



# Presenters

---

## Lynn Olson

- Idaho Regional Future City Coordinator

## Melyssa Ferro

- Earth, Life & Advanced Science Teacher,  
Syringa Middle School, Caldwell, ID

## Karissa Hardy

- ID Steering Committee member & Mentor

## Students Lake Hazel Middle



# Future City - Who

## Future City Participants

- 6<sup>th</sup>-8<sup>th</sup> grade
- public, private, home schools
- recognized youth-focused organization such as Boy/Girl Scouts, Clubs, 4H, Y
- minimum of 3 students up to entire classroom
- 3 teams per school



**fuTuRe City**  
COMPETITION

# Future City - Who (cont.)

## Support Team

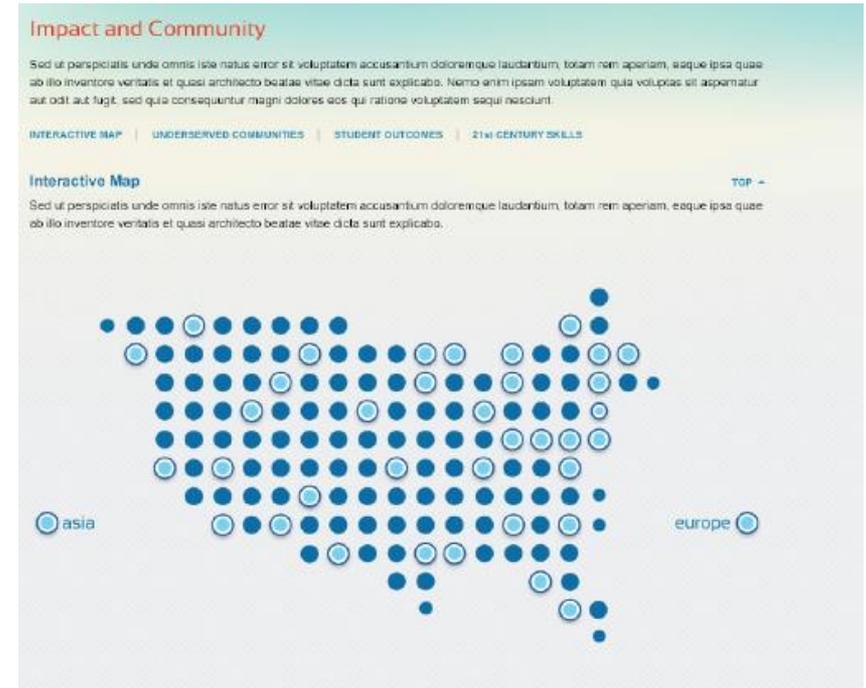
- Educator
- Mentor (Engineer)
- ID Steering Committee
- Website (new and improved, launching July 2015)
  - About program, leading team, resources
- Revised Handbook – framework for engineering design process, project management, activities
- Online webinars
- Online Project Management Center



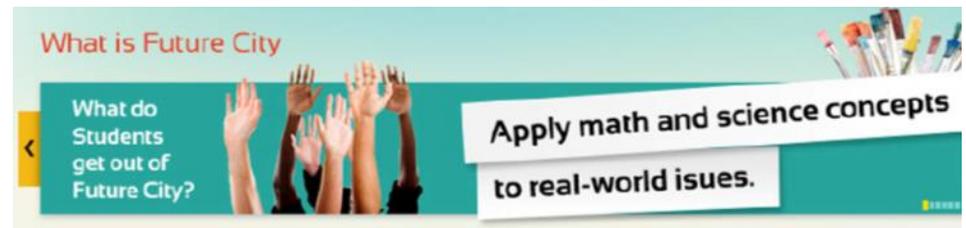
# Future City - Who (cont.)

## 2015-16 Idaho Schools

- Battle Mountain Middle School (new)
- Falcon Ridge Charter School
- Idaho Science & Tech Charter School
- Homedale Middle School
- Kootenai Elementary (new)
- Lake Hazel Middle School
- Meadows Valley Jr./Sr. High School (new)
- Meridian Middle School
- Sacred Heart School
- Saint Mary's School
- Salmon River Jr./Sr. High
- South Junior High
- Syringa Middle School
- Timberline Schools (new)
- Vision Charter School
- Washington Elementary



# Future City – What



A national, project-based learning experience where students imagine, design, and build cities of the future.

- plan cities using SimCity™ software;
- research & write solutions to an engineering problem;
- build tabletop scale models with recycled materials
- present their ideas before judges @ 12<sup>th</sup> Idaho Regional Competition, January 23, 2015 Boise State.



# Future City – What (cont.)

---

Students identify problems; brainstorm ideas; design solutions; test, retest and build; and share their results, aka, the engineering design process

- Apply math and science concepts to real-world issues
- Develop writing, public speaking, problem solving, and time management skills
- Research & propose solutions to engineering challenges
- Discover types of engineering & explore careers options
- Learn how communities work to become better citizens
- Develop strong teamwork skills



# Future City – What (cont.)

## Deliverables

- SimCity (early Dec)
- City Description (mid Dec)
  - 1500 words
- City Model (at Competition)
  - recycled materials, <\$100
- City Presentation (at Competition)
  - 7 minute presentation
- Project Plan (1 week before Competition)
  - 4 worksheets
  - plan, organize, stay on task, roles



# Future City – What (cont.)

---

Theme for 2015-16

## **Waste Not, Want Not Challenge:**

Design an innovative city-wide solid waste disposal system for your future city that is safe, environmentally sound, and energy efficient.

### Ideas for Field Trips

Trash museums

Local recycling centers

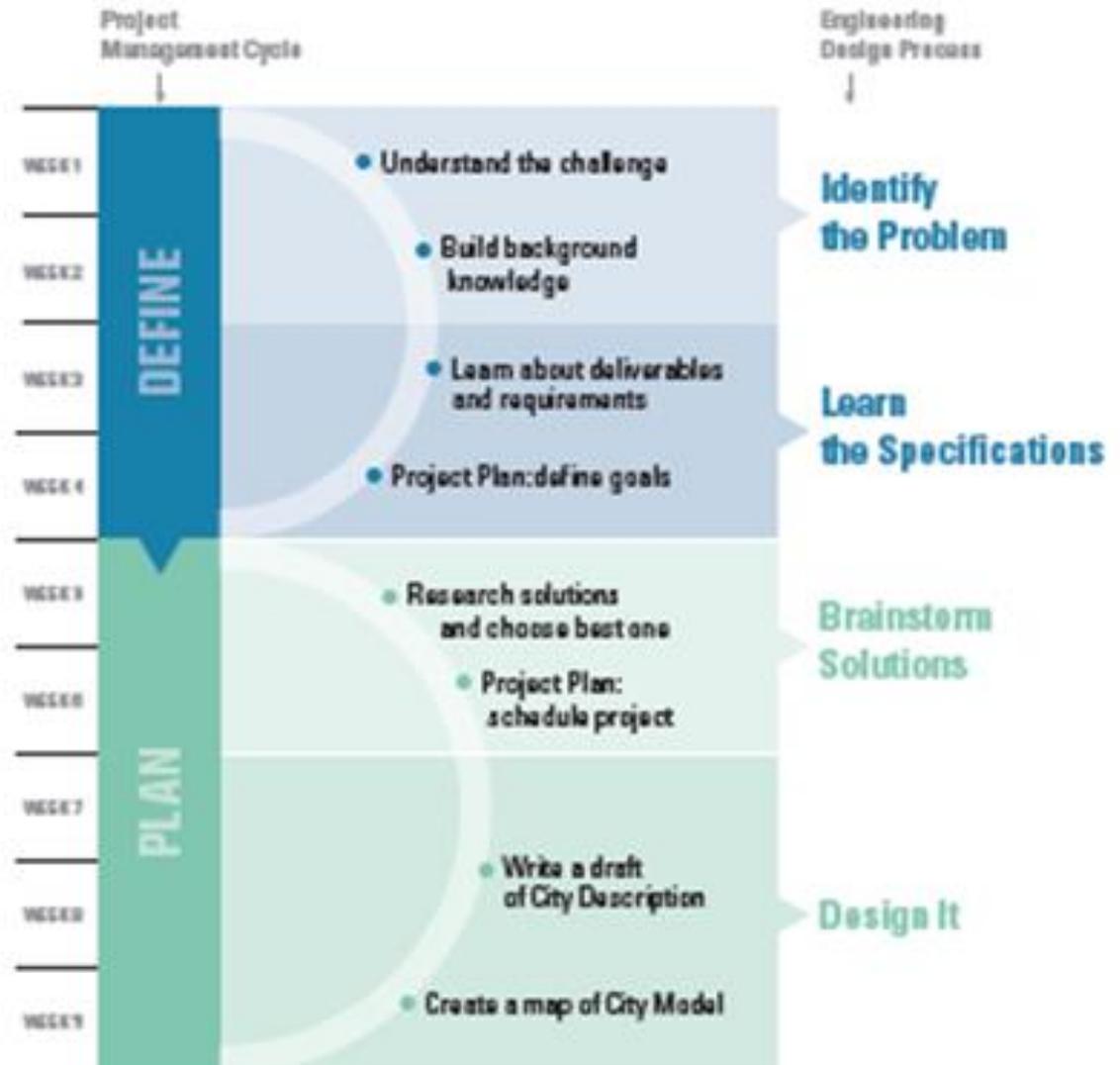
Department of Public Works

Keep America Beautiful

Landfill tours



# Future City - When



# Future City - When



# Future City - Why

---

## Evaluation Findings

### Student Impact:

- Students understand how to manage a project
- Students understand how cities work
- Students ability to apply math and science to real-world problems
- Students teaming ability increased
- Students increased 21<sup>st</sup> century skills



# Future City – Why (cont.)

---

## Students Discover Engineering

- 84% report that Future City helped them see math and science are important to their future
- 65% can see themselves as engineers someday
- 61% want to keep doing other engineering clubs or activities.
- The evaluation found a statistically significant improvement in students' ability to apply engineering design process skills to real-world problems.



# Future City – Why (cont.)

Percentage of educators, mentors, and parents who reported improvement in students' skills

	Educators	Mentors	Parents
Teamwork	95%	99%	95%
Public Speaking	95%	98%	85%
Project Management	96%	92%	96%
Working Independently	88%	81%	88%
Writing & Research	80%	83%	71%
Problem-Solving	80%	93%	90%

# Future City – Why (cont.)

---

## **Future City Reaches Girls**

43% of participants are girls

## **Students Drive Future City**

75% of student reported making the design decisions

85% said Future City taught them that they could create something on their own – without direction of an adult.

## **Student Learn How Their Communities Work and Become More Informed Citizens**

90% of students reported that Future City helped them to appreciate all of the engineering that goes into a city.

63% reported that Future City made them more aware of civic issues like politics and taxes.



# Future City – How from Teacher Syringa Middle School

---

- Compete as a class, 24-26 students on a team
- Students choose one of 4 teams (SIM, essay, model, oral presentation) to work on based on interests and abilities
- Each team selects 1-2 leaders who must communicate with other teams
- Try to connect each class team with a mentor who is connected to students



*SYRINGA MIDDLE SCHOOL*  
*Building Citizen Scholars*

*fuTuRe City*  
COMPETITION

# Future City – How from Teacher Syringa Middle School

---



SYRINGA MIDDLE SCHOOL  
*Building Citizen Scholars*

- **Calendar out deadlines as a whole class**
- **Begin research (fieldtrips, webinars, etc.) as a class with oral presentation team serving as a clearinghouse for all ideas**
- **As each team finishes their components, they become available to help as consultants to other teams**



**fuTuRe City**  
COMPETITION

# Future City – How from Teacher Syringa Middle School

---



SYRINGA MIDDLE SCHOOL  
*Building Citizen Scholars*

- **Work days during class time on Fridays (October-January) with mentors coming in as often as they can**
- **Teams spend time during PAWS, after school and over breaks working as well**
- **Final “dress rehearsal” party at Ferro’s house before January competition**



**fuTuRe City**  
COMPETITION

# Future City – How from Mentor Lake Hazel Middle School

---



**Who can be a mentor?**

**Engineers are preferred, but can also be another technical professional such as architect or planner**

**The intent of a mentor is to provide advice, guidance, and technical assistance to the students**



# Future City – How from Mentor Lake Hazel Middle School

---



**Time commitment and involvement varies,  
the Future City “recommendation” is 12-14  
hours.**

**Level of involvement of the mentor is flexible  
and is up to the educator and mentor.**



# Future City – How from Mentor Lake Hazel Middle School

---



## Future City as a Club

- **Met once a week after school for 1 ½ hours from mid September through January**
- **Met several Saturdays and a couple of Friday evenings at student or mentor's homes**
- **Two teams worked collaboratively with two teachers and two mentors**
- **At least one mentor attended all meetings, usually both mentors attended**



# Future City – How from Students

Cherokees



# Future City – How from Students

---

Presentation by  
Lake Hazel Future City Team  
Idaho 2014-2015 winners



**ENAC (Evolutionary Neolithic Agriculture Community)**

6<sup>th</sup> grade 7<sup>th</sup> grade mixed team

Students: Maddison Grunig (6<sup>th</sup>), Elliot Hardy (6<sup>th</sup>), Andrew Keller (7<sup>th</sup>), Yohan Lim (6<sup>th</sup>), Kylie Larandean (6<sup>th</sup>), Nicholle Taylor (6<sup>th</sup>) & Amanda Walker (6<sup>th</sup>)

Educators: Sarah Baker & Ann Bason

Mentors: Karissa Hardy & Jim Baker



# Future City – How from Students **Cherokees**



**Recap: what these students accomplished**

- 1. Sim City Computer Model**
- 2. Research Essay (1000 word max.)**
- 3. City Narrative (500 word max.)**
- 4. 3D Scaled Model**
- 5. Oral Presentation (7 minutes max.)**



# Future City – How from Students

Cherokees



## 1. Sim City Computer Model



# Future City – How from Students



## 2. Research Essay



# Future City – How from Students

Cherokees



## Research: Field Trip to Boise State Roof Top Garden and Bees



# Future City – How from Students

Cherokees



## 3. City Narrative – Cool Features of City

HEAR, Rockwall page 1

HEAR, Rockwall

Mrs. Linda Fletcher

Future City

December 12, 2013

Eisenhower: Revolutionizing the Future

Howdy! Welcome to Eisenhower, a city located in North Texas. The year is 2256 and Eisenhower has a population of 1,653,482.

Polluting cars once crawled through traffic, filling Eisenhower's streets. Now, congestion is rare and citizens zoom about due to Eisenhower's engineered, three-tiered solution: solar roads, Solvoches, and Nanotechnology for Positioning, Navigation and Timing. Solar roads, an intelligent highway system, can reconfigure lane stripes, heat up during winter, sense weight, provide warning messages, and power Eisenhower. Solvoches are automated, solar-powered vehicles which drive and fly. NPNT, which utilizes Dedicated Short Range Communication, is a voice activated GPS system that links vehicles and roads, provides warning messages, and controls Solvoches when in automation mode. DSRC, a computer system inspired by ants, uses swam intelligence, processes travel paths, and routes drivers through intersections. These synergistic solutions transmogrified Eisenhower into a beacon for other cities because it is congestion-free with a green transportation rating.

Green utilities provide citizens excellent services. Inexpensive power comes from solar roads. Landfills are compacted in sealed chambers where bacteria digest organic waste and turn

Review past winners on-line  
<http://futurecity.org/gallery>



# Future City – How from Students



## 4. 3D Model



# Future City – How from Students

Cherokees



## 5. Oral Presentation



# Future City – How from Students **Cherokees**

---



- Oral Presentation clip (max. 7 minutes)



enac highlights.wlmp



# Future City – How from Students **Cherokees**



National competition in Washington D.C.



# Future City – How from Students **Cherokees**



## Student Discussion

- What did you learn?
- What was your favorite part?
- What did you learn about city planning?
- Talk about some futuristic aspects of your city



# Future City – How from Students **Cherokees**

---



Questions?

