



LEVERAGING UTILITY DATASETS FOR PROCESS EVALUATION:

INCREASING THE VALUE OF PROCESS EVALUATION WITH DEEP DATA INSIGHTS

PRESENTED BY:
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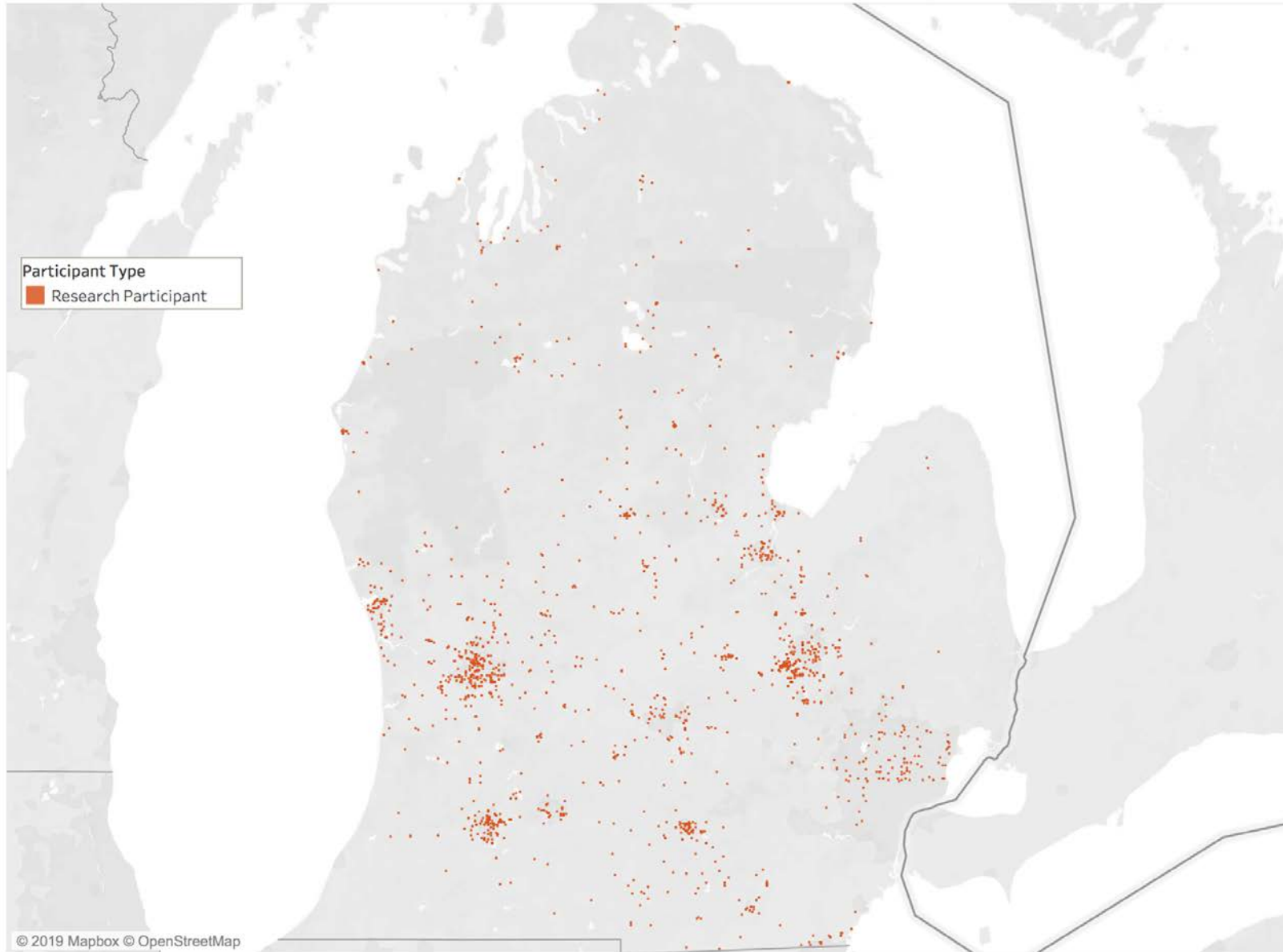
2019 IEPEC



WHY ADD DATA ANALYSIS INTO PROCESS EVALUATIONS?



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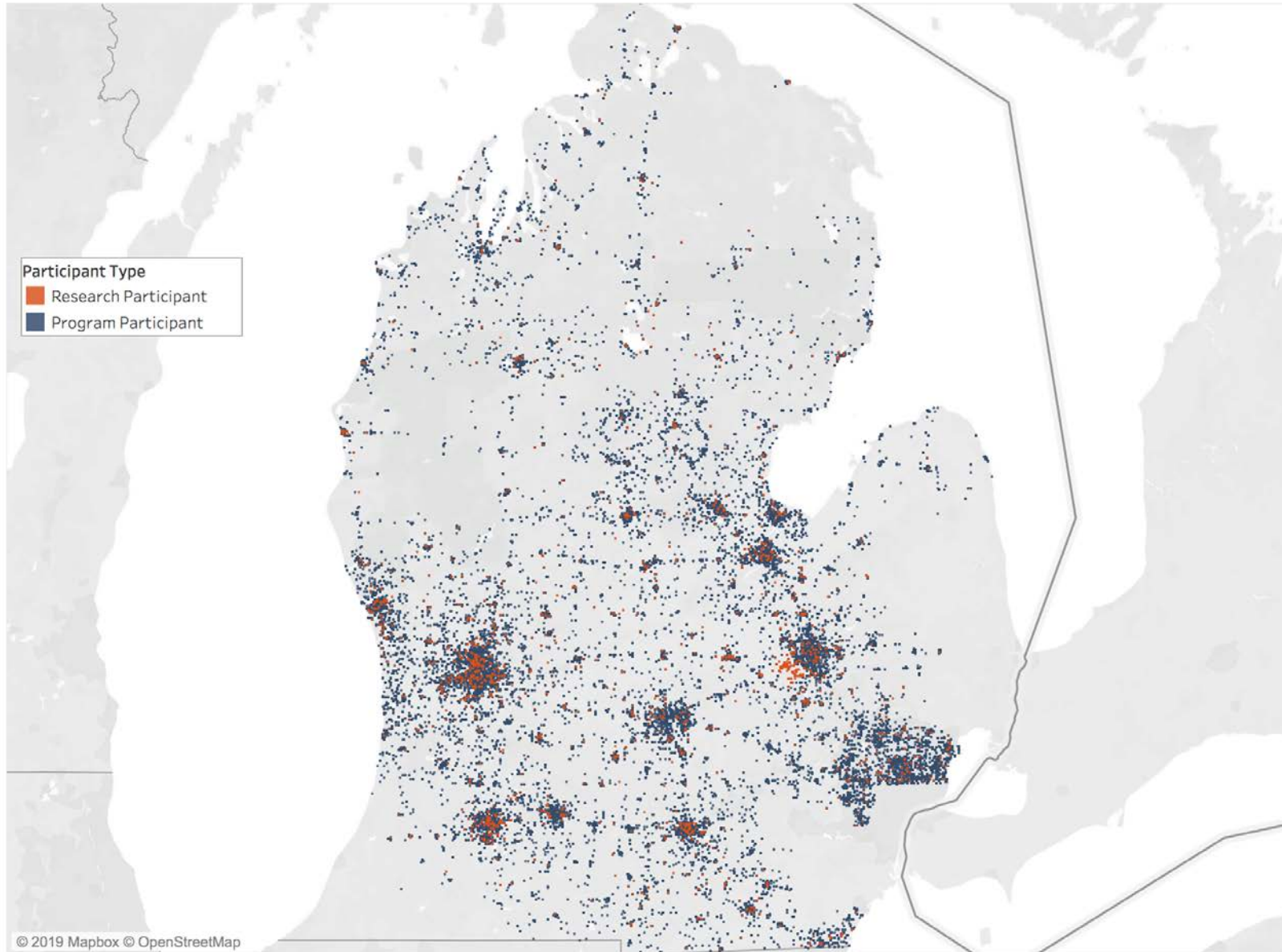


2,149

number of C&I
customers contacted
through primary
research efforts since
2016



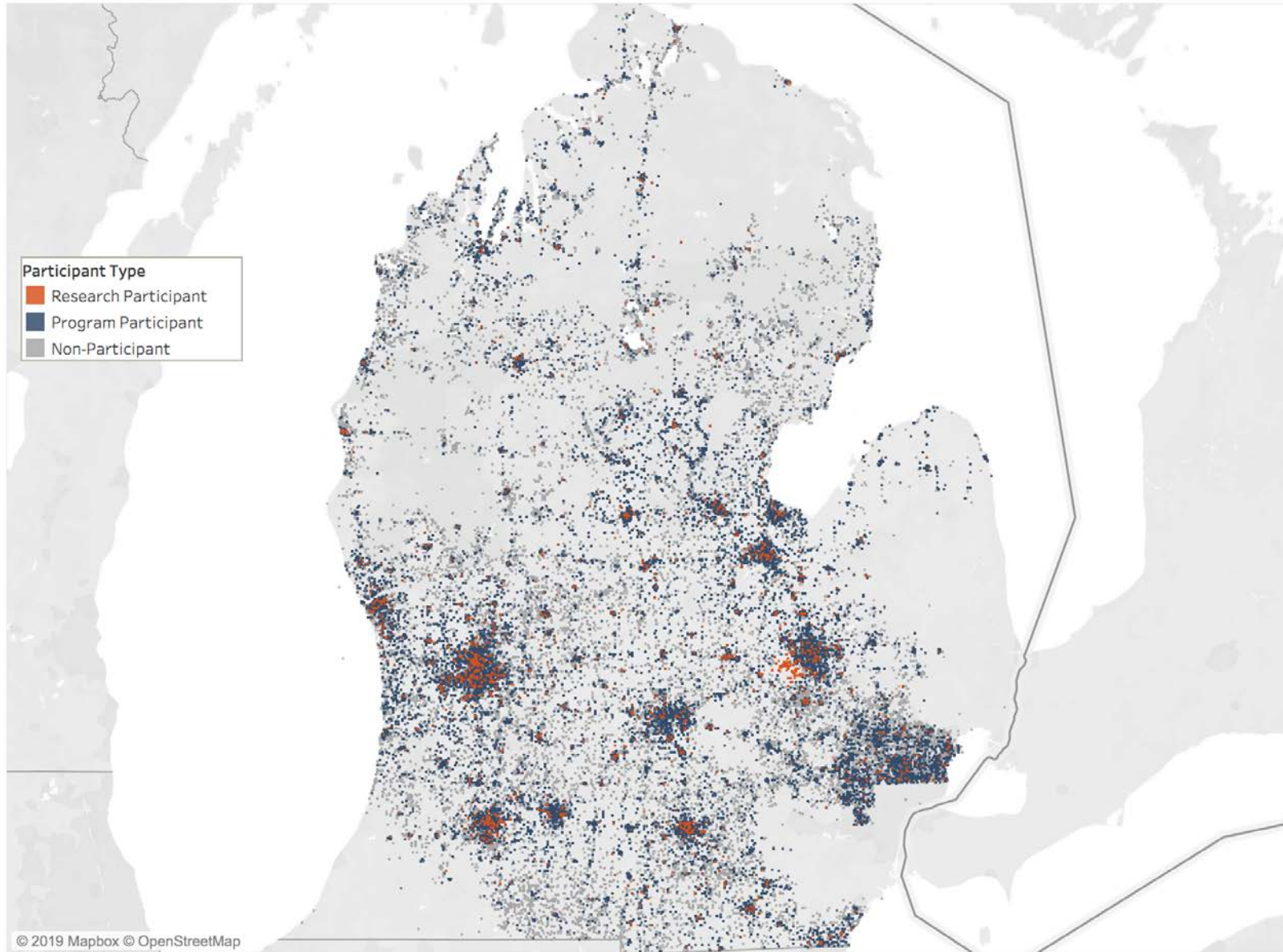
WHY ADD DATA ANALYSIS INTO PROCESS EVALUATIONS?



82,626

number of total C&I
participants

WHY ADD DATA ANALYSIS INTO PROCESS EVALUATIONS?



323,014

number of total C&I customers – including participants & non-participants

DATA ANALYSIS FOR PROCESS EVALUATIONS FRAMEWORK



UTILIZE RICH, COMBINED DATABASE



WORK COLLABORATIVELY WITH PROGRAM STAFF



APPLY BEST PRACTICES IN VISUALIZATION



INCORPORATE INTERACTIVE ELEMENTS



RESERVE TIME FOR FOLLOW-UP ANALYSES



CASE STUDY:

INDUSTRIAL ENERGY PROGRAM



CASE STUDY: INDUSTRIAL ENERGY PROGRAM BACKGROUND



CASE STUDY: INDUSTRIAL ENERGY PROGRAM

BACKGROUND



PROGRAM DESIGN

- Tailored to customers with large industrial plant operations
- Intended to be a one-stop shop to meet variety of industrial needs
- Provides facility walkthroughs, energy audits, leak surveys, and other services



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EVALUATION NEEDS

- Understand which measures categories to prioritize in audits
- Understand when to expect new projects after audits are completed

CASE STUDY: INDUSTRIAL ENERGY PROGRAM RESEARCH APPROACH

1. LINKED TO EXISTING
TABLEAU DATABASE
2. SYNTHESIZED HIGH-
LEVEL KEY FINDINGS
3. EXPLORED INTERACTIVE
DASHBOARD

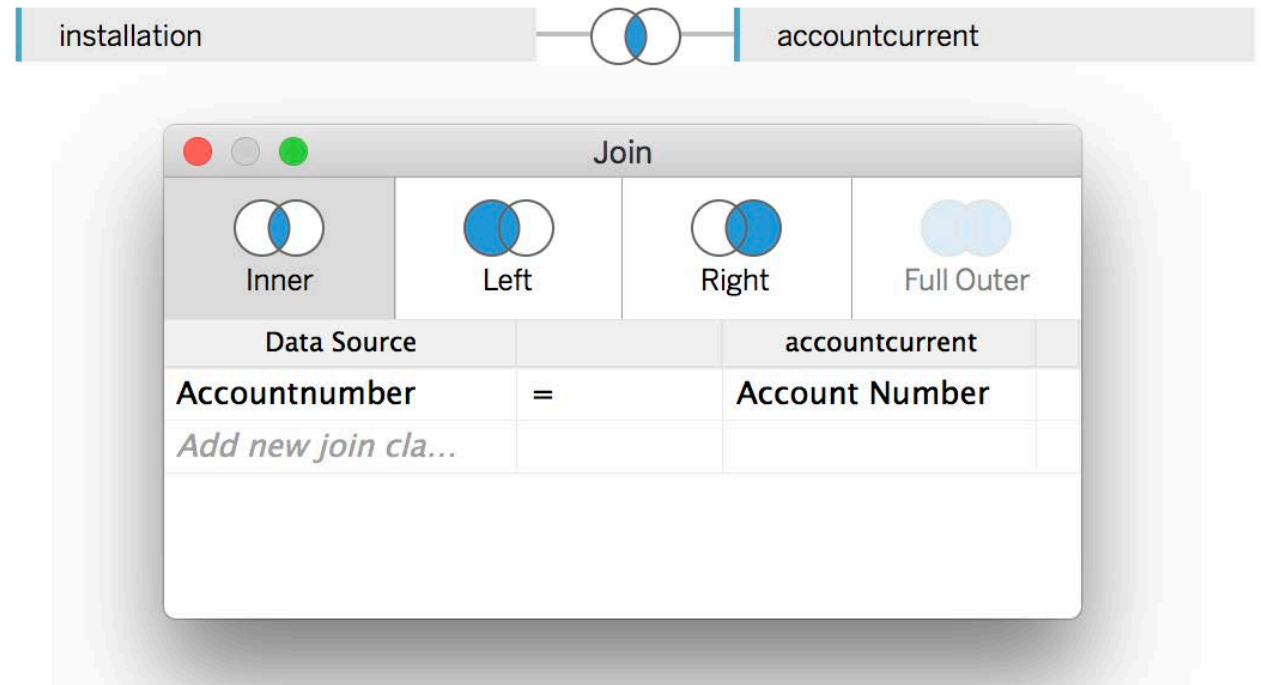


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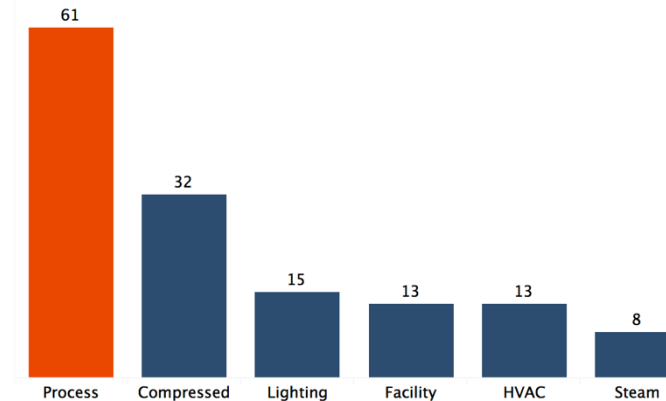
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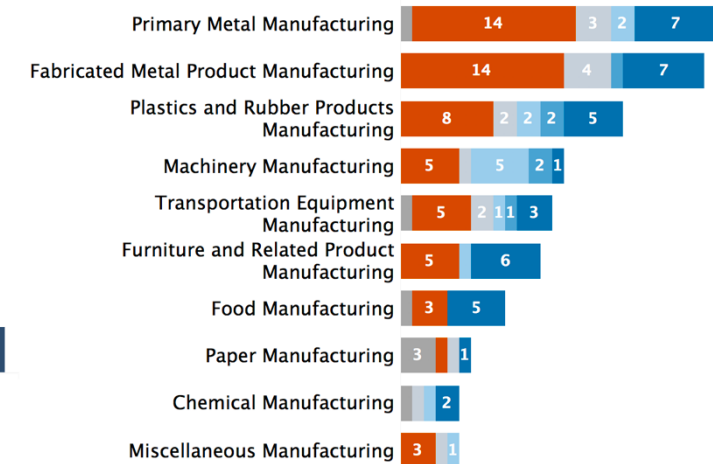
3. EXPLORED INTERACTIVE DASHBOARD

Process recommendations were the most common suggestions. The types of recommendations given vary according to the industry of the company.



Recommendation Class

- Steam
- Process
- Lighting
- HVAC
- Facility
- Compressed Air

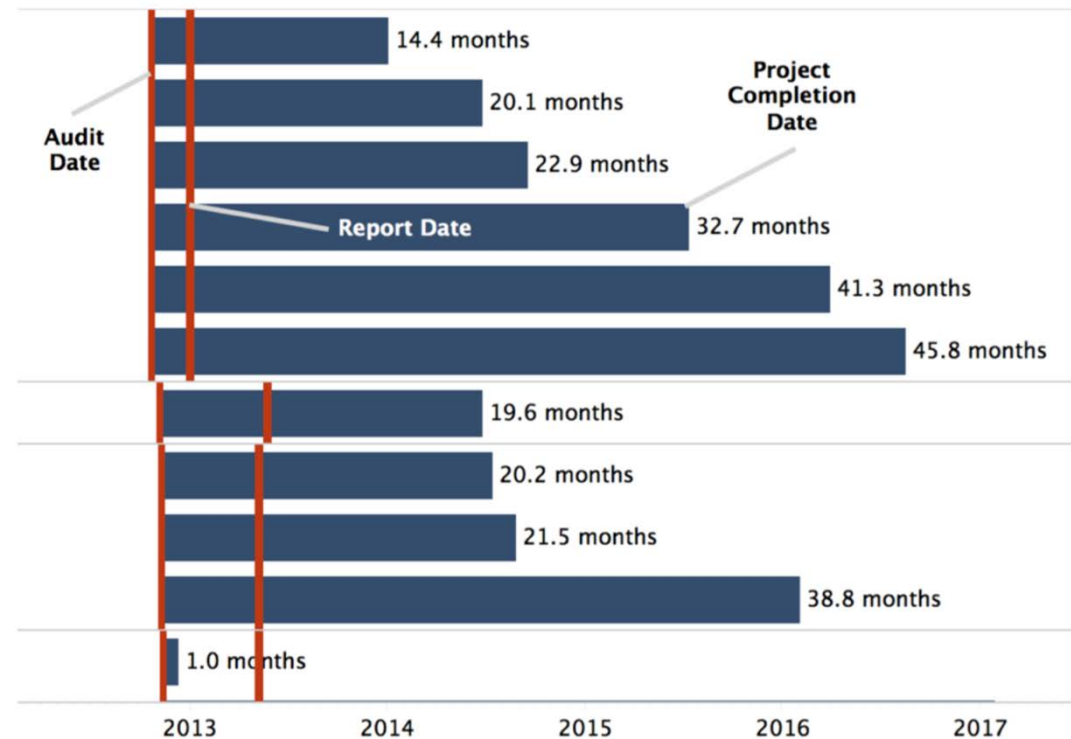


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CASE STUDY: INDUSTRIAL ENERGY PROGRAM

VALUE OF RESEARCH

STAKEHOLDER
RESEARCH



DATA
ANALYSIS



USABILITY
TESTING



Combination of traditional process evaluation and data analysis allowed for more detailed analysis of program components – both in content and in delivery



CASE STUDY:
AGRICULTURE PROGRAM



CASE STUDY: AGRICULTURE PROGRAM BACKGROUND



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PROGRAM DESIGN

- Provides energy efficiency solutions for agriculture customers, including dairy farmers, crop growers, & greenhouses
- Includes rebates (both agriculture-specific and general business) & farm audits



CASE STUDY: AGRICULTURE PROGRAM

BACKGROUND



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- Provides energy efficiency solutions for agriculture customers, including dairy farmers, crop growers, & greenhouses
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EVALUATION NEEDS

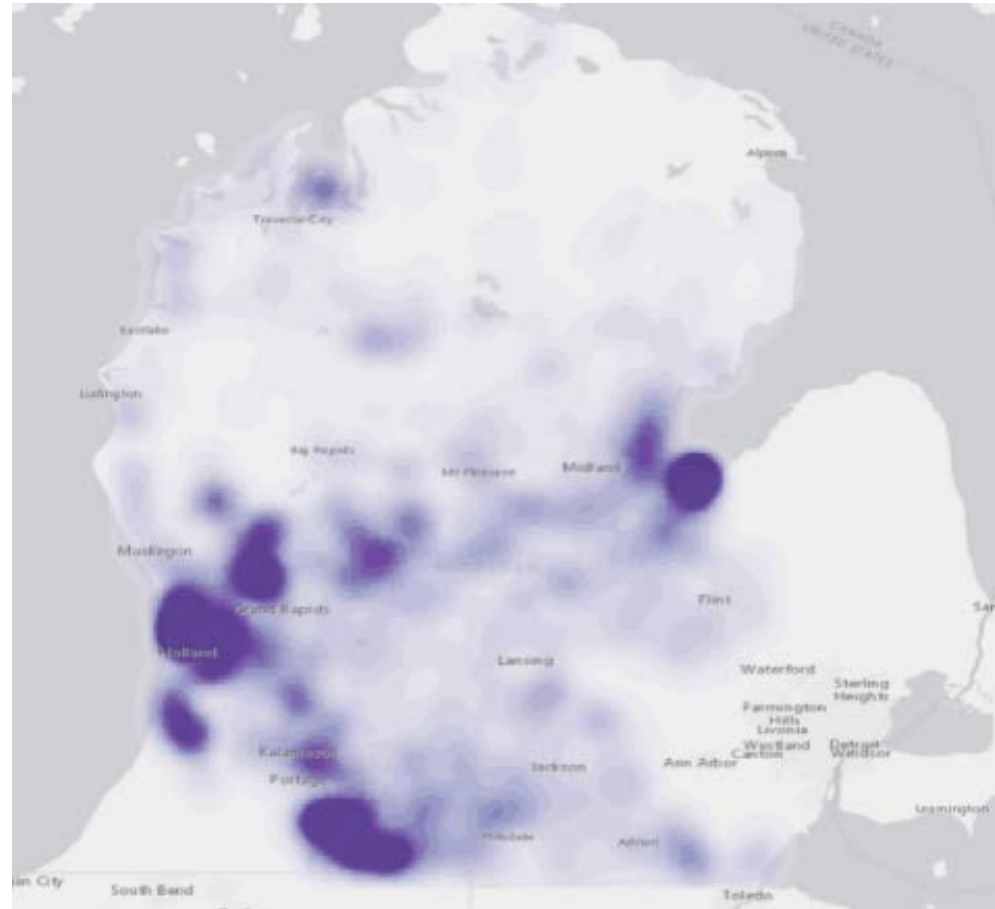
- Understand how adequately its agriculture customers are served by contractors throughout the state, and where there were gaps in contractor coverage

CASE STUDY: AGRICULTURE PROGRAM

KEY ANALYSES

1. CUSTOMER DENSITY MAPPING

First, mapped the density of agriculture customers across the state.

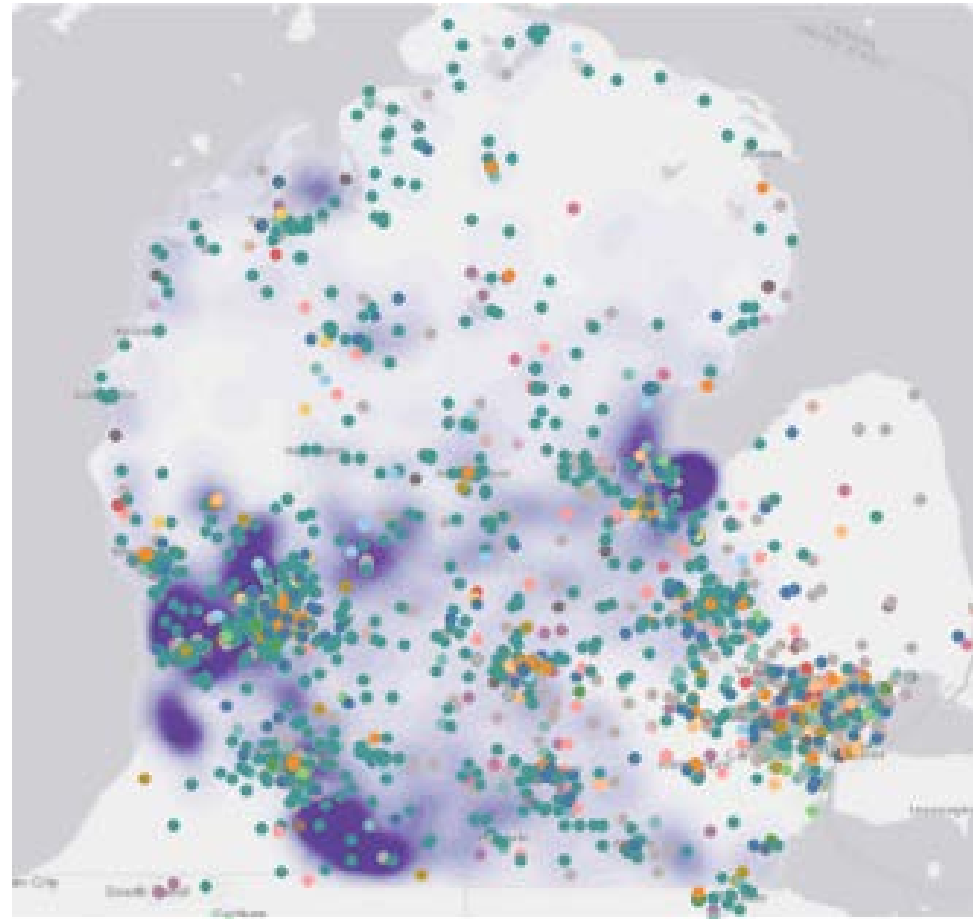


CASE STUDY: AGRICULTURE PROGRAM

KEY ANALYSES

2. CONTRACTOR MAPPING

Next, we mapped each contractor across the state.



- Unknown
- Agricultural Contractor
- Architects
- Boiler Repair
- Business Signs
- Compressors
- Consultant
- Controls and EMS Syst..
- Electrical Contractor
- Engineering
- ESCO
- General Construction
- General Contractor
- HVAC
- Insulation
- Irrigation
- Lighting
- Manufacturing
- Mechanical Contractor
- Other
- Plumbing
- Refrigeration
- Retail
- Roofing
- Sheet Metal Fabrication
- Solar
- Specialty Contractor
- Well Drilling and Pump..
- Wholesale Distributor

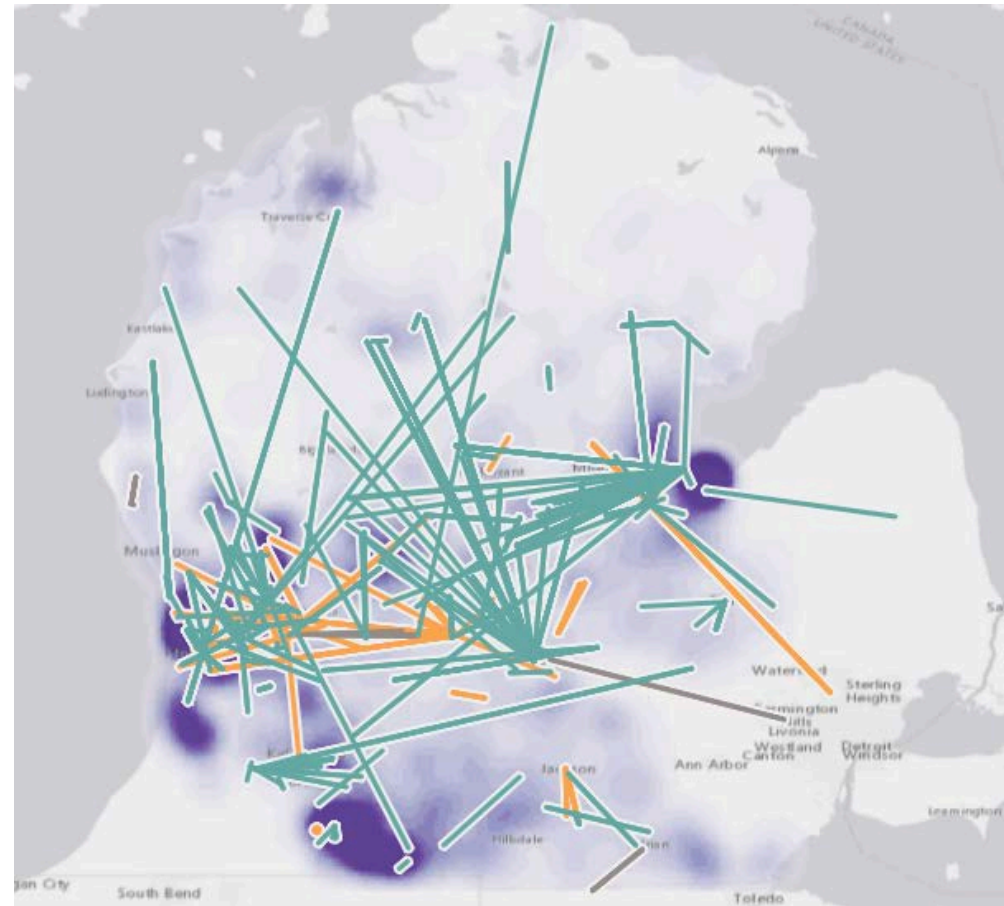


CASE STUDY: AGRICULTURE PROGRAM

KEY ANALYSES

3. SPIDER MAPS

Next, we created spider maps depicting the distance between a contractor's regional headquarters and the locations of the projects they completed.



Null	■
Agricultural Contractor	■
Boiler Repair	■
Compressors	■
Consultant	■
Electrical Contractor	■
Engineering	■
ESCO	■
General Construction	■
General Contractor	■
HVAC	■
Irrigation	■
Lighting	■
Mechanical Contractor	■
Other	■
Plumbing	■
Refrigeration	■
Retail	■
Specialty Contractor	■
Well Drilling and Pump..	■
Wholesale Distributor	■



CASE STUDY: AGRICULTURE PROGRAM VALUE OF RESEARCH



PREVIOUS PROCESS RESEARCH

EMI Consulting had previously conducted targeted interviews with Agriculture customers & regularly included them as a stratum in participant surveys

Previous research helped illuminate participants' experiences with the program



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DATA ANALYSIS

Filled a gap in the process analysis, which had focused on participant customers

Data analysis provided unique opportunity to answer questions related to barriers for non-participant customers and trade ally coverage





DATA ANALYSIS FOR PROCESS EVALUATION:

KEY TAKEAWAYS



CASE STUDIES: INDUSTRIAL ENERGY AND AGRICULTURE PROGRAMS

LESSONS LEARNED

KEYS TO SUCCESS



Existing relational database and ability to quickly receive program data



Developmental evaluation approach, with plans for an iterative research process



Long-term partnership with client, allowing for the ability to build off past and future research

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POTENTIAL IMPROVEMENTS



Incorporate additional early presentation of key findings, to allow for additional ideation & customization



Integrate dashboards with live utility data to allow for continuous tracking & data manipulations



Ensure the interactive framework is reflected in the analysis plan to allow for timely responses to new requests



LOOKING FORWARD



QUESTIONS?



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