Model Socio-Economic Data

North Carolina Model Users Group

Presentation

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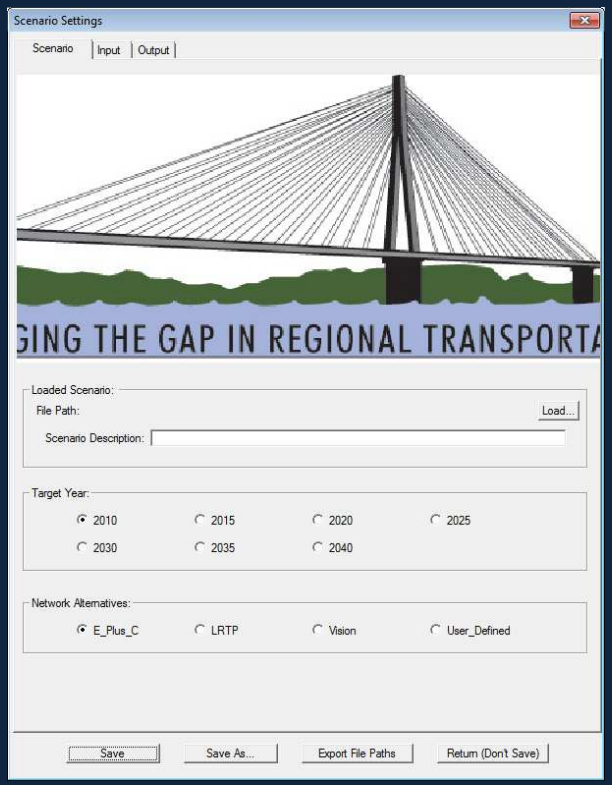
Model Years

Base Year:

- Population and Housing
  - Census, American Community Survey, Local area population data
- Employment
  - Quarterly Census of Employment and Wages, State Employment Commissions, Market research listings, local area employment data

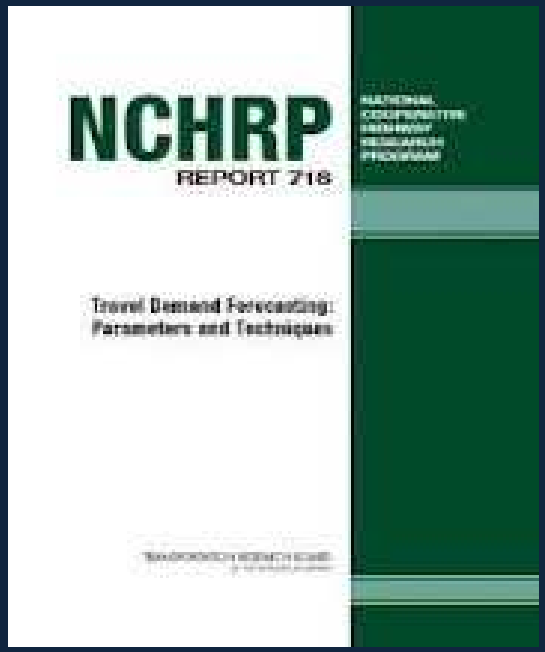
Future Year:

- Population and Housing
  - State agencies, counties, MPO's, Market research listings
- Employment
  - State agencies, counties, MPO's, Market research listings



Background

NCHRP Report 716
Travel Demand Forecasting: Parameters and Techniques

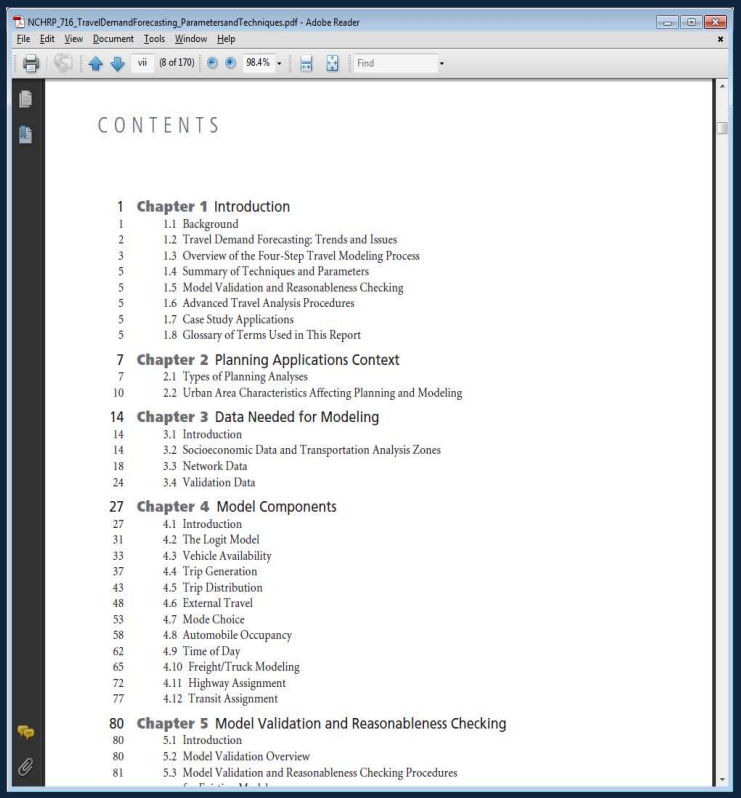


This report is an update to NCHRP Report 365: Travel Estimation Techniques for Urban Planning and provides guidelines on travel demand forecasting procedures and their application for solving common transportation problems. The report presents a range of approaches that allow users to determine the level of detail and sophistication in selecting modeling and analysis techniques most appropriate to their situations and addresses straight-forward techniques, optional use of default parameters, and appropriate references to other more sophisticated techniques.

NCHRP Report 716

Chapter 3: Data Needed for Modeling

- Section 3.2 – Socioeconomic Data and Transportation Analysis Zones
- 3.2.1 – Sources for Socioecomic Data
- 3.2.2 – Data Source Limitations



Base Year Socioeconomic Data

Sources for Population and Housing Data:

- Decennial U.S. Census
- American Community Survey
- ACS Public Use Microdata Samples
- Local area population and housing data

Sources for Employment Data:

- Quarterly Census of Employment and Wages
- State employment commissions
- Current Population Survey
- Market research listings
- Longitudinal Employer-Household Dynamics
- Local area employment data

Base Year Socioeconomic Data

Ideal to use multiple sources and have staff time available to check selection of records

Local knowledge is also key

Example

infoUSAGov (Market research listing):

infoGROUP is a data and marketing company that provides products and services to generate sales leads, find new customers, and develop direct mail, email and telemarketing campaigns.

Basically a database of employers

According to infoUSAGov (a division of infoGROUP), they invest millions to collect the most detailed and accurate employer and business data available, and make more than 26 million phone calls a year to verify their information.

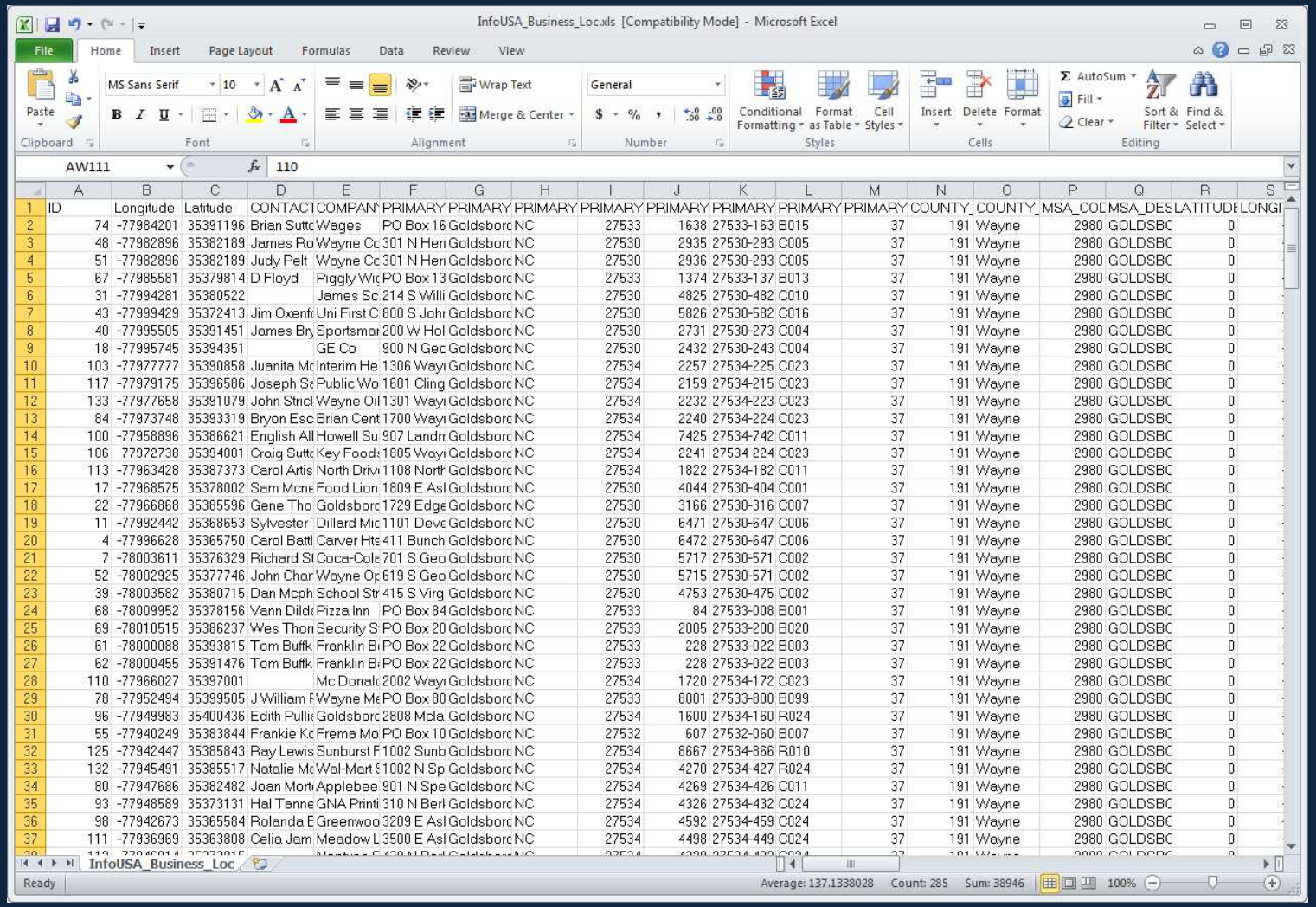
Example

infoUSAGov (Market research listing):

We buy this data to use as our inputs for employment information for our models

Offers a database of employers including address, geocode (coordinates) of location, and number of employees (by type) at that site

Example



InfoUSA_Business_Loc.xls [Compatibility Mode] - Microsoft Excel

ID	Longitude	Latitude	CONTACT	COMPAN	PRIMARY	PRIMARY	PRIMARY	PRIMARY	PRIMARY	PRIMARY	PRIMARY	PRIMARY	COUNTY_	COUNTY_	MSA_COI	MSA_DES	LATITUDE	LONGI
74	-77984201	35391196	Brian Sutt	Wages	PO Box 16	Goldsbor	NC	27533	1638	27533-163	B015	37	191	Wayne	2980	GOLDSBC	0	
48	-77982896	35382189	James Ro	Wayne Cc	301 N Her	Goldsbor	NC	27530	2935	27530-293	C005	37	191	Wayne	2980	GOLDSBC	0	
51	-77982896	35382189	Judy Pelt	Wayne Cc	301 N Her	Goldsbor	NC	27530	2936	27530-293	C005	37	191	Wayne	2980	GOLDSBC	0	
67	-77985581	35379814	D Floyd	Piggly Wi	PO Box 13	Goldsbor	NC	27533	1374	27533-137	B013	37	191	Wayne	2980	GOLDSBC	0	
31	-77994281	35380522		James Sc	214 S Will	Goldsbor	NC	27530	4825	27530-482	C010	37	191	Wayne	2980	GOLDSBC	0	
43	-77999429	35372413	Jim Oxenf	Uni First C	800 S Johr	Goldsbor	NC	27530	5826	27530-582	C016	37	191	Wayne	2980	GOLDSBC	0	
40	-77995505	35391451	James Br	Sportsmar	200 W Hol	Goldsbor	NC	27530	2731	27530-273	C004	37	191	Wayne	2980	GOLDSBC	0	
18	-77995745	35394351		GE Co	900 N Gec	Goldsbor	NC	27530	2432	27530-243	C004	37	191	Wayne	2980	GOLDSBC	0	
103	-77977777	35390858	Juanita Mc	Interim He	1306 Wayı	Goldsbor	NC	27534	2257	27534-225	C023	37	191	Wayne	2980	GOLDSBC	0	
117	-77979175	35396586	Joseph Se	Public Wo	1601 Cling	Goldsbor	NC	27534	2159	27534-215	C023	37	191	Wayne	2980	GOLDSBC	0	
133	-77977658	35391079	John Strick	Wayne Oil	1301 Wayı	Goldsbor	NC	27534	2232	27534-223	C023	37	191	Wayne	2980	GOLDSBC	0	
84	-77973748	35393319	Bryon Esc	Brian Cent	1700 Wayı	Goldsbor	NC	27534	2240	27534-224	C023	37	191	Wayne	2980	GOLDSBC	0	
100	-77958896	35386621	English All	Howell Su	907 Landn	Goldsbor	NC	27534	7425	27534-742	C011	37	191	Wayne	2980	GOLDSBC	0	
106	-77972738	35394001	Craig Sutt	Key Food:	1805 Wayı	Goldsbor	NC	27534	2241	27534-224	C023	37	191	Wayne	2980	GOLDSBC	0	
113	-77963428	35387373	Carol Artis	North Driv	1108 North	Goldsbor	NC	27534	1822	27534-182	C011	37	191	Wayne	2980	GOLDSBC	0	
17	-77968575	35378002	Sam Mcne	Food Lion	1809 E Asl	Goldsbor	NC	27530	4044	27530-404	C001	37	191	Wayne	2980	GOLDSBC	0	
22	-77966868	35385596	Gene Tho	Goldsbor	1729 Edge	Goldsbor	NC	27530	3166	27530-316	C007	37	191	Wayne	2980	GOLDSBC	0	
11	-77992442	35368653	Sylvester	Dillard Mic	1101 Deve	Goldsbor	NC	27530	6471	27530-647	C006	37	191	Wayne	2980	GOLDSBC	0	
4	-77996628	35365750	Carol Battl	Carver Hts	411 Bunch	Goldsbor	NC	27530	6472	27530-647	C006	37	191	Wayne	2980	GOLDSBC	0	
7	-78003611	35376329	Richard St	Coca-Cole	701 S Geo	Goldsbor	NC	27530	5717	27530-571	C002	37	191	Wayne	2980	GOLDSBC	0	
52	-78002925	35377746	John Char	Wayne Or	619 S Geo	Goldsbor	NC	27530	5715	27530-571	C002	37	191	Wayne	2980	GOLDSBC	0	
39	-78003582	35380715	Dan Mcph	School Str	415 S Virg	Goldsbor	NC	27530	4753	27530-475	C002	37	191	Wayne	2980	GOLDSBC	0	
68	-78009952	35378156	Vann Dild	Pizza Inn	PO Box 84	Goldsbor	NC	27533	84	27533-008	B001	37	191	Wayne	2980	GOLDSBC	0	
69	-78010515	35386237	Wes Thor	Security S	PO Box 20	Goldsbor	NC	27533	2005	27533-200	B020	37	191	Wayne	2980	GOLDSBC	0	
61	-78000088	35393815	Tom Buffk	Franklin Bi	PO Box 22	Goldsbor	NC	27533	228	27533-022	B003	37	191	Wayne	2980	GOLDSBC	0	
62	-78000455	35391476	Tom Buffk	Franklin Bi	PO Box 22	Goldsbor	NC	27533	228	27533-022	B003	37	191	Wayne	2980	GOLDSBC	0	
110	-77966027	35397001		Mc Donalc	2002 Wayı	Goldsbor	NC	27534	1720	27534-172	C023	37	191	Wayne	2980	GOLDSBC	0	
78	-77952494	35399505	J William F	Wayne Me	PO Box 80	Goldsbor	NC	27533	8001	27533-800	B099	37	191	Wayne	2980	GOLDSBC	0	
96	-77949983	35400436	Edith Pulli	Goldsbor	2808 Mcla	Goldsbor	NC	27534	1600	27534-160	R024	37	191	Wayne	2980	GOLDSBC	0	
55	-77940249	35383844	Frankie Kc	Frema Mo	PO Box 10	Goldsbor	NC	27532	607	27532-060	B007	37	191	Wayne	2980	GOLDSBC	0	
125	-77942447	35385843	Ray Lewis	Sunburst F	1002 Sunb	Goldsbor	NC	27534	8667	27534-866	R010	37	191	Wayne	2980	GOLDSBC	0	
132	-77945491	35385517	Natalie Mc	Wal-Mart S	1002 N Sp	Goldsbor	NC	27534	4270	27534-427	R024	37	191	Wayne	2980	GOLDSBC	0	
80	-77947686	35382482	Joan Mort	Applebee	901 N Spe	Goldsbor	NC	27534	4269	27534-426	C011	37	191	Wayne	2980	GOLDSBC	0	
93	-77948589	35373131	Hal Tanne	GNA Printi	310 N Berl	Goldsbor	NC	27534	4326	27534-432	C024	37	191	Wayne	2980	GOLDSBC	0	
98	-77942673	35365584	Rolanda E	Greenwoo	3209 E Asl	Goldsbor	NC	27534	4592	27534-459	C024	37	191	Wayne	2980	GOLDSBC	0	
111	-77936969	35363808	Celia Jam	Meadow L	3500 E Asl	Goldsbor	NC	27534	4498	27534-449	C024	37	191	Wayne	2980	GOLDSBC	0	

Ready | Average: 137.1338028 | Count: 285 | Sum: 38946 | 100%

Example

Issues:

Just because it's in the database doesn't mean it's correct

- Incorrect geocode
- Multiple listings of the same employer
- Number of employees

Cost (approximately $0.30 per record)

Future Year Socioeconomic Data

Sources for Population and Housing Data:

- State agencies
- Counties
- MPO’s
- Market research listings

Sources for Employment Data:

- State agencies
- Counties
- MPO’s
- Market research listings

Future Year Socioeconomic Data

- Data typically not available at TAZ level, therefore data that is available is generally only able to help with control totals
  - Usually disaggregated using segmentation from the base year data
  - Often updated with information about land use plans

Think households by household size for example. You could use the breakdown from the base year if the area is expected to remain the same, but you might want to update the breakdown if the area is expected to drastically change (moving from single-family residential to transit oriented development for example)

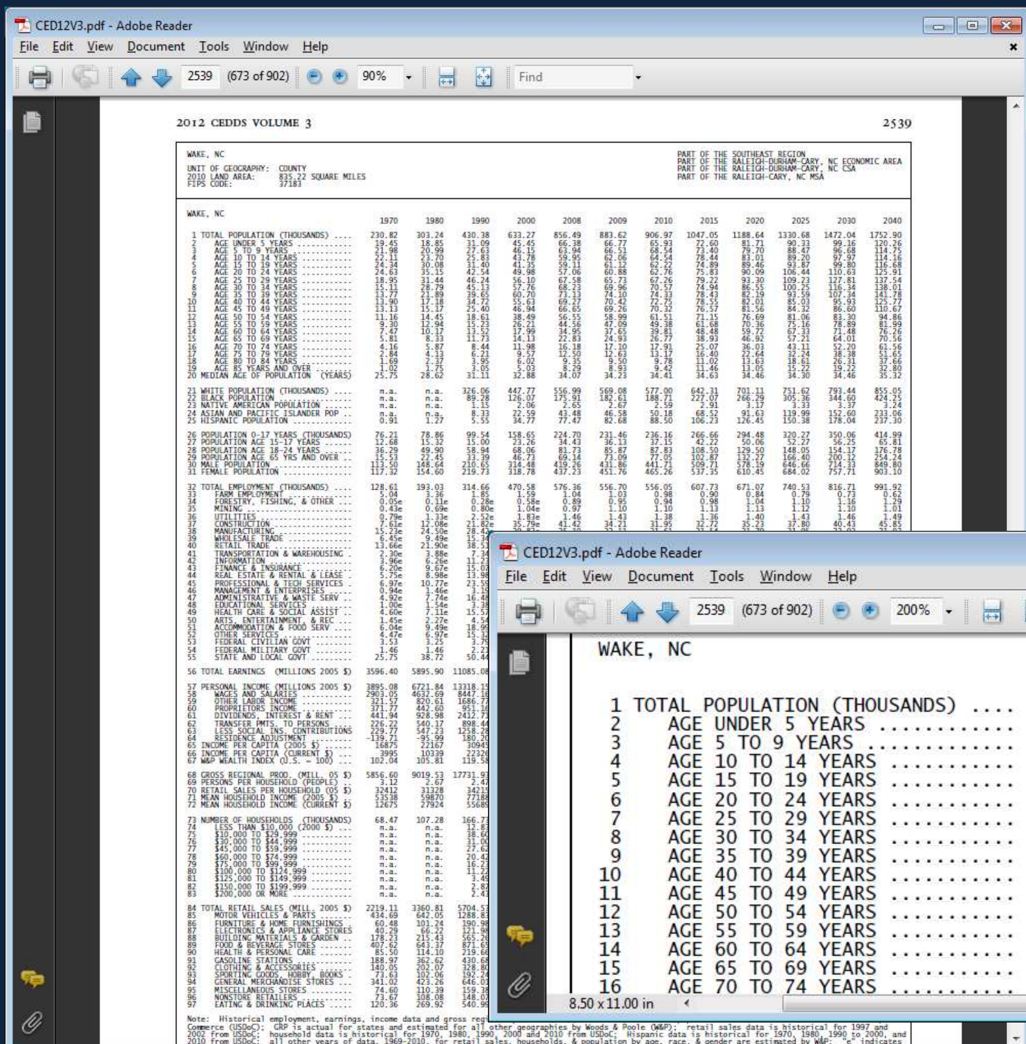
Example

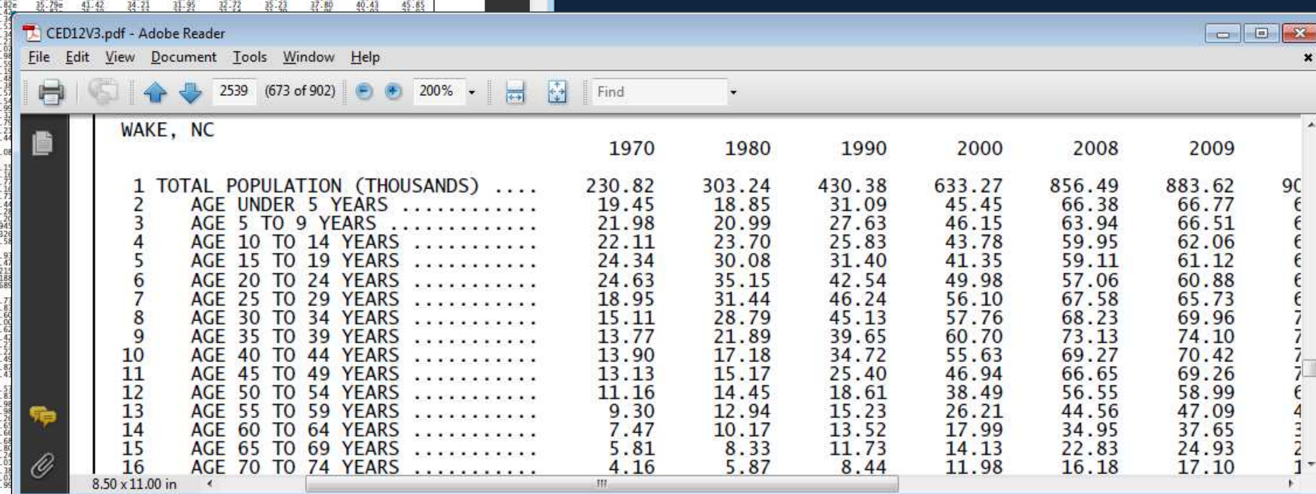
Woods & Poole Economics, Inc. (Market research listing):

Woods & Poole Economics, Inc. is an experienced independent firm that specializes in long-term county economic and demographic projections. Woods & Poole's database contains projections through 2040 for more than 900 variables.

Data available by County or MSA

Example


CED12V3.pdf - Adobe Reader
File Edit View Document Tools Window Help
2539 (673 of 902) 90% Find
2012 CEDDS VOLUME 3
2539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2539 (673 of 902) 200% Find
WAKE, NC
1970 1980 1990 2000 2008 2009
1 TOTAL POPULATION (THOUSANDS) 230.82 303.24 430.38 633.27 856.49 883.62
2 AGE UNDER 5 YEARS 19.45 18.85 31.09 45.45 66.38 66.77
3 AGE 5 TO 9 YEARS 21.98 20.99 27.63 46.15 63.94 66.51
4 AGE 10 TO 14 YEARS 22.11 23.70 25.83 43.78 59.95 62.06
5 AGE 15 TO 19 YEARS 24.34 30.08 31.40 41.35 59.11 61.12
6 AGE 20 TO 24 YEARS 24.63 35.15 42.54 49.98 57.06 60.88
7 AGE 25 TO 29 YEARS 18.95 31.44 46.24 56.10 67.58 65.73
8 AGE 30 TO 34 YEARS 15.11 28.79 45.13 57.76 68.23 69.96
9 AGE 35 TO 39 YEARS 13.77 21.89 39.65 60.70 73.13 74.10
10 AGE 40 TO 44 YEARS 13.90 17.18 34.72 55.63 69.27 70.42
11 AGE 45 TO 49 YEARS 13.13 15.17 25.40 46.94 66.65 69.26
12 AGE 50 TO 54 YEARS 11.16 14.45 18.61 38.49 56.55 58.99
13 AGE 55 TO 59 YEARS 9.30 12.94 15.23 26.21 44.56 47.09
14 AGE 60 TO 64 YEARS 7.47 10.17 13.52 17.99 34.95 37.65
15 AGE 65 TO 69 YEARS 5.81 8.33 11.73 14.13 22.83 24.93
16 AGE 70 TO 74 YEARS 4.16 5.87 8.44 11.98 16.18 17.10
8.50 x 11.00 in

Example

Issues:

No idea how projections are made

Cost

- $345 for every county and Metro Area in a particular state
- $995 for entire country

Conclusions

- Always best to have multiple sources of data if possible
- Cost involved with obtaining many sources of data
- Data cleanup still needed after data received
- No substitute for local knowledge

Questions?