WASHINGTON STATE
FUTURE CITY COMPETITION
2019-2020 SEASON

Improved Urban Water Cycle in Coastal South Australia

- Southern Ocean Weather
- Rain
- Green roof and walls
- Stormwater tree pits
- Porous paving

Rain garden/Bio-filtration

Improved infiltration of rain

Soil

Wetlands

Improved ground water recharge

Runoff and discharge closer to natural water cycle. Pollution removed by treatments such as wetlands and biofiltration.
AGENDA

- Washington State Future City Committee
- Changes in the 2019/2020 Season
- Future City National – Fall Webinars
- Website
- Future City Handbook
- Rule Changes
- Organizing Your Teams and Timelines
- Regional Competition Information

Program Framework:
- Virtual City
- City Description
- City Model
- City Presentation
- Program Plan
WASHINGTON STATE FUTURE CITY COMMITTEE

- Karen Pavletich - (Regional Coordinator)
- Steve Cresse - (Treasurer)
- Leann Kostek - (Sponsorship Coordinator)
- Lindsey Genut - (Publicity)
- Tammie Becthel - (Teacher/School Advisor)
- Carina Pham - (Competition Day Coordinator)
- Judy Allen (Photographer)
- Sarah Davis/Jeannne Harshbarger - (Judging Co-Coordinators)
- Carl Buher/Joseph Do - SimCity Program Co-Coordinator/Scoring Co-Coordinator
- Louis Tibbs - (Sim City Advisor)

- Puneet Janda- (Awards/Prizes)
- Jennifer Cheung/Emma Delvento/Hannah Jimma/Jens Nedrud/Steve Allen- (Members-at-Large)
FROM NATIONAL

• **Competition Rule #25 Update** – A recurring question/issue has been the number of words used in the essay, when they are not automatically counted within the word. See clarification in the rule.

• **Competition Rule #30 Update** – *Pullouts and hinged extensions are no longer required to fit within the original size parameters of the model.*

• **Competition Rule #13-15** – There will also be some new language which strengthens / clarifies Regional Coordinator Authority.

• **SimCity Codes** – due to code availability only up to two codes will be initially available to each team. In mid Oct. additional codes may be requested by emailing infor@futurecity.org.

• **Future of the Virtual City** - For this year, SimCity will remain the central component of the Virtual City deliverable. However, this will be the last year it will be required. There are a few promising leads for the future that Future City HQ is working on now. Future City HQ won’t be publicly announcing this update about next season’s change to until the Fall.

• **City Essay** - Students select a threat to their city’s water supply and design a resilient system to maintain a reliable supply of clean water.

• **Project Plan** – No rubric, but 10 points for complete submittal, 5 points for incomplete plan and 0 points for not submitting a plan. More detail provided on the Check-In Reports on page 31 and 41.

• **Forms Going Paperless** - Media waiver, honor statement, homeschool affidavit, and expense forms are no longer printed in the Handbook. Instead, they will all be available in the Resources section of the website (filter for “Competition Forms & Project Plan”).

• **Media Waiver Forms** - This year, all media waivers will be submitted as online forms through the CMS. Parents / guardians will submit the form digitally to the CMS (without needing their own personal account). Educators will be able to see the list of forms submitted by their student’s parents.
REGIONAL INFORMATION

- We are at Shoreline Community College again. We are grateful for their partnership with Future City and ability to accommodate our size. [https://www.shoreline.edu/map/directions-to-campus.aspx](https://www.shoreline.edu/map/directions-to-campus.aspx)

- This will be the 5th year that Inland NW (formerly Eastern Washington) will be hosting a sub-region competition. Their winners will join our regional competition. This continues to be a great opportunity to expose more students to Future City in our area.

- This will be the 5th year with more Regional Awards. If you know of a company or individual who would like to sponsor a Regional award – let us know.

- Note City Essay and Virtual City is due Dec. 20, 2019 to help our teams and judges manage their time. There is a 5-10 deduction for late submittals.

- For Multiple Team Format from one schools you may bring 3-5 teams to represent your school. This will depend on our total team numbers this year. We will be working with you on knowing your active team count. Stay tuned for the final team numbers.
FUTURE CITY WEBINARS
Webinars – Best Practices & Advice

• We’ll have another educator webinar in mid-September.
• Geared towards returning educators.
• Not an introduction to the program like the spring webinar, but instead a “how to get the most out of the experience,” “how to do well” focus.
FUTURE CITY WEBINAR

Webinars – Tap into Tomorrow Theme

• We’ll have our annual theme webinar (probably early October), with water experts.
• For the whole team (kids, educators, and mentors if available).
• Details to come soon.
FUTURE CITY WEBINAR

Webinars – Eye on Engineering

• For the third year in a row, we’ll host an *Eye on Engineering* webinar.

• Not directly/explicitly related to the team’s Future City work (though they can incorporate what they learn from it).

• Chance to hear from professionals and learn about different STEM careers.

Not scheduled yet – will probably be in Oct.
The New Educator Webinar we did in the spring is available in the resources section of FutureCity.org
# COMPETITION OVERVIEW

<table>
<thead>
<tr>
<th>PROJECT DELIVERABLE</th>
<th>COMPETITION POINTS</th>
<th>DUE DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. PROJECT PLAN</strong></td>
<td>10 POINTS</td>
<td>DUE ONE WEEK BEFORE THE COMPETITION</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students complete a Project Plan to help them plan and organize the project. They use it throughout the project.</td>
</tr>
<tr>
<td><strong>2. VIRTUAL CITY</strong></td>
<td>48 POINTS</td>
<td>DUE BEFORE COMPETITION</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students design a Virtual City using SimCity software and present their city’s progress via a slideshow presentation.</td>
</tr>
<tr>
<td><strong>3. CITY ESSAY</strong></td>
<td>60 POINTS</td>
<td>DUE BEFORE COMPETITION</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students describe the unique attributes of their city and provide a solution to this year’s challenge: Identify an issue that senior citizens have and engineer two innovative solutions so they can remain active and independent. (1,500 words maximum).</td>
</tr>
<tr>
<td><strong>4. CITY MODEL</strong></td>
<td>70 POINTS</td>
<td>PRESENTED AT THE COMPETITION</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students build a physical model of a section of their city using recycled materials. In addition to highlighting their city of the future, the City Model must also show the solution to this year’s challenge and include at least one moving part.</td>
</tr>
<tr>
<td><strong>5. CITY PRESENTATION</strong></td>
<td>70 POINTS</td>
<td>PRESENTED AT THE COMPETITION</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Students give a 7-minute presentation discussing features of their future city and their solution to the challenge, followed by a 5-8 minute question and answer period with the judges.</td>
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CAN FUTURE CITY BE CUSTOMIZED FOR MY STUDENTS?

Keep an open dialogue with the Regional Coordinator about the needs of your team. Even if your teams do not complete all the competition deliverables, they may still have an option of presenting at the Regional Completion. While they would not be eligible to move to the final round of competition in the afternoon, there could be some Regional Awards those teams could compete for. They would also receive certificates of participation and swag bags.

Can I Still Do Future City Without Competing?

Yes! Future City is first and foremost a Science, Technology, Engineering, Art, and Math (STEAM) program. Educators, parents, and mentors are encouraged to adapt Future City to match their particular goals. Over the years, educators and mentors have used the Virtual City to teach city planning, the City Essay to strengthen research and writing skills, and the City Model to understand scale and city planning.

Future City Aligns with Academic Standards

Go to futurecity.org/resources (filter for Standards) and download PDFs showcasing how Future City aligns with:

- Common Core State Standards
- Next Generation Science Standards
- Benchmarks for Science Literacy
- National Education Technology Standards
- Principles and Standards for School Mathematics
- Performance Indicators for Technology-Literate Students
# CAN FUTURE CITY BE CUSTOMIZED FOR MY STUDENTS?

## Future City Curriculum Connections & 21st-Century Skill Development

<table>
<thead>
<tr>
<th>COMPETITION DELIVERABLES</th>
<th>Math</th>
<th>Science</th>
<th>Art</th>
<th>Research</th>
<th>Writing</th>
<th>Civics/ City Planning</th>
<th>Public Speaking</th>
<th>Engineering Design Process</th>
<th>Problem Solving</th>
<th>Teamwork</th>
<th>Project Management</th>
</tr>
</thead>
</table>
| **PROJECT PLAN**
  Complete project plan to stay organized and focused throughout the project. |       |         |     |          |         | ✓                      |                |                             | ✓              | ✓        | ✓                   |
| **VIRTUAL CITY**
  Use SimCity software to experiment with city design and development. | ✓    |         |     |          |         | ✓                      | ✓              |                             | ✓              | ✓        | ✓                   |
| **CITY ESSAY**
  Describe your city and solution to a citywide sustainability issue. | ✓    | ✓       |     |          |         | ✓                      | ✓              |                             | ✓              | ✓        | ✓                   |
| **CITY MODEL**
  Build a scale model using recycled materials. | ✓    | ✓       |     |          |         | ✓                      | ✓              |                             | ✓              | ✓        | ✓                   |
| **CITY PRESENTATION**
  Present your city to a panel of judges at your regional competition. |       |         |     |          |         | ✓                      | ✓              |                             | ✓              | ✓        | ✓                   |
HELPFUL - HTTP://FUTURECITY.ORG/

Resources – your quick access to information

Engineer Design Process: Define, Plan, Do and Review

Streamlined information for Parent/Students and Future City Roles for Teacher/Mentors

The web-site will have the most up to date competition information. Please refer to it often.
WEBSITE – RESOURCES QUICK AND EASY

Use the filters for quick navigation to whatever you are looking for. This will be your new best friend.

Or browse through the pages...
WASHINGTON FUTURE CITY WEBSITE

You will also find the link to our local Washington website here on the National site.

On our homepage you will also find our “Future City Basics – Teacher Experience” Video

A competition for 6th, 7th & 8th grade students to foster interest in engineering, math, and science through hands-on, real world applications.

The mission of the Future City Competition is to provide a fun and exciting educational engineering program for sixth, seventh and eighth-grade students that combines a stimulating engineering challenge with a “hands-on” application to present their vision of a city of the future.
The handbook is available on-line for download. If a hard copy is needed, please contact the Regional Coordinator.
The deliverables don’t each have their own section in the handbook. You touch on the deliverable multiple times as part of the Engineering Design Process. The appendix helps to streamline the deliverables.

To help you guide your students, included in each of these sections are:

- Links to activities that have been vetted by past years pilot schools.
- Links to appropriate Future City pages
- Boxed Tips with external links.
- The handbook gives you options on how to present the materials to your students.
FUTURE CITY HANDBOOK

• The handbook has been designed with updates based on input from teachers, mentors and regional coordinator. You will still see Boxed Activities, Tips and Links. There are also “Scripts” to help present Future City Material.

• “Scripts” help present Future City Material. There are still Activities available on the “resource” page of the website.

• Boxed tips are also included with external links to share with your students.

• Links to appropriate Future City pages are also included.

READ THE HANDBOOK AND REFER TO IT OFTEN. IT WILL BE YOUR SECOND BEST FRIEND!!!
The contents is set up to reflect Engineering Design Process: – Define, Plan, Do & Review

Define
20 Identify the Problem
21 Learn the Specs
22 Future City Deliverables
23 Project Plan
24 City Essay
25 City Model
26 City Presentation
27 Project Plan: Set Goals

Plan
25 Brainstorm Solutions
26 Project Plan: Create a Schedule
27 Virtual City
28 Brainstorm Solutions
29 Design It
30 Draft the City Essay

Do
31 Build It
31 Project Plan: Conduct Check-Ins
32 Finalize the City Essay
33 Explore Scale
34 Build the City Model
35 Create the City Presentation
36 Test, Improve & Redesign
37 Practice the Presentation
38 Final Preparations

Review
38 Share It
39 Project Plan: Reflect on Your Project
40 Present Your City

Appendix: Deliverables
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54 City Essay Resources
55 City Essay: Questions to Consider Student Handout
56 Clean Water: Tap Into Tomorrow
57 City Essay: Suggested Outline
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65 City Presentation Requirements
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67 City Presentation Handout
68 City Presentation Rubric

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86 Scoring Rubric
87 Scoring Rubric
88 Prizes and Awards
89 Final Special Awards
90 Competition Exam Form Instructions
91 Regional Coordinator List

Initial Information on Deliverables
The deliverables don’t each have their own section. You touch on the deliverable multiple times as part of the Engineering Design Process.

More information on the Virtual City (note you will need to go on-line to get more details on actually playing the Sim City Game – resource section and also at the Regional Website)

More information on the City Essay

Nice to have competition day information together.
The Appendix is set up with a Deliverable and Competition Sections to quickly guide your teams to what they need. Starts Pg. 40

### Appendix: Deliverables

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<td>Project Plan Part 1: Set Goals</td>
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<td>City Essay: Questions to Consider Student Handout</td>
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<td>61</td>
<td>Clean Water: Tap Into Tomorrow Overview and Research Questions Student Handout</td>
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<tr>
<td>62</td>
<td>Clean Water: Tap Into Tomorrow: Real-World Case Studies Student Handout</td>
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<tr>
<td>63</td>
<td>City Essay: Suggested Outline Student Handout</td>
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<td>64</td>
<td>City Essay Rubric</td>
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### Competition Information

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<td>73</td>
<td>City Model Resources</td>
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<td>74</td>
<td>Build Your City Model Student Handout</td>
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<td>75</td>
<td>City Model Rubric</td>
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<th>City Presentation</th>
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<td>79</td>
<td>City Presentation Requirements</td>
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<tr>
<td>80</td>
<td>City Presentation Resources</td>
</tr>
<tr>
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<td>City Presentation Rubric</td>
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| 94   | Regional Coordinator List   |
Preparing for the Competition

Prepare to Lead: A To-Do List for the Educator

This checklist is a compilation of the preparatory tasks successful educators do in order to ensure a great Future City experience for all involved—their students and themselves. Check off each box until you’ve completed the list and you can be sure that you’re ready to lead your team!

Getting Started

☐ Read this handbook in its entirety. It gives you a sense of the scope of the project, whom you need to be in touch with, how to find key information, and most of all, what the steps are for students to complete the project.

☐ Contact your Regional Coordinator and find out what your regional deadlines are. See if there are any meetings or other ways to check in and get questions answered.

☐ Register your team at futurecity.org/register.

☐ Complete the Home School Affidavit. If you are a home school educator, you will need to complete the Home School Affidavit Form to verify that your home school is operating in accordance with the laws in your state. The form is on page 88, or you can download a writeable PDF version at futurecity.org/resources (filter for Competition Forms & Project Plan).

☐ Create a preliminary schedule to lead your team through each step of the project, leaving time for contacting mentors and having them work with students as well as allowing a little wiggle room to meet the regional competition deadlines.
Get advice from veterans, see page 6 and 7 of the handbook.

Handbook – New Educator Section

- New section at the beginning of the Handbook for Educators who are first-timers.

- Advice from veteran educators and info on participating without competing/academic standards.
FUTURE CITY HANDBOOK – STUDENT HANDOUTS

The student handouts have been designed to support your success.

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45 Project Plan 2: Schedule
47 Project Plan 3: Check-Ins
49 Project Plan 4: Reflect
53 Sample Virtual City Goals
59 City Design: Questions to Consider
61 Clean Water - Overview and Research Questions
65 Clean Water –Tap into Tomorrow:
Real-World Case Studies
67 City Essay: Suggested Outline
71 Build Your City Model
84 Final Checklist

Final Checklists

Project Plan Checklist
- Make sure all parts of this Project Plan are in one document and then save it as a PDF document.
- Upload your Project Plan to the online submission center at futurecity.org.

Virtual City
- Your Virtual City must have the same name as your team. Pick one that is meaningful and unique! The city/team name will appear on all team deliverables and must not change during the competition.
- Check the number of slides. It cannot exceed 30 slides.
- Convert the slideshow to a PDF document before uploading.
- Upload your Virtual City slideshow at the online submission center at futurecity.org.

City Essay Checklist
- Include the name of your city on each page of your City Essay. Remember that the name of your future city needs to remain the same throughout the competition.
- Check the word count: 1,500 words is the maximum number allowed. Word count does not include the title and reference list, but it does include captions of graphics and illustrations. Place the word count at the end of the essay.
- Count the graphics. A maximum of four graphics/illustrations are allowed.
- Cite your sources. Use the Modern Language Association (MLA) format.
- Spell check and grammar check your City Essay.
- Submit the City Essay to a Word document if it isn’t already in that format.
- Upload your City Essay to the online submission center at futurecity.org.

City Model Checklist
- Double check your City Model against the Competition Requirements on page 67.
- Complete a City Model Identification Index Card. This 4” x 6” index card is used by the judges to identify your team’s information. The card should provide:
  - City name
  - School/organization name
  - Name of the team preparing the model, architect, engineer, and mentor.
- Verify that the model will be transferable to the competition. Models may sustain damage in transit. Teams are encouraged to bring reusable kits containing tape, glue, etc. to reattach or fix any broken parts. The model needs to be sturdy and substantial enough for staff to move during the course of the competition without incurring damage. Note: There can be no structural changes made during or after the Regional Competition.

City Presentation Checklist
- Time your presentation. Remember, it can be no longer than 7 minutes. Although there is no penalty for taking less time, the more detailed the information you provide, the higher the potential score.
- Think of the presentation as a chance to tell your city’s story.
- Fill out the Competition Expense Form with all of the materials used to build the model and the presentation/research award materials. Remember that you cannot exceed a combined total of $75.
RULES & SCORING DEDUCTIONS

Have students review pages 85 – 87 often and carefully!

Competition Rules

Official Competition Rules

General

1. The Future City Competition is open to 6th, 7th, and 8th grade students, who are enrolled in a public, private, parochial, or home school environment, or any member of a nationally, regionally, or state recognized organization, such as the Boy or Girl Scouts, 4-H Club, or 4-H, etc. If you are not sure if your organization qualifies, please contact the National Center for Science and Mathematics Education at 901-334-3850. The Future City program has sole authority to determine whether an organization qualifies as a nationally, regionally, or state-recognized organization.

2. All team members must be from the same school or organization. Students cannot be on multiple teams in the same competition season.

3. Organizations may register in only one region or sub-region per year. If you wish to transfer to a different region, you must petition and obtain the approval of the Regional Coordinator and the Program Manager. Teams must commit to a specific region by October 31, 2018.

4. You may have as many students working on the project as you wish, but only three students can represent your educational institution or organization by giving their team’s presentation and answering questions at the Regional Competition and Finals Competition. In addition, one education professional (any education professional) and one mentor (any mentor) of the nature of the competition must come from the engineering community. However, any mentor can be involved in a technical role but must be present at the competition.

5. The team members that compete in the Finals Competition must be the same team members that won the Regional Competition. At the time of registering your team(s) for the Regional Competition, you may select one student who can act as an alternate for both the Regional and Finals Competitions. The alternate can only be utilized if one of the original three presenters cannot compete due to illness or family emergency. The alternate can only compete upon the approval of the Regional Coordinator and the Program Manager.

6. At least 30 schools/organizations must be registered in a region by October 30, 2018 in order for that region’s winner to advance to the Finals Competition.

7. Home school students must submit a home school affidavit to their Regional Coordinator stating that the students are enrolled in the 6th, 7th, or 8th grades.

8. If all students are not at the Regional or Finals level, points will be deducted from the score.

9. At regional competitions, only one team from a school or organization can advance to the final round of judging. At competitions with a single judging panel, only one team from a school or organization may be awarded a place in the top three overall teams.

10. Winners of a sub-region’s competition will advance to compete at the National Competition.

11. All team members must sign the Honor Statement and submit it in accordance with the schedule set by the Regional Coordinator.

12. Judges evaluate each deliverable in accordance with the rubrics. The score a judge assigns is final.

13. Decisions are final. Teams will not receive new score sheets or be allowed to review scores from individual judges.

14. At the Regional Competition, the Regional Coordinator has the final word on any disputes. There is no appeal process.

15. In the event of a dispute at the Regional Competition, the Regional Coordinator will make an evaluation and render a decision. The decision is final. There is no appeals process.

16. Actions or comments from team members or team supporters that are impolite, disrespectful, or aggressive will result in the team’s disqualification.

17. Any complaints must be lodged by the official team judge.

18. For the Finals Competition: Each Future City participant is actively and exclusively responsible for his or her health insurance coverage. Future City is not responsible for any health insurance coverage prior to, during, or following any Future City event. Participants are responsible for any health insurance coverage.

19. The evaluation of the materials used in the model, as well as any in support of the presentation and for special awards, will be based on visual aids, color, and organization of the competition.

20. The Final Competition is the model and/or presentation/visual aids used.

21. Any deviation from the Guide, as a result of the above, will be cause for disqualification.

Scoring Deductions

By completing all five deliverables, teams earn up to 250 points. Judges evaluate each deliverable in accordance with the rubrics. The score a judge assigns is final. At the Regional Competition, the Regional Coordinator has the final word on any disputes. At the Finals Competition, the judges’ decisions are final. There is no appeal process at either level of competition.

<table>
<thead>
<tr>
<th>Penalty</th>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-10 points</td>
<td>Missing a submission deadline for Virtual City or City Essay</td>
<td>The Virtual City or City Essay was not received in accordance with deadlines set by the Regional Coordinator. Check with your Regional Coordinator to determine if the team accepts late submissions.</td>
</tr>
<tr>
<td>10 points</td>
<td>Exceeding City Essay word count</td>
<td>Maximum of 1,000 words.</td>
</tr>
<tr>
<td>15 points</td>
<td>Exceeding City Model dimensions</td>
<td>The maximum dimensions of the model are 36” high, 48” long, and 24” wide. Dimensions include all supporting structures, such as boxes, and any materials hanging below the tabletop.</td>
</tr>
<tr>
<td>15 points</td>
<td>Competition Expense Form is missing</td>
<td>The Competition Expense Form, with receipts attached to the back, must be brought to the competition.</td>
</tr>
<tr>
<td>5 points</td>
<td>Receipts missing from back of Competition Expense Form</td>
<td>Receipts must be attached to the back of the Competition Expense Form. Follow instructions on the form.</td>
</tr>
<tr>
<td>15 points</td>
<td>Exceeding the 25% limit on presentation or visual aids used</td>
<td>The total value of the materials used in the model, as well as those used in support of the presentation and for special awards, will be based on visual aids, color, and organization of the presentation.</td>
</tr>
<tr>
<td>1-4 points</td>
<td>Missing all or part of the Model ID card</td>
<td>The Model ID card is a 4” x 6” index card with the city name, team member names, three student presenters, educator name, and school name.</td>
</tr>
<tr>
<td>5 points</td>
<td>Exceeding visual aid display size</td>
<td>Support materials must adhere to the guidelines set forth in the Competition Rules on page 36.</td>
</tr>
<tr>
<td>2 points</td>
<td>Missing Honor Statement</td>
<td>A properly filled out Honor Statement must be submitted. Follow instructions on the form.</td>
</tr>
<tr>
<td>30 points</td>
<td>Unacceptable conduct</td>
<td>Radio behavior or disruption of judging by any team member or guest.</td>
</tr>
<tr>
<td>30 points</td>
<td>Missing deliverable</td>
<td>Plagiarism</td>
</tr>
</tbody>
</table>

Disqualification

Destruction of another team’s model or presentation materials or actions or comments from team members or team supporters that are impolite, disrespectful, or aggressive will result in disqualification.

QUESTIONS?

Check out the Frequently Asked Questions at futurocity.org.

Don’t see your question there? Email your Regional Coordinator or info@futurocity.org.
A recurring question/issue has been the number of words used in the essay, when they are not automatically counted within the word-count function.

To fix this, rule 25 will now read:

The City Essay maximum word count is 1,500 words. Initial tabulation is done by the “word count” tool within the word processing software. The final word count does not include the title and reference list, but does include captions of graphics and illustrations. Words that appear within a graphic/illustration/table will be included in the word count. A maximum of four graphics/illustrations are allowed. A 10-point penalty will apply if word count exceeds 1,500.

RULES – UPDATES/CHANGES
RULES – UPDATES/CHANGES

• Previously, all pullouts and hinged extensions were required to fit within the original size parameters of the model.

• This year, that will no longer be a requirement.

• The updated rule 30 will now read:

• The city model in its basic state must fit to be no larger than 25” (W) x 50” (L) x 20” (H). During the presentation, it is permissible to have extended parts, such as access doors, compartments, and hinged pullouts, as long as they are fully self-supported by the model, or – if removable – held by a presenter. Failure to comply with the city model dimensions will result in a 15-point penalty.
RULES – UPDATES/CHANGES

• This year, we will make available to you a PDF of the Rules pages from the Handbook. This can be shared with educators/mentors.
RULE HIGHLIGHT: CREATIVE/INNOVATIVE- MORE POINTS

MOVING PART MECHANISMS

Your moving part must be able to have the motion repeated and must be related to a function of the city or your age-friendly solution. Ideas for moving part mechanisms include:

- Rubber bands
- Heat
- Light/Solar
- Weights
- Springs
- Pulleys
- Batteries
- Simple circuity

Creatively engineered or innovatively modified moving parts garner more points. For example: a store bought, electric, hand-held fan that is glued to a model is technically a moving part, but it will not receive as many points as a moving part whose team put time, effort, and engineering thought into its construction or development.
### 9. Moving part innovation and quality
- At least one moving part
- Quality workmanship, durability
- Repeatability of movement
- Innovative execution and creative engineering


Model Rubric – pg. 76
RULE HIGHLIGHT: MOVING PART RELATED TO CITY?

Model Rubric – pg. 79

(Note: There is a separate score opportunity based on the presence of the moving part, and it’s relatedness to the city)

<table>
<thead>
<tr>
<th>III. Build It (Continued)</th>
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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Moving part</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>• At least one moving part</td>
<td></td>
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</tr>
<tr>
<td>• Related to design or function of city</td>
<td>No moving part.</td>
<td>Moving part cosmetic; not relevant to city function.</td>
<td>Moving part not relevant to city function.</td>
<td>At least one moving part somewhat related to city function.</td>
<td>At least one moving part intrinsic to city function.</td>
<td>More than one moving part essential to city function.</td>
</tr>
</tbody>
</table>
The challenge this year focuses specifically on the resiliency of the water system, but we encourage teams to think about resiliency within their city in other ways too.

Here is the City Essay Rubric which details this:

| 5. Innovative ways the city is addressing resiliency in areas beyond the water supply. |
|---|---|---|---|
| Focus areas could be housing, transportation, healthcare, etc. | No description of resiliency plans beyond the water supply. | One underdeveloped example of resiliency planning beyond the water supply. | Two or more distinct examples of resiliency planning beyond the water supply. Clearly developed and explained. |
FINDING AN ENGINEERING MENTOR

- Benefits of Recruiting Your Own Engineering Mentor
  - Self interest: Volunteers with a close relationship to your school (e.g., parents of your students) will automatically be more interested in helping to enhance the learning process
  - Knowledge: Local volunteers will have an increased awareness of local concerns and the resources and goals of your school
  - Better outcomes: You have a better chance for success with a volunteer you have chosen.

Finding Engineering Mentor

- Use “Future City – Be a Mentor” one pager handout provided by your regional coordinator.
- Ask an engineer who has visited your classroom on other occasions (career days, science fair judging).
- Appeal to the parents of the students in your class or school. Place an article in the school newspaper or send a letter home with the students.
- Check with your colleagues at the school. Perhaps one of them is married to or knows an engineer.
- Contact your school’s business partners. A local contact that has made a community commitment is an "easy" target.
- Contact your City’s Bureau of Engineers. City partnerships with the local school district are usually a priority.
- Tap into other community resources such as YMCA, PTA, churches, museums. They may have volunteers that are willing to help.
- Issue a school press release announcing your participation and the need for a volunteer.
- Look in the phone book under "Engineering" firms. Call to see if they are interested in education programs and community service.
- Check with the local chapters of the major engineering professional associations http://pseconline.org/Societies/
ORGANIZING YOUR FUTURE CITY STUDENTS

- Official Presenting Team from One Club, School or Classroom (Three Students)
- Multiple Teams from One Club, School or Classroom (Multiple groups of three students)
- Other Team Format or Large Group – Club or Classroom Collective Effort (More than three students working together on one team)
ORGANIZING YOUR FUTURE CITY STUDENTS

• See page 10 of your handbook for more details on how to organize your students.

• The “other team format” or “larger than three presenting students” is a great way to involve more students in the program.

• Keep in mind though that if you choose a format with more than three students, your group will have to self-select three presenters (which have been chosen by teacher or peers). Those will be the three “official student team members” for both the Regional and National Competitions.

• Depending on our team numbers for Multiple Teams from one school, you may bring 3-5 teams to represent your school. Stay tuned for the final team number.

Reminder – For larger team formats, only the three presenters can participate in the questions and answers with the Judges during the team presentation.
COMPETITION TIMELINE

- **City Essay and Virtual City** is due **Dec. 20th** (there is a penalty if submitted later)
  
  Note – submittals moved to before Winter Break to help our teams and judges manage their time. Many districts do not come back from winter break till Jan 7th
  
  - 5 pt deduction for submittals before, Jan. 2, 2020
  - 10 pt deduction for submittals turned in between Jan. 3rd and Jan. 8th

- While our deadline for **City Essay and Virtual City** is Dec. 20th we will work with teams on what they can deliver and how they can be part of the Regional Competition.

- **Project Plans** are Due **Jan. 10th** - Honor Statement, Media Waivers, and Home School Affidavit are also due at this time.

- Teams will need to monitor their progress.

- Teacher can assign earlier due dates for the deliverables if their students need more structure to the schedule.

- The Project Management Cycle of Future City will keep students on track. See the “Leading Your Team” section on the home page:
COMPETITION SCHEDULE / SUBMITTAL DEADLINES

By October 31, 2019

*Future City Registration should be completed – BUT SOONER IS BETTER*

Friday, December 20, 2019

City Essay (1500 words)
Virtual City (can be submitted earlier)

Note – submittals are due before Winter Break to help our teams and judges manage their time.

- 5 pt deduction for submittals before, Jan. 2, 2020
- 10 pt deduction for submittals turned in between Jan. 3rd and Jan. 8th.

Weds, January 8, 2020

(in our hands by the end of business day, absolute last day to submit - no late submittals will be accepted)

Any late City Description (1500 words) and Virtual City

Friday, January 10, 2020

- Project Plan (per handbook due 1 week before competition)
- Final Team Registration – on line through CMS
- Honors Statement
- Media Waiver Form
- Home School Affidavit - if needed

Saturday, January 18, 2020

Regional Competition Day – Shoreline Community College

- Physical City Model
- Competition Expense Form - this should be submitted in CMS, but bring a paper copy to show judges
- Oral Presentation

Saturday, February 17-23, 2020 National Future City Competition

Our first place winner moves on to Nationals!
REGIONAL COMPETITION

- **When**
  - Saturday, January 18, 2020
- **Where** **Shoreline Community College**
  - 9000 PUB Building
  - 9114 16101 Greenwood Ave. N. Shoreline, WA
  - [https://www.shoreline.edu/map/directions-to-campus.aspx](https://www.shoreline.edu/map/directions-to-campus.aspx)
- **Time**
  - Registration will open at 7:30 a.m. Final schedule will depend on number of teams actually attending
  - Team registration due **Jan 10, 2020** – in CMS
- **Cost**
  - Team members provide their own transportation, meals and any overnight expenses

*Work with students and parents – this is a full day commitment*
COMPETITION FORMAT

- Morning “run-off competition”
  - Up to 3-5 teams from each school may compete *
- Afternoon “regional competition”
  - 5 finalists from the morning competition
  - Only one finalist from any individual school

*depends on number of schools and teams participating, we will keep you updated
PROGRAM FRAMEWORK

Engineering Design Process & Project Management Methods

Why did we redesign?

- Make program more accessible & streamlined for educators

10 of 11 pilot educators said the pilot offered an improved approach, stating it was:

- Clearer
- More linear
- Logical
- Practical
PROGRAM FRAMEWORK

Engineering Design Process

- Identify the Problem
- Learn the Specifications
- Brainstorm Solutions
- Design It
- Test, Improve, Redesign
- Build It
- Share It

Project Management Cycle

DEFINE
PLAN
DO
REVIEW
[Refer to pages 4 in the Program Handbook!]
COMPETITION DELIVERABLES

1. Project Plan (Unchanged): 10 points
2. Virtual City (Updated): 48 points
3. City Essay (Unchanged): 60 points
4. City Model (Unchanged): 70 points
5. City Presentation (Unchanged): 70 points
VIRTUAL CITY
Students design a virtual city using SimCity software and present their city’s progress via a slideshow.
✓ 48 points
✓ Final due date Dec. 20st – but can be turned in later but 5 pt deduction before Jan 2 and 10 pt deduction between Jan 3 and 8.
VIRTUAL CITY

- Pre 2015/2016 deliverable: Students created a city, developing it to earn as many points as possible on the rubric. Final product = SimCity game file

- Current deliverable: Students develop a city focused on progressing towards two goals of their own choosing. Provide three progress reports along the way via a slideshow. Score is largely based on the learning they demonstrate, rather than their final city. Final product = slideshow

SIMCITY SCREENSHOTS

“How to Take a Screenshot in SimCity” offers step-by-step instructions for taking screenshots on both a PC and Mac. Download it at futurecity.org/resources (filter for SimCity).
VIRTUAL CITY

Resources for the teams:
- Completed slideshow example
- Slideshow template (Powerpoint & Google Slides)
- List of sample goals and SimCity measurement markers to choose from or create their own
- Benchmarks worksheet
- Related instructions (how to take a screenshot, where to find the statistics for the benchmarks, etc)

Other information:
- City can be designed in any region, not just Whitewater Valley
- Cheat codes are discouraged but not forbidden. (Note that Sandbox Mode is still not allowed.)
VIRTUAL CITY

Resources for the teams: Washington Website
http://futurecity.org/region/simcity

- Installation Guide
- Playing in Offline Mode
- Setting Up Multiple Accounts
- Virtual City Presentation
- Send any questions or comments to louis.tibbs@washingtonfuturecity.org
VIRTUAL CITY

SimCity Codes

• Remind educators they can reuse the codes they received last year.

• They just need the code, the password, and the email/username they originally used for their Origin account.
CITY ESSAY

Teams describe the unique attributes of their city and provide a solution to this year’s challenge:

Water: Tap Into Tomorrow

The essay asks students to imagine what it would be like to walk down the main street of their city 100 years in the future. What would someone hear, see, smell, feel? How would the people who live in this future city describe it? How is this city futuristic and innovative?

The students’ challenge

Teams choose one potential threat to their future city’s clean drinking water. The problem should be plausible—a realistic possibility—for your city’s location, climate and urban challenges. As teams create their city’s resilient water supply system, they should think about what innovations and systems that they can design to help their water supply withstand their selected threat and other normal stressors.
CITY ESSAY

- 1,500 words
- 60 points
- City Essay Due Date: Friday, Dec. 20, 2019 (penalty if submitted later)

Note – the essay submittal is due before Winter Break to help our judges and teams manage their time.

- 5 pt deduction for submittals before Tuesday, Jan. 2, 2020
- 10 pt deduction for submittals turned in between Jan. 3rd and Jan. 8th.


KEY TERMS
You may find it helpful to know these terms as you are doing your research.

Backup Plan: A set of steps for proceeding when things are not going normally or as expected

Flexibility: Capable of change or modification without losing function

Redundancy: The use of duplicate or overlapping systems in case a part of the system fails

Resilience: In the case of cities, the capacity of individuals, communities, and systems to adapt, survive, and grow in the face of stress and shocks

Risk: A chance of loss or injury

Stressor: In the case of cities, a situation or change that would make current systems vulnerable to failure and affect the health and wellbeing of the people in a city

Vulnerability: The inability of people or systems to withstand the effects of a threat
CITY MODEL

Students build a physical model of a section of their city using recycled materials. In addition to highlighting their city, the model must be built to scale, show the solution to this year’s challenge, and include at least one moving part.

- All items in model have a value - see page 94 for guidelines on assessing fair market value
- No change from past years.
- 70 points
- Due at Regional Competition.

Have students check out past cities in the Gallery page on the Future City website. Also check out photos from our Regional Website.
CITY PRESENTATION

Students give a 7-minute presentation discussing features of their future city and their solution to the challenge, followed by a 5-8 minute question and answer period from the judges.

✓ No change from past years.
✓ 70 points
✓ Due at Regional Competition.

Note: Tutorials available for both the City Model and Presentation.
CITY PRESENTATION

LEARN FROM OTHERS

Share one or more of the following presentations:
NineTalks by Impressive Kids at:
blog.ted.com/2012/10/17/9-talks-by-impressive-kids/

Discuss what made these presentations engaging. What did students notice about the speaker's body movements and voice? How does the speaker use research, stories, and questions to hook the audience and convey a message? Encourage students to emulate effective public speaking techniques in their own presentations.

Presentation Not to Exceed 7 Minutes

Team must stop presentation at 7 min

QA w/ Judges 5-8 Minutes

Same as Nationals Presentation

See rubric on page 78 and rules on page 83

From Rules(4) – “You may have as many students working on the project as you wish, but only three students can represent your educational institution or organization by giving their teams’ presentation and answering questions at the Regional competition” …
PROJECT PLAN

Students complete a project plan to help them plan and organize the project.

- Appendix includes the student instructions and outlines for the project plans. Pages 41-49
- 10 points (No rubric. but 10 points for complete submittal, 5 points for incomplete plan and 0 points for not submitting a plan.)
- Due one week prior to Regional Competition.
  - Upload as a single PDF!

*Word document containing all four parts of the Project Plan can be downloaded from futurecity.org/resources
COMMITTEE CONTACT INFORMATION

- Washington Future City Web Site Regional Committee Info: http://futurecity.org/region/committee-0

- Regional Coordinator

  Karen Pavletich
  karen.pavletich@washingtonfuturecity.org / 425-462-3871