Z E P T O P O L I S

for unexpanded Commodore VIC-20

2021 Jason Justian

ZEPTOPOLIS is a turn-based city management game for the unexpanded Commodore VIC-20. To load ZEPTOPOLIS from tape, remove all expansion memory from your VIC-20, turn it on, put the tape in the Datasette, and hold down SHIFT while pressing RUN/STOP. Follow the instructions on the screen.

When *ZEPTOPOLIS* starts, you may begin playing immediately. A joystick is required.

How to Play *ZEPTOPOLIS*

The joystick moves the Pointer around the screen.

To perform an action, press the Fire button. There are several types of actions, depending on what kind of structure is under the Pointer.

(1) **You may build a strucutre.** Move the joystick to the left and right to select a structure to build. To build the structure, press the Fire button. The new structure will be built at the Pointer position

(2) **You may see information about an existing structure.** At the top of the screen, at the right side, you'll see information about what other structures are nearby (meaning, "connected by four or fewer lengths of road") or adjacent (meaning, "immediately to the north, south, east, or west"). You'll also see the next year's estimated income or maintenance cost for the structure.


(3) **You may cancel the action.** Choose the X symbol and press Fire, or simply move the joystick South.

(4) **You may end the current year.** Move the joystick North, then confirm by pressing Fire.

When you end a year, the game will process the structures, calculate your expenses and income, adjust population and satisfaction rating. One unoccupied home may become occupied, and one unoccupied business may become occupied. It's also possible for unexpected disasters to arrive at this time.

You'll see a progress bar moving across the Info Bar from left to right. When it's finished, the progress bar will be replaced by your annual budget statement. It will show your income and your expenses for the previous year.
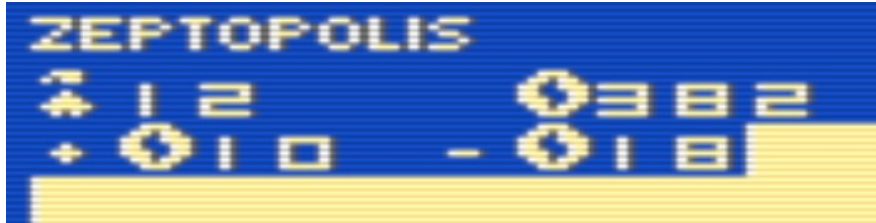
ZEPTOPOLIS Structures

Before getting into income and expenses, let's introduce the ZEPTOPOLIS structures. When reading these descriptions, note the following definitions:

- **"Nearby"** means that a structure is connected by road, with no more than four roads between the two structures.

- **"Adjacent"** means that a structure is cardinally-adjacent, being directly to the north, south, east or west.

- Note that any "adjacent" structure is also "nearby."

 Road

Roads allow people to get home, to work, out to businesses. Roads let firetrucks get to fires, and sick people get to Clinics, and school buses get to Schools. Most structures require Roads in order to function fully.

 Unoccupied Home

You can decide where Homes might go, but the home buyers will decide if the property is good enough. A Home may sell if there's a Wind Farm within five spaces.

Home

A Home adds to your income, population, employement level, and education level. A Home also attracts Businesses. Each year, a Home may contain between 3 and 6 occupants. A Home with a nearby Clinic gets a one-resident population bonus.

Property Value Impact: +2 to Businesses with at least one nearby Home, and +1 to Businesses with at least one adjacent home. -1 to Homes with at least one adjacent Home.

Unoccuped Business

You can decide where Businesses might go, but the entrepreneurs will decide if the property is good enough. A Business might move in if there's a Wind Farm within four spaces, a Road adjacent to the property, *and* potential customers living nearby.

Business

A Business adds to your income.

Property Value Impact: +2 to Homes with at least one nearby Business, and -1 to Homes with at least one adjacent Business. +2 to Businesses with at least one adjacent Business.

Wind Farm

A Wind Farm provides power to Homes and Businesses. A Wind Farm's range is five spaces. Power lines are underground, so there's no need for Roads to deliver power. Both Homes and Businesses require power, so unoccupied properties will not become occupied without it, and occupied properties are at risk of abandonment if a Wind Farm is removed or destroyed.

Maintenancet: 5 per year
Property Value Impact: -1 to Homes and Businesses with at least one adjacent Wind Farm

School

A School is the heart of its community. It provides education to students living nearby. It adds 3 to the property value of nearby Homes. A School increases your satisfaction score, and contributes to Business Confidence.

Maintenance: 15 per year
Property Value Impact: +3 to Homes with at least one nearby School.

Firehouse

A Firehouse puts out little fires before they become big fires. It protects nearby Homes and Business from regular fires (ones not causes by maintenance failures or disasters).

Maintenance: 10 per year
Property Value Impact: +2 to Businesses with at least one nearby Firehouse. -1 to Homes with at least one adjacent Firehouse

Clinic

A Clinic provides emergency and preventative medical care to nearby residents. It has the effect of increasing the population of each nearby Home by 1 resident.

Maintenance: 10 per year
Property Value Impact: +2 to Homes with at least one nearby Clinic. -1 to Homes with at least one adjacent Clinic.

Park

A Park provides a place to relax and enjoy the scenery, or to play some baseball. Homes and Businesses both benefit from Parks.

Maintenance: 3 per year
Property Value Impact: +1 to Homes with at least one nearby Park, and +1 to Homes with at least one adjacent Park (note that an adjacent Park will count as both "adjacent" and "nearby"). +2 to Businesses with at least one adjacent Park.

Lake

You don't build Lakes. They are part of your city when it is formed. Lakes cannot be removed; you have to build around them. But they do have advantages.

In terms of property values, Lakes are treated like Parks. So your Homes and Businesses can have the benefits of Parks, but without the maintenance costs.

Also, Lakes can protect properties from Tornadoes, as a Tornado dissipates over a Lake. Sometimes, a Tornado forms over a Lake and dissipates immediately!

Property Value Impact: Same as Parks

The Status Bar

The Status Bar is at the top of the screen.

It has four parts, from left to right:

Population: How many people lived in your city at the end of the previous year. This will fluxuate, but each Home will contribute between 3 and 6 people, plus one person if there's a nearby Clinic.

If the Population icon is flashing slowly, it means that Business Confidence is low, and your Businesses are at risk of fleeing.

Treasury: Your current treasury amount. Keep an eye on your Treasury to make sure you have enough to meet your maintenance costs.

Satisfaction: The percentage of residents who think you're doing a good job.

The tens-place number is a rough estimate of employment rate. It's the number of Businesses divided by the total number of occupied properties, with a minimum of 1 and a maximum of 9.

The ones-place number is an estimate of education. It's the number of Homes with at least one nearby School divided by the total number of Homes.

If the Satisfaction icon is flashing slowly, it means that unemployment is high, and your residents are at risk of moving out.

Year: The year, starting at 2021, the year ZEPTOPOLIS was made. Each turn is another year.

The Info Bar

The Info Bar is under the Status Bar.
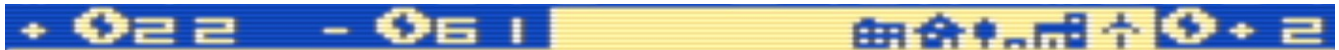
The left-hand side always shows the previous year's budget, with income and maintenance costs. Use this to estimate the next year's budget, paying special attention to whether you'll be able to afford the next year's maintenance costs.

The right-hand side shows information about the structure under the Pointer when you press Fire. It shows a list of all nearby structures. For Homes and Businesses, the far right-hand park of the Info Bar shows the esimated income from the selected property ("esimated" because the board might change between now and the next year). For structures with maintenance costs, this area will show the maintenance cost as a negative number.

Income and Maintenance

When you end the current year, the game scans the board and looks for structures with a maintenance cost (as described in ZEPTOPOLIS Structures and Appendix). Maintenance cost is deducted from your Treasury during this scan.

If your Treasury cannot afford the maintenance, nothing is deducted. Instead, the structure has a chance of going into disrepair and being destroyed. This will show on-screen as a fire.

Income is in the form of property tax, which is based on the value of each piece of property in your city. When you end the turn, the game evaluates the board. For each property (Homes and Businesses), property values are added for adjacent and nearby structures, as described in the ZEPTOPOLIS Strucutres section. Also see the chart in Appendix.

Income is summed by the game, and is added *after* all maintenance is deducted. So make sure that your Treasury can cover your expenses!

Disasters

While Zeptopolis is a pretty nice place to live--there's no pollution and no crime to speak of--it is occasionally beleagured beleaguered by a strange combination of natural disasters, Earthquakes and Tornadoes. Both of these can upset the most well-laid plans and stress budgets of growing cities.

An Earthquakes is caused by shifting tectonic plates in the earth's crust causing sudden and violent shaking, which damages many areas of your land. On-screen, this damage appears as fires, and it indiscriminately destroys whatever is on that land.

Earthquakes are sort of timed events. It will be at least 15 years between Earthquakes, but if one hasn't occured 15 years after the last one, you know it's coming soon.

A Tornado is a powerful rotating vortex of wind over land. They are less destructive than Earthquakes, but they are more frequent. They are highly localized, so they may miss your city center entirely, or they may be quite destructure. A Tornado ends if its path takes if off-screen. If a Tornado hits a Lake, or starts over a Lake, it ends immediately.

Expect Tornadoes every few years, and don't be surprised if you get Tornadoes on consecutive years.

Why Are My Businesses Leaving?

Established Businesses may move out for a number of reasons.

Check your power. Businesses are very likely to leave if their supporting Wind Farm is removed or is destroyed.

Check your Roads. If a Business has no adjacent Roads, it will move out 100% of the time.

Business Confidence is low. Business Confidence is the difference between Population and total Business property value, plus education level. If there aren't enough people in your city to support the Businesses that are there, not only may Businesses leave, but no new Businesses will move in! If the Population icon is flashing slowly, your Businesses do not feel that your city offers a good business climate.

You can raise Business confidence in a few ways:

- Add Homes, if possible. This may be a slow way to do it, as only one Home can become occupied each year.

- Strategically place Clinics. A Clinic adds one Population to each Home, so it can be a fast way to improve Business Confidence.

- Strategically place Schools. Education level increases Business Confidence in a community. If your education value is low, a School might do the trick.

Sometimes they just leave. It's true. About 3% of Businesses will move on every year, either going out of business, or wandering to what they think are greener pastures. There's nothing you can do about it. This won't affect small cities too much, but larger cities will definitely notice this problem as an important planning factor.

What About My Peeps?

Homes may become unoccupied for a number of reasons:

Check your power. Residents are very likely to leave if their supporting Wind Farm is removed or destroyed.

Low Satisfaction. Residents might leave if they are unsatisfied, which usually means that they're un- or under-employed. If the Satisfaction icon is flashing slowly, it means that your residents are at risk of moving out due to unemployment.

Employment is a simple quotient of Businesses divided by total properties. Keep it at 70% or more, and you're fine.

Appendix

Maintenance and Property Value Impact Charts

Structure	Maintenace
Home	-
Business	-
Wind Farm	5
School	15
Firehouse	10
Clinic	10
Park	3
Lake	-

Structure	Nearby Home	Adjacent to Home
Home	N/A	-1
Business	+2	-1
Wind Farm	-	-1
School	+3	-
Firehouse	-	-1
Clinic	+2	-1
Park	+1	+1
Lake	+1	+1

Structure	Nearby Business	Adjacent to Business
Home	2	+1
Business	N/A	+2
Wind Farm	-	-1
School	-	-
Firehouse	+2	-
Clinic	-	-
Park	-	+1
Lake	-	+1