

# Employment Data – Review Process

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# Outline of Presentation

- ▶ Purposes and Uses of Employment Data - Modeling
- ▶ Employment Databases
- ▶ MDOT-SUTA Clean-up Effort
- ▶ MDOT-UTA Work for MPO Models
- ▶ MPO Review Process
- ▶ Other Information

# Why is This Data Important?

- ▶ Used as inputs to the travel demand model and other reports and studies
- ▶ Any changes in data will have impact on the tools that use this information
- ▶ Model is only as good as the data inputs provided.

# Employment – Uses of Data

- ▶ How is this data being used?
- ▶ Travel Demand Models
- ▶ Economic Models
- ▶ Forecast Models (REMI)
- ▶ Studies
  - Economic Development
  - Trends analysis

# Employment – Travel Demand Models

## ► Trip Generation

- Determination of trip purposes
- Trip attraction rates – Employment is the chief data source used for trip attractions
- Level of attractiveness by zones

# Employment – Travel Demand Models

## ► Trip Distribution

- Determination of where people travel
- Model the accessibility and attractiveness of zones using gravity model

# Other Attraction Data

- ▶ School enrollment data
- ▶ Identification of areas with unique characteristics
  - Hospitals
  - Casinos
  - Large shopping malls
  - Commercial districts
  - Entertainment facilities (sports, media, etc.)

# State Employment Databases

- ▶ Claritas (2008)
- ▶ Hoovers
- ▶ MDLEG – ES202 Data
- ▶ Other Resources

# Claritas

- ▶ Corporate database which State purchased
- ▶ InfoUSA – Base source
- ▶ Geocoding done by Claritas based on USPS address files
  - Provides longitude and latitude points
- ▶ Provides data according to NAICS and SIC codes

# Claritas - Strengths

- ▶ Approximately 410,000 records for Michigan
- ▶ Majority of multi-state employers are broken out to individual physical locations
- ▶ Provides common “chain” name for businesses
- ▶ Approximately 80% of records provide local employment figures
  - Remaining 20% use an employment model to estimate the “most likely” number of records

# Claritas - Weaknesses

- ▶ Data Cleaning is necessary
  - Address the blocks of “modeled” employment estimates (20% of records)
  - Missing Addresses or PO Boxes
  - Missing or incorrect NAICS codes
  - Rounding concerns
  - Double listings

# Hoovers

- ▶ Corporate database which State purchased
- ▶ Dun & Bradstreet – Base source
- ▶ Information is provided via excel spreadsheets according to mailing address
- ▶ Does not provide longitude and latitude points
- ▶ Provides data according to NAICS and SIC codes

# Hoovers - Strengths

- ▶ Approximately **580,000** records for Michigan
- ▶ Majority of multi-state employers are broken out to individual physical locations
- ▶ Updated information can be downloaded and retrieved daily, whereas the other databases offer a snapshot in time

# Hoovers - Weaknesses

- ▶ Requires geo-coding and identification of Longitude and Latitude points
- ▶ Common “chain” names are not provided – typically corporation name is stated
- ▶ Data cleaning is necessary
  - Missing Addresses or PO Boxes
  - Missing or incorrect NAICS codes
  - Rounding concerns

# MDLEG – ES202

- ▶ Michigan statewide employment data for Department of Labor and Economic Growth (formerly MESA or MESC data)
- ▶ Quarterly employment and wage data for workers covered by Michigan Employment Security Act

# MDLEG – ES2002 - Strengths

- ▶ Good comparative resource/check for estimates not available in other databases
- ▶ Compiled by a state agency

# MDLEG – ES202 - Weaknesses

- ▶ Much less comprehensive than other databases – **250,000** records
- ▶ Requires geo-coding and identification of Longitude and Latitude points
- ▶ Multi-site employers are not as well broken out as other databases
- ▶ Much more data cleaning necessary
  - Missing addresses, PO Boxes, missing or incorrect NAICS codes

# Other Resources

## ▶ Polk Directories

- Good comparative resource/check
- Strengths:
  - ▶ At times, the information is more exact
  - ▶ Good positioning of locations and businesses in relation to others
  - ▶ Can look up items according to name, location or business type
- Weaknesses
  - ▶ Not electronically available
  - ▶ Is located in a manual at the State Library, not in our offices

# MDOT Employment Data Cleaning Effort

- ▶ MDOT-SUTA Clean-up Effort - Claritas
  - Geo-coding of problem areas
  - Contacting businesses with “modeled” numbers
- ▶ MDOT-SUTA Work for MPO Models
  - Merging of Claritas and Hoovers data
  - Preparing the data to be ready for model analysis

# SUTA Claritas Employment Data Clean-Up Effort

- ▶ Garth Banninga and SUTA students have spent over 1 year cleaning up Claritas Data
- ▶ Quality control checking of geo-coding by county according to Statewide TAZ
  - Checking/editing larger employer locations near TAZ boundaries
- ▶ Researching businesses with no address or PO Box

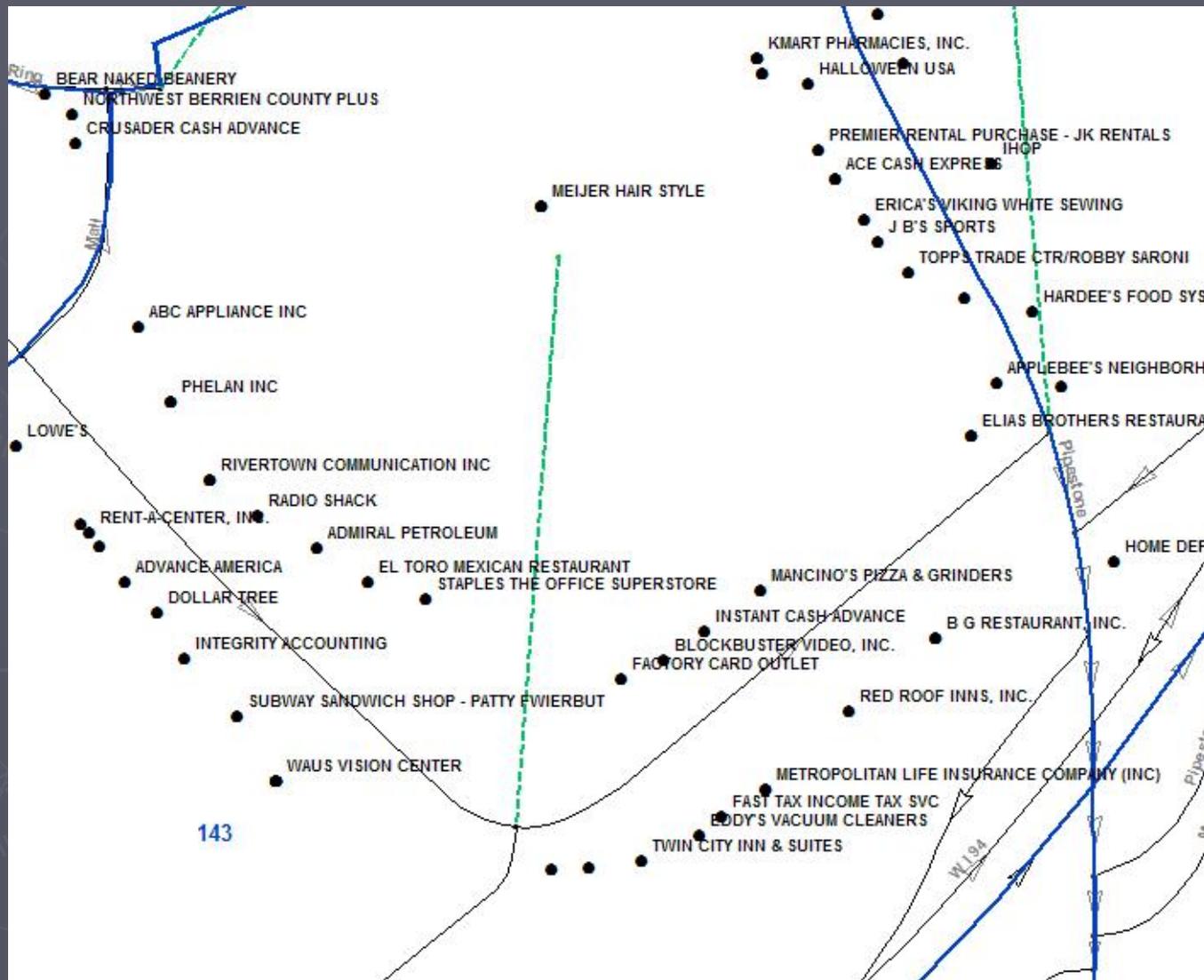
# SUTA Claritas Employment Data Clean-Up Effort

- ▶ Verifying employment figures and locations for larger employment agencies
- ▶ Researching NAICS codes for records with missing codes
- ▶ Researching businesses that contain “modeled” estimates for employment rather than actual numbers
  - Racetracks = 61
  - Community colleges = 111
  - Hospitals = 433

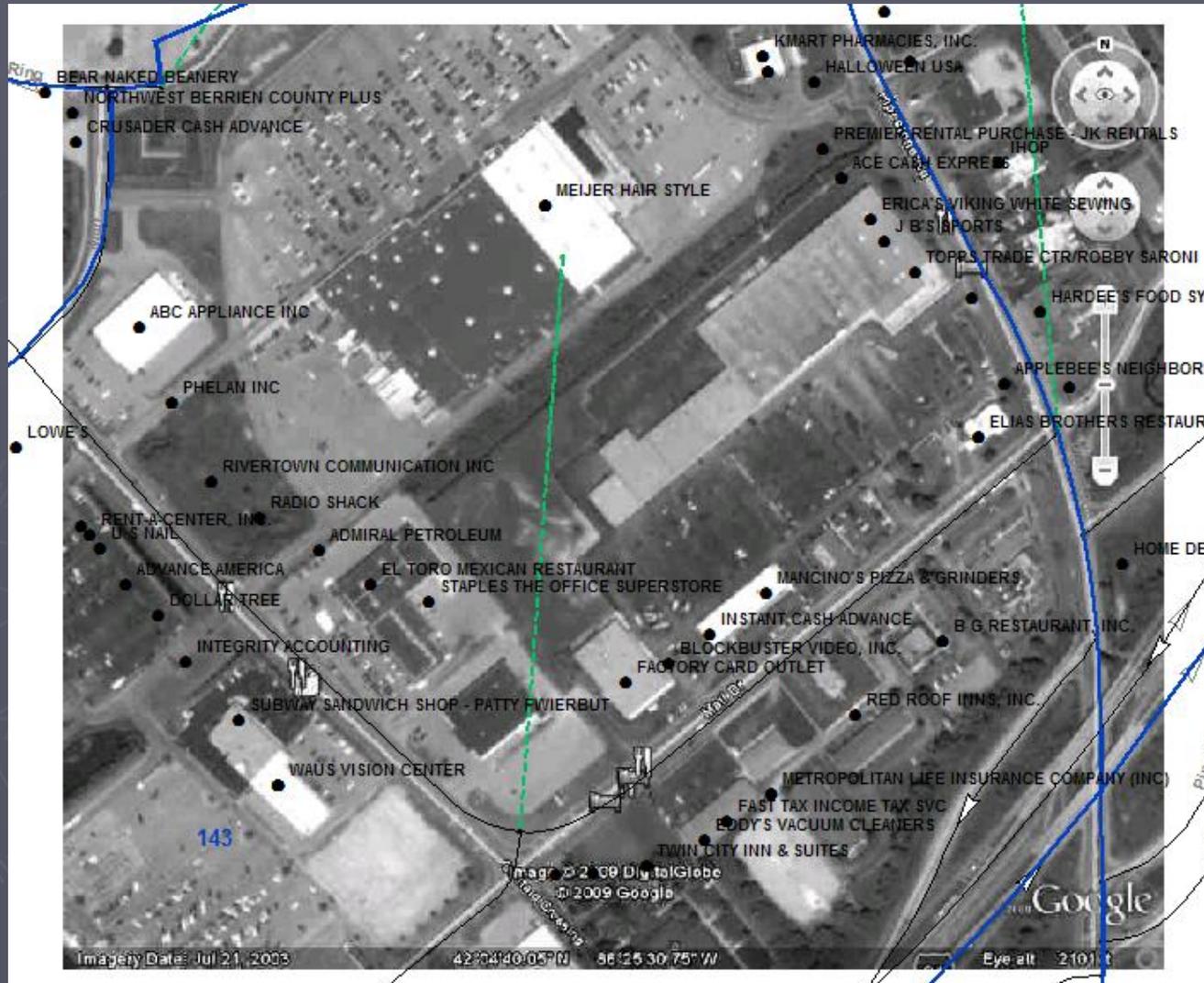
# Additional Work by SUTA staff

- ▶ Merging of Claritas and Hoovers data
- ▶ Geo-coding of Hoovers data, and integrating longitude and latitude points.
- ▶ Verifying locations of businesses in urban model areas
- ▶ Coding urban TAZ ID
- ▶ Creation of a combined geographic point file for all employment in MPO model area

# Example: Employment Point File



# Example: Employment Point File



# MPO Recommended Review Process

- ▶ How can the MPOs help MDOT-SUTA?
  - Review the data that is sent to MPO
  - Provide input, feedback and necessary changes to the data files.
  - Provide supplementary data and/or knowledge to employment files.
    - ▶ Localized data sources
    - ▶ Expertise knowledge of areas

# MPO Recommended Review Process

- ▶ MPOs will receive a geographic point file containing Claritas, Hoovers and additional employment information.
- ▶ Goal: Enhance Review Process and format for data records
- ▶ List of fields

# SUTA Employment Database Format for Data Maintenance

- ▶ Employment Geographic Point File – Set fields
  - Business Name and Address
  - NAICS and SIC codes
  - Claritas 2008 employment
  - Hoovers employment
  - Previous model employment number
  - Projected new model employment number
  - Statewide TAZ ID
  - Urban TAZ ID

# Example: Standardized Format

BUSINESS NAME	ADDRESS	CITY	CLARITAS	HOOVERS	EMP_05	PROJ_EMP	NAICS	TAZ_ID
SEARS, ROEBUCK & CO	1860 PIPESTONE	Benton Harbor	150		150	150	446130	143
BARNES & NOBLE BOOKSTORES INC	2755 E NAPIER	Benton Harbor		10		10	451211	120
BURGER KING - QUALITY DINING, INC.	2035 M-139	Benton Harbor	34	30	45	34	722110	112
GAST MANUFACTURING CORP	2300 M-139	Benton Harbor		320		320	333912	111
WHIRLPOOL CORPORATION	899 ENTERPRISE	Benton Harbor	20	30	20	20	335228	71
WHIRLPOOL CORPORATION	151 RIVERVIEW	Benton Harbor	227	300	240	227	335228	66
JORDAN'S NURSING HOMES	9935 RED ARROW	Bridgman	128	128	126	128	623110	2

# SUTA Employment Database Format for Data Maintenance

## ► Fields to Modify:

- Additional sources employment number (local data, chamber of commerce, etc.)
- Final employment number
- Final source field – name the source for final employment number
- Geo-coding errors or address errors field
  - State the correct address and a description of where the correct location is (i.e., NW corner of 2<sup>nd</sup> and Main St in TAZ 2)

# SUTA Employment Database Format for Data Maintenance

## ► Fields to Modify:

### ■ Other Comments field

- Provide status updates, explanations for final employment total, discussion of changes or updates (new businesses, closings, etc.)
- If the NAICS code is incorrect, please comment here as well
- If record is duplicate of another record, state that and identify the other ID
- Any other comments

# Example: SUTA Employment Database Format

BUSINESSNM	ADDRESS	PROJ_EMP	EMP_ADDL	FINAL_EMP	SOURCE	NOTES - COMMENTS
SEARS, ROEBUCK & CO	1860 PIPESTONE	150	0	0	NEWS	CLOSED - 2009
BARNES & NOBLE BOOKSTORES INC	2755 E NAPIER	10		10		
BURGER KING - QUALITY DINING, INC.	2035 M-139	34		30	HOOVERS	
GAST MANUFACTURING CORP	2300 M-139	320	300	300	CHAMBER	
WHIRLPOOL CORPORATION	899 ENTERPRISE	20		20		
WHIRLPOOL CORPORATION	151 RIVERVIEW	227	225	225	CHAMBER	
JORDAN'S NURSING HOMES	9935 RED ARROW	128	118	118	CHAMBER	

# MPO Recommended Review Process

- ▶ Review systemwide employment totals
- ▶ Compare totals by TAZ with information from previous model
- ▶ Review individual records
  - Verify all entries for records containing employees of **50** or greater
  - May require contacting individual employers
  - Verify location, number of workers, etc.

# MPO Recommended Review Process

- ▶ Development of TAC subcommittee
  - MPO staff
  - Regional/County Planning Commission staff
  - Employment interest groups (i.e., local chambers of commerce, economic development groups)
  - Transit agencies
  - Any other interest groups with local knowledge of employment within the MPO model area

# MPO Review Process

- ▶ Return geographic file to SUTA should contain:
  - All original records
  - Any new/updated information identified in specific fields where appropriate.
- ▶ If no changes, then “projected new model employment number” will be used

# Employment Database Maintenance

- ▶ Begin annual review of employment changes in MPO model area
- ▶ Keep a running file of employment changes
- ▶ Folder of news articles, clippings identifying new businesses opening, closures, etc.
- ▶ Add annual update field to geographic file and add comments appropriately.
- ▶ Send copy SUTA at end of year.

# GCMPC Example of Employment Review Process

- ▶ 2005 Claritas Business Facts® data
- ▶ Created point file of each employer, number of employees, employment category (NAICS)
- ▶ GCMPC validated the dataset
- ▶ Contacted 209 employers, those with over 100 employees, to determine if dataset was accurate
- ▶ 180,061 employees in Genesee County

# County GIS Address Files

- ▶ Increase coordination with County GIS Departments
- ▶ Identification of Address Files
  - Specific address location point files
  - Street-based centerline files
  - Other resources

# Conclusions

- ▶ Uses of Employment data
- ▶ Employment databases
- ▶ Reviewed MDOT's clean-up effort
- ▶ Discussed how the MPOs can help

# Next Steps

- ▶ Discussion of Next Steps
  - Gather Geographic Address Files
  - Review Combined Employment Files
  - Maintain and Monitor Employment Changes in Region



Questions?

