

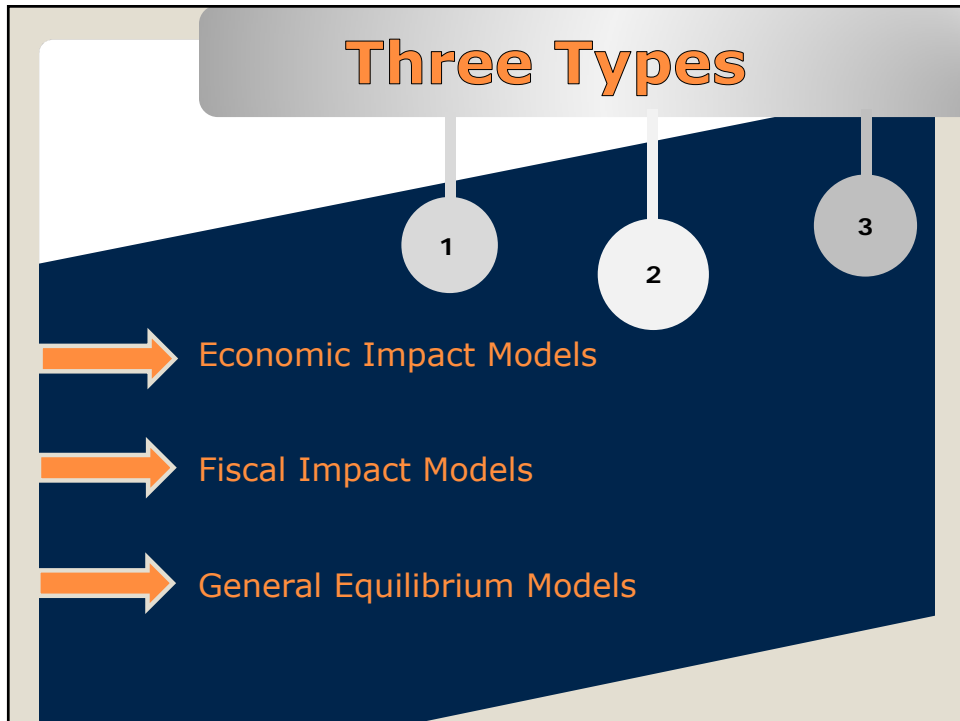
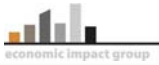
Overview of Economic Models

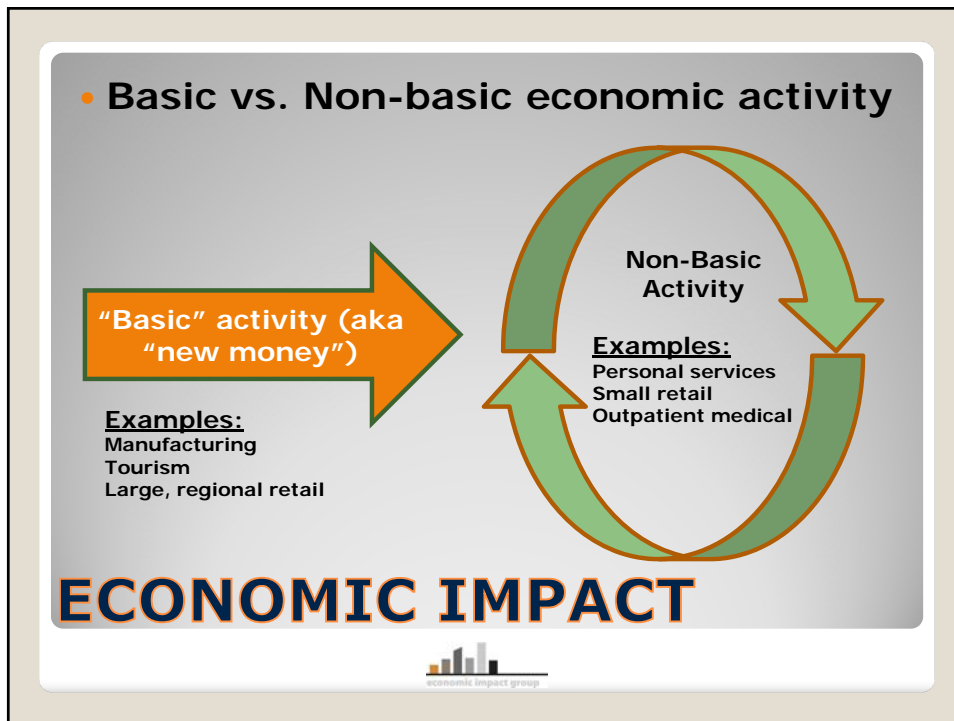
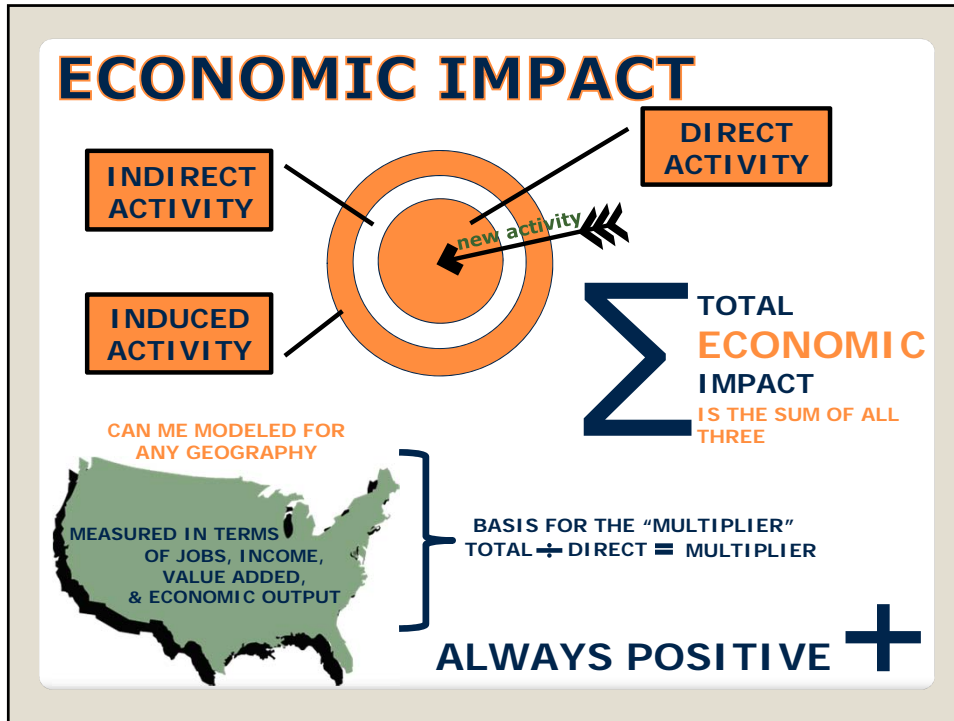
Dr. Alfie Meek

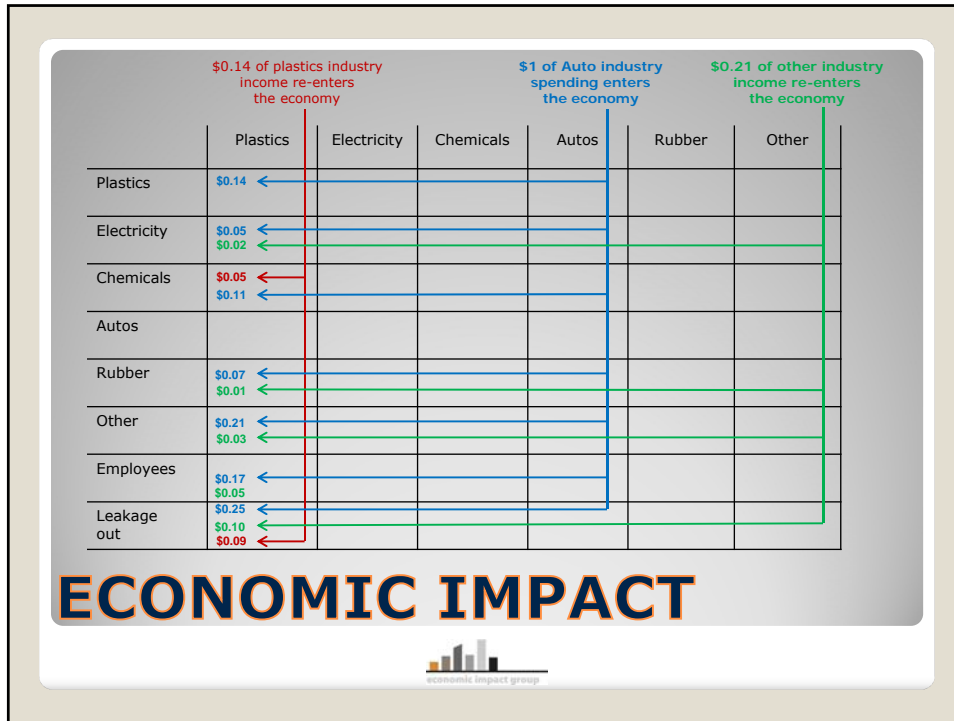
Director
Center for Economic Development Research
Georgia Institute of Technology

President
Economic Impact Group, LLC.

November 14, 2016








- Available software/models
 - IMPLAN (Pro or online)
 - RIMS II
 - EMSI (Economic Modeling Specialists, Inc.)
- ECONOMIC IMPACT**
- economic impact group


FISCAL IMPACT



EXPENSE
EDUCATION
PUBLIC SAFETY
INCENTIVES, ETC.

REVENUE
PROPERTY TAX
SALES TAX
FEES, ETC.

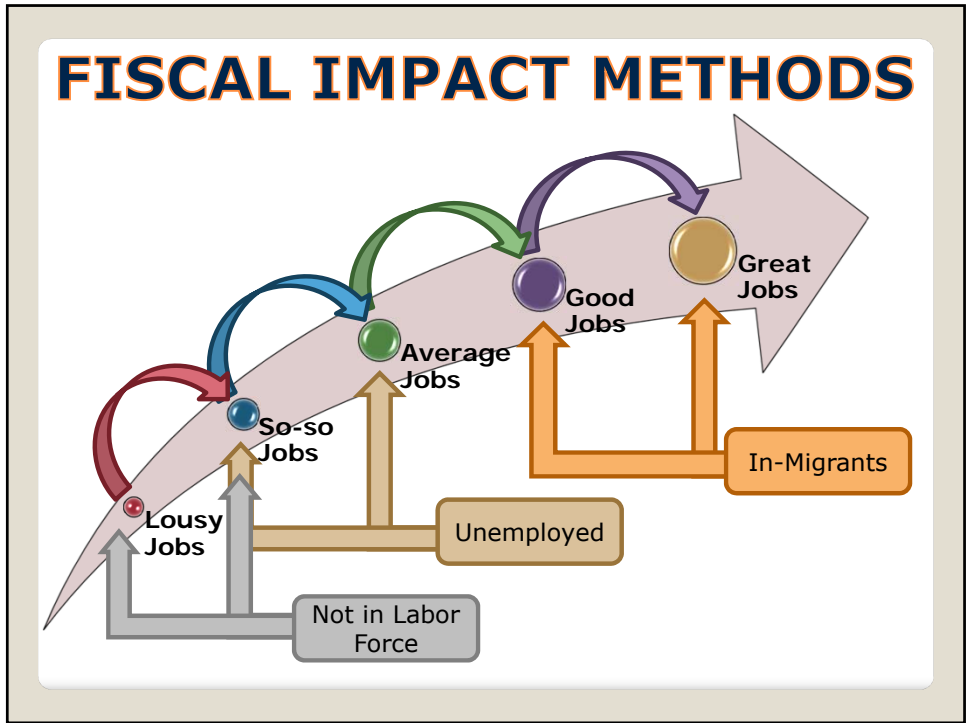
BASED ON SPECIFIC CHARACTERISTICS OF YOUR COMMUNITY:



LAND USE, TAX STRUCTURE,
COMMUTING PATTERNS, SERVICE
DELIVERY, ETC.

± CAN BE POSITIVE OR NEGATIVE!

| | |
|---|---|
| <h2>Myth:</h2> <p>Growth and development mean an increasing tax base and better financial health for the local government.</p> | <h2>Fact:</h2> <p>A growing tax base isn't enough to guarantee financial health. Revenue must grow faster than expenditures.</p> |
|---|---|



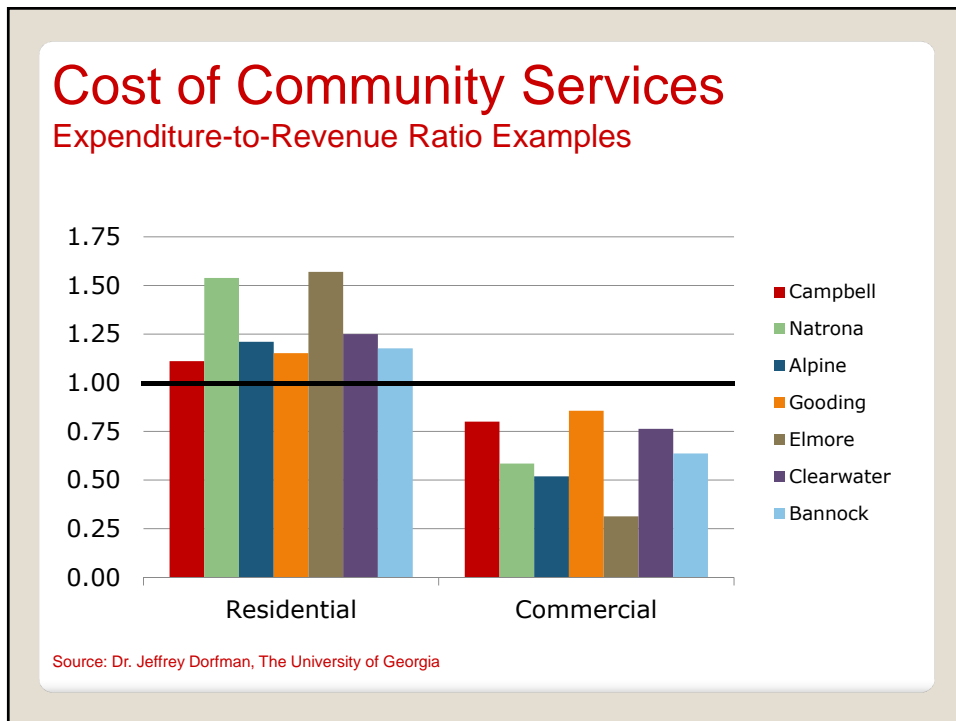
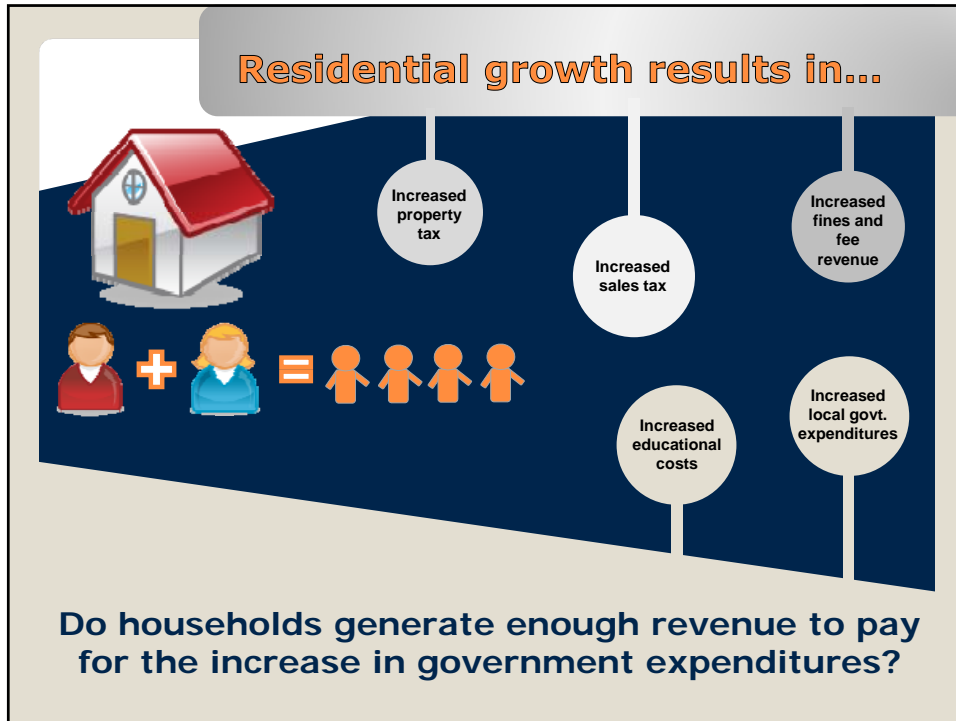
Where will the people live?

$\text{House} + \text{Two People} = \text{One Person}$

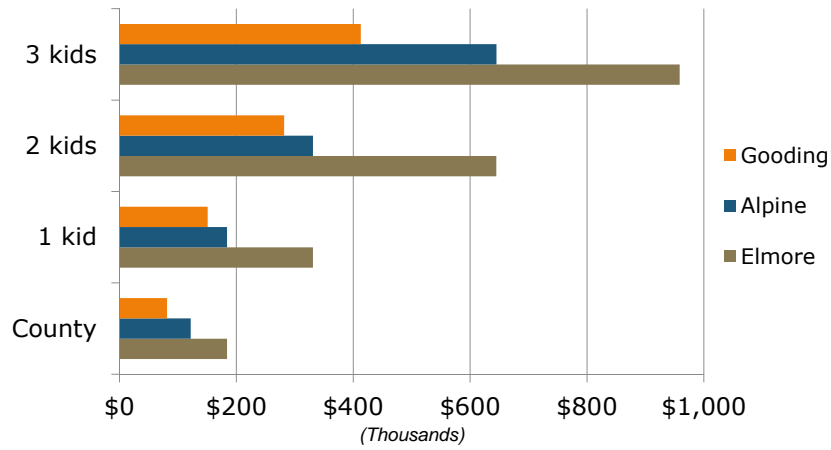
Map showing population distribution around DeKalb County:

- DeKalb County: 175,946
- Surrounding Area: 128,403
- Another Area: 195,023

Your specific commuting patterns significantly impact your service costs.



Cost of Community Services Break-Even Home Value Examples



Source: Dr. Jeffrey Dorfman, The University of Georgia

FISCAL IMPACT METHODS

- Most popular method
- Relatively easy to do
- Requires readily accessible data
- Used when the services being supplied are reasonably close to the level demanded.

- "Best" approach
- Much more difficult
- No existing model does this
- Used when there is excess service capacity or when deficient service capacity exists.

Average Cost

- Per Capita Multiplier
- Proportional Valuation
- Service Standard

Marginal Cost

- Case Study
- Comparable City
- Employment Anticipation

In the long term these will have similar results

FISCAL IMPACT METHODS



REVENUE

What is the ramp-up time-frame?
When will the property be taxable?

EXPENSE

When do the expenses occur?
Front-loaded incentives?
How long are the incentives in place?

What is the Net Present Value (NPV)
of the project?

What is the appropriate discount
rate?

- Available software/models
 - LOCI™ (online)

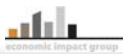


FISCAL IMPACT



- **Available software/models**
- **Impact Data Source**
 - Total Impact 2.0 – Spreadsheet Model
 - Starts at \$6,000 per year
 - Impact Dashboard – Online Model
 - Starts at \$3,500 per year

FISCAL IMPACT



SUMMARY...

ECONOMIC IMPACT IS ABOUT JOBS AND INCOME AND IS ALWAYS POSITIVE

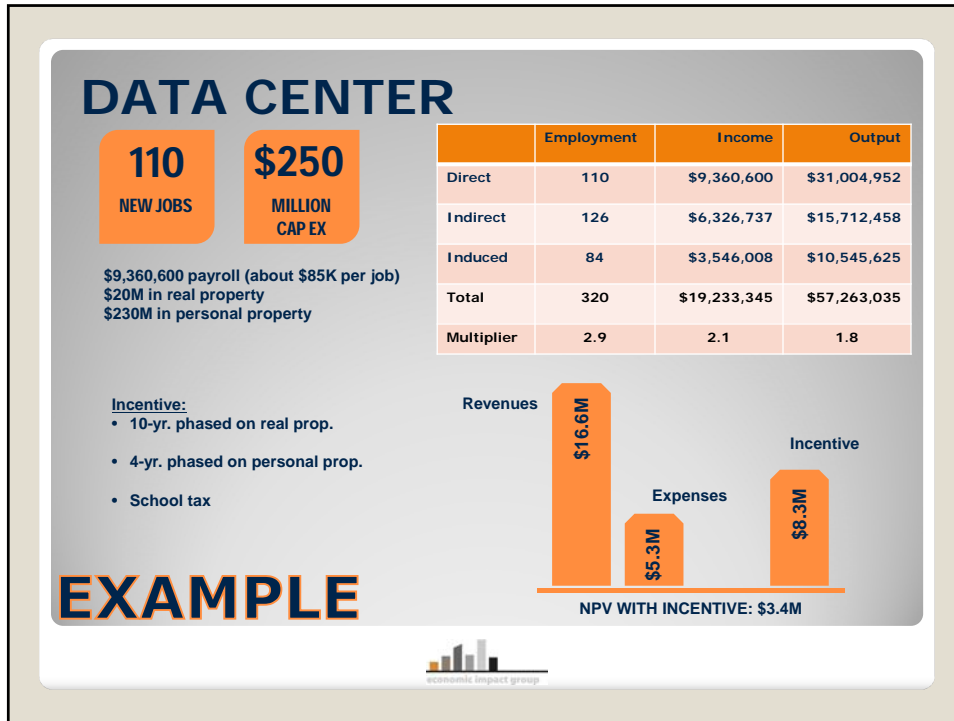
FISCAL IMPACT IS ABOUT GOVERNMENT FINANCES AND CAN BE POSITIVE OR NEGATIVE

QUESTION...

ARE NEW JOBS ALWAYS A GOOD THING?

HIGH WAGE OR LOW WAGE?
NEW HOUSEHOLDS OR PULL FROM EXISTING?
WHERE ARE THE HOUSEHOLDS LOCATED?
WHAT SERVICES WILL BE PROVIDED?
WHO GETS THE PROPERTY TAX?
COST OF INCENTIVES?



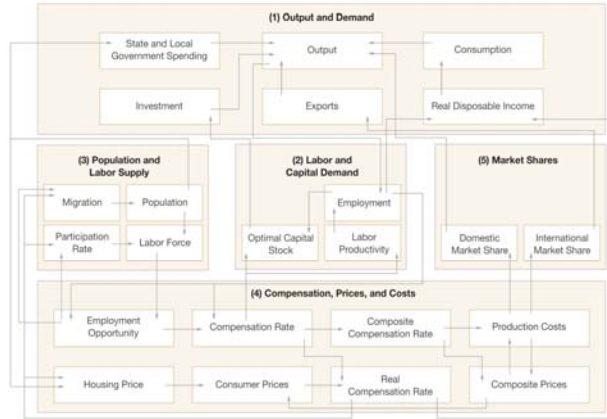


GENERAL EQUILIBRIUM

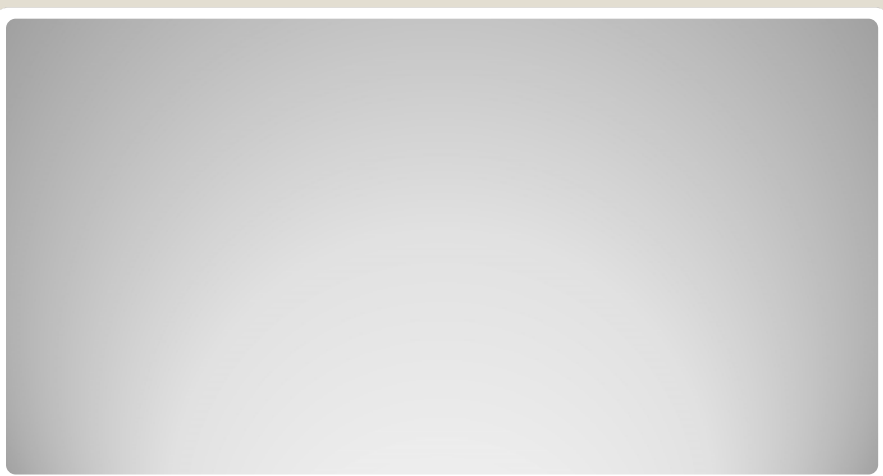
- All prices are variable
- All interactions between markets are taken into account
- Requires that all product and factor markets clear

Great for policy analysis and analysis of capacity or infrastructure changes

GENERAL EQUILIBRIUM



REMI
(Regional Economic Models, Inc.)



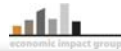
Fiscal Impact Analysis

Communicating Results



- Present revenues by major source
 - Property taxes
 - Sales taxes
 - Utilities
 - Permits/Fees
- Present costs by major functions
 - Operating support
 - Education
 - Public safety
 - Public works
- Present the Net Present Value (NPV)
- Don't get into the weeds on the model

Communicating Results



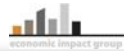
DeKalb County - ABM / Case #1 - Auto Parts - ABM
By Major Category Report Using Total Impacts

| | Year | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--------------------------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| REVENUES | | | | | | | | | | | | |
| Sales Taxes | \$0 | \$10,249 | \$12,298 | \$14,349 | \$20,497 | \$20,497 | \$20,497 | \$20,497 | \$20,497 | \$20,497 | \$20,497 | \$20,497 |
| Property Taxes | \$0 | \$273,341 | \$265,634 | \$256,695 | \$322,547 | \$305,283 | \$296,891 | \$296,130 | \$296,130 | \$296,130 | \$296,243 | \$222,767 |
| Franchise Fees | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Business License/Occupation Tax | \$0 | \$1,961 | \$2,295 | \$2,741 | \$3,982 | \$3,931 | \$3,968 | \$3,968 | \$3,968 | \$3,968 | \$3,968 | \$3,968 |
| Labor License Revenues | \$0 | \$26 | \$59 | \$65 | \$121 | \$143 | \$156 | \$156 | \$156 | \$156 | \$156 | \$156 |
| Alcoholic Beverage Tax Revenues | \$0 | \$62 | \$181 | \$295 | \$377 | \$444 | \$492 | \$492 | \$492 | \$492 | \$492 | \$492 |
| Services | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Revenues from Fines | \$0 | \$731 | \$1,630 | \$2,658 | \$3,304 | \$3,591 | \$4,429 | \$4,429 | \$4,429 | \$4,429 | \$4,429 | \$4,429 |
| Revenues from Permits | \$0 | \$74 | \$167 | \$271 | \$347 | \$408 | \$452 | \$452 | \$452 | \$452 | \$452 | \$452 |
| Miscellaneous Fees | \$25,000 | \$5,817 | \$12,968 | \$21,144 | \$26,998 | \$31,754 | \$35,240 | \$35,240 | \$35,240 | \$35,240 | \$35,240 | \$35,240 |
| Water Revenues | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Wastewater Revenues | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Solid Waste Revenues | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Electric Power Revenues | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Other Utility #1 Revenues | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Other Utility #2 Revenues | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Salvage Value | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| TOTAL REVENUES | \$25,000 | \$292,181 | \$295,252 | \$298,248 | \$378,163 | \$366,451 | \$352,037 | \$331,366 | \$314,204 | \$300,479 | \$298,003 | |
| EXPENDITURES | | | | | | | | | | | | |
| Support | \$2,000,000 | \$264,702 | \$226,881 | \$190,153 | \$230,128 | \$196,164 | \$145,373 | \$106,484 | \$77,569 | \$51,119 | \$27,458 | |
| Education | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Public Works | \$0 | \$1,479 | \$3,296 | \$6,375 | \$9,863 | \$8,272 | \$8,959 | \$8,959 | \$8,959 | \$8,959 | \$8,959 | |
| Recreation/Libraries | \$0 | \$651 | \$1,342 | \$2,156 | \$2,793 | \$3,284 | \$3,644 | \$3,644 | \$3,644 | \$3,644 | \$3,644 | |
| Court System | \$0 | \$1,017 | \$2,268 | \$3,698 | \$4,722 | \$5,554 | \$6,164 | \$6,164 | \$6,164 | \$6,164 | \$6,164 | |
| General Government | \$0 | \$3,273 | \$7,296 | \$11,996 | \$15,190 | \$17,666 | \$19,326 | \$19,326 | \$19,326 | \$19,326 | \$19,326 | |
| Health Services | \$0 | \$709 | \$1,582 | \$2,578 | \$3,292 | \$3,871 | \$4,296 | \$4,296 | \$4,296 | \$4,296 | \$4,296 | |
| Social Welfare | \$0 | \$226 | \$503 | \$821 | \$1,048 | \$1,232 | \$1,367 | \$1,367 | \$1,367 | \$1,367 | \$1,367 | |
| Public Safety | \$0 | \$4,674 | \$10,420 | \$16,990 | \$21,694 | \$25,514 | \$28,315 | \$28,315 | \$28,315 | \$28,315 | \$28,315 | |
| Other Costs | \$0 | \$952 | \$1,643 | \$2,615 | \$3,313 | \$3,778 | \$4,193 | \$4,193 | \$4,193 | \$4,193 | \$4,193 | |
| Other Visitor Costs | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | |
| Water Costs | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | |
| Wastewater Costs | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | |
| Solid Waste Costs | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | |
| Electric Power Production Costs | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | |
| Other Utility #1 Costs | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | |
| Other Utility #2 Costs | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | \$0 | |
| TOTAL EXPENDITURES | \$2,000,000 | \$277,373 | \$255,101 | \$236,212 | \$288,943 | \$255,335 | \$222,137 | \$185,258 | \$154,333 | \$127,883 | \$104,222 | |
| NET REVENUES | \$-1,975,000 | \$14,808 | \$40,101 | \$62,036 | \$89,220 | \$111,116 | \$129,900 | \$146,108 | \$159,871 | \$172,596 | \$183,781 | |
| Present Value of Net Revenues | | \$64,577 | | | | | | | | | | |

Communicating Results

- Be careful with multipliers!!
 - Do not use state-level multipliers for local fiscal impact analysis!
 - Multipliers should be specific to your community!
- Average Cost vs. Marginal Cost
 - Be careful about using average cost modeling if:
 - there exists excess capacity in government services/infrastructure
 - the community has exhausted its capacity (i.e., fast-growing cities).

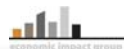
Additional Considerations



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- *The Fiscal Impact Handbook*
 - Robert W. Burchell and David Listokin
- *The New Practitioner's Guide to Fiscal Impact Analysis*
 - Robert W. Burchell, et. al.

Additional Resources



27

- Alfie Meek, Ph.D.
 - Center for Economic Development Research (cedr.gatech.edu)
 - Economic Impact Group, LLC. (www.economicimpact.com)
 - LOCI™ Fiscal Analysis Model (www.lociapp.com)
- Phone: 404.385.1340(w) 678.357.7840(c)
- E-mail: alfie@gatech.edu
alfie@economicimpact.com

Questions?

