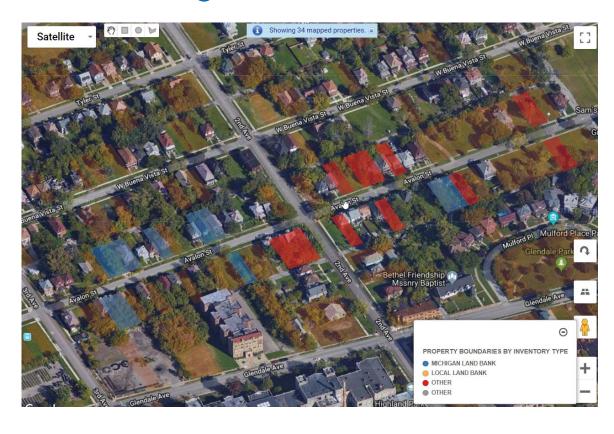
Highland Park



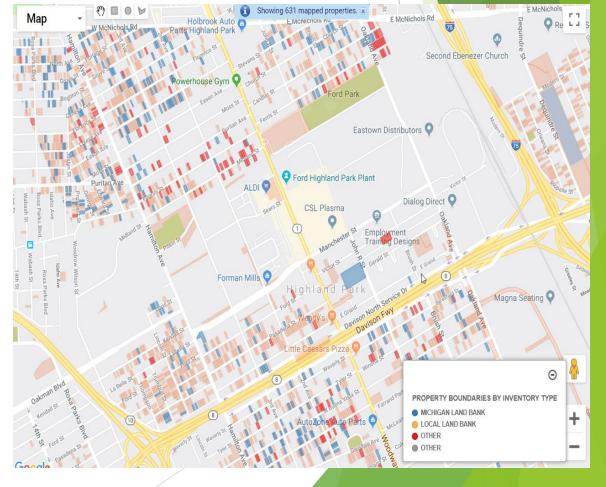
- Applicant Specific Planning
- Block Specific Planning
 - Avalon Village
- City Planning and Corridor Development.
 - Wayne County Land Bank



Avalon Village

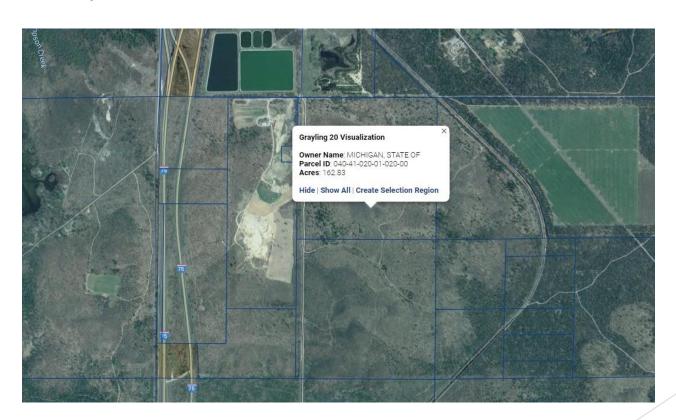


Wayne County Land Bank

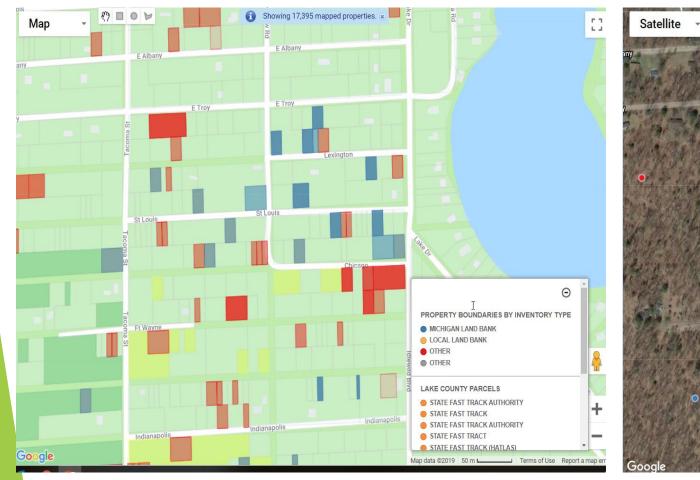


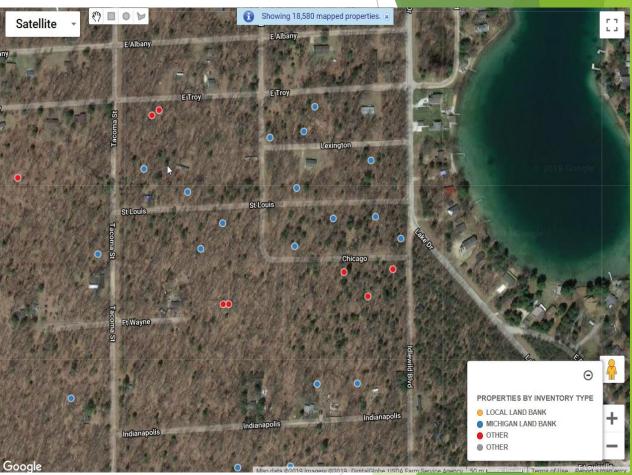
Parcel Data Benefits vs. Geo-point Information

- Mission: To create positive economic impact to Michigan communities by recycling land to productive use.
- Parcel data crucial to locating properties and providing information.
- Geo-point data limits exact location and information available to staff, applicants, and public.



Lake County Parcel Data





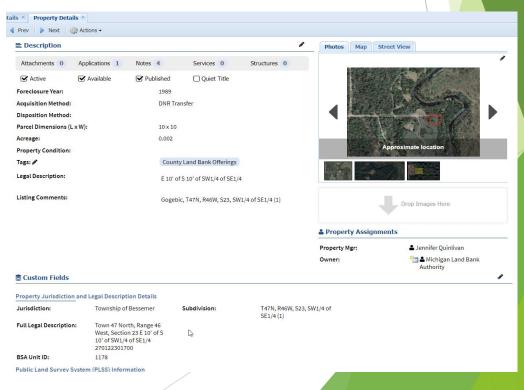
Parcel Data with Lake County Parcel Data

Geo-Points on satellite imagery

Odds and Ends Properties

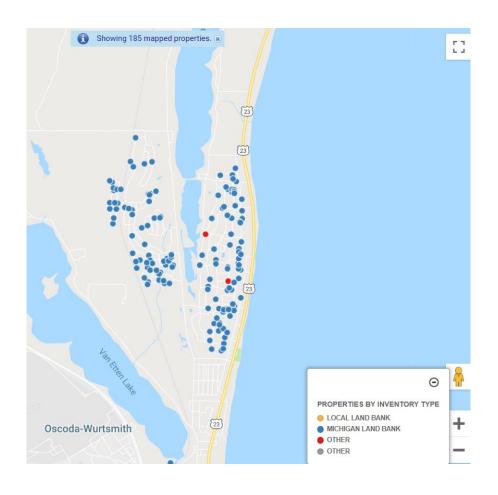


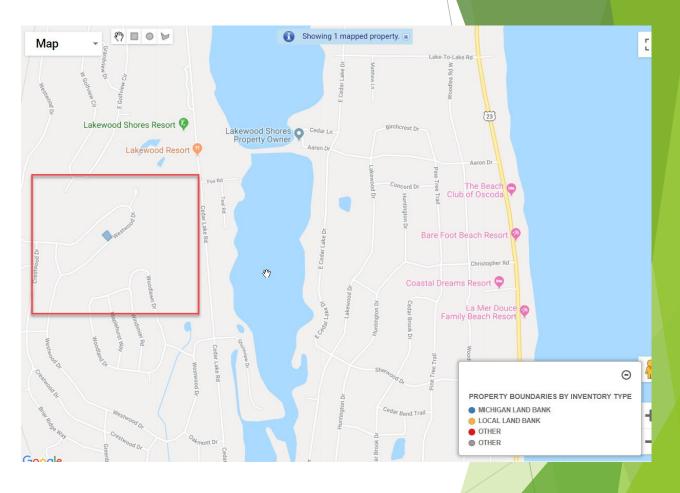




Need for Parcel Data

- losco County: 177 MLB properties
- ▶ Jackson County: 53 MLB properties
- Saginaw County: 45 MLB properties





To view available Michigan Land Bank properties visit www.michigan.gov/landbank



Contact the Michigan Land Bank (517) 335-8212 landbank@michigan.gov

mcneilr@Michigan.gov

quinlivanj@Michigan.gov

woodinb@Michigan.gov

