LOGISTICS IN CITIES: SKYLINES

György Hampel

Institute of Economics and Rural Development, Faculty of Engineering, University of Szeged, Szeged, Hungary
hampel@mk.u-szeged.hu

Abstract

Simulations and computer games have been used as a teaching method for a long time. They model a section of reality to give a comprehensive, simplified but sufficient view of a problem or situation. They also give the possibility to see the results of decision-making in real time.

Cities: Skylines city-building game was released in March 2015 and several expansion packs (e.g. Mass Transit DLC, Snowfall DLC and Green Cities DLC) were released since then. Many user-made modifications have also become available since the release of the game (e.g. traffic managers) to further improve the user experience. Cities: Skylines is a single-player game, where the player acts as a mayor of the city under development. The game is an interesting example that has many well-thought ideas on city planning. The game comes up with a feeling of a real functioning city with many different aspects well simulated. The strengths of the game include the modelling of (1) citizens and their movement, (2) the traffic system and transportation, (3) the public services and service accessibility.

The aim of the game is to build a city and maximize the number of its inhabitants or solve a scenario (e.g. bad traffic situation) without exceeding the available city budget generated by taxes. This can be achieved by creating residential, commercial and industrial zones (with water and sewage pipes, power lines, etc.) and connecting these with different types of roads and railways which can lead even outside the city boundaries. Citywide bus, tram, subway, monorail lines and taxi stations or even cable car and ferry lines can be created to connect different areas of the city. Buildings for education, police, fire service and healthcare also have to be built. The development and maintenance of this infrastructure has to be financed from the city budget.

The citizens commute to work, to shopping or attend recreation activities using different means of transportation. Heavy traffic can be banned from residential areas, citizens can be encouraged to use bicycles or electronic cars to prevent air pollution.

Every type of transportation and city service has its own budget. Public transportation may have a separate day and night time budget if the player finds this necessary. The number of public service vehicles can be adjusted on every single line based on the number of citizens waiting at the stops or by looking at the number of the travellers on the vehicles. User made mods allow the gamers to set the maximum speed on roads, or adjust the lane directions at the crossings.

If the user has an adequate graphics card in the computer, the city can not only be viewed from above, but every single vehicle (or citizen) can be selected and can be followed on ground level in 3D.

Of course Cities: Skylines is a game with a simplified model of reality, but it is suitable to give an insight into the planning of a city including its logistics.

Key words: simulation games, logistics, Cities: Skylines