URP 290 Fiscal Impact Lectures
Introductions

Readings:
Garrett and Leatherman. An Introduction to State and Local Public Finance. Web Book of the Regional Sciences. Parts I & II.
Swenson and Eathington, A manual for community and fiscal impact modeling systems (pages 1 – 18 only)
Elements of Fiscal Impact Assessment

- A general understanding of the basics of public finance and service provision
- Introduction of spatial dimensions into our assessments – where do people live and where do they work?
- Linking economic impact with spatial possibilities with demands for public goods.
Components of Fiscal Impact Analysis

- Employment Change
- Population Change
- Change in Public Goods Demand and Cost
- Labor Force Growth
When an economy changes

- The number of people in an area changes either plus or minus
- There are a range of other consequences as a result:
  - Housing is needed
  - Local trade characteristics change
  - Demands are placed on local and state-provided goods and services change
  - There are costs and consequences to change that affect public accounts – taxes – (economy of scale – cost generating changes)
  - Changes in the amount of public goods and private goods in an area represent the collective wealth of that region.
Segment 1: Public Finance

Levels of government and levels of government service provision:

We are generally not too worried about federal spending unless we are a state that has an abnormally high dependence on federal transfers (high welfare participation, high commodity supports, large tracts of public lands)
State Governments

The scope of activities undertaken vary somewhat across the states – some are high service, some low, some medium.

The basics of state government activity:

- Highways, bridges, and roads
- Higher education (and transfers to local education)
- Public welfare – state’s share of TANF, Medicaid, SSI support, plus family support services
- Public health – state hospitals and health delivery systems
- Administration of Justice and Corrections – prisons and juvenile justice activities
- Public records
Local Governments

Usually have their own elected governing body:

- School districts
- Municipalities (cities, towns, villages, burghs)
- County governments
- Special districts
Roles of Local Government

Primary and secondary education
Direct services in support of health, safety, and welfare (and sometimes morals).
Essential and discretionary utilities and enterprises
Special purpose districts (mosquito control, drainage, weed control, planning, etc.)
Conventional Roles of Government

Allocation. Providing public goods and services – police, fire, national defense, education. These are done at the local level primarily, and to a degree at the national level.

Distribution. Redistributing resources in order to meet political and social goals. Welfare transfers, cross-subsidies. Most distributive activities are done at the federal level relying on the federal income tax (a progressive tax). States also redistribute resources (aid to education, welfare support). Locals engage in little, comparatively, distributive activity.
Government Roles Continued

**Regulation.** Unregulated, businesses, individuals, and even some governments will engage in self-serving, profiting, or destructive behaviors.

Regulation allows that the costs of business are reflected in the prices that they pay and that individuals and organizations do not jeopardize others in exercising their activities. This is done at all levels, although higher levels of government usually supersede lower levels

– 10th Amendment
– Dillon’s law

**Administration.** Someone has to keep records and books.
Funding Government

• Intergovernmental transfers
  – Federal to
    • State
    • Local
  – State to
    • Local
  – Local
    • Inter-local transfers and contracts
Taxes

Property
Sales and gross receipts
   General sales
   Selective sales
      Motor fuel
      Alcoholic beverage
      Tobacco products
      Public utilities
      Other selective sales
Individual income
Corporate income
Motor vehicle license
Other taxes
Charges and Fees

Current charges

Education
   Institutions of higher education
   School lunch sales (gross)
Hospitals
Highways
Air transportation (airports)
Parking facilities
Sea and inland port facilities
Natural resources
Parks and recreation
Housing and community development
Sewerage
Solid waste management
Other charges
Miscellaneous Revenues

- Interest earnings
- Special assessments
- Sale of property
- Other general revenue
Other Non-General Revenues

Utility revenue
- Water supply
- Electric power
- Gas supply
- Transit

Liquor store revenue

Insurance trust revenue
- Unemployment compensation
- Employee retirement
- Workers' compensation
- Other insurance trust revenue
Iowa State Government FY ‘11 General Revenues

- Intergovernmental: 38%
- Sales & Use Taxes: 18%
- Personal Income Taxes: 17%
- Charges & Fees: 14%
- Other Miscellaneous Sources: 7%
- All Other Taxes: 5%
- Corporation Income Taxes: 1%
- Property Taxes: 0%
Iowa Local Government FY ‘11 General Revenues

Intergovernmental: 37%
Property Taxes: 31%
Sales & Use Taxes: 6%
Charges & Fees: 21%
Other Miscellaneous Sources: 4%
Personal Income Taxes: 1%
Corporation Income Taxes: 0%
All Other Taxes: 0%
Major Spending Categories

Education
- Higher education
- Elementary and secondary
- Other
- Libraries

Transportation
- Highways
- Air Transportation
- Parking
- Sea and inland ports

Social Services
- Public welfare
- Hospitals
- Health
- Veterans
- Employment security

Public Safety
- Police
- Fire
- Correction
- Inspection
Spending Continued

Environment and housing
  Natural resources
  Parks and recreation
  Housing and community development
  Sewerage
  Solid waste

Governmental admin.
  Finance
  Judicial and legal
  Public buildings

Interest payments on debt

Non General Spending on Enterprises
Iowa State Government FY ‘11
General Expenditures

- Social Services & Income Maint.: 50%
- Education: 25%
- Transportation: 9%
- Public Safety: 4%
- Environment & Housing: 4%
- Government Administration: 4%
- All Other NEC: 2%
- Interest on General Debt: 2%
- All Other: 2%
Iowa Local Government FY ‘11
General Expenditures

- Education: 47%
- Social Services & Income Maint.: 14%
- All Other NEC: 8%
- Environment & Housing: 11%
- Transportation: 8%
- Public Safety: 6%
- Government Administration: 4%
- Interest on General Debt: 2%
- Other General Expenditures: 4%
Segment 2: Economies are dynamic

Reading: Swenson and Eathington. A Manual for Community and Fiscal Impact Modeling Systems. PDF is on the web site. Just read the Introduction and Part 1. If you’re interested, you can look at the rest, but we’re not going to do anything else with this.

Questions:
• How does an economy and a community grow?
• What are the constituent portions of the regional labor base?
• What are the factors and forces affecting labor force size?
• What is the likelihood that my population will grow?
• What will it do to my community?
Why are fiscal impacts important?

All economic change has consequences for a community and for its citizens. We care about the

- Kind of jobs that are emerging or disappearing
- The impacts of change in public services – roads, schools, public safety costs.
- We want to know that development will "pay its own way" if not at first, after a reasonable amount of time
We need to use elemental research tools and understandings

Economic activity takes place in space. We need to understand where economic activity is taking place, where residential preferences are, and whether there is a mismatch between growth and the costs of growth or decline and the cost of decline.
There are strong determinants job growth and locational preferences

We’ve already seen the maps –

– Urbanization forces - growth begets growth
– Regional preferences – Mid Atlantic, “Sun Belt,” Rocky Mountain States, Florida, SW and Pacific NW.
– Amenities and culture
– Lifestyle and lifetime opportunity
– Simultaneity of jobs and people change
The Carroll County Conundrum

Carroll County Regional Job and Population Dynamics

- Jobs
- Population

1990 to 2000
- Jobs: 2,786
- Population: (33)

2000 to 2008
- Jobs: 522
- Population: 513

2008 to 2013
- Jobs: (144)
- Population: (71)
Understanding a Labor Force

Labor force = employed + unemployed

But our employed people can be composed, spatially of three types of workers:

1. Those who live and work in their community
2. Those who live in a community but work elsewhere (out-commuters)
3. Those who work in a community but live elsewhere (in-commuters)
Urban Economy

Incommuters

Live and work within

Outcommuters
Rural Economy Near a Trade Center
Isolated Rural Economy

Incommuters

Live and work within

Outcommuters
There are differential local fiscal and social impacts to job growth

They depend on

- Area employment and unemployment
- The overall composition and age of the workforce
- The size of competing regional economies
- The distance to trade centers
- The worth of working
- The value of area public goods and services
  (Tiebout model – people “vote” with their feet)
We are adding 150 jobs to an area, say for an over-subsidized fertilizer plant

Who will / can fill those jobs?

✓ The unemployed
✓ Existing outcommuters
✓ New incommuters
✓ Residents entering the workforce
✓ In-migrants

Only the last one involves a population increase, so gauging the likelihood of in-migrants relative to job growth is very important
Let’s Re-order our Labor Force Formula

Labor Force = Place of work employment
+ Outcommuters
- Incommuters
+ Unemployed

The likelihood of population growth depends on growth in place of work employment caused by inmigration.

The trick, then, is guessing how many new workers will accrue – we do that in the last module
When we do this mathematically

We compute a system of simultaneous equations where, for example

Labor Force \( \Xi \) (Place of Work Employment, Incommuters, Outcommuters, Unemployed)

or

Unemployed \( \Xi \) (Labor Force, Place of Work Employment, Incommuters, Outcommuters)

Where

2. Incommuters = \( f_i(Employment, Contiguous Employment, Contiguous Labor Force) \)

3. Outcommuters = \( f_o(Employment, Contiguous Employment, Contiguous Labor Force) \)

4. Population = \( f_p(Labor Force, Total Participation Rate) \)

5. Enrollment = \( f_e(Labor Force, Male Participation Rate, Female Participation Rate) \)
Gravity becomes an issue

In- and out-commuters depend on the size of your economy and the size of neighboring economies.

Using “gravity” as our mathematical model, then two bodies have attractions to one another based on the product of their size (mass) and distance from one-another squared.

Gravity from an urban area would be strong on a surrounding rural area.
Flow of Workers into Polk County

- Dallas: 19,818
- Warren: 13,472
- Story: 6,548
- Jasper: 4,973
- Marion: 3,190
- Madison: 3,035
- Boone: 2,609
Probability of Working in Polk County by Travel Distance
LABOR FORCE ADJUSTMENT AND FISCAL IMPACTS
What are we doing?

• Economic impacts need to be localized.
• They need to be localized because there is a spatial dimension to the labor force that affects localized job and income gain or loss when the economy changes.
• We use a series of short-hand, but reasonable steps to allocate labor force growth, income growth, and, ultimately, local government revenue and expenditure growth (or decline)
Recap: first we need to understand the labor force

LF = Employed + Unemployed

But, employed people have characteristics.
They can be

– In commuters (incomm)
– Out commuters (outcomm)
– Live and work in the same community (LW)

So we can re-write the equation to be

LF = \text{POWEmp} – \text{incomm} + \text{outcomm} + \text{unemp}
1. Begin with the economic impact summary for jobs and labor income

- **Scenario:** In Indianola, Fred's Veri-Fine Farm Machinery manufacturing firm is expanding production and will need to hire 250 more workers this year.

- Average earnings plus benefits will be **$38,900** a year
- Multipliers: Jobs = **1.81** (IMPLAN multiplier for that county)
- Multipliers: Labor income = **1.55** (IMPLAN multiplier for that county)
So, Continuing On ...

This is a manufacturing firm that will primarily sell to out of county and out of state consumers – i.e., it is a basic industry, thus ...

Initial Expected Economic Impacts

- Jobs = 250 \times 1.81 = 453
- Labor income = $38,900 \times 250 \times 1.55 = $15,073,750
- \(^{(Avg. \ labor \ income \ for \ all \ jobs) = \frac{15,073,750}{453} = $33,275)}\)
But, ...

We need to think of all the ways these jobs can get filled:
- Unemployed person take it (or a person not in workforce enters)
- Someone enters the labor force
- A new incommuter
- An out commuter stops out commuting
- Someone actually moves to your community
2. Now make adjustments for residency (using the On the Map data)

Here we are averaging two probabilities for the city of Indianola, Iowa. Please refer to the following map to see where those numbers come from:

- The first probability is the percentage of jobs in Indianola that are filled by Indianola residents (1663 / 5483 = 30.3 Percent).
- The second probability, is the percentage of all of the people in Indianola who have jobs anywhere in the universe who actually work in Indianola (1663/9085 = 18.3 percent)
- The average is (30.3 + 18.3) / 2 = 24.3 percent
- 453 jobs X .243 = 110 jobs
Indianola’s Labor Force Dynamics?
3. Now make a "good jobs" adjustment

- “Good jobs” are defined as pay in excess of the area average per job.
  - The average earnings for all Warren County jobs in 2011 were $32,823. (From BEA)
  - As shown above the average earnings for all jobs in this scenario were $33,275.
  - So, 33,275/32,823 = 1.014 X 110 jobs = 112 jobs
  - And total Indianola income gains would be $33,275 X 112 = $3,726,800

There is a minor good jobs adjustment in this case as the pay levels are above the area average. I always adjust the initial expected local job gain number (up or down) by the ratio of the difference to get the final expected job growth for the community. My reasoning is that higher earnings enhance the attraction of an area and lower earnings lessen the attraction of an area. We will use the good / bad jobs adjustment again later.
4. Calculate the Fiscal Impacts

• First, you need to get a recent statement of city government revenues and expenditures.
• The best place to go for these data at the city, county, or school district level in my state is the Iowa Department of Management, as they approve all local government budgets.

**This is the URL for the city budget data:**

[http://www.dom.state.ia.us/local/city/budget_search/index.html](http://www.dom.state.ia.us/local/city/budget_search/index.html)
We are looking at FY ‘11 Financial Date for Indianola

<table>
<thead>
<tr>
<th>Fiscal Years</th>
<th>BUDGET 2013 (J)</th>
<th>RE-ESTIMATED 2012 (K)</th>
<th>ACTUAL 2011 (L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Form 635.2A</td>
<td>Department of Management</td>
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<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Fiscal Years</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Revenues &amp; Other Financing Sources</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Taxes Levied on Property</td>
<td>5,123,062</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Less: Uncollected Property Taxes-Levy Year</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Net Current Property Taxes</td>
<td>5,123,062</td>
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<tr>
<td>9</td>
<td></td>
<td>TIF Revenues</td>
<td>997,000</td>
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<tr>
<td>10</td>
<td></td>
<td>Other City Taxes</td>
<td>177,929</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>Licenses &amp; Permits</td>
<td>131,600</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>Use of Money and Property</td>
<td>806,100</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>Intergovernmental</td>
<td>1,875,200</td>
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<tr>
<td>14</td>
<td></td>
<td>Charges for Fees &amp; Service</td>
<td>17,966,600</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>Special Assessments</td>
<td>107,300</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>Miscellaneous</td>
<td>2,323,800</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>Sub-total Revenues</td>
<td>29,528,581</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>Expenditures &amp; Other Financing Uses</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>Public Safety</td>
<td>4,129,800</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>Public Works</td>
<td>1,392,900</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>Health and Social Services</td>
<td>0</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td>Culture and Recreation</td>
<td>2,249,900</td>
</tr>
<tr>
<td>23</td>
<td></td>
<td>Community and Economic Development</td>
<td>282,400</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>General Government</td>
<td>1,353,500</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>Debt Service</td>
<td>2,147,000</td>
</tr>
<tr>
<td>26</td>
<td></td>
<td>Capital Projects</td>
<td>19,992,100</td>
</tr>
<tr>
<td>27</td>
<td></td>
<td>Total Government Activities Expenditures</td>
<td>31,547,600</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Business Type Proprietary Enterprise &amp; ISF</td>
<td>24,652,700</td>
</tr>
<tr>
<td>29</td>
<td></td>
<td>Total Gov &amp; Bus Type Expenditures</td>
<td>56,200,300</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>Total Transfers Out</td>
<td>10,295,600</td>
</tr>
<tr>
<td>31</td>
<td></td>
<td>Total ALL Expenditures/Fund Transfers Out</td>
<td>66,495,900</td>
</tr>
<tr>
<td>32</td>
<td></td>
<td>Excess Revenues &amp; Other Sources Over (Under) Expenditures/Transfers Out</td>
<td>-13,032,206</td>
</tr>
<tr>
<td>33</td>
<td></td>
<td>Continuing Appropriation</td>
<td>0</td>
</tr>
<tr>
<td>34</td>
<td></td>
<td>Beginning Fund Balance July 1</td>
<td>27,083,158</td>
</tr>
<tr>
<td>35</td>
<td></td>
<td>Ending Fund Balance June 30</td>
<td>14,059,495</td>
</tr>
</tbody>
</table>
The previous table needs to be translated for our modeling purposes. We want Own Source receipts. First we get rid of all intergovernmental receipts. Next we just focus on regular own sources – taxes, licenses, charges, fees, & miscellaneous. We exclude things that are not regular receipts for general government operations. That leaves me with $23.1 million

<table>
<thead>
<tr>
<th>Indianola FY '11</th>
<th>Revenue</th>
<th>Modified Own Source</th>
<th>Percent of Total Personal Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Taxes</td>
<td>Yes</td>
<td>4,836,322</td>
<td>4,836,322.0</td>
</tr>
<tr>
<td>TIF Revenues</td>
<td>No: Money not available to general fund</td>
<td>865,761</td>
<td>-</td>
</tr>
<tr>
<td>Other City Taxes</td>
<td>Yes</td>
<td>182,744</td>
<td>182,744.0</td>
</tr>
<tr>
<td>Licenses &amp; Permits</td>
<td>Yes</td>
<td>197,339</td>
<td>197,339.0</td>
</tr>
<tr>
<td>Use of Money and Property</td>
<td>No: arbitrage, etc.</td>
<td>873,436</td>
<td>-</td>
</tr>
<tr>
<td>Intergovernmental</td>
<td>No: Not Own Source -- State &amp; federal receipts</td>
<td>2,023,119</td>
<td>-</td>
</tr>
<tr>
<td>Charges for Fees &amp; Services</td>
<td>Yes</td>
<td>15,787,065</td>
<td>15,787,065.0</td>
</tr>
<tr>
<td>Special Assessments</td>
<td>No: Project specific</td>
<td>130,963</td>
<td>-</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>Yes</td>
<td>2,098,922</td>
<td>2,098,922.0</td>
</tr>
<tr>
<td>Other Financing Sources</td>
<td>No: likely the proceeds of bonds</td>
<td>15,892,104</td>
<td>-</td>
</tr>
<tr>
<td>Actual Own Source Revenues</td>
<td>====&gt;</td>
<td>40,864,656</td>
<td></td>
</tr>
<tr>
<td>Modified Own Source Revenues</td>
<td>====&gt;</td>
<td>23,102,392</td>
<td></td>
</tr>
</tbody>
</table>
Next we need to estimate total personal income for the City of Indianola. This is a two step process that uses both ACS data for the City and the County, and BEA data for the County.

<table>
<thead>
<tr>
<th>Description</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal income (thousands of dollars)</td>
<td>1,892,467</td>
</tr>
<tr>
<td>Population (persons) 1/</td>
<td>46,732</td>
</tr>
<tr>
<td>Per capita personal income (dollars) 2/</td>
<td>40,496</td>
</tr>
</tbody>
</table>

We are going to allocate $1.89 billion in county total personal income into the City of Indianola using ACS information on population and per capita money income

2. Warren County Per Capita **Money Income**      | 29,045     |
   1. X 2.                                          | 1,342,605,125|
4. Indianola Per Capita **Money Income**          | 24,728     |
   3. X 4.                                          | 365,529,296|
5. Indianola’s share of county                    | 27.2%      |

**Indianola's Share of BEA personal income ($000).** This becomes the denominator for estimating the percentages of personal income for the modified own source impact estimates

| $                                          | 515,231,260 |
5. The Percent of Total Income factors are then multiplied times the total income impact for Indianola from the economic impact evaluation to arrive at the modified own source revenue impacts. So, $33,275 in income per job X 112 total Indianola residential jobholders = $3,726,800 in total personal income gains for those workers.

<table>
<thead>
<tr>
<th>Indianola FY '11</th>
<th>Revenue</th>
<th>Modified Own Source</th>
<th>Percent of Total Personal Income</th>
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<tbody>
<tr>
<td>Property Taxes Yes</td>
<td>4,836,322</td>
<td>4,836,322.0</td>
<td>0.939%</td>
</tr>
<tr>
<td>TIF Revenues No: Money not available to general fund</td>
<td>865,761</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Other City Taxes Yes</td>
<td>182,744</td>
<td>182,744.0</td>
<td>0.035%</td>
</tr>
<tr>
<td>Licenses &amp; Permits Yes</td>
<td>197,339</td>
<td>197,339.0</td>
<td>0.038%</td>
</tr>
<tr>
<td>Use of Money and Property No: arbitrage, etc.</td>
<td>873,436</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Intergovernmental No: Not Own Source -- State &amp; federal receipts</td>
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<td>-</td>
<td></td>
</tr>
<tr>
<td>Charges for Fees &amp; Services Yes</td>
<td>15,787,065</td>
<td>15,787,065.0</td>
<td>3.064%</td>
</tr>
<tr>
<td>Special Assessments No: Project specific</td>
<td>130,963</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous Yes</td>
<td>2,098,922</td>
<td>2,098,922.0</td>
<td>0.407%</td>
</tr>
<tr>
<td>Other Financing Sources No: likely the proceeds of bonds</td>
<td>15,892,104</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Actual Own Source Revenues ===> 40,864,656
Modified Own Source Revenues ===> 23,102,392 4.484%
Hence, ...

<table>
<thead>
<tr>
<th>Indianola FY '11</th>
<th>Revenue</th>
<th>Modified Own Source</th>
<th>Percent of Total Personal Income</th>
<th>Modified Own Source Revenue Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Taxes</td>
<td>4,836,322</td>
<td>4,836,322.0</td>
<td>0.939%</td>
<td>$34,982.36</td>
</tr>
<tr>
<td>TIF Revenues</td>
<td>865,761</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other City Taxes</td>
<td>182,744</td>
<td>182,744.0</td>
<td>0.035%</td>
<td>$1,321.83</td>
</tr>
<tr>
<td>Licenses &amp; Permits</td>
<td>197,339</td>
<td>197,339.0</td>
<td>0.038%</td>
<td>$1,427.40</td>
</tr>
<tr>
<td>Use of Money and Property</td>
<td>873,436</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Intergovernmental</td>
<td>2,023,119</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Charges for Fees &amp; Services</td>
<td>15,787,065</td>
<td>15,787,065.0</td>
<td>3.064%</td>
<td>$114,191.89</td>
</tr>
<tr>
<td>Special Assessments</td>
<td>130,963</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>2,098,922</td>
<td>2,098,922.0</td>
<td>0.407%</td>
<td>$15,182.04</td>
</tr>
<tr>
<td>Other Financing Sources</td>
<td>15,892,104</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>40,864,656</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Modified Own Source Revenues</strong></td>
<td><strong>23,102,392</strong></td>
<td><strong>4.484%</strong></td>
<td></td>
<td><strong>$167,105.53</strong></td>
</tr>
</tbody>
</table>
What do we end up with?

• Given a job change of just 112 and labor earnings growth of just under $3,726,800, and given the nature of modified own source revenues, the community would be expected to realize $167,105.53 in city receipts.

• As the average pay of the “growth” was a little above the regional average pay for all workers (the good jobs adjustment factor of 1.014), we assume a modicum of revenue gain above average demand, or $167,105.53 \times 0.014 = $2,339.
So, let’s take an economic impact analysis trip ….

• New company coming to town: 250 jobs @ $38,900 per job = $9,725,000

• With job and income multipliers total jobs grow to 453 and regional income grows to $15,073,750

• But after making a range of reasonable adjustments, citywide gains are 112 jobs, $3.727million in TPI, and $2,339 in potential surplus city government revenues.
USING FISCAL IMPACT TECHNIQUES TO UNDERSTANDING REGIONAL HOUSING DEMAND

Dave Swenson, Department of Economics, Iowa State University
Let’s build a corn processing wet mill and adjacent bioproducts manufacturing in Ft. Dodge

• The immediate supposition is that there will be housing issues
  – Quantity
  – Quality
  – Regional competition for homeowners

• How do you plan for this given a regional labor supply and a regional housing market?
• Especially in light of the current housing market?

Dave Swenson, Department of Economics, Iowa State University
First the Webster Co. population and housing picture, 2000 to 2010

- Population: -5.5%
- Housing Units: 0.4%
- Occupied Units: -1.9%
- Vacant Units: 33.4%

Dave Swenson, Department of Economics, Iowa State University
And here’s a snapshot of this decade

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>19187</td>
<td>Webster County</td>
<td>38,013</td>
<td>37,216</td>
<td>36,955</td>
</tr>
<tr>
<td>1928515</td>
<td>Fort Dodge</td>
<td>25,206</td>
<td>24,767</td>
<td>24,594</td>
</tr>
</tbody>
</table>
Understanding Regional Labor Markets and Housing: Ft. Dodge

Dave Swenson, Department of Economics, Iowa State University
Understanding Regional Labor Markets and Housing: Webster County

Dave Swenson, Department of Economics, Iowa State University
In the face of welcomed industrial development – how much housing will be needed?

Step 1 – Pertinent Facts

– Growth in biofuels & related manufacturing promises 295 jobs paying, on average, $55,200 in total earnings for 2014.

– The manufacturing (primarily export production) jobs will have a multiplier effect

– This is a spatially distributed labor market – stated differently, a worker in Ft. Dodge is much more likely to live outside of Ft. Dodge than in the city.
Step 2: Calculate and apply the jobs multiplier

- This area does not have two of the industries that are being developed, so to estimate the economic impacts I applied the Cargill / Ajinomoto / Wacker coefficients that I did recently for Eddyville, IA.
- Using those multipliers, I generously allow that there may be as many as 900 total jobs supported regionally by this industrial development when everything is at full production.
- There would also be $35.359 million in total labor income (earnings) supported considering jobs at the plant and all “ripple” or multiplier effects.
- That works out to $39,288 per job (remember, this is for all jobs after the multipliers have been considered, not just the factory jobs).

Dave Swenson, Department of Economics, Iowa State University
Step 3: Make a good jobs adjustment

How do average earnings compare to the regional average?

– If the average impacts boost earnings per job higher than the prevailing values, then we would assume a greater likelihood of in-migration.

– The average earnings per job in 2013 in Webster County were $51,561 per job: adjusting for inflation and bringing the value to 2014 (Xs 1.0162), that value grows to $52,396.

– The “good jobs” adjustment is $39,288/ $52,396 = .75

Dave Swenson, Department of Economics, Iowa State University
Step 4: Probability of Living and Working in Webster County

Already showed those values.

– The likelihood of a job in Webster County being filled by a Webster County resident

And

– The likelihood that an employed person living in Webster County has a job in Webster County

Thus,

– \( \frac{9,790}{17,984} = 54.4 \text{ percent} \) of local jobs are filled by Webster County residents

– \( \frac{9,790}{15,217} = 64.3 \text{ percent} \) of Webster County residents with jobs work in the county

– The average of the two is 59.4 percent

Dave Swenson, Department of Economics, Iowa State University
Step 5. Residential Job Holders

900 jobs × live & work probability of 59.4 percent = 535 jobs

535 jobs × a “good jobs” adjustment of .75 = **401 jobs** requiring housing in Webster Co.
New Step 6: How many households does that equate to?

- In 2013, there were 15,217 total jobs payroll jobs somewhere in the cosmos held by Webster County residents. (9,720 who live and work in Webster Co. & 5,427 who outcommute – see the On the Map figure previously)

- In the 2009 to 2013 ACS data-Table S2502, 26% of householders were over 65: thus, there were 15,458* .74=11,439 households that did not have a person 65 or older.

- The ratio of residential jobholders to householders is \[\frac{15,217}{11,439} = 1.33\]

- Thus, I expect Webster County to need 401 jobs / 1.33 = 302 households, and each household needs a housing unit.

- Finally, in 2009 to 2013 ACS data (DP04), there were 1,537 vacant housing units in the county (9% of the total stock).
Does Webster County or the Surrounding Region Have a Looming Housing Shortage?

Again, how many ways can a job be filled?

1. A local unemployed or underemployed person can take the job

2. A person from another county can commute in to take the job

3. A person from Webster County who currently out-commutes could take the job

4. A person from Webster County might quit an existing job and take a new job

5. A person from Webster County could enter the labor force and take the job

6. A person could move from outside of Webster County into the county to take the job
Housing Compared to Population Change, 2000 to 2010

<table>
<thead>
<tr>
<th>U.S.</th>
<th>Iowa</th>
<th>Metro</th>
<th>Other Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.7%</td>
<td>4.1%</td>
<td>10.1%</td>
<td>-2.3%</td>
<td>-5.4%</td>
</tr>
<tr>
<td>13.6%</td>
<td>8.4%</td>
<td>14.1%</td>
<td>2.7%</td>
<td>0.2%</td>
</tr>
</tbody>
</table>

Dave Swenson, Department of Economics, Iowa State University
Where does the government come in?

1. The government addresses market failures that relate to housing
   - Slums, blight, degradation, safety
   - Generally, communities use their police powers

2. The government provides housing or types of housing for persons to whom the market is indifferent or unable to provide adequate stocks
   - The disabled / persons living with mental illness
   - The poor
   - Elderly populations
   - Minorities, foreign born, and refugees
   - Persons with HIV / AIDs
   - Victims of domestic violence
   - Disaster victims
   - Economic homelessness

Dave Swenson, Department of Economics, Iowa State University