# IsoMetro

## Free Edition Guide

a work in progress

# 1 Introduction

This guide explains basic information about the tools at your disposal in IsoMetro™ so that you can start out on the path to creating your very own functioning, and maybe even thriving, city.

## 1.1 Chapters Listing

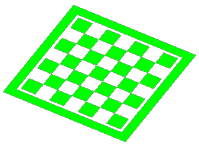
1. Introduction (You are here!)
2. Zoning
3. Utilities
4. Transportation
5. De-Zoning and Demolition

# 2 Zoning

As a municipal entity, you can directly construct infrastructure such as roads, utility systems, and publicly operated civic buildings. However, you cannot directly construct buildings where people live, conduct business, or produce goods. Instead, you can permit your citizens to develop such buildings if they so choose, by marking land with a zoning designation.

Buildings developed by citizens generate tax income, which can be used to offset the construction and maintenance costs of the city services that were provided in order to entice them to be built.

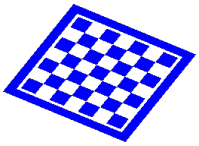
## 2.1 Residential




A residential zone (depicted as green) allows citizens to develop buildings used for housing purposes. Buildings range from detached houses, to town-homes, to high-rise apartment buildings.

 Residential buildings tend to be the most averse to pollution. You can check pollution levels in the pollution info view.

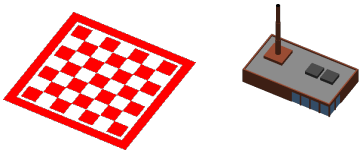
## 2.2 Commercial




A commercial zone (depicted as blue) allows citizens to develop buildings used for retail purposes. Buildings range from detached stores, to contiguous malls, to high-rise office buildings.

 Commercial buildings have varying environmental requirements and may not develop in heavily polluted areas. You can check pollution levels in the pollution info view.

## 2.3 Industrial



An industrial zone (depicted as red) allows citizens to develop buildings used for manufacturing purposes. Buildings range from light industrial buildings for basic assembly, to more complex manufacturing facilities, to large-scale chemical processing plants.

## 2.4 Costs of Density vs Costs of Sprawl

Higher-density buildings generally have stricter requirements for utilities and public service availability. For instance, apartment buildings need sewer service provided to them by the city to be feasible, whereas detached houses can include their own septic tanks.

Depending on how you design your city, lower-density buildings can come with a hidden cost – to cover a larger area with the same number of inhabitants, you'll need more total miles of roads and utility conduits.

You can find out how much tax income a building is generating, as well as what utilities and civic services it's using, by using the Query Tool.

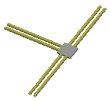
It's up to you to figure out whether the benefits of designing compact city centers outweigh the costs of investing in more scalable transportation options, more comprehensive utility infrastructure, and more robust civic services.

# 3 Utilities

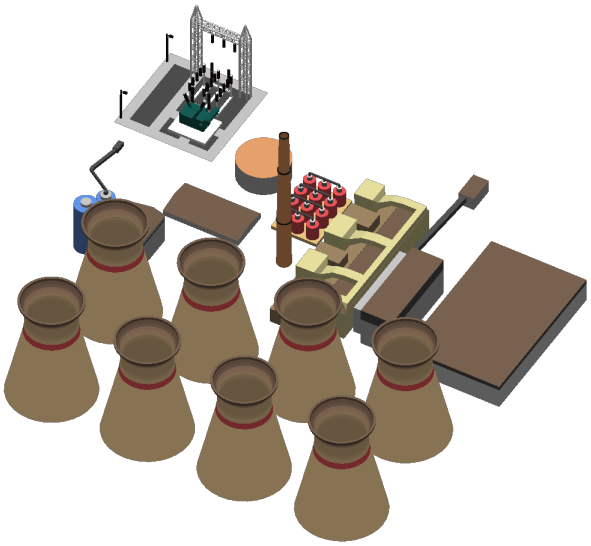
Access to utility networks is critically important for economic growth. As buildings increase in density, their utility requirements also become more complex. For example, small houses in rural areas may use wells instead of needing to be connected to a municipal water system and use septic tanks instead of needing to be connected to a municipal sewer system, whereas a high-rise apartment building would likely need the city to provide these services via a pipe network.

 You can check the range in which buildings can connect to each kind of utility network, in the info views.

## 3.1 Power



Power wires can be placed to form a network that connects buildings to electrical generation facilities. Power facilities need to be directly connected to a network, but buildings that make use of the power system can be connected from a few tiles away.



The coal power plant generates electricity which can be used by a power network.

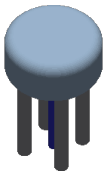
 You can find out the current utilization and maximum capacity of an power generation facility using the query tool.

 Burning fossil fuels to generate electricity produces a significant amount of pollution. You can check the pollution impact using the pollution info view.

## 3.2 Water



Water pipes can be placed to form a network that connects buildings to fresh water facilities. Water facilities need to be directly connected to a network, but buildings that make use of the water system can be connected from a few tiles away.



The water tower provides capacity to a water network.

🔍 You can find out the current utilization and maximum capacity of a fresh water facility using the query tool.

## 3.3 Sewer



Sewer pipes can be placed to form a network that connects buildings to sewage processing facilities. Sewage facilities need to be directly connected to a network, but buildings that make use the sewer system can be connected from a few tiles away.



The sewage pond is a basic facility for adding capacity to a sewer network.

🔍 You can find out the current utilization and maximum capacity of a sewage processing facility using the query tool.

A sewage pond pollutes its surroundings, so residents won't want to construct homes nearby. You can check the pollution impact using the pollution info view.

# 4 Transportation

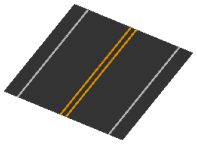
Your citizens can use any mixture of a variety of ways to get from one place to another, but no matter what type of transporation they use, they will refuse to spend too much total time traveling – nobody wants to spend a full day just getting to work or trying to pick up groceries.

🔍 From any tile, you can use the Query Tool to find out what other tiles are reachable within citizens' maximum travel time.

## 4.1 Walking

Your citizens are capable of simply walking from one location to another, even without pathways provided explicitly for this purpose. They can walk through tiles that aren't specifically meant to be paths (empty forest tiles for instance), but how much of their travel budget they use to traverse any particular tile depends on how friendly or hostile that tile is. For example, walking along a dedicated sidewalk takes up very little of the travel budget, but walking right alongside a wide, high-speed roadway is a last resort.

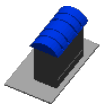
## 4.2 Personal Cars



The easiest thing to do to let your citizens travel longer distances than they would walk is by constructing roads for them to drive personal cars on. Some lower-density buildings such as detached houses can directly access roads, but larger, higher-density buildings will need dedicated parking facilities nearby for people to walk to. Beware that roads also have a maximum amount of vehicle traffic that they can handle.

🔍 You can check the current utilization and maximum traffic capacity of a road using the query tool.

## 4.3 Buses



Buses are a great tool for areas where you already have roads, but are struggling with the limitations of personal cars (traffic volume, parking areas). A bus is able to travel along roads just like personal cars would, but each person on a bus takes up far less space than if they were in their own cars. So, buses can make better use of limited road capacity. Riders also do not need to deal with finding a parking space, so you can free up land and money that would otherwise go to parking infrastructure.

Bus routing is automatic, so all you need to do is place bus stops near destinations.

🔍 You can check how much of a road's traffic capacity is used by buses vs. personal cars using the query tool.

# 5 De-Zoning and Demolition

## 5.1 De-Zoning

To remove the  zoning classification currently designated for a particular tile, use the  de-zoning tool.

If a building is no longer eligible to exist on a tile due to the zoning change, it will be automatically demolished.

It is not necessary to de-zone land in order to place city buildings – the de-zoning will happen automatically and any existing buildings will be demolished to make space for the new building.

## 5.2 Demolition

The  demolition tool is for destroying buildings themselves, whether you built them or they were constructed on zoned land based on economic conditions.

If the economic conditions, environment quality, utility availability, etc. of a  zoned tile are such that a building is eligible to be developed after the current building is  demolished, construction may occur very shortly thereafter. If you want zoned land to stay cleared, you probably should use the  de-zoning tool instead.