

General balance / new mechanics related to the general balance

1) Industrial buildings should not appear in the city center and office buildings should appear in their place. Industrial buildings should be separated at least 1 km from the center.

2) That the buildings of cities grow taking into account the following factors (not just the center):

Building type	Building level determined by:
Residential	-The initial city center -Proximity and quantity of public transport -Emissions
Commercial	-The initial city center -Proximity and quantity of public transport -Goods sent
Industrial	-Requirement: minimum 1km from the city center -Proximity and quantity of public transport -Goods sent

3) On the other hand, increase the emissions generated by cars (currently too low) and be able to add acoustic barriers (glass or stone) to roads and railways, to reduce the emissions caused by the vehicles they pass around.

4) The ability to activate or deactivate a building in order to stop paying for its maintenance. However, when you want to reactivate it, you will have to pay 20% of the maintenance accumulated over all these years with a maximum cost of the construction price of the building for the rehabilitation.

5) That the growth factor of goods also varies the amount of industry or commerce that exists in cities in relation to the population, that is, there may be a city with more jobs/shopping than population (if goods are delivered) but the total balance of the region must be maintained:

City 1	200 / 200 / 200	+0% +0%	City 1	200 / 241 / 169	+50% +0%
City 2	150 / 150 / 150	+0% +0%	City 2	150 / 121 / 190	+0% +50%
City 3	60 / 60 / 60	+0% +0%	City 3	60 / 48 / 51	+0% +0%
Total region	410 / 410 / 410	-	Total region	410 / 410 / 410	-

6) The destination layer can filter between destinations by car and by public transport and only show one of the 2, since when a bus passes through a place, you don't see how many people go by car.

7) Slightly change the route calculation so that for shorter routes there is a greater tendency to use public transport and for longer routes to use the car than currently, making the range of the car greater.

8) Better balancing of some vehicles and editing of values within the game: example: ships have the ability to load all the people in 1 second or some trams have a stronger acceleration than an articulated bus. And sometimes we want vehicles that adapt slightly better to a route (that are slightly faster or slower, or slightly more or less powerful or in terms of capacity), being able to adjust the values slightly (with a maximum of a 20% reduction, or a 10% increase) to optimize the route you are on (with maintenance costs that may change slightly)

9) When you make a line, choose between 2 options: p refers to bus lanes or avoids bus lanes. Since often in cities with very little traffic volume and on an avenue with 2 lanes per side, I want trucks (or intercity buses with few stops) not to go behind a bus that stops all the time.

10) Make the number of destinations by car and destinations by public transport consistent. For example: I made a map (year 2025) in which there was only one highway that ran through all the cities and efficient bus lines that covered everything. In some cases, the destinations by public transport (only bus) were almost three times as many as the destinations by car, when in reality it should be the same amount, since they can go the same distance, they go at the same speed...

Balance in route calculation

11) A % of the population is very car-savvy and always goes by car, % does not have a car and will always use public transport, % of the population has a car but does not always feel comfortable using it, and will assess what suits them best in each case depending on the public transport and motorway network. This would avoid having motorways and streets deserted by cars even if the public transport network is very good.

Modality	1850	1900	1950	2000	2025
Always car	5%	10%	15%	20%	25%
Will rate	10%	20%	30%	40%	50%
Always public transport	85%	70%	55%	40%	25%

Car route calculation:

12) Take into account **the number of urban intersections that may be on a route** and penalize them with 30 seconds. This way, people would prefer bypasses or more direct roads (with more capacity) even if it were a slightly longer route and many traffic jams would be avoided.

13) Take into account **the traffic penalty that the city is having** , for every 10% penalty, it adds 1 minute of travel to all routes originating in that city, so if the traffic is very dense, people will take the car less (and maybe some would skip public transport), but if there is not much traffic there would be more people who would choose to go by car. This would also add a lot of balance to the game.

Calculation of routes for public transport:

14) Take into account **the number of transfers on a route** , add up to 1 minute for each transfer, this way you would avoid absurd trips to take the bus to go 100-300 meters to the station or change trains, when the one you had already taken you to the place you wanted to go. It would also force the player not to do many short routes and train changes at each station.

15) Taking into account the **frequencies of the line** (which was already done in TF1 but not in TF2), an increase in frequencies would not only imply a reduction in saturation at the stations, but also increases in the volume of passengers. But I understand that this aspect could not have much weight in the calculation because it would force to put vehicles as small as possible so that the frequencies could be high, and also routes with very little traffic of a train every 20 min, could not have passengers. That is why I understand that they did not implement it in TF2.

16) Take into account the **penalty for station congestion that the city is having** , for every 10% penalty, it adds 1 minute of travel to all routes originating in that city, so if there is a lot of congestion at the stations, people will take less public transport (and maybe some would use the car), but if there is not a lot of congestion, there would be more people who would choose to go by public transport. This would also add a lot of balance to the game.

17) Explain well, within the game, the entire calculation operation and the choice of routes. So that everyone can better manage or optimize the line by those who know.

New mechanics in the sandbox / free game (for players who want them)

18) Continue with the campaign line in the Minneapolis chapter in which the new bus and truck drivers had to be previously trained in a practice circuit (play with a limited number of trucks and buses), implement it in the base game (it adds a lot to the game). Being able to define a line as practice for any means of transport and every X meters traveled you can have a new vehicle, the meters would be the following:

	Road	Railway	Water	Air
1850	500 m	2,000 meters	1,600 m	Every time the plane lands at an airport
1900	1,000 meters	4,000 meters	2,400 m	
1950	1,500 meters	6,000 m	3,200 m	
2000	2,000 meters	8,000 m	4,000 meters	

19) Follow the campaign mechanics of needing goods to build bridges or tunnels. When you build bridges or tunnels, a small building will be generated next to the beginning of the bridge/tunnel, this will produce stone (in the case of tunnels) or consume stone, construction materials or steel (in the case of bridges and depending on the type it consumes a different commodity). The amount of goods you have to send will depend on the length of the bridge/tunnel, 200 units per km at a construction speed of 100 units/year, for example. Until all the materials have been transported (and in the case of the bridge, consumed) it will not be built.