Chapter Three
Socio-Economic Data

Socio-Economic Data

The following represents a brief description of the methodology used when developing the socio-economic data (SE Data) for the Great Lakes Bay Region (GLBR) 2045 Metropolitan Transportation Plan (MTP) Travel Demand Model. The SE Data represents the model base year 2013 and forecasted years 2025, 2035, and 2045 conditions for the GLBR travel demand model area (i.e. entire Counties of Bay, Midland, & Saginaw) in terms of population, occupied housing units, and employment.

The Traffic Analysis Zone (TAZ) is the primary geographical unit of analysis of the travel demand model – a TAZ represents the origins and destinations of the travel activity within the model area. The socio-economic data, represented by each TAZ, will be used to calculate the number of trips produced by each zone (using household characteristics) and the "attractiveness" of each zone (using employment data). The process of calculating the trips produced by, and attracted to, each TAZ is the first step (called trip generation) in the GLBR four step modeling process.

Model Base Year (2013) Data Development

Development of Population and Occupied Housing Units;
- The current decennial 2010 Census and 2012 5 year ACS are the source of the population and household data (among other SE Data items). This data as made readily available to the public, and was electronically downloaded from the Census FTP site.
- The data was obtained at the block level of geography (where available) and aggregated to the model TAZ level based upon the geographical TAZ-Census block equivalency using GIS software. TAZs are developed based upon Census geography for compatibility.
- Growth factors were calculated from the University of Michigan / REMI data forecasts to adjust the population and occupied housing units to 2013 values.

Development of Total Employment;
- A list of businesses (employers) for the GLBR travel demand model area was developed from a "master" list of business data purchased from two database sources; Claritas (a Nielson Company) and Hoovers (a Dunn-Bradstreet Company).
- The data from each of these two sources includes general business information, industry type, geographic location and employee count.
- The Final Business List and Employee Counts were developed from a combination of these two data sources, as well as historical data from previous LRPs;

- o The Nielson / Claritas Business-Facts Database was used as the primary source of business data, and the Hoovers Database was used for supplemental information.
- o Each of the databases (independently) underwent several quality checks for: duplicate records (based on business ID, name and address); whether a business was still in existence; accurate employee count; accurate geographical location.
- o Additional sources of business information were used in the quality control process; MI LARA (DLEG), Manta, Cortera, MacRae's Blue Book, and Google Maps, among others.
- o All school district employee counts (and enrollment figures) were checked with information available through the MI Center for Educational Performance & Information (CEPI).
- o The Claritas and Hoovers "cleaned" business lists were then combined and quality checked for duplicate records (based on business ID, name and address, etc.).
- o This was the business list presented to the MPO & local agencies for further review. Any amendments were incorporated into the final business list.
- o The businesses were sorted into retail, service and other Categories by North American Industry Classification System (NAICS) code.
- o Finally, the employee count for each category in each TAZ was developed by aggregating the businesses located within each TAZ using GIS software.

Model Forecast Years (2025, 2035, and 2045) Data Development

Growth factor and projection calculations are developed using the following methodology.
- o MDOT contracts with the University of Michigan (U of M), every four to five years, to develop economic and demographic (population, household, and employment) forecasts through a specified forecast period (currently 2040)
- o U of M employs a version of the Regional Economic Models Incorporated (REMI) TranSight Model, and methodology developed in a joint effort between U of M and MDOT, to develop the economic and demographic forecasts
- o Garth Banninga (MDOT Demographic Specialist) utilizes these economic and demographic data forecasts to calculate population, household, and employment projections (in 5 year increments) for the Michigan Statewide Travel Demand Model
- o The Michigan Statewide Travel Demand Model forecasts were amended and applied to the GLBR travel demand model base year SE-Data – trend analysis was utilized to forecast data for the year 2045

    o   Amendments to the forecast calculations were made based upon input from the MPO & local agencies (i.e. cities, villages, townships)

It is important to remember that socio-economic forecasting is essentially a matter of judgment. Judgment is required in selecting the type of forecast to be implemented; in determining the procedures for making the forecast; and, the process used in reviewing the effects of the factors that induce changes in population and employment. The establishment of a large new industry or the loss of a similar size industry can lead to considerable impact on an area's development.

Therefore, although socio-economic projections are a useful and required tool in the planning of an area's future growth and development, it is important to note that the projections are not infallible and should be modified as time progresses to better reflect development impacts occurring in the BCATS planning area.

Listed below are the BCATS portion of the GLBR model, which includes Bay County with the exception of Williams Township and Auburn as they are part of the Midland urban area, 2013, 2025, 2035, and 2045 totals for socio-economic data as approved by the BCATS Policy Committee for use in the trip generation step of the GLBR travel demand model.

BCATS Study Area Socio-Economic Data

Year	Population	Occupied Households	Total Employment	Retail Employment	Service Employment	Other Employment
2013	100996	42211	8090	22476	17978	100996
2025	98135	40503	7087	24799	17668	98135
2035	96427	40403	6665	25721	16945	96427
2045	94773	40440	6288	26759	16399	94773