



# City Description Rubric

**0**  
**No Points**  
Requirements missing.

**1**  
**Poor**  
Poor–Fair quality. Fulfills less than 50% of requirements.

**2**  
**Good**  
Average-Above average quality. Fulfills at least 85% of requirements.

**3**  
**Excellent**  
Excellent quality. Fulfills 100% of requirements with additional distinctive features.

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I. Introduce City (6 Points)	0	1	2	3
<b>1. City overview</b> <ul style="list-style-type: none"> <li>Introduce city: location, geography, climate, development, etc.</li> <li>City services and quality of life</li> </ul>	No description of city.	Brief description of city.	Good description of the city.	Detailed description of city.
<b>2. Features and innovations</b> <ul style="list-style-type: none"> <li>Attributes that make this city unique</li> <li>Innovations, and futuristic elements</li> </ul>	No description of unique features.	Brief description of unique features and innovations.	Good description of unique features, innovations, and futuristic elements.	Detailed description of unique features, innovations, and futuristic elements.
II. Define the Problem (6 Points)	0	1	2	3
<b>3. Describe the solid waste situation</b> <ul style="list-style-type: none"> <li>Types of trash (including plastic, hazardous, e-waste, yard, etc.)</li> <li>Collection and separation</li> <li>Processing</li> </ul>	No description of the solid waste situation.	Brief description of the solid waste situation. Does not fully describe all aspects of the process.	Good description of the solid waste situation, including all phases of the process.	Detailed description of the solid waste situation and all aspects of the process.
<b>4. Describe the problems associated with solid waste situation</b> <ul style="list-style-type: none"> <li>Cost and resources required</li> <li>Health &amp; safety, environmental impact and energy efficient</li> </ul>	No description of issues or problems.	Brief description of problems, not all issues considered.	Good description of problems, most issues considered.	Detailed description problem and issues associated with waste system.
III. Specs and Solution (21 Points)	0	1	2	3
<b>5. Describe the solution</b> <ul style="list-style-type: none"> <li>Types of trash handled</li> <li>Collection &amp; separation</li> <li>Processing methods, 4 R's</li> </ul>	No description of solution.	Brief description of solution.	Good description of the solution.	Excellent description of solution.
<b>6. Describe outcomes</b> <ul style="list-style-type: none"> <li>Processed into useful products</li> <li>Eliminated, buried, incinerated, composted, etc.</li> <li>Converted to energy</li> </ul>	No description of waste process outputs.	Brief description of waste process outputs. Not all factors considered.	Good description of waste process outputs. Most factors considered.	Excellent description of all waste process outputs.
<b>7. Describe technology and infrastructure required</b> <ul style="list-style-type: none"> <li>Describe technology involved</li> <li>Describe infrastructure required</li> <li>Location within city</li> </ul>	No description of technology and infrastructure.	Brief description of technology and infrastructure.	Good description of the technology and infrastructure.	Excellent description of technology and infrastructure.
<b>8. Discuss energy impacts</b> <ul style="list-style-type: none"> <li>Energy required for entire trash cycle (collection, separation, processing)</li> <li>Energy recovered</li> </ul>	No discussion of energy efficiency or impacts.	Some discussion of energy efficiency, but misses parts of the trash processing cycle.	Good discussion of energy impacts. Most aspects considered.	Excellent discussion of energy impacts throughout the processing cycle.



DOWNLOAD THIS RUBRIC at [futurecity.org/resources](https://futurecity.org/resources) (filter for Rules and Rubrics).

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<b>No Points</b> Requirements missing.	<b>Poor</b> Poor–Fair quality. Fulfills less than 50% of requirements.	<b>Good</b> Average-Above average quality. Fulfills at least 85% of requirements.	<b>Excellent</b> Excellent quality. Fulfills 100% of requirements with additional distinctive features.



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III. Specs and Solution (21 Points) (Continued)	0	1	2	3
<b>9. Discuss key issues</b> <ul style="list-style-type: none"> <li>Health &amp; safety concerns</li> <li>Environmental impacts</li> <li>Energy efficient</li> </ul>	No discussion of key elements.	Some discussion of a few key elements.	Good discussion of most or all key elements.	Excellent discussion of all key elements.
<b>10. Tradeoffs &amp; compromises</b> <ul style="list-style-type: none"> <li>Risks, benefits, costs (health and safety, pollution, and location)</li> </ul>	No discussion of risks or tradeoffs.	Brief description of at least one risk and/or tradeoff.	Good description of potential risk areas and tradeoffs or compromises.	Excellent description of risks and tradeoffs or compromises for this solution.
<b>11. Engineering disciplines involved</b>	Engineering disciplines are not identified.	One engineering discipline is identified.	More than one engineering disciplines are identified.	More than one engineering disciplines are discussed.
IV. Judge Assessment of Solution (15 Points)	0	1	2	3
<b>12. Effectiveness of solution in meeting requirements</b> <ul style="list-style-type: none"> <li>Assessment of overall problem</li> <li>Accounts for all types of waste (plastic, hazardous, e-waste, yard, etc.)</li> <li>Clever design and application of technology</li> <li>Accounts for key issues: health &amp; safety, cost, environmental impact</li> </ul>	Not effective.	Solution is fairly effective, technology and design can be better. Does not account for all types of trash or all key issues.	Solution is effective, but technology and design could be improved. Accounts for all types of trash and most key issues.	Solution is a highly effective, with excellent technology application that accounts for all types of trash and key issues.
<b>13. Quality of solution</b> <ul style="list-style-type: none"> <li>Application of 4 R's</li> <li>Outcomes: useful products, reduced waste</li> <li>Energy requirements, recovery</li> <li>Income generation potential</li> </ul>	Not a good solution.	Solution is fairly good. Reduces waste, but could do a better job of producing useful products and reducing energy requirements.	Solution is good overall, but could be better at converting trash to useful products or generating income.	Design is a very good in reducing waste output, generating useful products and even generating income.
<b>14. Innovative and futuristic solution</b>	Not innovative or original.	Somewhat original or innovative. Not futuristic.	Solution is innovative, original and somewhat futuristic.	Solution is highly innovative, original and futuristic.
<b>15. Plausibility of solution</b> <ul style="list-style-type: none"> <li>Based on sound scientific principles</li> <li>Reasonable expectation that technology will advance in described direction</li> <li>Creditable application of technology</li> </ul>	Implausible nor creditable.	Solution is not very plausible (science fiction).	Solution is somewhat plausible and somewhat creditable.	Solution is highly plausible and creditable.

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<b>IV. Judge Assessment of Solution (15 Points) (Continued)</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>16. Tradeoffs &amp; compromises</b> <ul style="list-style-type: none"> <li>Accounting for risks, benefits</li> <li>Assessing consequences and making logical decisions</li> </ul>	Does not account for identified risks, or no risks identified.	Solution partially accounts for risks. Ignores major issues.	Solution adequately accounts for risks. Could be better.	Solution accounts for and minimizes all identified risks.
<b>V. Writing Skills (12 Points)</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>17. Organization</b>	Poorly organized.	Fair organization.	Good organization.	
<b>18. Writing skills</b>	Poor writing.	Fair writing.	Good writing.	
<b>19. Grammar &amp; spelling</b>	Many errors.	Some errors.	Few, if any, errors.	
<b>20. Maximum number of graphics</b> <ul style="list-style-type: none"> <li>If used, max of 4 (does not include tables)</li> </ul>	Exceeds maximum of 4 graphics and/or illustrations.		Does not exceed maximum of 4 graphics and/or illustrations.	
<b>21. List of references</b> <ul style="list-style-type: none"> <li>At least three acceptable references</li> <li>Wikipedia not recognized as an acceptable reference</li> </ul>	No references.	Less than three acceptable references.	At least three acceptable references.	
<b>22. Word count</b> <ul style="list-style-type: none"> <li>Does not include title, references</li> </ul>	No word count at end of document or inaccurate count.		Accurate word count at end of document.	