Z E P T O P O L I S

For Commodore VIC-20

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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. For the cartridge version, simply insert it into the cartridge port, and power up.

Note: To play *ZEPTOPOLIS*, a joystick is required.

TL;DR

Basic controls are as follows:

- Use the joystick to **move your pointer** around the screen
- To **build something**, press the joystick button. Use the joystick to select your structure, then press the button again
- Or, move the joystick down to **cancel the build**
- Or, move the joystick up, then press the joystick button to **end the turn**
- To **start a new city**, press the RESTORE key
- To **save a city** to tape, press the S key
- To **load a city** from tape, press the L key

How to Play *ZEPTOPOLIS*

The joystick moves the pointer around the screen.

To perform an action, press the joystick 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 joystick button. The new structure will be built at the pointer's position. Any structure built on undeveloped land costs 5. If there's an existing structure or a Fire, the build cost is 10. This amount is deducted from your treasury.

(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 revenue or maintenance cost for the structure.

(3) **You may cancel the action.** Move the joystick down.

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

When you end a year, the game will process the structures, calculate your maintenance costs and revenue, adjust residents 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 Detail Bar from left to right. When it's finished, the progress bar will be replaced by your annual budget statement. It will show your revenue and your maintenance costs for the previous year.
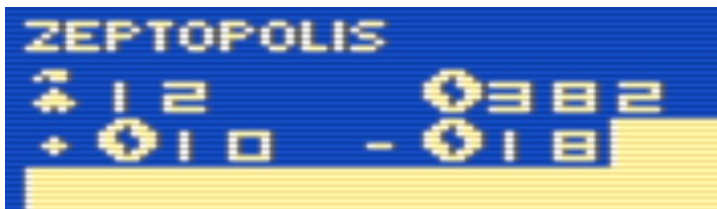
ZEPTOPOLIS Structures

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 pieces of Road 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 fire trucks 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 attractive. Residents may move in if there's a Wind Farm within five spaces.

Home

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

Property Value Impacts: +2 to Businesses with at least one nearby Home, and +1 to Businesses with at least one adjacent Home. -2 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 adequate. A Business might move in if there's a Wind Farm within five spaces, a Road adjacent to the property, *and* potential customers living nearby (or another adjacent Business).

Business

A Business adds to your city's revenue.

Property Value Impacts: +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. Homes and Businesses require power, so unoccupied properties will not become occupied without it, and an occupied property will be abandoned if it loses access to a Wind Farm.

Maintenance: 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 2 to the property value of nearby Homes. A School increases your satisfaction score, and contributes to Business confidence.

Maintenance: 15 per year
Property Value Impacts: +2 to Homes with at least one nearby School, and +1 to Homes with at least one adjacent School (note that an adjacent School counts as both "adjacent" and "nearby")

Firehouse

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

Maintenance: 10 per year
Property Value Impacts: +2 to Businesses with at least one nearby Firehouse, and +1 to Businesses with at least one adjacent Firehouse (note that an adjacent Firehouse counts as both "adjacent" and "nearby"). -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 adding one resident to each nearby Home.

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

Park

A Park provides a space to relax and enjoy the scenery, or to play some baseball, or to read quietly under a tree. Homes and Businesses alike benefit from Parks. Parks are an inexpensive way to improve property values.

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

Lake

Lakes are small bodies of water that provide recreational and business opportunities. Lakes are part of your city's land when it is formed. Lakes cannot be removed; you have to build around them. But they have advantages!

In terms of property values, Lakes are treated as Parks, and provide the same revenue, but without maintenance costs.

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

Property Value Impacts: Same as Parks

The Overview Bar

The Overview Bar is at the top of the screen.

It has four parts. From left to right, these are as follows:

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

If the residents icon is flashing, it means that Business confidence is low, and your Businesses are at risk of fleeing their properties.

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 the city's employment rate. It's the number of Businesses divided by the number of Homes, with a minimum of 1 and a maximum of 9.

The ones-place number represents the city's education level. 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, 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 Detail Bar

The Detail Bar is under the Overview Bar.

The left-hand side usually shows the previous year's budget, with revenue 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 the joystick button. It shows a list of all nearby and adjacent structures. For Homes and Businesses, the far right-hand part of the Detail Bar shows the esimated revenue from the selected property ("esimated" because the city might change between now and the next year). For structures with maintenance costs, this area will show the maintenance cost as a negative number.

Maintenance and Revenue

When you end the current year, the game scans your city and looks for structures with a maintenance cost (as described in *ZEPTOPOLIS* **Structures** and **Charts**). 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.

Revenue is in the form of property tax, which is based on the value of each property (Home and Business) in your city. When you end the turn, the game evaluates the city. For each property, the property value is assessed for adjacent and nearby structures (as described in *ZEPTOPOLIS* **Strucutres** and **Charts**).

Assessed revenue is summed and put into your treasury *after* all maintenance is deducted. So make sure that your treasury can cover your expenses!

Major Disasters

While Zeptopolis is a pretty nice place to live--there's no pollution and no crime to speak of--it is occasionally beleaguered by a strange combination of natural disasters, Earthquakes and Tornadoes. Additionally, the world-at-large sometimes afflicts your city with Pandemics. All of these major disasters can upset the most well-laid plans and stress the budgets of growing cities.

An Earthquake 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 Fire, and it indiscriminately destroys any structure 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 entirely, or hit it right in the center. 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.

A Pandemic is a disease prevalent throughout the world, which will affect your city. Pandemics don't destroy buildings, but they reduce your population. Homes without a nearby Clinic will lose from 0-3 residents per year. Homes *with* a nearby Clinic will lose the +1 resident bonus, but will otherwise be protected from the Pandemic.

Pandemics, like Earthquakes, are loosely-timed events. It will be at least 25 years between Pandemics, but it could be more. A Pandemic will last between 1 and 4 years. During the Pandemic, the border of the screen will be yellow.

Fires

Fires are also a possible source of trouble. Any Home or Business without a nearby Firehouse may catch fire and burn down.

Schools and Clinics have their own fire suppression systems, and will not burn down. Firehouses handle their own stuff.

Parks and Roads cannot burn down. Have you ever seen a road on fire? No, you haven't.

Tips

- Don't build too much at once. Remember that only *one Home and one Business* may become occupied every year. Work on making your city stable before expanding too far.
- If you're hit by a disaster, prioritize rebuilding your Roads. If important structures are separated from properties, the impact of the disaster will be worse.
- After a disaster, wait to rebuild structures, if you can. The Fires will eventually go out, leaving empty land, which is less expensive to build on.
- The School is the most powerful structure in the game. A School provides lots of property value, and education improves Business confidence. Put as many Homes around Schools as you can.
- Make use of Lakes. They count as Parks for property values, they don't cost anything, they're indestructible, and they provide protection against Tornadoes.
- You can minimize the effects of a Pandemic by building Clinics everywhere in the Pandemic's first year. You can always replace the Clinics with something else when the Pandemic is over.
- You can control where Homes and Businesses move in by having only one or two unoccupied properties at a time.

Why Are My Businesses Leaving?

Established Businesses may move out for a number of reasons.

Check your power. A Business will leave if its 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 the number of residents 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 residents icon is flashing, 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 resident 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.

- Decrease taxes for Businesses. If your cash flow is good, lowering the tax burden of Businesses by reducing property values is a viable strategy for keeping Business around.

Why Are My Residents Leaving?

Homes may become unoccupied for a couple of reasons:

Check your power. Residents will leave if their supporting Wind Farm is removed or destroyed.

Low Satisfaction. Residents might leave if they are unsatisfied, which means that they're un- or under-employed. If the satisfaction icon is flashing, it means that your residents are at risk of moving out due to low employment. Keep satisfaction at 70% or more, and you're fine.

To increase employment, you'll need to increase the number of Businesses operating in your city.

Saving and Loading A City

A lot of work can go into a city, so *ZEPTOPOLIS* allows you to save and load cities from tape[1]. If the pointer is blinking, move the joystick down. Then:

Saving To Tape

- Press "S" on your VIC-20's keyboard

- The Detail Bar prompts you to press Record and Play. Do so, or press RUN/STOP to cancel the save.

- The screen border becomes red, indicating that the save is in progress

- Once the border becomes blue and the music starts, the save is complete

Loading From Tape

- Press "L" on your VIC-20's keyboard

- The Detail Bar prompts you to press Play. Do so, or press RUN/STOP to cancel the load.

- The screen border becomes green, indicating that the load is in progress

- Once the border becomes blue and the music starts, you may resume building your city

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1   Hey, if tape is good enough for Scott Adams, it's good enough for me!

Modpacks

A Modpack modifies the ruleset used by *ZEPTOPOLIS*, to make the game more or less challenging. MODPACKs can be loaded from tape using the **Loading From Tape** procedure above. You may start a new city with the Modpack by pressing Restore, or you may simply resume a city in progress with the new ruleset.

Modpacks are available for download at:

www.beigemaze.com/zeptopolis

Charts

Structure Maintenance Costs and Abilities

Structure	Maint	Special Ability
Home		Contributes 3-6 residents
Business		
Wind Farm	5	Powers Homes and Businesses
School	15	Increases Education Level in nearby Homes
Firehouse	10	Prevents Fires in nearby Homes and Businesses
Clinic	10	+1 resident for nearby Homes
Park	1	
Lake		• Counts as a Park • Dissipates Tornadoes

Structure Property Value Impact on **Homes**

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

Property Value Impact on **Businesses**

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

Maximum Property Value: 9
Minimum Property Value: 0

"All adjacent structures are also nearby structures."

--Jason

Thanks

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Thanks to my sons Murphy, Merric, Reilly ("what year was that computer even made?"), and Bird for their testing, and to my wife, Trinity, for putting up with some late nights.

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