

# Imagine

*The Future City  
Competition*

# Design Build



In the Future City Competition, teams of middle school students work with an educator and engineer mentor to design a city of the future. They begin by conducting research and writing an essay on an annual theme. Then, using SimCity software, they build a virtual model of their imagined city and a scale model using recycled materials. They create a narrative about their city and present their ideas to judges at regional competitions; winners advance to national finals in Washington, DC. This year, 40,000 students from 1,350 schools participated in the competition. Here, three members of the winning team from St. John Lutheran School in Rochester, Michigan, share their experience.

## **Justin Judd**

### *The Dremel Master*

I joined the team in sixth grade. The theme that year was “Fuel Your Future: Imagine New Ways to Meet Our Energy Needs and Maintain a Healthy Planet.” We developed our model city of Mahina Mana on the Hawaiian island of Molokai. Our engineer mentor, Dr. Gerhardt, and our teacher, Mr. Pfund, asked me to be a presenter, but I wasn’t comfortable talking in front of large groups. My teammates, Paul and Rebecca, presented. We formatted our presentation like



a spelling bee, which helped them describe our model in an entertaining way. We won the Michigan competition and placed 13<sup>th</sup> at nationals. Only presenters attend nationals, and when Paul and Rebecca described the fun they’d had, I signed up again the following year.

In seventh grade, we modeled Nouveau Pierre, the re-imagined city of St. Pierre on the island of Martinique, which was destroyed by a volcano in 1902. We selected this location because it had issues with rainwater runoff—that year’s theme—and also because we wanted to build a volcano on our model. I became

the go-to kid for power tools, especially the Dremel. I used it to carve a canal and cut circuit boards for our agricultural zone and sheets of carbon fiber for the engineered wetlands. This time when I was asked to present, I agreed. Using a travel show format, we won the Michigan competition and took sixth at nationals.

The theme this year was transportation. We modeled the Chinese city of GongPing (meaning “fair”). I Dremelled a lot of trophy pieces to make buildings, cut circuit boards to represent crops and farming in the agricultural zone, and mixed the ingredients for “flubber”—fake water—to create the river. Paul, Rebecca, and I used a game show format for our presentation. Playing a contestant who was an electrical engineer, I described our FAIR transportation system (Flexible, Accessible, Integrated, and Renewable) as a total solution for transportation pollution. Not only did we win the regional competition, but we also won first place at nationals!

Although participating in Future City was time consuming, it was a lot of fun. I recommend it to any student who’s interested in building and engineering. I also recommend that they try presenting, which

was both the most challenging part of the competition for me and my favorite part.

**Paul Rosa**  
*Simulation Specialist*

All the team members help plan the city and build the model. Then, depending on their strengths, they work on the research essay, simulation, city narrative, presentation, or some combination of these.

I began participating in sixth grade. As simulation lead for our six-member team, I learned to use SimCity software to build a city from the ground up, terraforming and placing rivers, roads, and other features.

After building our simulated city, we also used SimCity to “run” it: We had to control development, taxes, crime, education, and traffic and balance industry with pollution levels. We earned points for the quality of each element, or metric. In total, there were 30 metrics.

In addition to being simulation lead, I painted the model’s background and was a presenter. We made it to nationals, coming in 13<sup>th</sup> out of 37 teams from around the country. That first year was a great learning experience. We figured out, for example, that we should spend more time on the essay and less on the narrative, since the essay is worth a lot more points.

The following year, I again worked on the simulation and presented. I focused on preparing for the Q&A portion of the judging, a three-hour session during which special awards judges ask us anything and everything about our city. It was challenging, but I loved it because I got to talk to the engineers and industry leaders who act as judges. We made it to nationals again, but

missed being in the top five by only half a point—out of a possible 400!

This year, we decided to build on a larger scale to show greater detail. With Dr. Gerhardt’s encouragement, I improved on each simulation element, receiving a nearly perfect score. The team made improvements in other areas, too. We had a great essay and narrative, and while in previous years I’d painted our models’ background, this year, for a more custom look, I used Photoshop to blend several images from photos.

At nationals, when Nate Ball, the MC and host of PBS Kids’ *Design Squad*, announced that we were in the top three, the whole world seemed to stand still. In the end, I couldn’t believe we won. Future City is a fantastic way to learn about many things—including art, engineering, and public speaking—and have fun doing it.

**Rebecca Oleskie**  
*The Multitasker*

I participated in Future City for the thrill of the competition and also for the learning experience. In sixth grade, my first year, we came in a disappointing 13<sup>th</sup> at nationals. My mom said she could barely grasp the information we presented because it was like we were spitting out one fact after another. From that, we learned to communicate our ideas more clearly and simply so people could understand them. The following year, we came in sixth.

This year’s theme was “Tomorrow’s Transit: Design a Way to Move People In and Around Your City.” Because we love

a challenge, we modeled a city in China—the country with the greatest transportation needs. In addition to presenting, I helped write the narrative and essay, created the citation for our references, and made posters for the presentation. I made sure to include just enough information to get our point across so they wouldn’t look too complicated or busy.

For the model, we constructed a wood base and added layers of foam from which we carved our city’s landscape. After creating ridges, fissures, and sinkholes, we painted the foam and the river and added “grass” and buildings, which we fashioned from pieces of old trophies, inhaler parts, and SIM cards from phones.

My biggest challenge was finding time to participate, since I also play basketball. We each put in over 200 hours, working during the school day and after school. As the competition neared, we met on Saturdays and holidays, too. But participating in Future City allowed me to see a different side of science than I experience at school. I met people with similar interests, developed great friendships with my teammates, and learned about the different types of engineers it takes to run a city, which helped me decide that I want to be a civil engineer.

