

Variables tested/considered in LGA formula analyses

| Variable | Source | Updated | LMC notes from 03 work |
|--|--------------------|----------------|---|
| <u>Ladd: independent variables</u> | | | |
| total part 1 and part 2 crimes per capita | DPS | annually | diff costs for diff crimes? |
| percent of housing over 40 yrs old | Census | 10 years | rolling/fixed date |
| # of accidents on city roads per capita | DPS | annually | |
| cost of living index for county | Census | | border issues |
| number of city-owned lane miles | MnDOT | | |
| population | MN Planning, Met C | annually | # of households--services to households |
| population density per square mile | Census | 10 years | |
| number of heating degree days | | 1 or 5 years | freeze/thaw days--street damage |
| population change, percentage 83-88 | MN Planning, Met C | annually | |
| subsidized family housing units divided by pop | MHFA | ? | federal subsidy? Own vs. rent |
| <u>Ladd: control variables</u> | | | |
| per capita income | Census | biannual | household income |
| tax price, cost to individual of \$1 per cap increase in city spending | | | nonresidential, property impact |
| rental assessed value/total assessed value | MN DOR | annually | tenants don't see full cost |
| household size | Census | 10 years | |
| state general purpose aid--lga and taconite aid | MN DOR | annually | |
| highway aid-state, county, local | | | |
| TIF implicit aid-school tax rate*per capita assessed value in TIF district | MN DOR | annually | assumes all dev. Would occur anyway; assumes that without dev, services would remain same |
| miscellaneous state aids | MN DOR | annually | |
| federal CDBG | | | |
| other federal grants | | | |
| enterprise fund transfers--electric and liquor stores | OSA | annually | |
| firefighters pension aids | | | police, PERA |
| types of city government | | | ward system |
| composition of fire fighters | | | volunteer or contract |
| outside contract for police services | | | level of government providing things like libraries, transit |
| <u>Ladd: admin and misc. expenditures</u> | | | |
| mayor and council | OSA | annually | lag issues with OSA data |
| administration, finance | OSA | annually | |
| general government | OSA | annually | |
| general government, capital outlays (5 year average) | OSA | annually | |
| pension contribution | OSA | annually | |
| insurance expenditures | OSA | annually | |
| miscellaneous | OSA | annually | |
| miscellaneous, capital outlays (5 yr. Avg.) | OSA | annually | |
| user charges-general gov | OSA | annually | |
| user charges-other | OSA | annually | |
| public service enterprises, net income | OSA | annually | |
| public service enterprises, capital outlay | OSA | annually | |
| <u>Ladd: economic and social services expenditures</u> | | | |
| sanitation | OSA | annually | |
| sanitation capital outlays (5 yr. Avg.) | OSA | annually | |

| Variable | Source | Updated | LMC notes from 03 work |
|---|---------------|----------------|----------------------------------|
| health care | OSA | annually | |
| health care, capital outlays (5 yr. Avg) | OSA | annually | |
| library | OSA | annually | |
| library, capital outlays (5 yr. Avg) | OSA | annually | |
| parks and recreation | OSA | annually | |
| parks and recreation, capital outlays (5 yr. Avg) | OSA | annually | |
| housing | OSA | annually | |
| HRA, capital outlays (5 yr. Avg) | OSA | annually | |
| economic development | OSA | annually | |
| user charges, library | OSA | annually | |
| user charges-parks and recreation | OSA | annually | |
| economic dev-pub service enterprise, net income | OSA | annually | |
| economic dev-pub service enterprise-capital outlay | OSA | annually | |
| housing-pub service enterprise-net income | OSA | annually | |
| housing-pub service enterprise-capital outlay | OSA | annually | |
| park and rec-pub service enterprise, net income | OSA | annually | |
| park and rec-pub service enterprise, capital outlay | OSA | annually | |
| sanitation-pub service enterprise, net income | OSA | annually | |
| sanitation-pub service enterprise, capital outlay | OSA | annually | |
| | | | |
| <u>Ladd: public safety expenditures</u> | | | |
| police | OSA | annually | |
| police, capital outlays (5 yr.s avg) | OSA | annually | |
| ambulance | OSA | annually | |
| fire | OSA | annually | |
| fire, capital outlays (5 yr. Avg) | OSA | annually | |
| other public safety | OSA | annually | |
| other public safety, capital outlays (5 yr. Avg) | OSA | annually | |
| ambulance-pub service enterprises, net income | OSA | annually | |
| ambulance-pub service enterprises-capital outlay | OSA | annually | |
| fire-pub service enterprises, net income | OSA | annually | |
| fire-pub service enterprises, capital outlay | OSA | annually | |
| | | | |
| <u>Ladd: transportation expenditures</u> | | | |
| lane miles | MnDOT | annually | |
| street maintenance | OSA | annually | |
| snow removal | OSA | annually | |
| street engineering | OSA | annually | |
| street lighting | OSA | annually | |
| street construction (5 yr. Avg) | OSA | annually | |
| highway | OSA | annually | |
| public service enterprises-net income | OSA | annually | |
| public service enterprises-capital outlay | OSA | annually | |
| | | | |
| <u>Jeff Van Wychen's variables</u> | | | |
| latitude | Census | 10 years | new American community survey? |
| longitude | Census | 10 years | |
| land area square meters | Census | 10 years | |
| water area square meters | Census | 10 years | streets v. costs to serve around |
| households 2000 | Census | 10 years | |
| population 2000 | Census | 10 years | |

| Variable | Source | Updated | LMC notes from 03 work |
|--|---------------|----------------|---|
| population 1990 | Census | 10 years | |
| population density per square mile | Census | 10 years | |
| percent of pop not speaking English well or at all | Census | 10 years | |
| percent of linguistically isolated households | Census | 10 years | no one over 14 with English skills |
| percent of pop not US citizens | Census | 10 years | |
| percent with languages other than English at home | Census | 10 years | |
| new to US in last 5 years | Census | 10 years | |
| new to US in last 10 years | Census | 10 years | |
| median household income | Census | 10 years | |
| median family income | Census | 10 years | |
| per capita income | Census | 10 years | median? |
| percent of pop below poverty level | Census | 10 years | burden? |
| single parent households, percentage of hhs | Census | 10 years | |
| vacant housing units, percent of all units | Census | 10 years | |
| percent rental housing units of occupied units | Census | 10 years | |
| median housing unit age | Census | 10 years | |
| percent of housing pre 1940 | Census | 10 years | |
| percent of housing pre 1960 | Census | 10 years | |
| percent of housing with no indoor plumbing | Census | 10 years | 9500 units in MN |
| percent of pop under 18 | Census | 10 years | kids on school lunch? |
| percent of pop between 18-30 | Census | 10 years | |
| percent of pop over 65 | Census | 10 years | |
| unemployment rate | Census | 10 years | updating, definition |
| JVW index-how diverse employment base is | Census | 10 years | special demands on pub safety |
| percent of hhs with no earnings | Census | 10 years | |
| percent of hhs with public assistance income | Census | 10 years | |
| percent of hhs with interest and dividend income | Census | 10 years | base |
| percent of hhs with retirement income | Census | 10 years | age %s |
| JVW index-ratio of income deficiency to total city income | Census | 10 years | |
| income deficiency per family | Census | 10 years | |
| income def divided by families in poverty | Census | 10 years | |
| percent over 25 with high school diploma | Census | 10 years | |
| percent over 25 with college degree | Census | 10 years | |
| percent of workers over 16 who work and live in city | Census | 10 years | commute in/out, CI, tax exempt-burden measures |
| median earnings of FT workers | Census | 10 years | |
| median earnings of PT workers | Census | 10 years | |
| JVW-housing unit density (# of units in structures larger than 20 units as % of...) | Census | 10 years | |
| median rent | Census | 10 years | |
| median home value | Census | 10 years | |
| overburdened pop (pop outside borders of city for which that city is nearest of its size or larger | Census | 10 years | |
| overburdened pop (limited to 50 mile radius) | Census | 10 years | |
| distance from city to next city of its size or larger (adj for Mpls, St P, Bloom) | Census | 10 years | |
| county seat | | | |
| part 1 crime rate 2000 (% of pop) | MN BCA | annually | |
| total crimes 200 (part 1 and 2, % of pop) | MN BCA | annually | |
| adj net tax capacity per capita 2000 | MN DOR | annually | a la LGA, not TIF, incl fisc disparity, adj for sales ratio |
| market value per capita 2000 | MN DOR | annually | |
| cost to homeowner for increasing city levy \$100 per capita | MN DOR | annually | to property owner? |
| 1998 abstract of exempt property as % of total market value | MN DOR | 4-5 years | |
| decline in pop from peak decennial year to most recent Census | Census | 10 years | |
| revenue base per capita, levy + aids 2000 | MN DOR | annually | |

| Variable | Source | Updated | LMC notes from 03 work |
|---|--------------------|----------------|-------------------------------|
| revenue base per hh, 2000 | MN DOR | annually | |
| city expenditure per capita, 2000 | OSA | annually | |
| city expenditure per hh, 2000 | OSA | annually | |
| commercial/industrial value as percent of total market value 2000 | MN DOR | annually | |
| C/I as % of market value 01-02 change | MN DOR | annually | |
| pop decrease, 1990-2000 | MN Planning, Met C | annually | |
| pop increase, 1990-2000 | MN Planning, Met C | annually | |

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|---|----------------------------|----------|------|
| CORE study variables | | | |
| traffic volume on city owned streets | MnDOT | annually | |
| soil type | MnDOT | | |
| victimization rates by age and sex per 1000 persons | Bureau of Justice | ? | |
| children 0-11 as % of pop | Census | 10 years | |
| males 12-24 as 5 of pop | Census | 10 years | |
| females 12-24 as % of pop | Census | 10 years | |
| males over 24 as % of pop | Census | 10 years | |
| females over 24 as % of pop | Census | 10 years | |
| percent of pop in female-headed households | Census | 10 years | |
| # of non resident workers coming into city | Census | 10 years | |
| retail sales, % over expected for size of city | Mn DOR | annually | |
| lodging, % over expected for size of city | Mn DOR | annually | |
| ISO rating | Insurance Service C | annually | fire |
| fire loss (4 yr avg, adjusted for median home value) | MN State fire marsh | annually | |
| value per property type (res, comm, ind, inst, other) | Mn DOR | annually | |
| hazardous materials weight by city | MN emergency response comm | | |
| median built year of housing units | Census | 10 years | |
| regional centers | CURA study, 1990 | | |
| interest on general debt | | | |

Variables rejected by LADD study (1991 final report)

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| <i>Public safety</i> |
| total calls to fire dept per capita |
| percent of total land area in city not in marsh or water |
| total congestion on all city streets |
| pop in 1988 |
| change in pop 83-88 |
| manufacturing employment per cap |
| commercial employment per cap |
| pop density |
| % of pop in college |
| % of pop in healthcare facility |
| % of pop in prison |
| % of pop that is seasonal |
| poverty rate in 1980 |

| | | | |
|-------------------------------------|--|--|--|
| <i>Economic and social programs</i> | | | |
| private employment per cap | | | |
| manufacturing employment per cap | | | |
| commercial employment per cap | | | |
| construction employment per cap | | | |

| Variable | Source | Updated | LMC notes from 03 work |
|------------------------------------|---------------|----------------|-------------------------------|
| % of pop in college | | | |
| % of pop in healthcare facility | | | |
| annual snowfall | | | |
| heating degree days | | | |
| poverty rate in 1980 | | | |
| % of property that is seasonal | | | twps, overburden |
| housing price index | | | |
| lane miles of city streets per cap | | | |

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|--|--|--|-----------------|
| <i>Transportation</i> | | | |
| manufacturing employment per cap | | | |
| cost of living index | | | |
| annual snowfall | | | |
| % of total land area in city not in water or marsh | | | |
| private employment per cap | | | |
| manufacturing employment per cap | | | |
| commercial employment per cap | | | |
| nonlocal gov employment per cap | | | exempt property |
| construction employment per cap | | | |
| non city-owned lane miles as % of total | | | |

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|---------------------------------|
| <i>Admin and Miscellaneous</i> |
| pop density |
| annual snowfall |
| heating degree days |
| % of pop in college |
| % of pop in healthcare facility |
| % of pop in prison |

| | |
|--|--|
| <u>Variables tested by LMC (early 1990s work)</u> | |
| 5 year op change 83-88 | |
| 10 year pop change 80-90 | |
| 10 year pop increase 80-90 | |
| 10 year pop decrease 80-90 | |
| 30 year pop change 60-90 | |
| marginal tax price on average value home | |
| part1 and part 2 crimes (averages for 89,90,91) | |
| subsidized housing per capita | |
| pop density per acre | |
| total state aid per capita (LGA, eq. Aid, HACA, DRA, taconite aid--1991) | |
| total state aid as percent of revenue base | |
| general purpose state aid per capita (LGA, eq aid, tac aid) | |
| general purpose state aid as percent of revenue base | |
| % of market value classified as non-residential | |
| % of market value classified as commercial | |
| % of market value classified as industrial | |
| % of market value classified as commercial or industrial | |
| % of market value classified as public utility | |
| % of market value classified as apartment | |
| % of market value classified as homestead | |

| Variable | Source | Updated | LMC notes from 03 work |
|--|----------------------|----------------|-------------------------------|
| % of market value exempt from property taxation (1986) | | | |
| Exempt property market value per capita | | | |
| average home market value | | | |
| adjusted net tax capacity per capita | | | |
| 1990 population | | | |
| 1990 households | | | |
| | | | |
| Significant factors in measuring statistical need (for non metro, metro and small cities) | | | |
| percent pre 40 housing | non metro, metro, sc | | |
| 1990 population | metro, sc | | |
| pop decline 80-90 | metro | | |
| pop increase 80-90 | metro | | |
| % of pop over 65 | metro | | |
| 1990 pop per household | sc | | |
| | | | |
| crimes per 1000 pop (avg 88,89,90) | metro | | |
| % single parent households | sc | | |
| | | | |
| % of market value classified as commercial/industrial | non metro | | |
| | | | |
| median per capita income | non metro, sc | | |
| tax capacity per capita | metro, sc | | |
| | | | |
| average home market value | non metro sc | | |
| median family income | metro | | |
| % of households that are rural and farm | sc | | |
| % of households that are mobile homes | sc | | |