

## SymbioCity

Your goal in this lab will be to create a more sustainable city by addressing needs in development, transportation, energy, waste, and water. Start by visiting <http://www.btslearning.com/app/eBS/symbiocity/index.asp>. If needed, click on the language of your choice. If you would like to name your city and enter your information you may, but it is not required. When ready, click “next”. After the introduction, click “start the challenge”.

List the eight major challenges your city faces and one consequence for each:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

Click on “city plan solutions”. With a budget of \$42,100, check the solutions you feel will best lead to a sustainable future. Record your choices below.

<b>City Development</b>	<b>Cost</b>		<b>Traffic &amp; Transportation</b>	<b>Cost</b>
<input type="radio"/> Unrestricted Exploitation	_____	<input type="radio"/>	Diesel Fuel Buses	_____
<input type="radio"/> Build within the City	_____	<input type="radio"/>	Convert to Ethanol Buses	_____
<input type="radio"/> Satellite City(s)	_____	<input type="radio"/>	Biogas Vehicles	_____
<input type="radio"/> Mixed Areas	_____	<input type="radio"/>	Bus Rapid Transit & Carpool Lanes	_____
<input type="radio"/> Separate Areas	_____	<input type="radio"/>	Congestion Charges	_____
<input type="radio"/> Mainly Residential	_____	<input type="radio"/>	Flex Hours	_____
		<input type="radio"/>	Subsidize Hybrid Cars	_____
<input type="radio"/> High Density City	_____			
<input type="radio"/> Medium Density City	_____	<input type="radio"/>	Travel Planning IT-system	_____
<input type="radio"/> Low Density City	_____			
		<input type="radio"/>	Create Walking & Bicycle Lanes to Nodes	_____
<input type="radio"/> Use Existing Green Areas	_____	<input type="radio"/>	Extend Bus Traffic	_____
<input type="radio"/> Small Scattered Green Areas	_____	<input type="radio"/>	Extend Roads	_____
<input type="radio"/> Green Corridors	_____			
		<input type="radio"/>	Expanded Railway Services to Suburbs	_____
<input type="radio"/> Integrated Planning and Processes	_____	<input type="radio"/>	Tramway for City Center	_____
<input type="radio"/> Indep & Decentralized Planning/Processes	_____			
<input type="radio"/> Exhibitions to Inform Stakeholders	_____			
<input type="radio"/> Stakeholder Workshops	_____			
<b>TOTAL COST CITY DEVELOPMENT</b>	_____		<b>TOTAL COST TRAFFIC &amp; TRANSPORTATION</b>	_____

Click next tap at the top

Click next tab at the top

<b>Energy</b>		<b>Cost</b>	<b>Waste</b>		<b>Cost</b>
<input type="radio"/>	Save Energy – Media Campaign	_____	<input type="radio"/>	Recycle – Media Campaign	_____
<input type="radio"/>	Subsidize Reconstruction	_____			
<input type="radio"/>	Directives for New Buildings	_____	<input type="radio"/>	Burn Waste to Reduce Landfill	_____
			<input type="radio"/>	Cover the Landfill	_____
<input type="radio"/>	Reduce Grid Energy Leakage	_____	<input type="radio"/>	Burn Waste for Energy	_____
<input type="radio"/>	Re-Use Waste Heat from Industries	_____			
<input type="radio"/>	Energy Saving Light Bulbs	_____	<input type="radio"/>	Materials Recycling System and Facility	_____
			<input type="radio"/>	Centralized Waste Collection	_____
<input type="radio"/>	Extend Coal Power Plant	_____	<input type="radio"/>	Resource Management Center	_____
<input type="radio"/>	Extend Network & Improve Reliability	_____			
			<b>Water &amp; Sanitation</b>		<b>Cost</b>
<input type="radio"/>	Hydro and Wind Power Mix	_____	<input type="radio"/>	Save Water – Media Campaign	_____
<input type="radio"/>	Geothermal Power Investment	_____	<input type="radio"/>	Water Efficient Taps and Shower Nozzles	_____
<input type="radio"/>	Solar Heating/Cooling & Wind Power	_____			
			<input type="radio"/>	Filtering and Purification Systems	_____
<input type="radio"/>	District Heating/Cooling – Whole City	_____	<input type="radio"/>	Improve Water Purification Plant Capacity	_____
<input type="radio"/>	District Heating/Cooling – New Area	_____			
			<input type="radio"/>	Biogas Plant	_____
			<input type="radio"/>	Resource Management Center	_____

Click next tab at the top

**TOTAL COST ENERGY** \_\_\_\_\_ **TOTAL COST WASTE** \_\_\_\_\_ **TOTAL COST WATER & SANITATION** \_\_\_\_\_

Once you are happy with your decisions, click “save changes” and look to the bottom right corner of the screen.

What is your remaining budget? \_\_\_\_\_

What is your city’s sustainability rating? \_\_\_\_\_

How many points did your city score? \_\_\_\_\_

Click “stakeholder feedback”. Describe some of the feedback you receive on your plan. (scroll down)

Get ready to pay attention, then click on “execute plan & quit” to continue. Based on the newspaper articles that show your cities future, describe some of the events that occur. (write quickly as timeline moves)

Time pending, run the simulation again to try and improve your score.

Trial 2 remaining budget \_\_\_\_\_

Trial 2 sustainability rating \_\_\_\_\_

Trial 2 points \_\_\_\_\_