

## Report of the Socioeconomic Information Needs Workgroup (Phase I)

**Purpose:** The purpose of the group was to find ways of meeting the socioeconomic information needs of the MetroGIS community using published data that is freely available – or data which could be made available with a minimum of additional effort.

**Tasks:** To fulfill its purpose, the committee undertook a variety of tasks. These are documented in this report and in the accompanying spreadsheet.

1. Clarify the socioeconomic information needs of the MetroGIS community
2. Identify data sources that could potentially meet those information needs
3. Propose a strategy for making those data sources available to the MetroGIS community
4. Identify gaps between information needs and available data sources.
5. Recommend policies and actions that help fill gaps with minimal effort.
6. Refer tasks to a Phase II committee that would investigate ways more intensive efforts to fill the data gap in meeting information needs.

**Membership:** The following people served on the Workgroup

Will Craig, UofM, chair	Mary Karcz, Ramsey County
Heather Britt, Urban Coalition	Sandra Paddock, Wilder Research Center
Paul Buschmann, Hennepin County	Barbara Ronningen, State Demographic Center
Dick Carlstrom, TIES	Heidi Welsch, Dakota County
John Carpenter, Excensus LLC	Mark VanderSchaaf, City of St. Paul
Amy Fisher, MN Dept. of Employment and Economic Development	Tim Zimmerman, Hennepin County
Kathy Johnson, Metropolitan Council	

### 1. Socioeconomic Information Needs:

The committee reviewed some 182 statements about information needs made at the original Needs Forum held by MetroGIS in 1996. We studied the list, rated the priority of each need, and summarized them into six major areas listed below, not all usually associated with socioeconomic interests. We also discussed the characteristics one would like these data to have:

In general, the workgroup felt the information needs could be characterized as follows:

**Sub-city scale.** Sometimes to the block level, but most often at the tract or neighborhood level (equivalents would be school attendance area or Traffic Assignment Zone – TAZ). Service centers should be known to the site/address.

**Annual updates.**

**Ten year time series.**

The details of desired data items and characteristics are documented in the accompanying spreadsheet. That spreadsheet also documents the votes of individual committee members to see variation of individual specifications and possibly the needs of the sectors they represent. What follows is a summary of that information.

Demographic Information for daytime (work/school) and nighttime (residence) populations.

Some of these measures are only appropriate for home-based information.

- |                    |                         |                    |
|--------------------|-------------------------|--------------------|
| - number of people | - age                   | - day care needs   |
| - population       | - education             | - births/deaths    |
| - projections      | - school performance    | - disease/injuries |
| - density          | - disability            | - retirement plans |
| - race/ethnicity   | - hhld. characteristics |                    |
| - new immigrants   | - migration patterns    |                    |

**Phase I Workgroup Report**  
**12/10/03**

Economic Information for daytime and nighttime populations; some measures more appropriate for home-based information.

- income
- poverty
- # employed
- employment status
- occupation
- industry
- sales / revenues
- wage distribution
- # entry level jobs
- jobs forecast
- health insurance
- other benefits
- use of public services
- undocumented workers

Housing Information

- number of units
- density
- # bedrooms
- age
- cost
- affordability
- turnover rate

Transportation Information related to home/work trips.

- commute mode
- work/home locations
- transit needs

Facilities Information. Location of institutions and services.

- schools
- social services
- government services
- business type

Crime Information. Numerous requests (e.g. location of people on probation), but the committee focused on one.

- type by location

**2. Data Sources:**

The committee identified the following data sources as potential vehicles to meet the information needs. Each has specifications for mapping resolution, frequency of reporting, and time series that has implications for value to the MetroGIS community.

- a. **Existing Census Bureau Programs.** The Census has a variety of programs that could meet the information needs.
  - i. Decennial Census (Census of Population and Housing). Taken every 10 years since 1790. Minimum mapping resolution is the city block for (100%) count data, groups of blocks for sample social and economic data.
  - ii. Census Transportation Planning Package (CTPP). Spin-off from decennial Census, providing additional data about place of employment. Data reported for TAZ – Travel Assignment Zone.
  - iii. Economic Census. Taken every 5 years since 1972 by industry. Minimum mapping resolution is zip code. Data on jobs, payroll, sales, etc. The related County Business Patterns provides annual data down to a zip code level for establishments, employment and payroll by NAICS.
  - iv. Current Population Survey. Provides many state level measures, including annual estimates of the percent of people without health insurance.
- b. **Proposed Census Programs.** These two programs re-engineer the Census programs. Both have received extensive review and will probably be part of the Bush Administration's proposed budget.
  - i. American Community Survey (ACS). Would replace sample questions on decennial census and be conducted continuously. Data for larger places (65,000+) would be published annually; smaller places would present 3-5 years averages. Census tract data would be available annually, but reporting a 5-year rolling average.

- ii. Local Employment Dynamics (LED). Combines confidential state and federal administrative records with Census survey data to yield current data on jobs, new hires, earnings, age, gender, etc. Will yield quarterly indicators by county. Annual reports of work/home locations will available at the block level to assist transportation planners. (*formerly called LEHD*)
- c. **State/Regional Agency Reports.**
  - i. Department of Employment and Economic Security (DEED). Annual employment and wage data since 1980 by industry at the county level, plus all cities with sufficient numbers of employers to avoid disclosure; this includes most cities in the metropolitan area. Occupational data available from survey, but with planning regions as the minimum mapping unit. Detailed wage data, including new hires, useful only the state level.
  - ii. Department of Education. Publishes annual summary data for all districts and schools in the state, most since 1988. Includes enrollment; grade, gender, racial, and language characteristics, test scores, graduation rate, dropout rate.
  - iii. Travel Behavior Inventory. Joint effort of MnDOT and the Metropolitan Council. Survey conducted about all local trips at roughly 10-year interval to assist with travel forecasting. No sub-regional data.
  - iv. Revenue Department, Sales and Use Tax Statistics. City-level data is available online, reporting industry-specific sales and taxes. Data available by zip code area as a special run.
  - v. Bureau of Criminal Apprehension, Department of Public Safety. Criminal Justice Information System. Summary data on crimes reported by local law enforcement agencies – typically city level – though with county sheriffs completing the picture.
  - vi. Health Department. Annual data on births, deaths, disease and injuries by most cities (>2500). The department also provides periodic county-level health insurance estimates.
  - vii. Metropolitan Council. Forecasts of four factors to 2030 at the TAZ level: population, households, employment, and retail employment. Work done in cooperation with municipalities.
- d. **Other Potential Sources**
  - i. County social service records. Counties collect data on the nature and location of families participating in MFIP, food stamps, etc. This data could be geocoded and published by summary area, provided care was taken to protect confidentiality.
  - ii. County parcel records. This data is already made available through MetroGIS. Tax classification of parcels, if added, could provide a general level of land-use identification. Sales prices of parcels is one of the attributes provided, but this information is not available for all counties.
  - iii. Social service locations. A few clearinghouses can provide information about the location of particular services; e.g., Hungry Solutions maintains a list of all food shelves. The United Way's *First Call for Help* program covers a broader range of services, but their data is not ready for use by GIS.

### 3. Strategy for Accessing Data

Data and documentation mostly exist on departmental websites. Rather than copy and publish this information on DataFinder, MetroGIS should simply direct users to those websites.

**Phase I Workgroup Report**  
**12/10/03**

The following existing sources of data are recommended to meet the information needs of the MetroGIS community. The datasets at these sources may not adequately meet those needs (see below), but they are the best available. Data sources listed above are not included if the geographic level does not go below the county level.

Decennial Census ([www.census.gov](http://www.census.gov))

CTPP (<http://transportation.org/ctpp/home/default.htm>)

Economic Census (<http://www.census.gov/epcd/www/econ97.html>) and County Business Patterns (<http://www.census.gov/epcd/cbp/view/cbpview.html>)

DEED (<http://www.mnwfc.org/lmi/lmi4.htm>)

Department of Revenue

[http://www.taxes.state.mn.us/taxes/legal\\_policy/research\\_reports/content/sales\\_use\\_reports.shtml](http://www.taxes.state.mn.us/taxes/legal_policy/research_reports/content/sales_use_reports.shtml))

Department of Education ([www.education.state.mn.us/html/intro\\_data\\_center.htm](http://www.education.state.mn.us/html/intro_data_center.htm))

Department of Health (<http://www.health.state.mn.us/stats.html>)

Bureau of Criminal Apprehension

([www.dps.state.mn.us/bca/CJIS/Documents/Crime2002/Page-24.html](http://www.dps.state.mn.us/bca/CJIS/Documents/Crime2002/Page-24.html), Machine readable data available from <http://www.mnplan.state.mn.us/cj/offense.html>)

Metropolitan Council (<http://www.metrocouncil.org/resources/resources.htm>)

Three strategies exist for accessing existing data region-wide that is not provided on a departmental website. Sometimes that data is provided in PDF or other formats that:

- Refer people to the appropriate departmental contact person. Requests can be filled as needed. If those requests become frequent, the department may decide to publish their data in a more accessible form.
- Discuss in a MetroGIS user forum. If need is sufficiently high, MetroGIS may invest resources to bring help publish the data.
- Some needed data is available locally, but not regionally. For example, the Minneapolis Police Department has crime data at the block level; school districts have data on enrollment projections. Referring people to local sources may be useful if their area of interest is restricted to a portion of the metro area.

Based upon direction received in previous discussions with workgroup, MetroGIS staff have prototyped a new resources webpage at ([http://www.datafinder.org/mg/socioeconomic\\_resources/index.asp](http://www.datafinder.org/mg/socioeconomic_resources/index.asp)) to assist users find socioeconomic data that are priorities for the MetroGIS community. An umbrella metadata record has also been prototyped to post on MetroGIS DataFinder (<http://www.datafinder.org/xxx>). It will point to the new resources page. The user will be able to search by the six topical data themes listed in Item 1, above, and by data source. The characteristics documented the workgroup for each priority data element (map resolution, time series, and time frequency) will be provided as will links/contacts to obtain the data. Once accepted by the Workgroup and Coordinating Committee, these web resources will be advertised and integrated with the other priority information need solutions located at [www.metrogis.org/data/info\\_needs/socioeconomic\\_characteristics/index.shtml](http://www.metrogis.org/data/info_needs/socioeconomic_characteristics/index.shtml).

#### **4. Filling Gaps in the Data.**

Information needs were compared to potential data sources. The accompanying spreadsheet is the basis for the gap analysis. Many information needs can be met with an existing or proposed data source, but the characteristics of those sources are not always ideal. Some of those deficiencies are documented; others may be less obvious, e.g. reported categories or geographic may not meet the needs of specific users. Suggestions are made for filling some of the gaps in each of the information need areas. Some additional gaps could be filled by expending additional

**Phase I Workgroup Report**  
**12/10/03**

resources; such issues will be addressed in phase II (see section 6 below). A few of the information needs cannot be filled with known any known data sources.

Demographic Information

Adequate Decennial Census and the related CTTTP provide a broad range of demographic information that covers a very long time series – down to block and tract level. School data provides current information on race, home language, and economic status for individual schools and districts. Sub-city population and household forecasts are available from the Metropolitan Council.

Deficient Census data is updated only once per decade. School data is restricted to children in school and geography of reporting units does not meets of others. Also missing is school data that may be held by individual districts, but which is not available across the region: projected enrollment and college matriculation.

Potential for Filling Gaps ACS and LED could provide more current data at the sub-city level. Even then, current block level data will be missing for issues the committee feels are important: number of people, density, race/ethnicity, and age.

Economic Information

Adequate Census and DEED data fill part of this need. School data on free and reduced lunch provides a current surrogate for small area poverty rates.

Deficient Reporting frequency of Census of Population is once per decade. Economic Census are more frequent, but only to ZIP code level. DEED data is available at city and county level, nothing finer. School data is useful only for estimating poverty of families with young children in the public schools.

Potential for Filling Gaps ACS and LED could be solutions here. Critical current block level data would be missing for the following items: poverty, number of workers. Also missing are indicators of the use of public services – which could be provided if county social service records could be summarized and published region-wide.

Housing Information

Adequate The decennial Census has much good housing data. The group felt the “affordable housing” information need should focus on rental property affordable to very low-income households; e.g., rents of that cost no more than \$250/month, thereby consuming less than 30% of the income of households with incomes of \$10,000. Rent (and income) data to meet this need is available in the Census. The Metro Regional Parcel data provides much current data on value, plus recent sales prices in many counties.

Deficient Rent information is reported too infrequently and not for areas as small as blocks. Sale prices missing from some counties.

Potential for Filling Gaps ACS could provide more current rent data, but not at the block level.

Land Use Information

Adequate Metro regional parcel files identify homesteaded residential property. Ramsey County has CAMA codes. Very general use information is available from the Metropolitan Council.

Deficient No good information about what types of businesses exist at a given location; e.g. a hardware store.

**Phase I Workgroup Report**  
**12/10/03**

Potential for Filling Gaps A MetroGIS workgroup (e.g. Existing Land Use) should be directed to insure this information need is adequately addressed.

Transportation Information

Adequate Census and CTPP fill most needs.

Deficient These resources are available only once per decade.

Potential for Filling Gaps LED would fill many needs.

Facilities Information

Adequate Information about specific issues are often maintained by an umbrella organization; e.g. food shelf information by Hungry Solutions. School building locations are documented by the Department of Education and converted to GIS files by LMIC.

Deficient Scattered sources. Data not ready for use in a GIS.

Potential for Filling Gaps The United Way's *First Call for Help* could fill much of this void. Private and charter school building location data is not current and complete.

Crime Information

Adequate Criminal Justice Information System data from the Bureau of Criminal Apprehension will meet most information needs at the municipal level

Deficient Sub-city is not available centrally.

Potential for Filling Gaps Local police have sub-city information, sometimes already summarized to blocks and neighborhoods; the city of Minneapolis, for example, has monthly crime statistics by neighborhood on its CODFOR website. No organization is collecting sub-city data across the region.

No Known Data Solution

- undocumented workers
- wealth
- retirement plans
- travel routes

5. **Recommended Policies and Actions.** These policies and actions are meant to complete the work of Phase I of the Socioeconomic Workgroup, the phase focused on identifying published, or easily accessible, free or low cost government data – and developing strategies for making that data accessible to the MetroGIS community.

a. Promote and facilitate access to existing sources of socioeconomic data.

Details are presented in section 3 above.

b. Investigate ways to improve existing data with minimal additional work.

Many existing datasets seem to require minimal work to make them available and useful to the MetroGIS community. Members of the Phase I workgroup are talking with local data custodians to determine whether that work is possible:

- i. *County social service records.* Might the counties or the state Department of Human Services be willing to geocode, summarize, and publish data at some sub-city level? Disclosure rules will need to be developed to protect privacy. Counties often get requests for this information and publishing a core set would reduce staff time devoted to meeting these requests.
- ii. *First Call for Help.* Is there any interest at the United Way in geocoding and mapping the location of service providers? Such a service, if provided on-

line would meet the needs of their constituents as well as those of the MetroGIS Community.

iii. *Births and Deaths*. Data could be reported at the neighborhood or tract level by the Department of Health. Effort and benefits need to be determined.

c. Monitor and evaluate the proposed solutions.

The resources webpage should provide a means for people to comment and make recommendations for improvement. Members of the Phase I workgroup have agreed to reconvene in 2004 to evaluate suggested modifications to the resources. Possibly a user forum could provide another mechanism for determining the suitability of the proposed solution.

d. Support the development of ACS and LED.

Members of the Phase I workgroup have agreed to monitor the progress of new programs under development at the US Census Bureau: the American Community Survey (ACS) and the Local Employment Dynamics (LED) program. These programs fill critical gaps in the data available to meet the socioeconomic information needs of the MetroGIS community. It is possible that the workgroup may recommend that MetroGIS and its stakeholders be asked go on record as supporting the two new programs. Much will depend on whether the programs receive support from the Bush Administration and the initial response to them by members of Congress.

## **6. Items referred to the Phase 2 Workgroup**

The Phase I Workgroup looked for publicly available data sets that were already published or could be published with little additional effort. While several sources were identified, the workgroup concluded that significant gaps still remain in many of the socioeconomic priority need areas; gaps that are manifested in out-of-date information, lack of geographic detail, lack of cross-tabulation options, and generally poor geographic alignment with primary parcel and land use boundary layers.

The Phase II Socioeconomic Information Needs Workgroup should have two principal objectives: 1) explore new GIS-based solutions that can provide more current and more frequently updated socioeconomic information, more geographic detail and coverage, and more flexible cross-tabular reporting; and 2) review and recommend emerging technologies capable of better aligning socioeconomic data with GIS parcel, dwelling and land use boundary files and attributes.

Since Phase II solutions will involve supporting new technologies or purchasing new databases, the Phase II Workgroup will look at the cost-effectiveness of these options in meeting the needs of the MetroGIS communities. In some cases, this may mean researching technical options for streamlining the use or implementation of the database or technology. In other cases, it may mean developing an implementation strategy phased in over time.

a. New technologies

Included among the data solutions to be examined in Phase II will be a technology developed and already implemented across much of the Twin Cities by Excensus LLC, a Twin Cities geo-demographic services firm. Excensus' approach involves the development of small-area demographic profiles derived by combining a variety of administrative data sources from local and state government. The Excensus model groups residential and employer profiles in small clusters based on parcel and land

**Phase I Workgroup Report**  
**12/10/03**

use geographies. The resulting profiles align precisely with parcel and land use base layers.

b. New summary databases

Options to be explored include the development of new summary data from local government. For example, police, municipal government, and school districts have neighborhood-level data that they do not report to the state, but which could be gathered and published to meet MetroGIS user needs. The Workgroup may also need to look at opportunities to free up non-confidential summary data contained in otherwise restricted data sets.

c. Other commercially available solutions

Examples of commercially available options include estimates of demographic and economic data from Claritas or commercial establishment data from Dun & Bradstreet. Local options could include working with local realtors to provide enhanced access to real estate sales data.

Several members of the Phase I Socioeconomic Workgroup will remain on to provide continuity to the Phase II Workgroup. At completion of Phase II, a report will be prepared outlining opportunities to develop or enhance access to priority GIS-based socioeconomic data sets. Recommendations will be provided for better aligning these new data solutions with other current and emerging MetroGIS databases to support integrated planning and policy making across a range of governmental and community need areas including: community growth planning, housing and economic development planning, health and human service program design and development, emergency management capacity planning, crime analysis, E-911 dispatching, housing and economic development, school enrollment planning, and many others.