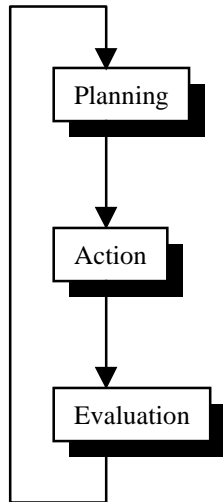


Cost Accounting and the Detroit Scenario of SimCity Classic

Using Cost Accounting to improve decisions when playing the
computer simulation game, SimCity Classic.

Richard Chambers

Cost Accounting in SimCity



- Accounting systems provide information for five broad purposes
 - formulating overall strategies and long range plans
 - resource allocation decisions such as product and customer emphasis
 - cost planning and cost control
 - performance measurement
 - meeting external regulatory and legal reporting obligations
- Cost accounting measures and reports information concerning acquisition or consumption of resources.

1973 City Evaluation for Detroit

| | |
|--|--|
| <p>Is the mayor doing a good job?</p> <p>68 % YES 32 % NO</p> | <p>STATISTICS</p> <p>Population 79,420 Net Migration (last year) 3,300 Assessed Value \$ 72,090,000 Category: CAPITAL Game Level: Easy Overall City Score (0-1000) Current Score / Annual Change 662 -64</p> |
|--|--|

What are the worst problems?

- 19 % Crime
- 13 % Taxes
- 7 % Housing Costs
- 6 % Pollution

OK

1973 Fiscal Budget

TAX RATE ▲ % 7 ▼

TAXES COLLECTED \$ 2,224

| | Amount Requested | Amount Allocated | Funding Level |
|--------|------------------|------------------|---------------|
| Trans | \$ 2,476 | \$ 2,476 | ▲ % 100 ▼ |
| Police | \$ 300 | \$ 300 | ▲ % 100 ▼ |
| Fire | \$ 700 | \$ 700 | ▲ % 100 ▼ |

CASH FLOW \$ - 1,252

PREVIOUS FUNDS \$ 18,748

CURRENT FUNDS \$ 17,496

GO WITH THESE FIGURES

Tax Revenue Dependencies

$$\text{Tax Revenue} = \text{Population} \times \text{Land Value} \times \text{Tax Rate} \times \text{Scaling Factor}$$

Tax Rate
0% - 6%

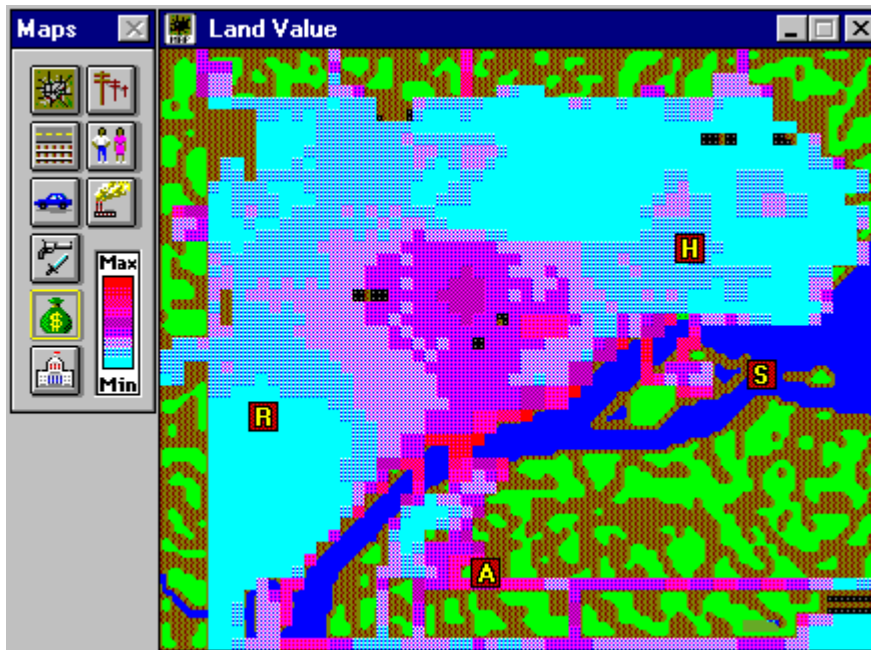
Effect
Fast growth in all zones.
Diminished Tax Revenues.

Tax Rate
7% - 9%

Effect
Slows growth in all zones.
Steady Tax Revenues.

Tax Rate
10% - 20%

Effect
All zones decline.
High initial Tax Revenues
diminishes thereafter.



Increases Land Value

Water front
Trees and Parks
Proximity to city center

Decreases Land Value

Crime
Pollution
Trip Distance



Yearly City Budget

| 1973 Fiscal Budget | | | |
|------------------------------|------------------|---------------|--|
| TAX RATE | | ▲ % 7 ▼ | |
| TAXES COLLECTED | | \$ 2,224 | |
| Amount Requested | Amount Allocated | Funding Level | |
| Trans \$ 2,476 | \$ 2,476 | ▲ %100 ▼ | |
| Police \$ 300 | \$ 300 | ▲ %100 ▼ | |
| Fire \$ 700 | \$ 700 | ▲ %100 ▼ | |
| CASH FLOW \$ - | | 1,252 | |
| PREVIOUS FUNDS \$ | | 18,748 | |
| CURRENT FUNDS \$ | | 17,496 | |
| GO WITH THESE FIGURES | | | |

Yearly Costs and Cost Centers

| | |
|--------|---------------------------------|
| Police | \$100 per year per station |
| Fire | \$100 per year per station |
| Trans | Varies depending on type |
| | Road - \$1 per year per tile |
| | Bridge - \$4 per year per tile |
| | Rail - \$2 per year per tile |
| | Tunnel - \$10 per year per tile |

Additional Budget for Civic Improvements

| | |
|----------------|--|
| New Zones | \$100 (Industrial, Residential, Commercial) |
| Police/Fire | \$500 (per station) |
| Transportation | Varies depending on type |
| | Road - \$10 per tile |
| | Bridge - \$50 per tile |
| | Rail - \$20 per tile |
| | Tunnel - \$100 per tile |
| Utilities | Power lines on land - \$5 per tile |
| | Power lines on water - \$25 per tile |
| | Power station: Coal - \$3,000; powers 30 zones |
| | Power station: Nuclear - \$5,000; powers 150 zones |

Overview of the Detroit Scenario

- Scenario Description: Detroit, Michigan circa 1972
 - Due to changes in external consumer demand, the city industrial base is in decline
 - crime is on the increase
 - the city is experiencing a negative cash flow
 - the city is starting a major downturn in employment



$$\text{Employment Rate} = \frac{\text{Commercial Pop} + \text{Industrial Pop}}{\text{Residential Pop}}$$

$$\text{Tax Revenue} = \text{Population} \times \text{Land Value} \times \text{Tax Rate} \times \text{Scaling Factor}$$

Strategic and Operational Objectives

- Strategic Objectives
 - Improve cash flow
 - Improve tax revenue
 - Reduce crime
 - Move city economy from industrial based to commercial based
- Operational Objectives
 - Positive cash flow by Jan 1976 (3 years)
 - Cut Transportation Dept budget by 25% by Jan 1974 (1 year)
 - Remove unnecessary rail and road capacity to reduce costs
 - Rezone waterfront areas from Industrial to Commercial and Residential to improve land value and increase tax revenues
 - Increase number of Police stations from 3 to 6 for adequate coverage and city wide crime suppression
 - Reduce taxes to improve growth: goal is 6% by Jan 1977 (4 years)
 - Improve land values through out the city by rezoning and using parks to improve land values