

# DOCUMENT RESUME

ED 075 261

SE 016 100

TITLE Coding Instructions, Worksheets, and Keypunch Sheets for M.E.T.R.O.-APEX Simulation.

INSTITUTION Michigan Univ., Ann Arbor. Environmental Simulation Lab.

PUB DATE [73]

NOTE 71p.

EDRS PRICE MF-\$0.65 HC-\$3.29

DESCRIPTORS Air Pollution Control; Codification; \*Computer Programs; \*Environmental Education; \*Instructional Materials; Management Games; Pollution; Professional Training; Role Playing; \*Simulation; Worksheets

IDENTIFIERS \*METRO APEX

## ABSTRACT

Compiled in this resource are coding instructions, worksheets, and keypunch sheets for use in the M.E.T.R.O.-APEX simulation, described in detail in documents ED 064 530 through ED 064 550. Air Pollution Exercise (APEX) is a computerized college and professional level "real world" simulation of a community with urban and rural problems, industrial activities, and air pollution difficulties. Persons using these sheets for game play will find it necessary to prepare duplicate copies of many of them, as indicated in the manuals for the game director and various players. (BL)

ED 075261

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CODING INSTRUCTIONS, WORKSHEETS, AND KEYPUNCH SHEETS

FOR M.E.T.R.O.-APEX SIMULATION

Service Division  
Environmental Simulation Lab.  
The University of Michigan

This document contains coding instructions, worksheets, and keypunch sheets for use in the M.E.T.R.O.-APEX simulation, described in detail in documents ED 064 530 through ED 064 550. Those using these sheets for game play will find it necessary to prepare duplicate copies of many of them, as indicated in manuals for game director and various players.

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INSTRUCTIONS TO COMPUTER OPERATOR

Game Director \_\_\_\_\_

Date Received \_\_\_\_\_

Computer Operator \_\_\_\_\_

Cycle Number \_\_\_\_\_

ADD CAPITAL PROJECTS AND/OR SPECIAL PROGRAMS \_\_\_\_\_

\*\*\*PRESENT IDENT IS " \_\_\_\_\_ "

ENTER NEW DATE \_\_\_\_\_

TO PRINT APEX FILE CONTENTS \_\_\_\_\_

TO ENTER VALUES INTO VARIABLE FILES

File	Record	Element	I=1/R=0	Integer	Real
__ / __	__ / __	__ / __	__ / __	__ / __	__ / __
__ / __	__ / __	__ / __	__ / __	__ / __	__ / __
__ / __	__ / __	__ / __	__ / __	__ / __	__ / __

TO SUPPRESS ALL PRINT THIS CYCLE \_\_\_\_\_

ENTER NUMBERS OF PLAYING DEVELOPERS \_\_\_\_\_

ENTER NUMBERS OF PLAYING INDUSTRIALISTS \_\_\_\_\_

EXOFIRMS

Exofirm No.	SW 10 Option Force into AA	If Pol's fail to satisfy		If Dev's fail to satisfy	
		Force into AA	Bypass	Force into AA	Bypass

NEW US EMPLOYMENT GROWTH RATE (F5.0) \_\_\_\_\_

ENTER ADDITIONAL EXOGENOUS EMPLOYMENT

AA	Ind=1 Bur=2	No. Empl.	Added to Tax Base (F10.0)	Acres (F5.0)
___	/	___	/	___
___	/	___	/	___

PRINT TOMM START PICTURE \_\_\_\_\_ PRINT TOMM FINAL DIAG PICTURE \_\_\_\_\_

SUPPRESS PLANNERS TABLES \_\_\_\_\_

SUPPRESS APCO OUTPUT \_\_\_\_\_

CHANGE PUBLIC'S SENSIVITY TO ODOR AND SMOKE (5F5.2)

\_\_\_ . \_\_\_ / \_\_\_ . \_\_\_ / \_\_\_ . \_\_\_ / \_\_\_ . \_\_\_ / \_\_\_ . \_\_\_

PRINT ALL DIFFUSION OUTPUT FOR OPERATOR \_\_\_\_\_

ENTER 'BACKGROUND' POLLUTION LEVELS (5F6.0)

	Particulates	SO <sub>2</sub>	CO	NO <sub>x</sub>	HC
Winter	___	/	___	/	___
Spring	___	/	___	/	___
Summer	___	/	___	/	___
Autumn	___	/	___	/	___

SUPPRESS DEVELOPERS OUTPUT \_\_\_\_\_

SUPPRESS INDUSTRIALISTS OUTPUT \_\_\_\_\_

OVERRIDE AUTOMATIC DIVIDEND CALCULATION \_\_\_\_\_

	% of Net Worth	% of Net Profit	Cash Carryover	Cash Increase	Dollar Amount
Ind. #1					
Ind. #2					
Ind. #3					
Ind. #4					
Ind. #5					
Ind. #6					
Ind. #7					

SUPPRESS CITY POLITICIAN OUTPUT \_\_\_\_\_ SUPPRESS COUNTY OUTPUT \_\_\_\_\_

PRINT JURISDICTIONS \_\_\_\_\_

SUPPRESS CITY PLANNER OUTPUT \_\_\_\_\_ SUPPRESS COUNTY PLANNER OUTPUT \_\_\_\_\_

PRINT RECOMMENDATIONS FOR JURISDICTIONS \_\_\_\_\_

SUPPRESS PERCENTAGE DISTRIBUTION CHART \_\_\_\_\_

SUPPRESS DEVELOPED AND VACANT LAND TALBES \_\_\_\_\_

SUPPRESS SUMMARY TABLES \_\_\_\_\_

DATE TO BE PRINTED IN NEWSPAPER IS \_\_\_\_\_

NUMBER OF COPIES OF NEWSPAPER DESIRED \_\_\_\_\_

IS THERE AN ELECTION THIS CYCLE \_\_\_\_\_

PRINT CEM DIAGNOSTICS/CEM RESULTS \_\_\_\_\_

BYPASS LINKED ISSUES \_\_\_\_\_

BYPASS PRESET STATE AND NATIONAL ISSUES \_\_\_\_\_

BYPASS PRESET COUNTY AND LOCAL ISSUES \_\_\_\_\_

ENTER ISSUE NUMBERS FROM KEYBOARD FROM 1 TO 400, EOF AFTER EACH

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## CODING INSTRUCTION SHEETS



INSTRUCTIONS FOR CODING APCO KEYPUNCH SHEET

1. Plant Inspection

Code = PI

I-1 through I-15 are the firm numbers on which the inspections are ordered.

2. Emission Measurements

Code = EM

I-1 through I-15 are the firm numbers for which the measurements are ordered.

3. Air Quality

Code = AQ

F-1 = Limit for Particulates

F-2 = Limit for SO<sub>2</sub>

F-3 = Limit for CO

F-4 = Limit for NO<sub>x</sub>

F-5 = Limit for HC

4. Monitoring Stations

Code = MS

I-1 = Analysis Area (1-29)

I-2 = Station Type (1-5)

I-3 = Priority (1-2)

5. Summary of Budget Request

Code = BR

I-1 = 1 (County), 2 (Federal), 3 (Near Federal)

F-1 = \$ Public Education

F-2 = \$ Administration and Enforcement

F-3 = \$ Plant Inspections

F-4 = \$ Emission Measurements

F-5 = \$ Purchase, Upgrade AQ Monitoring Stations

F-6 = \$ AQ Monitoring Station Operation

If I-1 = 3:

F-1 = \$ Awarded First Year }  
F-2 = \$ Awarded Second Year }  
F-3 = \$ Awarded Third Year }

FROM FEDERAL GRANT APPLICATION SECTION

6. Air Pollution Legislation

Code = AF

I-1 = Type of decision (1=Recommendation, 2=Rule, 3=Law ---as stated on keypunch sheet.

I-2 = Fine (even dollar amount) if change from preceding cycle. Can only be indicated on the two lines not crossed out. It cannot exceed \$9999

I-3 = Type of limits--correct numbers are indicated on keypunch sheet.

IF I-3 = 1 or 2:

IF I-3 = 3:

F-1 = Particulates

F-1 = Ringelmann 0-5

F-2 = SO<sub>2</sub>

F-2 = Smoke and Odor

F-3 = CO

F-4 = NO<sub>x</sub>

F-5 = HC

INSTRUCTIONS FOR FILLING DEVELOPER KEYPUNCH SHEET

1. Loan Payment (see worksheet section II-A)

Code = LP

I-1 = Land Developer numbers 1 through 7

I-2 = Loan Number as indicated on Worksheet

F-1 = \$ Amount of payment

2. Tax Payment (see worksheet section II-B)

Code = TP

I-1 = Land Developer numbers 1 through 7

I-2 = Jurisdiction to which paid: 1 = Central City  
2 = Suburb  
3 = Township 1  
4 = Township 2  
5 = County

F-1 = \$ Amount of payment

3. Campaign Contribution (see worksheet section II-C)

Code = CC

I-1 = Developer numbers 1 through 7

I-2 = Politician Number: 1 = Central City-Ward 1  
2 = Central City-Ward 2  
3 = Central City-Ward 3  
4 = County Politician, Suburb  
5 = County Politician, Township 1  
6 = County Politician, Township 2  
7 & 8 = County Politician, Central City  
(at large)

O.

Bond or special millage number (must agree with I-2 of a  
BS Card for the same cycle)

F-1 = Dollars--precede with minus sign if opposed to Politician  
or referendum

4. Cash Transfer (see worksheet section III-D)

Code = CT

I-1 = Who from Land Developer 1 through 7

I-2 = Who to Purchase: 1 - 7 Land Developers  
 8 - 13 Industrialist (corresponding to 1-7)  
 15 = Market  
 16 = Central City Politicians  
 17 = County Politicians  
 99 = Game Operator

F-1 = \$ Amount of transfer

5. Exofirm Investments (see worksheet section II-B)

Code = BI

I-1 = Land Developer number  
 I-2 = Exofirm number  
 F-1 = \$ Amount of investment

6. Land Transfers (see worksheet sections I-E and II-F)

Code = LT

I-1 = Seller (for land sales "section I-E" always developer 1-7)  
 (for land purchases: 1 - 7 = Land Developers  
 8 - 13 = Industrialists  
 15 = Market (non-game private)  
 16 = Central City Politicians  
 17 = County Politicians)

I-2 = Analysis Area (1-29)

I-3 = Present Use: 0 = Vacant  
 1 = Developed  
 2 = Public Buildings, Parks, etc.

I-4 = Present Zoning Category:

IF VACANT (I-3 = 0) 1 = Residential/single  
 2 = Residential/multiple  
 3 = Commercial  
 4 = Industrial  
 5 = Office  
 6 = Agricultural

IF DEVELOPED (I-3 = 1) 1 = R-1 (single family residential-low density)  
 2 = R-2 (single family residential-medium density)  
 3 = R-3 (single family residential-high density)  
 4 = M-1 (multiple family residential-low density)  
 5 = M-2 (multiple family residential-medium density)  
 6 = CL (commercial local)  
 7 = CR (commercial regional)  
 8 = IL (industrial local)  
 9 = IR (industrial regional)  
 10 = Offices  
 11 = Agricultural

Players may not develop in these categories

I-5 = Buyer: same code as I-1 for land purchases

I-6 = Number of household units (this is used for developed residential only--I-3 = 1 and I-4 = between 1 and 5)  
Blank otherwise.

F-1 = Number of acres if other than developed residential. Blank otherwise.

F-2 = \$ Price offered by buyer for each unit or acre as appropriate.  
(This field is blank if buyer is "15" (the market).)

SPECIAL NOTE: IF THE LAND TRANSFER IS BETWEEN 2 GAMED PLAYERS--  
ONLY THE SELLER RECORDS THE LAND ON THE CODING SHEET.

7. Development Costs (see section II-I on worksheet)

Code = DL

I-1 = Land Developer 1 - 7

I-2 = Analysis Area 1 - 29

I-3 = Use same coding as for I-4 IF DEVELOPED under land transfers

I-6 = Number of units being developed if residential

F-1 = Number of acres being developed if non-residential

} NOT BOTH

8. Loan Request (see worksheet section III-C)

Code = LR

I-1 = Land Developer number 1 - 7

I-2 = Number of years requested for repayment (if player indicates between 3-5 use the number 4, etc.)

F-1 = \$ Amount requested

INSTR

PLANNER KEYPUNCH SHEET

1. Capital Improvements (see recommendations for capital improvement projects)

Code = CP

I-1 = Planner Number: 6 = Central City  
10 = County

I-2 = Location (must agree with SCALE in project list)

1...29 = specific analysis area  
30 = Ward 1 in Central City  
31 = Ward 2 in Central City  
32 = Ward 3 in Central City  
33 = Ward 4--Suburb  
34 = Ward 5--Township 1  
35 = Ward 6--Township 2  
36 = Jurisdiction 1  
37 = Jurisdiction 2  
38 = Jurisdiction 3  
39 = Jurisdiction 4  
40 = County

I-3 = Project number, 1-120

F-1 = Total amount to be spent on project. (NOTE: must fall within range shown on project list and must be in even \$000).

2. Special Programs (see recommendations for special programs)

Code = SP

I-1 = Planner Number (see above coding)

I-2 = Location (must agree with SCALE in programs list) see above coding

I-3 = Program number, 1-40

I-6 = 1 if project required is already in existence

3. Rezoning Application (all rezoning application forms should be submitted to the Planner for recommendation and then Planner's submit to Politicians for approval--when worksheets are requested, Planner submits all rezoning forms)

Code = RZ

I-1 = Owner: 1 - 7 for land developers  
8 - 13 for industrialists  
15 for market  
16 for Central City  
17 for County

I-2 = Analysis (1-29)

I-3 = Present Zoning: 0 = vacant  
1 = developed  
2 = public buildings, parks, etc.

I-4 = Present Zoning:

IF VACANT (I-3 = 0)  
1 = residential/single  
2 = residential/multiple  
3 = commercial  
4 = industrial  
5 = office  
6 = agricultural

IF DEVELOPED (I-3 = 1)  
1 = R-1 (single family residential-low density)  
2 = R-2 (single family residential-medium density)  
3 = R-3 (single family residential-high density)  
4 = M-1 (multiple family residential-low density)  
5 = M-2 (multiple family residential-medium density)  
6 = CL (commercial local)  
7 = CR (commercial regional)  
8 = IL (industrial local or endogenous)  
9 = IR (industrial regional or exogenous)  
10 = Office  
11 = Agricultural

I-5 = New Zoning: use same coding as for IF VACANT above

I-6 = Number units rezoned if present zoning is improved residential (1...5)

OR

F-1 = Number acres rezoned if not improved residential

NOTE: WHEN DEVELOPED ~~PROPERTY~~ IS REZONED, IT BECOMES VACANT

INSTRUCTIONS FOR CODING POLITICIAN KEYPUNCH SHEET

1. Change in Operating Expenses (City or County) -- see worksheet section II-G.

Code = UV

I-1 = Politician Number: 1 = Central City  
5 = County

I-2 = Budget Category:

- 1) Legislative and executive
- 2) Planning
- 3) Financial
- 4) Judicial
- 5) Fire and Police
- 6) Parks and recreation
- 7) Water and Sewage (total public works, County)
- 8) Refuse Collection (not County)
- 9) Streets and related
- 10) Employee Benefits
- 11) Public Relations
- 12) Library Fund
- 13) Public Health and related programs (County only)
- 14) APCO (County only)
- 15) Welfare - Hospital (County only)
- 17) Transfer to Central Fund
- 18) Transfer to ~~Post~~ Retirement

F-1 = New percent

OR

F-2 = New dollar value

3. Normal Operating Millage (see worksheet section II-B)

Code = ~~UV~~

I-1 = Politician Number: 1 = Central City  
5 = County

F-1 = Total New Operating Millage

4. Cash Transfer (see worksheet section II-F)

Code = ~~UV~~

I-1 = Who from: 1 - 7 Land Developers  
8 - 15 Industrialists corresponding to 1 through 7  
16 - 18  
19 - 20 Central City  
21 - 22 County

I-2 = Who to: Same as Code I-1

F-1 = \$ Amount



5. Special Grant (see worksheet section III-E-d)

Code = SG

I-1 = Politician Number: 1 = Central City  
5 = County

I-2 = Type of Grant: 1 = Operating Budget  
2 = Capital Budget

F-1 = \$ value of grant

6. Land Transfer (see worksheet section III-D)

Code = LT

I-1 = Seller: 1 - 7 = Land Developers  
8 - 14 = Industrialists (corresponding to 1 - 7)  
15 = Market (non-game private)  
16 = Central City  
17 = County

I-2 = Analysis Area (1-29)

I-3 = Present Use: 0 = Vacant  
1 = ~~Developed~~  
2 = Public Buildings, Parks, etc.

I-4 = Present Zoning Category:

IF VACANT 1 = Residential/single  
(I-3 = 0) 2 = Residential/multiple  
3 = Commercial  
4 = Industrial  
5 = Office  
6 = Agricultural

IF DEVELOPED 1 = R-1 (single family residential-low density)  
(I-3 = 1) 2 = R-2 (single family residential-medium density)  
3 = R-3 (single family residential-high density)  
4 = M-1 (multiple family residential-low density)  
5 = M-2 (multiple family residential-medium density)  
6 = CL (commercial local)  
7 = CR (commercial regional)  
8 = IL (industrial local)  
9 = IR (industrial regional)  
10 = Office  
11 = Agricultural

Players may not  
develop in these  
three categories

I-5 = Buyer: Same code as I-1

I-6 = Number of households units (this is used for developed residential only--if I-3 = 1 and I-4 = between 1 and 5) Blank otherwise.

F-1 = Number of acres if other than developed residential. Blank otherwise.

F-2 = \$ Price offered by buyer for each unit or acre as appropriate. (If buyer is M (I-5 = 15) leave blank).

7. ~~Bond~~, Special Millages (see worksheet sections II-C, II-D, II-E, III-A, III-B, IV-A, IV-B)

~~Code~~ = BS

I-1 = Politician Number: 1 = Central City  
5 = County

I-2 = Unique number given to player by role advisor

I-3 = Purpose: 1 = Millage for water, sewer, streets  
2 = Millage for parks, special project, misc.  
3 = Bond for water, sewers, streets  
4 = Bond for parks, misc.  
5 = Raise current local limit

I-4 = Type: 1 = G.O. Bond  
2 = Revenue Bond  
3 = Special Millage  
4 = Debt Retirement Millage (Code for purpose = 1 in I-3 field above)

I-5 = Number of years

I-6 = Elite Opinion Poll "Number for" minus "number against"

I-7 = Dollar if bond; Mills if I-4 = 3 or 4

I-8 = Promotional expenses related to this referendum, in dollars.

I-9 = blank = no

1 = yes

8. ~~General~~ Improvements (see worksheet section III-C)

~~Code~~ = CP

I-1 = Politician Number: 1 = Central City  
5 = County

I-2 = Location (Analysis Area 1 - 35; Wards 1 - 6 = 30 - 35;  
Jurisdictions 1 - 4 = 36 - 39; County = 40)

I-3 = Project Number, 1 - 120

I-4 = Bond Number to which project is tied, otherwise blank.

I-5 = Amount to be spent on project. (NOTE: must fall within range shown on project list and must be in even \$000.)

9. ~~Special~~ Program (see worksheet section II-D)

~~Code~~ = SP

I-1 = Politician Number

I-2 = Location--same as CP

I-3 = Program Number 1 - 40

I-4 = Millage Number

I-5 = 1 if project is already in existence.

INSTRUCTIONS FOR CODING INDUSTRIALIST KEYPUNCH SHEET

1. Production Level

Code = PL

I-1 = Industrialist Number 8-13:    Industrialist No. 1 = 8  
   Industrialist No. 2 = 9  
   Industrialist No. 3 = 10  
   Industrialist No. 4 = 11  
   Industrialist No. 5 = 12  
   Industrialist No. 6 = 13

I-2 = Fuel for Production:    0 = no change  
   (see worksheet,    1 = low grade coal  
   section II-C under    2 = high grade coal  
   Estimated Operating    3 = low grade oil  
   Cost)                    4 = high grade oil  
                          5 = natural gas  
                          6 = electricity

I-3 = Purchase Emission Data (1 = yes, 2 = no)--see worksheet  
   under Estimated Operating Costs section II-H

I-4 = Purchase Control System Data (1 = yes, 2 = no)--see worksheet  
   under Estimated Operating Costs section II-I

F-1 = Production level, units (see ~~worksheet~~ under Estimated Income  
   section II-B)

F-2 = Unit Sales Price, \$ (see ~~worksheet~~ under Estimated Income  
   section II-B)

F-3 = Estimated Sales, units (see ~~worksheet~~ under Estimated Income  
   section II-B)

2. Land Transfers (see worksheet under ~~Estimated~~ Income-Section II-D and  
   under Capital Expenditure Estimation ~~Section~~ III-D)

Code = LT

I-1 = Seller (for land sales "section ~~II~~-D under Estimated Income"  
   always use Industrialist 8 - 13)

   for land purchases:    1 - 7 = ~~Land~~ Developers  
                              8 - 13 = ~~Industrialists~~  
                              15 = ~~Market~~ (non-game private)  
                              16 = ~~Central~~ City Politicians  
                              17 = ~~County~~ Politicians

I-2 = Analysis Area (1-29)

I-3 = Present Use:    0 = Vacant  
   1 = Developed  
   2 = Public Buildings, Parks, etc.

**I-4 = Zoning Category:**

- IF NOT DEVELOPED - 1 = residential/single  
(I-3 = 0) 2 = residential/multiple  
3 = commercial  
4 = industrial  
5 = office  
6 = agricultural

- IF DEVELOPED - 1 = R-1 (single family residential-low density)  
(I-3 = 1) 2 = R-2 (single family residential-med density)  
3 = R-3 (single family residential-high density)  
4 = M-1 (multiple family residential-low density)  
5 = M-2 (multiple family residential-med density)  
6 = CL (commercial local)  
7 = CR (commercial regional)  
8 = IL (industrial local or endogenous)  
9 = IR (industrial regional or exogenous)  
10 = Office  
11 = Agricultural

I-5 = Buyer: Same code as I-1 for land purchases

I-6 = Number of household units (this is used for developed residential only--if I-3 = 1 and I-4 = between 1 and 5)  
Blank otherwise.

F-1 = Number of acres if other than developed residential. Blank otherwise.

F-2 = \$ Price offered by buyer for each unit or acre as appropriate.  
(This field is blank if buyer is "15" (the market).

**SPECIAL NOTE:** IF THE LAND TRANSFER IS BETWEEN 2 GAMED PLAYERS--  
ONLY THE SELLER RECORDS THE LAND ON THE CODING  
SHEET.

**3. Pollution Controls (see worksheet section II-F under Estimated Operating Costs)**

Code = PC

I-1 = Industrialist number 8 - 13

I-2 = Process Number (1....8)

I-3 = Control Type (1.....)

**4. Loan Payment (see worksheet section II-J under Estimated Operating Costs)**

Code = LP

I-1 = Industrialist 8 - 13

I-2 = Loan Number as indicated on worksheet

F-1 = \$ Amount of payment

5. Tax Payment (see worksheet section II-K under Estimated Operating Costs)

Code = TP

I-1 = Industrialist 8 - 13

I-2 = Jurisdiction to which paid: 1 = Central City  
2 = Suburb  
3 = Township 1  
4 = Township 2  
5 = County

F-1 = \$ Amount of payment

6. Cash Transfers (see worksheet section II-L under Estimated Operating Costs)

Code = CT

I-1 = Who from: Industrialists 8 - 13

I-2 = Who to (Player\*): 1 - 7 Land Developers  
8 - 13 Industrialist  
15 = Market  
16 = City Politicians  
17 = County Politicians  
99 = Game Operator

F-1 = \$ Amount

7. Campaign Contribution (see worksheet section II-M under Estimated Operating Costs)

Code = CC

I-1 = Industrialist number 8 - 13

I-2 = Politician Number: 1 for Central City-Ward 1  
2 for Central City-Ward 2  
3 for Central City-Ward 3  
4 for County Politician, Suburb  
5 for County Politician, Township 1  
6 for County Politician, Township 2  
7 & 8 for County Politician, Central City (at large)

OR

Bond of special millage number (must agree with I-2 of BS Card for the same cycle)

F-1 = Dollars - precede with minus sign if opposed to Politician or referendum

8. Non-Pollution Expenditure

Code = NP

- I-1 = Industrialist number 8 - 13
- F-1 = Depreciation allowance (see worksheet section II-B under Estimated Net Profit)
- F-2 = Production Equipment Expansion (see worksheet section III-B under Capital Expenditure Estimation)
- F-3 = Building Expansion (see worksheet section III-C under Capital Expenditure Estimation)
- F-4 = Maintenance Expenditures (see worksheet section II-G under Estimated Operating Costs)

9. Loan Request (see worksheet section IV-C under Loan Estimations)

Code = LR

- I-1 = Industrialist number 8 - 13
- I-2 = Number of years requested for repayment (if player indicates between 3-5, use the number 4, etc.)
- F-1 = \$ Amount requested

### INSTRUCTIONS FOR CODING ISSUE DECISIONS

An issue decision card contains one or more groups of ~~numbers~~ separated by commas. Each group of numbers gives the program ~~information~~ about one issue appearing in the newspaper that was printed at the end of the preceding cycle. The information is comprised of two required ~~entries~~; the issue number and the alternative acted upon by the deciding ~~agent~~ (a Politician or the Elite Opinion Poll). If the alternative action ~~required~~ that a project be funded, the bond or millage number associated ~~with~~ that project may be given.

The format for issue decisions is as follows: `iaa(bbb), iiaa, iiaa(bbb), ... iiaa*`.

Where: `iii` is a 1 to 3 digit issue number  
      `a` is a single digit indicating the alternative chosen  
      `(bbb)` is an optional 3 digit bond/mill number

The card is "free-format"; that is, punching may begin in any column, and blank columns are ignored and may be used for spacing to increase legibility. Each group of numbers for a single issue is ~~separated~~ by a comma. However, the last group must be terminated by an asterisk (\*), not a comma. A maximum of 40 issue decisions may be input in any ~~single cycle~~. If one card is not sufficient for all issue decisions, ~~decisions may~~ be punched on any number of additional cards. The terminating ~~asterisk~~ appears only after the last decision on the last card of the series. The last character on any one card must be either a comma or an asterisk. Thus, a number group for any one issue must appear on only one card—it ~~will~~ not be continued from one card to the next.

INSTRUCTIONS FOR CODING CANDIDATE ELECTION DATA CARDS

The following format is used for punching candidate election data cards.

Columns

1-2                      Candidate Number. . . . A candidate number must be entered on each card. Incumbents should be assigned number 1-8. Corresponding numbers from 9-16 should be assigned to their opponents so that each matched pair are given numbers 8 apart; that is, opponent 12 runs against incumbent 4, etc. The assignment of numbers to incumbents is arbitrary. Do not punch cards for opponents if there is not a card for the corresponding incumbent.

- 3                      a) For incumbents (01-08 in columns 1-2) this column indicates whether the opponent is real or simulated:  
                         1 = gamed opponent (real)  
                         2 = simulated opponent
- b) For gamed challengers (09-16 in columns 1-2) this column should be blank, For simulated challengers this column designates the opponent type:  
                         1 = Conservative  
                         2 = Moderate Republican  
                         3 = Labor Liberal  
                         4 = New Left Liberal  
                         5 = Working Class Conservative  
                         6 = Ultra-Conservative  
                         7 = Business Candidate  
                         8 = Black Candidate  
                         9 = Reform Candidate

4-8                      Party Support. This entry is included only for incumbents. It is the major discretionary variable under the control of the operator. Some number between



1 and 60 is entered designating the percentage of the vote, up to 60%, going automatically to the absent. The entry can be determined by apportioning the 60% in accordance to a hand vote of gamed players, operator's whim or any other suitable method. If the entry is left blank, the machine sets the appropriate variable to 30.

9-28

Candidate Name. A name up to twenty characters long is entered here to be printed with the election results in the newspaper. Names should be entered for simulated as well as gamed opponents. For example, a conservative might be called Richmond Q. Stuffshirt.

29-80

Issue Number, Candidate Stand on Issue, and Candidate Stress on Issue. The form follows that for issue decision cards---iii a(bb)--where iii is a 1 to 3 digit issue number, "a" is the alternative chosen and "bb" is the percent of campaign funds spent stressing the stand taken on that issue. These entries are free format and up to 40 issue decisions may be entered. Additional cards may be used as needed with the continuation card starting in column 1.

An asterisk is used to designate the end of the sequence for a given candidate. Entries should be made for only those issues for which the candidate casts a vote. Note that these columns should be left blank for simulated opponents. Also, for unstressed issues (issues which would have zero in parentheses) the parentheses may be omitted.

## WORKSHEETS

APCO WORKSHEET

I. ELITE OPINION POLL

Air Pollution Control Officer

Cycle Number \_\_\_\_\_

ISSUE NO.	ALTERNATIVE

Air Pollution Control Officer

Cycle Number \_\_\_\_\_

II. BUDGET REQUEST

A. Public Education Expenditures

Programs	Costs
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
Total Public Education Expenditures	\$ _____

B. Administration and Enforcement

Administration

Programs	Costs
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
Sub Total - Administration	\$ _____

Enforcement

Programs	Costs
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
Sub Total - Enforcement	\$ _____

Total - Administration & Enforcement \$ \_\_\_\_\_

### C. Plant Inspections

Industries in Priority of Inspection*															No. of	Cost	Total Cost
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Insp.	Insp	this Cycle
																\$1,500	

#### D. Emission Measurements

Industries in Priority of Emission Measure*															No. of	Cost	Total Cost
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	E.M.	E.M.	this Cycle
																\$3,000	

#### E. Air Quality Monitoring Stations - Purchase, Upgrade, and Operation

## 1. Cost Associated with A.Q. Monitoring Station

Type of Station	Pollutants Monitored	Original Purchase Price	Upgrade to				Oper. Cost
			Type 2	Type 3	Type 4	Type 5	
Type 1	Particulates	500	2,300	5,800	11,800	14,900	2,100
Type 2	Part + SO <sub>2</sub>	2,800	-	3,500	9,500	12,600	4,500
Type 3	Type 2 + CO	6,300	-	-	6,000	9,100	6,600
Type 4	Type 3 + NO <sub>x</sub>	12,300	-	-	-	3,100	9,200
Type 5	Type 4 + HC	15,400	-	-	-	-	11,550

## 2. Monitoring Station Operation

[illegible]

**Total**

3. Monitoring Station Reporting Levels

Regulates*	SO <sub>2</sub> *	CO	NO <sub>x</sub> *	HC*

F. Summary Budget Request

	Total	County*	Federal*
Public Information			
Administration & Enforce.			
Plant Operations			
Emission Measurements			
A.Q. Stations Upgrade			
A.Q. Stations Operation			
Total			

Signature \_\_\_\_\_ Authorizing County Official \_\_\_\_\_

III. FEDERAL GRANT APPLICATION

Approved Federal Funds in \$

	Cycle*	Cycle*	Cycle*
1. Original			
2. Supplemental			

IV. AIR POLLUTION LEGISLATION

A. County Regulations

Initial of Co. Board	Max. Fine Level*	Lbs/Hr.*					Lbs/1000 Lbs Prod.*					Smoke Odor*
		Part	SO <sub>2</sub>	CO	NO <sub>x</sub>	HC	Part	SO <sub>2</sub>	CO	NO <sub>x</sub>	HC	

B. Recommendations to State for Regulations

\_\_\_\_\_

DEVELOPER'S WORKSHEET

1. STATE OPINION POLL

Developer Number \_\_\_\_\_

Cycle Number \_\_\_\_\_

ISSUE NO.	ALTERNATIVE

Developer                     

Cycle Number                     

II. ~~CASH BALANCE~~ AND CYCLE ~~INCOME~~

A. ~~Cash on Hand~~ \$                     

B. 5% ~~Interest~~ on Cash Balance \$                     

C. ~~Cash Transfers~~ (from other players)

<del>Player</del>	Amount	Reason
1.		
2.		
3.		
4.		
5.		

Total ~~Cash~~ Transfers \$                     

D. ~~Estimated~~ Return from Exo~~firm~~ Investments

<del>Exo-firm</del> No.	Amount Invested	Estimated Return
1.		
2.		
3.		
4.		
5.		

Total ~~Estimated~~ Return on Investment \$                     

E. Land Offerings and Estimated Sales

AA	Vacant/ Dev.	Zoning Cat.	Buyer	No. of Units	or Acres	Price/Acre Price/Unit	Total Price
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

Total Price of Land Offerings \$                     

Estimated Land Sales \$                     

TOTAL ESTIMATED INCOME \$



### III. ESTIMATED EXPENDITURES

#### A. Loan Payments

Loan No. *	Amount*
1.	
2.	
3.	
4.	
5.	

Total Loan Payments

\$ \_\_\_\_\_

#### B. Property Taxes

Jurisdiction*	Amount*
1.	
2.	
3.	
4.	
5.	

Total Property Taxes

\$ \_\_\_\_\_

#### C. Campaign Contributions

Pol/Bond/Mill #*	Amount*	For/Against
1.		
2.		
3.		
4.		
5.		
6.		

Total Campaign Contributions

\$ \_\_\_\_\_

#### D. Cash Transfers (to other players)

Player*	Amount*	Reason
1.		
2.		
3.		
4.		
5.		

Total Cash Transfers

\$ \_\_\_\_\_

E. Exofirm Investments

	Exofirm No.*	Preferred Location	Amount*
1.			
2.			
3.			
4.			
5.			

Total Exofirm Investments \$ \_\_\_\_\_

F. Land Purchases

	Seller*	AA*	Vac/ Dev.*	Zoning Cat. *	No. of Units*	or No. of Acres*	Price/Unit Price/Acre*	Total Price
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								

Total Land Purchases \$ \_\_\_\_\_

G. Zoning Application Fees

	AA	Vac/ Dev.	From?	To?	No. of Units	or No. of Acres	Fee at \$100 per application
1.							
2.							
3.							
4.							
5.							
6.							

Total Zoning Application Fees \$ \_\_\_\_\_

H. Land Clearance Costs (Demolition)

	AA	Total Value of Developed Property being Rezoned	Demo. Rate	Land Clearance Cost
1.			.05	
2.			.05	
3.			.05	
4.			.05	
5.			.05	
6.			.05	

Total Land Clearance Costs \$ \_\_\_\_\_

I. ~~Building Development~~ Costs

	AA*	Development Type*	No. of Units*	or	No. of Acres*	Cost/Unit Cost/Acre	Total Cost
1.							
2.							
3.							
4.							
5.							
6.							

Total Building Development Costs \$ \_\_\_\_\_

J. ~~Vacant Land Improvement~~ Costs

	AA	Vacant Land Being Developed No. of Units	No. of Acres	Cost/Unit Cost/Acre	Total Cost
1.					
2.					
3.					
4.					
5.					
6.					

Total Vacant Land ~~Improvement~~ Costs \$ \_\_\_\_\_

TOTAL ESTIMATED ~~EXPENDITURES~~ \$ \_\_\_\_\_

IV. ~~ESTIMATED~~ LOANS

A. Cash on Hand plus 5% Interest \$ \_\_\_\_\_

B. Total Estimated ~~Expenditures~~ - \$ \_\_\_\_\_

C. ~~Loan~~ Requests

	Years for Repayment*	Amt. of Loan Requested*
1.		
2.		
3.		

Total Loan Requests \$ \_\_\_\_\_

PLANNER'S WORKSHEET

I. ELITE OPINION POLL

Central City Planner ( )

Cycle Number \_\_\_\_\_

County Planner ( )

ISSUE NO.	ALTERNATIVE

Central City Planner ( )

Cycle Number \_\_\_\_\_

County Planner ( )

II. RECOMMENDATIONS FOR CAPITAL IMPROVEMENT PROJECTS

Location*	Project Number*	Total Cost*	Cycle to Run

III. RECOMMENDATIONS FOR SPECIAL PROGRAMS

Location*	Program Number*	Cost per Year	Project in Existence?*

*City* POLITICIAN'S WORKSHEET

I. ELITE OPINION POLL

Cycle Number \_\_\_\_\_

Central City Pol.  
Ward 1

ISSUE NO.	ALTER

Central City Pol.  
Ward 2

ISSUE NO.	ALTER

Central City Pol.  
Ward 3

ISSUE NO.	ALTER

County POLITICIAN'S WORKSHEET

## I. ELITE OPINION POLL

Cycle Number \_\_\_\_\_

County Pol.  
Suburb

County Pol.  
Twn. 1

County Pol. Central City Pol.  
Twn. 2 at Large

County Pol.  
at Large

[illegible]



Central City Politician ( )

Cycle Number \_\_\_\_\_

County Politician ( )

## II. OPERATING BUDGET

### A. Estimation of Revenue Generation through Increases in the Millage

1. Item "F" of "Operating Budget Revenue Generation" \_\_\_\_\_
2. Divide Line 1 by 1000 for 1 mill increase \_\_\_\_\_
3. Multiply Line 2 by millage increase x \_\_\_\_\_
4. Expected increase in revenues \_\_\_\_\_

### B. Change in Operating Millage

Change the Operating Millage		Total New Millage Rate*
Yes	No	

### C. Raise Local Limit

Number of Years to Run*	Millage Increase*	Promotion Expenditures* (if any)	If voted down, should it be resubmitted*	
			Yes	No

*This requires a public referendum. You need to get the opinions of as many players in the room as is possible. The form for polling the gamed players is found in section V of the worksheet.*

### D. Special Programs

New Special Program Number*	Location*	Method of Funding		Cost per Year	Is Required Capital Proj in Existence?*
		Operating Budget	Special Millage*		

Total Cost of Special Programs

\$ \_\_\_\_\_

E. Special Millages

Special Millage	No. of Years Special Millage Runs*	No. of Mills*	Promotional Expenditures* (if any)	If voted down, should it be resubmitted?*	
				Yes	No
1					
2					
3					
4					
5					

*This requires a separate public referendum. You need to get the opinions of as many players in the room as is possible. The form for polling the gamed players is found in section V of the worksheet.*

F. Cash Transfers (to other players)

Player*	Amount*	Reason



## 2. County Change in Operating Expenditures

<u>Category:</u>	% Total Revenue*	\$ Amount*
(A.) Legislative & Administrative (i.e., Planning, Financial, etc.)	XXXXXXXXXX	OR
(B.) Judicial	_____	_____
(C.) Public Safety	_____	_____
(D.) Parks Authority	_____	_____
(E.) Public Works Maintenance	_____	_____
(F.) Public Health	_____	_____
(G.) APCO (Budget Worksheet)	XXXXXXXXXX	_____
(H.) Welfare and Hospitalization	_____	_____
(I.) Road and Street Maintenance	_____	_____
(J.) Employee Benefits	_____	_____
(K.) Public Relations (Promotional Expenditures)		
(1) Special Debt Retirement Millage	_____	
(2) General Obligation Bonds +	_____	
(3) Raising Local Operating Millage Limit +	_____	
(4) Special Millages +	_____	
Total Promotional Expenditures	_____	_____
	_____	_____
(L.) Library	_____	_____
(M.) Check Payments to other Players (Cash Transfers to other Players)	XXXXXXXXXX	_____
(N.) Special Programs		
(1) New Special Programs Annual Cost	_____	
(2) Continuing Special Programs on Listing (those with astericks) +	_____	
Total Cost of Special Programs	XXXXXXXXXX	_____
	_____	_____
(O.) Transfer to Capital Fund	XXXXXXXXXX	_____
(P.) Transfer to Debt Retirement	XXXXXXXXXX	_____
(Q.) Transfer to Roads Capital Fund	20% of Road Commission Revenues	_____

XXXXXXXXXX - percentages do not apply to those categories. Please enter dollar amount only.

### III. CAPITAL BUDGET

#### A. Revenue Bonds

Revenue Bond	Budget Category*	Cycle for Revenue Bond to Run*	Dollars*
1			
2			
3			
4			
5			
6			
7			
8			
9			

Total for all Revenue Bonds \$ \_\_\_\_\_

#### B. General Obligation Bonds

General Obligation Bond	Budget Category*	Cycles to Run*	Amount*	Promotion Expenditure (if any)*	Re-Submit*
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Total for All General Obligation Bonds \$ \_\_\_\_\_

BE SURE TO LIST ALL PROJECTS ON NEXT PAGE!

*Each General Obligation Bond requires a separate public referendum. You need to get the opinions of as many players in the room as is possible. The form for polling the gamed players is found in section V of the worksheet.*

### C. ~~General~~ Improvement Projects

[illegible]

Total Cost of all New Projects \$

Total Annual Cost \$

#### D. Land Purchases

[illegible]

Total Land Purchases \$

### E. Cash Flow of Capital Budget

## 1. Revenue Generation for Capital Budget

- |     |  |   |   |  |
|-----|--|---|---|--|
| (a) | Balance of capital fund carried forward<br>(Item 10 of Output) |   |   |  |
| (b) | New Bond Sales   |   |   |  |
|     | Total for all new Revenue Bonds                                |   |   |  |
|     | Total for all new G.O. bonds                                   | + |   |  |
|     | Sum of new bonds   |   |   |  |
|     | Total Bond Sales   |   | + |  |
| (c) | New Transfers from General Fund                                |   |   |  |
|     | Capital Roads Fund (Co. only)                                  | + |   |  |
|     | Total Transfers from General Fund                              |   | + |  |

- (d) New Special Grants  
 State Money  
 Federal Money + \_\_\_\_\_  
 Sum of outside funds \_\_\_\_\_  
 (e) Total Capital Improvement Fund \_\_\_\_\_

Transfer this amount to Item 9 below

2. Expenditures for Capital ~~Improvement~~

- (a) Total Costs of all ~~new~~ ~~projects~~  
 (taken from Capital  
 Improvement Projects) \_\_\_\_\_  
 (b) Total Annual Cost of ~~new~~  
 Projects (taken from  
 Capital Improvements) - \_\_\_\_\_  
 Encumbered Funds for new Projects \_\_\_\_\_  
 (c) Sum of annual costs on  
 printout (those with  
 asterisks) \_\_\_\_\_  
 (d) Total annual costs of ~~new~~  
 projects + \_\_\_\_\_  
 (e) Total Disbursements  
 (other than land) \_\_\_\_\_  
 (f) Encumbered funds for ~~projects~~  
 not yet completed  
 (item 11 on listing) \_\_\_\_\_  
 (g) Sum of annual cost on  
 printout (those with  
 asterisks) - \_\_\_\_\_  
 SUB TOTAL + \_\_\_\_\_  
 (h) Encumbered funds for all  
 new and old projects \_\_\_\_\_  
 (i) Total Capital Improvement fund  
 (from previous page) \_\_\_\_\_  
 (j) Total land purchases this cycle - \_\_\_\_\_  
 SUB TOTAL \_\_\_\_\_  
 (k) Total Disbursements (other than land) - \_\_\_\_\_  
 Balance of Capital Funds for Next Cycle \_\_\_\_\_  
 x .06 \_\_\_\_\_  
 (l) 6% Interest on Balance \_\_\_\_\_  
 (m) Total Carried to next cycle \_\_\_\_\_  
 (n) Encumbered Fund for all old & new projects \_\_\_\_\_  
 (o) Unencumbered Balance \_\_\_\_\_

IV. DEBT RETIREMENT FUND

A. "Total Debt Retirement Funds Available for Cycle" \_\_\_\_\_

B. Total payment due for all general obligation bonds - \_\_\_\_\_

Total \_\_\_\_\_

Special Debt Retirement Millage

Number of Years to Run*	Millage Rate*	Promotion Expenditures if any*	If voted down, should it be resubmitted?*

Each Special Debt Retirement Millage requires a separate public referendum. \*You need to get the opinions of as many players in the room as is possible. The form for polling the gamed players is found in section V of the worksheet.





INDUSTRIALIST'S WORKSHEET

I. ELITE OPINION POLL

Industrialist Number \_\_\_\_\_

Cycle Number \_\_\_\_\_

ISSUE	ALTERNATIVE

Industrialist Number \_\_\_\_\_

Cycle Number \_\_\_\_\_

## II. PROFIT AND INCOME TAX ESTIMATION

### ESTIMATED INCOME

#### A. Interest on Cash Available

1. Cash Available \_\_\_\_\_

2. Interest Rate \_\_\_\_\_

x .05

Total Interest on Cash Available

\$ \_\_\_\_\_

#### B. Product Sales

1. Sales Price \_\_\_\_\_ \*

2. Estimated Sales (units) \_\_\_\_\_

x \_\_\_\_\_ \*

3. Estimated Sales (\$) \_\_\_\_\_

\$ \_\_\_\_\_

4. Estimated Sales (units) \_\_\_\_\_

5. Desired Inventory Carryover \_\_\_\_\_

+ \_\_\_\_\_

6. Total Units Needed \_\_\_\_\_

7. Actual Inventory Carryover \_\_\_\_\_

- \_\_\_\_\_

8. Estimated Production Level \_\_\_\_\_ \*

\*

#### C. Cash Transfers (from other players)

	Player	Amount	Reason
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____

Total Cash Transfers

\$ \_\_\_\_\_

#### D. Land Sales

	AA*	Vacant/ Dev.*	Zoning Cat.*	Buyer*	No. of Units*	or No. of Acres*	Price/Acre Price/Unit*	Total Price
1.	_____	_____	_____	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____	_____	_____	_____
5.	_____	_____	_____	_____	_____	_____	_____	_____

Total Land Sales

+ \$ \_\_\_\_\_

TOTAL ESTIMATED INCOME

\$ \_\_\_\_\_

# ESTIMATED OPERATING COSTS

## A. Labor

1. Estimated Production Level		_____	
2. Employment/Production Ratio	x	_____	
3. No. of Employees		_____	
4. Average Annual Wage	x	_____	
Total Labor Cost			\$ _____

## B. Materials

1. Estimated Production Level		_____	
2. Unit Material Costs	x	_____	
Total Material Cost			\$ _____

## C. Fuel

1. Fuel Type		_____*	
2. Estimated Production Level		_____	
3. Unit Fuel Cost	x	_____	
Total Fuel Cost			\$ _____

## D. General Administration

1. Estimated Production Level		_____	
2. Unit General Administration Cost	x	_____	
Total General Administration Cost			\$ _____

## E. Inventory Carrying Costs

1. Desired Inventory Carryover		_____	
2. Unit Inventory Carrying Costs	x	_____	
Total Inventory Carrying Costs			\$ _____

## F. Pollution Controls Operation

	Production Sub-Process No.*	Control Type	Control Number*	Annual Operating Cost*
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____

Total Pollution Controls Operating Costs			\$ _____
--	--	--	----------

ESTIMATED OPERATING COSTS (cont.)

G. Plant Maintenance \$ \_\_\_\_\_ \*

H. Consultants - Pollution Emission Data \$ \_\_\_\_\_ \*

I. Consultants - Control Systems Data \$ \_\_\_\_\_ \*

J. Loan Payments

	Loan No.*	Amount*
1.		
2.		
3.		
4.		
5.		

Total Loan Payments \$ \_\_\_\_\_

K. Property Taxes

	Jurisdiction*	Amount*
1.		
2.		
3.		
4.		
5.		

Total Property Taxes \$ \_\_\_\_\_

L. Cash Transfers (to other players)

	Player*	Amount*	Reason
1.			
2.			
3.			

Total Cash Transfers \$ \_\_\_\_\_

M. Campaign Contributions

	Pol/Bond/Mill No.*	Amount*	For or Against
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

Total Campaign Contributions \$ \_\_\_\_\_

ESTIMATED OPERATING COSTS (cont.)

N. Zoning Application Fees and/or Demolition Costs

	A.A.	Vac/ Dev.	From	To	No. of Units	or	No. of Acres	Fee
1.								
2.								
3.								
4.								

Total Zoning Application Fees \$ \_\_\_\_\_

1. Value of Dev. Land being Rezoned \_\_\_\_\_

2. Rate of Demolition Fees x .05

Total Demolition Costs + \$ \_\_\_\_\_

TOTAL ESTIMATED OPERATING COSTS \$ \_\_\_\_\_

ESTIMATED NET PROFIT

A. Gross Profit

1. Total Estimated Income \_\_\_\_\_

2. Total Estimated Operating Costs - \_\_\_\_\_

3. Estimated Gross Profit \$ \_\_\_\_\_

B. Tax Depreciation Allowance

1. Maximum Tax Depreciation Allowance \_\_\_\_\_

2. Desired Tax Depreciation Allowance - \$ \_\_\_\_\_ \*

C. Total Taxable Income \$ \_\_\_\_\_

D. Federal and State Income Taxes

1. Total Taxable Income \$ \_\_\_\_\_

2. Fed-State Income Tax Rate x \$ .55

Total Federal and State Income Taxes \$ \_\_\_\_\_

E. Estimated Net Profit

1. Estimated Gross Profit \$ \_\_\_\_\_

2. Total Federal & State Income Tax - \_\_\_\_\_

TOTAL ESTIMATED NEW PROFIT \$ \_\_\_\_\_

RECOMMENDED DIVIDENDS \$ \_\_\_\_\_

Explanation for Board of Directors: \_\_\_\_\_

\_\_\_\_\_

### III. CAPITAL EXPENDITURE ESTIMATION

A. Desired Increase in Maximum  
Production Capacity \_\_\_\_\_

B. Production Equipment Expansion \$ \_\_\_\_\_ \*

C. Building Expansion \$ \_\_\_\_\_ \*

D. Land Purchases

	Seller*	AA*	Vacant/ Dev.*	Zoning Cat.*	No. of Units*	or	No. of Acres*	Price/Acre Price/Unit*	Total Price
1.									
2.									
3.									
4.									
5.									

Total Land Purchases \$ \_\_\_\_\_

E. Pollution Control Equipment

	Process No.*	Control Type	Control Number*	Initial Cost
1.				
2.				
3.				
4.				
5.				

Total Pollution Control Equipment Costs + \$ \_\_\_\_\_

TOTAL CAPITAL EXPENDITURES \$ \_\_\_\_\_

### IV. LOAN ESTIMATIONS

A. Cash on Hand

1. Cash Available \$ \_\_\_\_\_

2. 5% Interest on Cash Available \$ \_\_\_\_\_

3. Cash Transfers (from others) + \$ \_\_\_\_\_

Total Cash on Hand \$ \_\_\_\_\_

B. Initial Cash Requirements

1. Property Taxes \$ \_\_\_\_\_

2. Loan Payments (currently due) \$ \_\_\_\_\_

3. Capital Expenditures \$ \_\_\_\_\_

4. Campaign Contributions \$ \_\_\_\_\_

5. Cash Transfers (to others) + \$ \_\_\_\_\_

Total Initial Cash Requirements \$ \_\_\_\_\_

**C. Loan Requests**

	<u>Years for Repayment*</u>	<u>Amount of Loan*</u>
1.		
2.		
3.		

**Total Loan Requests**

\$ \_\_\_\_\_



KEYPUNCH SHEETS

KEYPUNCH FOR APCO ROLE

Cycle Number \_\_\_\_\_

1. Plant Inspection (PI)

Priority	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15
	I-1	I-2	I-3	I-4	I-5	I-6	I-7	I-8	I-9	I-10	I-11	I-12	I-13	I-14	I-15

2. Emission Measurements (EM)

Priority	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#14	#15
	I-1	I-2	I-3	I-4	I-5	I-6	I-7	I-8	I-9	I-10	I-11	I-12	I-13	I-14	I-15

3. Air Quality (AQ)

Particulates (F-1)	SO <sub>2</sub> (F-2)	CO (F-3)	NO <sub>x</sub> (F-4)	HC (F-5)

4. Monitoring Stations (MS)

A.A. (I-1)	Type Station (I-2)	Priority (I-3)
		1
		2
		3
		4
		5
		6

A.A. (I-1)	Type Station (I-2)	Priority (I-3)
		7
		8
		9
		10
		11
		12

5. Budget Request (BR)

(I-1)	Pub. Ed. (F-1)	Admin/ Enf. (F-2)	Plant Insp. (F-3)	Emis. Meas. (F-4)	MS/Purchase & Upgrade (F-5)	M.S. Oper. (F-6)
1=(County)						
2=(Fed)						
3=(3YrFed)						

6. Air Pollution Legislation (AF)

	Fines (I-2)	(I-3)	Emission Rates in lbs/hr.				
			Part. (F-1)	SO <sub>2</sub> (F-2)	CO (F-3)	NO <sub>x</sub> (F-4)	HC (F-5)
Recom	1	1					
Co. Reg	2	1					
State Reg	3	1					

	(I-1)	Fines (I-2)	(I-3)	Emission Rates in lbs/1000hrs				
				Part.	SO <sub>2</sub>	CO	NO <sub>x</sub>	HC
				(F-1)	(F-2)	(F-3)	(F-4)	(F-5)
Recom	1	////////	2					
Co. Reg	2	////////	2					
State Reg	3	////////	2					

	(I-1)	Fines (I-2)	(I-3)	Smoke	Odor
				Ring. No.	Odor Units
				(F-1)	(F-2)
Recom	1	////////	3		
Co. Reg	2	////////	3		
State Reg	3	////////	3		

KEYPUNCH FOR DEVELOPER ROLE

Developer Number \_\_\_\_\_

Cycle Number \_\_\_\_\_

1. Loan Payment (LP)

Dev. No. (I-1)	Loan No. (I-2)	Amount (F-1)

2. Tax Payment (TP)

Dev. No. (I-1)	Juris. (I-2)	Amount (F-1)

3. Campaign Contribution (CC)

Dev. No. (I-1)	Pol/Bond/Mill No. (I-2)	Amount (F-1)

4. Cash Transfer (CT)

From (I-1)	To (I-2)	Amount (F-1)

5. Exofirm Investment (BI)

Dev. No. (I-1)	Exo. No. (I-2)	Amount (F-1)	Location

6. Land Transfer (LT)

Seller (I-1)	AA (I-2)	Vac/ Dev. (I-3)	Zone Cat. (I-4)	Buyer (I-5)	No. of Units (I-6)	or No. of Acres (F-1)	Price/Acre Price/Unit (F-2)

7. Development Costs (DL)

Dev. No. (I-1)	AA (I-2)	Dev. Type (I-3)	No. of Units (I-6)	or	No. of Acres (F-1)

8. Loan Request (LR)

Dev. No. (I-1)	Yrs. (I-2)	Amount (F-1)

### KEYPUNCH FOR PLANNER ROLE

Planner Number \_\_\_\_\_

Cycle Number \_\_\_\_\_

- ## 2. Special Programs (SP)

[illegible]

- ### 3. Rezoning Application (RZ)

[illegible]

KEYPUNCH FOR POLITICIAN ROLE

Central City Politician ( )

Cycle Number \_\_\_\_\_

County Politician ( )

1. City Change in Operating Expenses (UV)

	Pol. No. (I-1)	Category (I-2)	% Total Revenue (F-1)	Amount (F-2)
A	1	1	XXXXXXXX	
B	1	2		
C	1	3		
D	1	4		
E	1	5		
F	1	6		
G	1	7		
H	1	8		
I	1	9		
J	1	10		
K	1	11		
L	1	12		
O	1	17	XXXXXXXX	
P	1	18	XXXXXXXX	

O R

2. County Change in Operating Expenses (UV)

	Pol. No. (I-1)	Category (I-2)	% Total Revenue (F-1)	Amount (F-2)
A	5	1	XXXXXXX	
B	5	4		
C	5	5		
D	5	6		
E	5	7		
F	5	13		
H	5	15		
I	5	9		
J	5	10		
K	5	11		
L	5	12		
O	5	17	XXXXXXXX	
P	5	18	XXXXXXXX	

3. Normal Operating Millage (RM)

Pol. No. (I-1)	Total Operating Millage (F-1)

4. Cash Transfer (CT)

From (I-1)	To (I-2)	Amount (F-1)

5. Special Grant (SG)

Pol. No. (I-1)	Type (I-2)	Amount (F-1)

6. Land Transfer (LT)

Seller (I-1)	AA (I-2)	Vac/Dev (I-3)	Zone/Cat (I-4)	Buyer (I-5)	No. Units or No. Acres (I-6)	Price/Acre Price/Unit (F-2)

## 7. Bond, Special Millages (BS)

[illegible]

## 8. Capital Improvements (CP)

## 9. Special Program (SP)

[illegible][illegible]



KEYPUNCH FOR INDUSTRIALIST ROLE

Industrialist Number \_\_\_\_\_

Cycle Number \_\_\_\_\_

1. Production Level (PL)

Indust. No. (I-1)	Fuel (I-2)	Emission Cons (I-3)	Control Cons (I-4)	Prod. Level (F-1)	Sales Price (F-2)	Estimated <del>Units</del> Units (F-3)

2. Land Transfer (LT)

Seller (I-1)	AA (I-2)	Vacant/ Dev. (I-3)	Zoning Cat. (I-4)	Buyer (I-5)	No. of Units (I-6)	or Acres (F-1)	Price/Acre Price/Unit (F-2)

3. Cash Transfer (CT)

From (I-1)	To (I-2)	Amount (F-1)

4. Pollution Controls (PC)

Ind. No (I-1)	Process No. (I-2)	Control No. (I-3)

5. Loan Payment (LP)

Ind. No. (I-1)	Loan No. (I-2)	Amount (F-1)

6. Tax Payment (TP)

Ind. No. (I-1)	Juris. (I-2)	Amount (F-1)

7. Non-Pollution Expenditure (NP)

Ind. No. (I-1)	Depreciation Allowance (F-1)	Equipment Expansion (F-2)	Building Expansion (F-3)	Plant Maintenance (F-4)

8. Campaign Contribution (CC)

Ind. No. (I-1)	Pol/Bond/ Mill No. (I-2)	Amount (F-1)

9. Loan Request (LR)

Ind. No. (I-1)	No. Years (I-2)	Amount (F-1)

10. Recommended Dividends

---

**Cycle Number** \_\_\_\_\_

[illegible]

(bbb) - optional bond/mill number

MAXIMUM OF 40 ISSUES  
PER CYCLE

KEYPUNCH FOR CANDIDATE ELECTION MODEL

Cycle Number \_\_\_\_\_

INCUMBENTS

Candidate No.	Opponent: Gamed = 1 Sim. = 2	Party Support 1. - 60.	Candidate Name
Col 1-2	Col 3	Col 4-8	Col 9-28
01 (Ward 1)			
02 (Ward 2)			
03 (Ward 3)			
04 (Suburb)			
05 (Twn. 1)			
06 (Twn. 2)			
07 (Co. CC.)			
08 (Co. CC.)			

OPPONENTS

Candidate No.	If Sim. - Opp. Type	Candidate Name
Col 1-2	Col 3	Col 9-28
09 (Ward 1)	BLANK	
10 (Ward 2)		
11 (Ward 3)		
12 (Suburb)		
13 (Twn. 1)		
14 (Twn. 2)		
15 (Co. CC.)		
16 (Co. CC.)		

Cand. No.	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)
Ward 1									
Ward 2									
Ward 3									
Suburb									
Twn. 1									
Twn. 2									
Co.CC.									
Co.CC.									
Ward 1									
Ward 2									
Ward 3									
Suburb									
Twn. 1									
Twn. 2									
Co.CC.									
Co.CC.									

INCUMBENTS

OPPONENTS

Cand. No.	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)	ISS A (S)
Ward 1									
Ward 2									
Ward 3									
Suburb									
Twn. 1									
Twn. 2									
Co.CC.									
Co.CC.									
Ward 1									
Ward 2									
Ward 3									
Suburb									
Twn. 1									
Twn. 2									
Co.CC.									
Co.CC.									

INCUMBENTS

OPPONENTS

## OTHER FORMS

#### IV. REZONING APPLICATION

##### A. Owner

Developer #1 ( )	Industrialist #1 ( )	General Market ( )
Developer #2 ( )	Industrialist #2 ( )	Central City ( )
Developer #3 ( )	Industrialist #3 ( )	County ( )
Developer #4 ( )	Industrialist #4 ( )	
Developer #5 ( )	Industrialist #5 ( )	
Developer #6 ( )	Industrialist #6 ( )	
Developer #7 ( )	Industrialist #7 ( )	

##### B. Analysis Area \_\_\_\_\_

##### C. Present Development

Vacant ( )      Developed ( )      Public Bldgs., Park, Etc. ( )

##### D. Present Land Use

<i>Developed Residential</i>	<i>Insert No. Units</i>	<i>Vacant</i>	<i>Insert No. Acres</i>
R-1 (low density, high cost) _____		R (single-family) _____	
R-2 (med. density, med cost) _____		M (multiple-family) _____	
R-3 (high density, low cost) _____		C (commercial) _____	
M-1 (low density, high cost) _____		I (industrial) _____	
M-2 (med. density, low cost) _____		O (bureaucratic) _____	
		A (agricultural) _____	
<i>Developed Non-Residential</i>	<i>Insert No. Acres</i>		
LS (local shopping) _____		<b>NOTE: ONLY ONE LINE SHOULD BE FILLED IN UNDER "PRESENT LAND USE"</b>	
RS (regional shopping, office) _____			
I (endogenous industry) _____			
O (exogenous industry) _____			
O (exogenous bureaucratic) _____			
A (active farming) _____			

##### E. Proposed Zoning

R (single-family residential) _____	I (industrial) _____
M (multiple-family residential) _____	O (bureaucratic) _____
C (commercial) _____	A (agricultural) _____

##### F. Planners Recommendation

##### Politicians Decision

##### Final Outcome

Yes	No	Yes	No	
_____	_____	_____	_____	_____
_____	_____	_____	_____	Cycle Number
_____	_____	_____	_____	_____

The following should be printed in the APEX Gazette: (please write clearly)

1

NAME \_\_\_\_\_

ROLE	NAME	DATE
1. Director	John Doe	10/26/2023
2. Manager	Jane Smith	10/26/2023
3. Analyst	Bob Johnson	10/26/2023
4. Clerk	Alice Brown	10/26/2023
5. Receptionist	Charlie Davis	10/26/2023
6. Security Guard	Diana Evans	10/26/2023
7. Janitor	Frank Green	10/26/2023
8. Mail Carrier	Grace White	10/26/2023
9. IT Support	Henry Black	10/26/2023
10. HR Representative	Ivy Gray	10/26/2023
11. Sales Representative	Jack Blue	10/26/2023
12. Customer Service	Karen Red	10/26/2023
13. Finance	Leo Yellow	10/26/2023
14. Marketing	Mia Purple	10/26/2023
15. Operations	Noah Silver	10/26/2023
16. Logistics	Olivia Gold	10/26/2023
17. Procurement	Peter Bronze	10/26/2023
18. Quality Control	Quinn Copper	10/26/2023
19. Compliance	Rachel Iron	10/26/2023
20. Legal	Sam Steel	10/26/2023
21. Accounting	Tina Nickel	10/26/2023
22. Tax	Umar Zinc	10/26/2023
23. Insurance	Valerie Tin	10/26/2023
24. Risk Management	Walter Lead	10/26/2023
25. Safety	Xavier Platinum	10/26/2023
26. Environmental	Yara Silver	10/26/2023
27. Sustainability	Zoe Gold	10/26/2023
28. Innovation	Adam Copper	10/26/2023
29. Research	Bella Iron	10/26/2023
30. Development	Carl Steel	10/26/2023
31. Testing	Dora Nickel	10/26/2023
32. Deployment	Ethan Zinc	10/26/2023
33. Support	Fiona Tin	10/26/2023
34. Training	Gavin Lead	10/26/2023
35. Documentation	Hannah Platinum	10/26/2023
36. Communication	Ian Silver	10/26/2023
37. Collaboration	Jessica Gold	10/26/2023
38. Teamwork	Kyle Copper	10/26/2023
39. Problem Solving	Liam Iron	10/26/2023
40. Creativity	Mia Steel	10/26/2023
41. Innovation	Nora Nickel	10/26/2023
42. Research	Oliver Zinc	10/26/2023
43. Development	Pamela Tin	10/26/2023
44. Testing	Quinn Lead	10/26/2023
45. Deployment	Rachel Platinum	10/26/2023
46. Support	Samuel Silver	10/26/2023
47. Training	Tina Gold	10/26/2023
48. Documentation	Umar Copper	10/26/2023
49. Communication	Valerie Iron	10/26/2023
50. Collaboration	Walter Steel	10/26/2023
51. Teamwork	Xavier Nickel	10/26/2023
52. Problem Solving	Yara Zinc	10/26/2023
53. Creativity	Zoe Tin	10/26/2023
54. Innovation	Adam Lead	10/26/2023
55. Research	Bella Platinum	10/26/2023
56. Development	Carl Silver	10/26/2023
57. Testing	Dora Gold	10/26/2023
58. Deployment	Ethan Copper	10/26/2023
59. Support	Fiona Iron	10/26/2023
60. Training	Gavin Steel	10/26/2023
61. Documentation	Hannah Nickel	10/26/2023
62. Communication	Ian Zinc	10/26/2023
63. Collaboration	Jessica Tin	10/26/2023
64. Teamwork	Kyle Lead	10/26/2023
65. Problem Solving	Liam Platinum	10/26/2023
66. Creativity	Mia Silver	10/26/2023
67. Innovation	Nora Gold	10/26/2023
68. Research	Oliver Copper	10/26/2023
69. Development	Pamela Iron	10/26/2023
70. Testing	Quinn Steel	10/26/2023
71. Deployment	Rachel Nickel	10/26/2023
72. Support	Samuel Zinc	10/26/2023
73. Training	Tina Tin	10/26/2023
74. Documentation	Umar Lead	10/26/2023
75. Communication	Valerie Platinum	10/26/2023
76. Collaboration	Walter Silver	10/26/2023
77. Teamwork	Xavier Gold	10/26/2023
78. Problem Solving	Yara Copper	10/26/2023
79. Creativity	Zoe Iron	10/26/2023
80. Innovation	Adam Steel	10/26/2023
81. Research	Bella Nickel	10/26/2023
82. Development	Carl Zinc	10/26/2023
83. Testing	Dora Tin	10/26/2023
84. Deployment	Ethan Lead	10/26/2023
85. Support	Fiona Platinum	10/26/2023
86. Training	Gavin Silver	10/26/2023
87. Documentation	Hannah Gold	10/26/2023
88. Communication	Ian Copper	10/26/2023
89. Collaboration	Jessica Iron	10/26/2023
90. Teamwork	Kyle Steel	10/26/2023
91. Problem Solving	Liam Nickel	10/26/2023
92. Creativity	Mia Zinc	10/26/2023
93. Innovation	Nora Tin	10/26/2023
94. Research	Oliver Lead	10/26/2023
95. Development	Pamela Platinum	10/26/2023
96. Testing	Quinn Silver	10/26/2023
97. Deployment	Rachel Gold	10/26/2023
98. Support	Samuel Copper	1