**City Building Game**

**Basic Instructions**

1. Set up the grid either a 3x3 or 2x2 for shorter games. Use the square and city scorecards from the games sheets section.
2. Set the number of rounds. Recommend 3 rounds for beginners and 5 or more for experienced players.
3. Design your city with the initial units given. Be sure to meet all requirements.
4. Feel Free to name your stores, neighborhoods, parks and landmarks make it feel like a city you would want to live in.
5. Place the unit tokens on the appropriate squares on the scorecard
6. Roll the penalty dice and follow calculate the penalty based on the dice roll.
7. Add up the Quality of Life (QOL) points for each unit (given in the unit data cards) and write the final value in each square scorecard. Be sure to include the penalties. Write it in the appropriate section of the scorecard.
8. Calculate the City Income by adding all the units income (given in the unit data cards). Be sure to consider the QOL bonuses and the dice penalties. Write it in the appropriate section of the scorecard.
9. Take the city income into the next round. Purchase anything you want. Be sure to follow the rules and minimum requirements.
10. Repeat for however many rounds you decided to play.
11. Calculate the data needed to determine the winning categories.
12. Discuss.

**3 x 3 Gridded City (Or 2x2 Grid for Quicker Game)**

* + Take the city map and section it off into 9 squares from the game board examples.

**Each Square needs**

* + School for everyone – school serves 15 households
  + 1 store serves 5 households (grocery or supermarket, restaurant). 1 supermarket serves 15 households
  + Needs at least 3 households, (Apartments count as 5 households)
  + 1 first responder
  + Electricity supplied to all households
    - Fossil Fuel (1 energy token provides electricity to 10 households)
    - Solar or Wind or Hydro
  + Telecommunications supplied to all households
    - High Speed (1 token provides services to 10 households)
    - Fiber
* **Each Square needs in its square or one adjacent to it**
  + Work (needs 1 point of work for every household)
    - Office (counts as 3 points, but there needs to be a college)
    - Can be manufacturing (counts as 4 points)
    - Can be store (counts as 1 point per store)
    - Hospital (can count up to 4 points)
    - Attractions (counts as 1 point of work)
* **Each City Needs**
  + 1 Recreation
  + Hospital (needs 2 workers)
* **Miscellaneous Rules**
  + You can go negative after the penalty round.
  + School needs 1 person working in it
  + Store must have 1 person working in it
  + Supermarket must have at 2 people working in it
  + Manufacturer must have 3 people working in it
  + Office needs 2 people working in it
  + Recreation needs at least 1 person working
  + Hospital needs 2 workers

**Start with:**

* 49 households
* 9 schools
* 9 stores
* 9 First Responders
* 8 Manufacturers
* 1 Hospital
* 1 Recreation
* 9 fossil electricity tokens
* 9 high speed internet token

**Calamity (Penalty) Dice (roll a six-sided dice and calculate the penalty by square)**

Calculate the effects of each penalty one at a time.

1. Severe Weather
   1. Remove 3 households if you have less than 12 first responders
   2. Hard to Get to Work: Lose an extra QOL point for each commuter
2. Flu Season
   1. Crowded Areas: Lose 1 QOL point for every apartment or supermarket
   2. Remove 1 household for every 4 apartments (round down)
3. Car Accidents Increase
   1. Traffic Increase – Lose 1 point of QOL for each commuter
   2. For every 15 commuters remove 1 household
4. Water Scarcity
   1. Lawn Care Suffers: lose 1 QOL point for every 10 houses (round down)
   2. Manufactures utilities increase: Lose $1 for every 4 manufacturers (round down)
5. Heat Wave
   1. Crime increases: lose 5 QOL points if you have less than 10 first responders
   2. Fires break out: Remove 3 buildings if you have less than 10 first responders
   3. Remove 5 households if you have only 1 hospital
6. No Penalty

**Rounds after Initial Round**

You now have a little money in your pocket try to use it to grow your city. Remember you need people to work at your new places. Keep in mind you can’t upgrade houses or stores so be careful with how many you put in a grid.

You get to keep your points from the previous round even if the min. requirements have changed or you no longer meet them due to penalty or upgrades.

**Adjusted Rules and Points**

* + Exodus Penalty is adjusted every round. Can be the average QOL minus a dice roll – 10 (suggest -$5)
  + Happy City Bonus is adjusted every round can be the average QOL plus a dice roll +10 (suggest +$20)
  + Note: roll the dice for each case
  + Can use another metric for penalty and bonus

**Determining Winners**

There are 10 accomplishments that give a certain number of victory points. 4 are worth 10 victory points, 6 are worth 5; the city with the highest number of victory points wins.

10 Victory Points

* Highest Property Values / Quality of Life for a single square (Richest neighborhood)



* Highest Property Values / Quality of Life for an entire city (Richest City)



* Lowest Gap between high and low squares for Property Values / Quality of Life (Egalitarian City)



* Highest Total Income Earned for a City (Most Prosperous City)

5 Victory Points

* Highest number of Households (Largest City)
* Highest Number of Stores (Shopping Central)
* Highest Number of Schools and Colleges (Educated City)
* Highest Number of Manufactures (Blue Collar City)
* Highest Number of Offices (White Collar City)
* Highest Number of Clean Energy Tokens (Green City)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Units** | **Purpose** | **Requirements** | **Notes** | **Price** | **City Income** | **QOL/PV** |
| **House** | Houses 1 household | - | - | 1 | - | - |
| **Apartment** | Houses 5 households | - | - | 6 | +4 | - |
| **Store** | Goods for 5 households | Needs 1 worker | Provides 1 job | 1 | +1 | - |
| **Supermarket** | Serves 15 households | Needs at least 2 workers | Provides up to 4 jobs | 8 | +4 | +2 |
| **School** | Teaches 15 households | Needs 1 worker | Needs a school for every 15 households | 2 | -1 | +1 |
| **Magnet Schools** | Upgrades schools in the grid | - | QOL and Income increase of 1 per school | 3 | -1 | +3 |
| **College** | Provides education | - | Allows for units that require college | 8 | -3 | +4 |
| **First Responder** | Police, Fire, EMS, etc | Needs at least 1 worker | All squares need at least 1 first responder | 2 | -1 | +1 |
| **Hospital** | Keeps city healthy | Needs at least 2 workers | Provides up to 4 jobs. City needs at least 1. | 12 | -2 | +3 |
| **Recreation** | QOL increase for a square | - | All cities need at least 1 recreation | 3 | -1 | +2 |
| **Culture** | Adds class to a city | - | Choose to add 7 quality points or 11 to income | 10 | +2 | +5 |
| **Manufacturer** | Provides jobs | Needs at least 3 workers | Provides up to 4 jobs. | 4 | +4 | -1 |
| **Office** | Provides jobs | Needs at least 2 workers | Provides up to 4 jobs.  Needs college | 5 | +8 | - |
| **Automation** | Improves manufactures for city | Needs college | Manufactures can now work only employ 3, but need only 2 | 25 | - | +3 |
| **Fossil Fuels** | Provides energy for 10 households | - | Provides “dirty” energy (coal, gas, etc.) | 4 | -1 | - |
| **Clean Energy** | Energy for 10 households | - | Provides “clean” energy (solar, wind) | 7 | -1 | +2 |
| **Internet** | Internet for 10 households | - | Provides quality internet | 4 | -1 | - |
| **Unit** | **Purpose** | **Requirements** | **Notes** | **Price** | **City Income** | **QOL/PV** |
| **Fiber Internet** | Internet for 10 households | - | Provides the best quality internet. allows for fiber upgrades. | 7 | -1 | +2 |
| **5G** | Fast wireless internet | Needs all fiber in a square for all households | Allows for 5G upgrades | 10 | +4 | +4 |
| **Upgrade Manufacturer to Office** | Take advantage of more skilled workers | Needs a manufacturer and a college | Replace manufacturer with an office unit | 5 | - | - |
| **Upgrade Internet to Fiber** | Upgrade infrastructure |  | Replace internet token with fiber token | 5 |  |  |
| **Upgrade Fossil Fuel to Clean Energy** | Upgrade Infrastructure |  | Replace fossil fuel token with clean energy token | 5 |  |  |
| **Commuter Train** | Connects a grid to any other | - | Removes commuter penalties for attached squares | 20 | -2 | +2 |
| **Automated Cars (SAVs)** | Improve traffic for a square | Needs 5G | Removes commuter penalties for square; immune to accidents | 20 | +5 | +3 |
| **Bike Lanes** | Allows safer and easier bike travel in a square | - | Removes commuter penalties for square | 10 | -3 | +3 |
| **Storm Mitigation** | Helps deal with weather | - | Makes square immune to severe weather penalties | 8 | -2 | +2 |
| **Waste Water Reuse** | Saves Water | - | Lowers Cost, but is perceived poorly | 8 | +2 | -2 |

10 Victory Points

* Highest Property Values / Quality of Life for a single square (Richest neighborhood)



* Highest Property Values / Quality of Life for an entire city (Richest City)



* Lowest Gap between high and low squares for Property Values / Quality of Life (Egalitarian City)



* Highest Total Income Earned for a City (Most Prosperous City)

5 Victory Points

* Highest number of Households (Largest City)
* Highest Number of Stores (Shopping Central)
* Highest Number of Schools and Colleges (Educated City)
* Highest Number of Manufactures (Blue Collar City)
* Highest Number of Offices (White Collar City)
* Highest Number of Clean Energy Tokens (Green City)

**Square Scorecard**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Households** | 3-5 | 5-10 | 10-15 | 15-20 | 20-25 | 25-30 |
| **Schools** | 1 (+1 QOL / +$1) | | | 2 (+1 QOL / +$1) | | |
| **Stores** | 1 (+$1) | 2 (+$1) | 3 (+$1) | 4 (+$1) | 5 (+$1) | 6 (+$1) |
| **Energy** | 1 (-$1) | | 2 (-$1) | | 3 (-$1) | |
| **Internet** | 1 (-$1) | | 2 (-$1) | | 3 (-$1) | |
| **Employers**  **/Tech** | MANUFACTURING OFFICE 5G AUTOMATION SAVs | | | | | |
| **Other Units** | 1st RESPOND CULTURE RECREATION BIKE TRAIN HOSPITAL | | | | | |

Jobs \_\_\_\_\_\_ + Commuters Out (-1 QOL) \_\_\_\_\_\_ – Commuters In (-1 QOL) \_\_\_\_\_\_ = \_\_\_\_\_\_\_\_

Water Feature? (+2 QOL) ; QOL Penalties \_\_\_\_\_\_\_; Added QOL \_\_\_\_\_\_\_ ; Total QOL \_\_\_\_\_\_\_

QOL > 12 (+4 bonus) YES or NO ; QOL > 20 (+8 bonus) YES or NO ; Bonus \_\_\_\_\_\_\_\_\_\_

Added Income \_\_\_\_\_\_\_ ; Income Penalties \_\_\_\_\_\_\_\_; Total Income \_\_\_\_\_\_\_\_\_

**City Score Card**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Square** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **Total** |
| **Households** |  |  |  |  |  |  |  |  |  |  |
| **Jobs** |  |  |  |  |  |  |  |  |  |  |
| **PV/QOL** |  |  |  |  |  |  |  |  |  |  |
| **City Income** |  |  |  |  |  |  |  |  |  |  |

Exodus Penalty QOL < (\_\_\_\_\_\_) YES or NO if YES get another \_\_\_\_\_\_\_ in city income

Happy Citizens Bonus QOL > (\_\_\_\_\_\_) YES or NO if YES get another \_\_\_\_\_\_\_ in city income

Start with (Round 1):

* 54 households
* 9 schools (9 jobs)
* 10 stores (10 jobs)
* 9 first responders (9 jobs)
* 8 Manufacturers (24-32 jobs)
* 1 Hospital (2-4 jobs)
* 1 Recreation (1 job)
* 9 fossil electricity tokens
* 9 internet tokens

**Round 1**

Start with:

* 49 households
  + Houses from monopoly, hotels from monopoly
* 9 schools
  + Can be a book game piece or a school game piece
* 9 stores
  + Can be a different colored house, or supermarket different colored hotel
* 9 first responders
  + Fire, Police, EMS very needed services for every neighborhood
* 8 Manufacturers
  + Crane or factory piece
* 1 Hospital
  + Hospital piece or gurney piece
* 1 Recreation
  + Can be a park, theme park, etc.
* 9 fossil electricity tokens
  + Can just be a colored token or chip
* 9 high speed internet token
  + Different colored token or chip

Office (skyscraper), Bike lane (bike token), automation (robot), self driving car (car token), Storm Mitigation (bridge token), college (bigger school piece), 5G (radio antennae), commuter train (train piece), cultural building (museum token), magnet schools (magnet token)

Can also just use small tokens and big tokens for house/apartment and store vs supermarket. And tokens for schools, energy, and internet (everything on the game board).

**Challenges**

Roll a dice for calamities (floods, ice, crime, traffic/road closures/ accidents)

Can institute harsher green rules, also introduce water, introduce harsher commuting rules.

Can be modified to challenge students. Introduce penalties for manufacturing

Can also take students through the evolution of city. Determine which areas are richer historically, what type of work people in those areas do. How people in manufacturing sectors survive, how cities evolved from manufacturing?

**Simplifications**

4x4 grid

Don’t keep track of jobs.

**Discussion**

How did you balance Quality of Life concerns with income? Was your city sustainable? Why not?

How dense was your city? Did building apartments vs. house matter to you? Where did you put your jobs?

Did most people commute or work in their grid?

Did the calamities affect your city? Did you design to accommodate it?

Do you think your type of city would work as the population got bigger?

What was your largest employer?

How was QOL of life spread across your city? Where some areas much better than others?

How do you think your city would do on climate change?