

South Dakota

# CITY BUILD

2040



Tool Kit

# City Build 2040 Overview

A Program Created By



## City Build Challenge

The City Build is a hands-on experience for K-8 youth to use recycled, recyclable, and crafting materials to build a model of their own community 20-30 years in the future. Students will work with peers, near peer student leaders in high school or college, afterschool staff, and local experts when available to envision what they want their city to look like. They will be introduced to challenges they will face like climate change, resource depletion, evolving community needs, and many others. The City Build will challenge students to be creative and innovative while taking ownership of the future of their city.

## Roles

### Program Staff

**Materials Manager** – will organize and distribute building materials

**City Inspector** – will provide guidance and support to students after each challenge is announced

### Student workers and mentors

**City Planners** – will work directly with assigned student groups to assist ideas and building

### Students

**Citizens** – students are the next generation of their city and should take ownership as citizens

## Suggested Materials:

- Cardboard (variety of size, thickness, etc.)
- [MakeDo Kits](#)
- Paper
- Writing Utensils, Markers, Colored Pencils, etc.
- Scissors (Consider heavy duty scissors like these: [Amazon.com: Wiss - Pro Shear, Heavy Duty, Tradesman, Titanium \(CW10TM\), multi, one size : Tools & Home Improvement](#))
- Construction Paper or Large roll of paper
- String
- Straws
- Tape (masking, duct, scotch and/or others)
- Pipe Cleaners

**Note:** The environment is important when considering the space you will use for building and the space you will use to make announcements and share updates.

Consider starting each session in a quieter classroom setting and using a larger open space (such as a gym or cafeteria) for the building component.

## Two-Day Event Draft Agenda

This assumes an afterschool activity format from 3:30-5:30pm for 2 consecutive days (although City Build can also be a weekend, at-home, or full-day format).

### Day 1

**3:30** – Volunteers should arrive and begin to set up.

- Lay out 5-10 stations (depending on material availability and anticipated student numbers). Each station should have brainstorming materials (paper, pencils, markers, etc.) and building tools (Make-Do tools).
- Lay out 2-3 main tables with construction materials (cardboard, construction paper, string, recycled bottles, duck tape, etc.) and limited building tools (scissors, rulers, adult use only for things like exacto knives and heavy duty scissors)

**4:00** – Students arrive, activity begins

- Introduce City Build challenge and ideas to students.
- Example Announcement: “Today we’d like you all to imagine the future of our city. As students, many of the decisions that affect your lives on a daily basis are made by the adults in your community. In 2040, however, those decisions will be for all of you to make, and the way your community changes and grows will be based on those decisions. Using the paper and writing utensils at your stations, write down your ideas for the way your city should look in 2040.”

**4:10** – Break students up into groups of 3-4 “citizens” (students) + 1-2 “City Planners” (adult volunteers).

- Each group should begin to discuss their ideas with the City Planner(s). Each group will be designing one “district” that will be joined with all other groups to form their completed “city”.
- City planners should document group ideas and help guide students to solve a problem or address a community need that will improve their future community.
- City Planners can use their phones and/or laptops to search for and show students images and videos of creative projects relating to student ideas.
- As students continue to brainstorm their ideas, make sure they meet the following basic needs: **housing, child care, health care, and access to food/water**

**4:25** – Begin handing out materials // have students begin

- Have 1-2 groups at a time go to each materials table and grab their building supplies (depending on quantity, encourage students to take only what they can use in the next 30 minutes – they can come back for more later)

**5:00 - If possible, have students pause their work and follow you to a classroom setting for the following:**

- Announce the News Headline for **Severe Winds**. Show video(s) explaining how derechos form and the type of damage they can cause. [Derechos | Weather Wisom - YouTube](#)
- Students should then begin preparing for this weather event as they continue to build their model cities over the next 20 minutes. The forecast says the derecho event is expected to take place the following afternoon and they will need to ensure all buildings are secure.

**5:20** – City Planners begin to help students wrap up Day 1.

- Make sure student projects have names on them and are safe from being stepped on or broken. Talk to students about their plans for tomorrow – what else do they need to do? Does their current project protect against **Severe Winds**? What improvements can they make? - Clean up all scraps, extra building materials, and put away building tools.
  - o City Planners should guide students to think through materials going to the reuse bin, recycle bin, or landfill bin.
- Begin to move student projects into storage area. The final build will take place tomorrow and must account for the expected weather event.

**5:30** – End City Build Day 1.

Day 2

**3:30** – Students arrive.

- Students go to their groups and review yesterday’s brainstorm plans, ideas, and events.
- City Planners can help students think through potential changes, updates, or ideas to continue building.

**3:40** - Students resume building

\*\*Remind students about the impending weather event that was announced the previous day.\*\*

**4:00** – City Inspection Announced

- Tell students that City Inspectors are coming in five minutes to see if their projects will meet the challenge of protecting against **Severe Winds**.

**\*\*\* - If you’d like to have your students test their city’s resilience to the wind storm, use a box fan or hair dryer.**

- Inspectors walk around to give supportive feedback on student builds.
- Students continue building, make any needed repairs, and focus on ensuring that their city has all the components (housing, health care, child care, access to food/water) necessary to meet the needs of the people who live there.

**4:45** – Town Hall

- Students need to begin to think about connecting their future city. Have groups talk to neighboring

groups and share what they are building. Students should begin to think about how they will connect their neighborhoods to form a city to finish the City Build 2040.

**5:00** – Begin to bring student projects together to complete their city.

- If using a layout of your city, have students move the components of their “districts” into place as if they were putting together a puzzle.

**5:20** – City Inspector announces end of the City Build

- If your program is hosting CityBuild 2040 in conjunction with a community event, allow visitors to tour the model city while students share their creations.
- Alternatively, allow each group to share the components of their district/neighborhood and why they made the decisions they made. Celebrate the students and their ideas and thank all volunteers for their help in making the event a success.
- Begin clean-up of all materials that are not needed in the final city – all scraps, extra building materials, and all tools.
  - o City Planners should guide students to think through materials going to the reuse bin, recycle bin, or landfill bin.

**5:30** – End City Build portion of Day 2.

## Two-Hour Draft Agenda

This assumes an afterschool activity format from 3:30-5:30pm for one day (although City Build can also be a weekend, at-home, or full-day format).

### Timing

**3:00** – Volunteers arrive and prepare the work area(s)

- Lay out 15-20 stations (depending on material availability and anticipated student numbers). Each station should have brainstorming materials (paper, pencils, markers, etc.) and building tools (Make-Do tools).
  - o Split into two rooms on either side of kitchen in the Large Islander Cafe
- Lay out 2-3 main tables with construction materials (cardboard, construction paper, string, recycled bottles, etc.) and limited building tools (to be checked out or only handed to facilitators i.e., sharp / heavy-duty scissors)

**3:30** – Students arrive, activity begins

- Introduce City Build challenge and ideas to students.
- Example Announcement: “Today we’d like you all to imagine the future of our city. As students, many of the decisions that affect your lives on a daily basis are made by the adults in your community. In 2040, however, those decisions will be for all of you to make, and the way your community changes and grows will be based on those decisions. Using the paper and writing utensils at your stations, write down your ideas for the way your city should look in 2040.”
  - Remember throughout this process to empower students with their roles in the community now and in the future.

**3:40** – Break students up into groups of 3-4 “citizens” + 1-2 “City Planners”.

- Each group will make a portion of a city – housing area, shopping, park, etc. - Each group should begin to discuss their ideas with the City Planner(s).
  - City planners should document group ideas and help guide students to solve a problem or address a community need that will improve their future community.
  - City Planners can use their phones and/or laptops to search for and show students images and videos of creative projects relating to student ideas.

- As students continue to brainstorm their ideas, make sure they meet the following basic needs: **housing, child care, health care, and access to food/water**

**3:55** – Begin handing out materials // have students begin

- Have 1-2 groups at a time come to pick up supplies.
- Allow students some independent work time while you act as a facilitator answering questions and providing suggestions as they work.

**4:30** - **If possible, have students pause their work and follow you to a classroom setting for the following:**

- Announce the News Headline for **Severe Winds**. Show video(s) explaining how derechos form and the type of damage they can cause. [Derechos | Weather Wisom - YouTube](#)
- Students should then begin preparing for this weather event as they continue to build their model cities over the next 20 minutes. The forecast says the derecho event is expected to take place the following afternoon and they will need to ensure all buildings are secure.

**Note:** *Other News Headlines are available at the end of this lesson. You may want to choose one that is of most concern for your community.*

**4:50** - City Inspection Announced

- Tell students that City Inspectors are coming in five minutes to see if their projects will meet the challenge of protecting against **Severe Winds**.

**\*\*\* - If you'd like to have your students test their city's resilience to the wind storm, use a box fan or hair dryer.**

- Inspectors walk around to give supportive feedback on student builds.
- Students continue building, make any needed repairs, and focus on ensuring that their city has all the components (housing, health care, child care, access to food/water) necessary to meet the needs of the people who live there.

**5:15** – City Planners begin to help students prepare to set up the completed city.

- Groups of students should begin placing their neighborhoods together to create the finished city. Consider spacing the types of building developments so they are spread throughout the city in a balanced way.

**5:30** – End City Build - Facilitators could plan a Family Night to share with parents and others what the youth have built. Students can also present their work to the volunteers and program staff that are there. Either way, a culminating celebration of some sort should accompany City Build 2040 to recognize the students for their efforts.

## News Headline Scripts

### Heat Wave

Local Meteorologists are predicting a massive heat wave in the coming weeks. With temperatures consistently above 105 degrees, people, wildlife, and infrastructure will be threatened. Incorporate shade, technology, and design into your city to help reduce the heat index and minimize electricity use of air conditioners.

### Drought

The previous heat wave has persisted, and a local drought is building. Local water supplies are being strained by excessive water use threatening human use and critical habitats. Consider ways to reduce water use in your city through regulations as well as technology, building design, and new and innovative ideas.

### Biodiversity Loss

Local scientist have just released an alarming report that local pollinators, birds, and other wildlife are in drastically low numbers. The report points to a loss of habitat and extreme weather as two main factors causing the loss of wildlife. All future cities will need to design ways to support and care for local wildlife with green spaces, pollinator habitat, nature preserves, and other natural spaces.

### Flood warning

Scientists have predicted heavy floods in early spring as snow and ice melts quickly when the weather warms. Citizens must come together to prepare for flooding in the near future by protecting the city as a whole. Future cities will be able to address floods through things like restored wetlands to absorb water, levies that will protect the most flood-prone areas, canals to disperse water from cities in clean and safe ways, and many other ways. This challenge must be addressed by all citizens because flooding in one part of the community will affect the whole community. The solution to this challenge can also incorporate community spaces and services that will help provide health and wellbeing in the face of natural disasters.

### Severe Winds (Derecho)

According to the National Weather Service, a derecho (pronounced similar to "deh-REY-cho") is a widespread, long-lived wind storm that is associated with a band of rapidly moving showers or thunderstorms. During the summer months when these weather events occur, the destruction can be as severe as some tornadoes. Because damage from these storms can be extremely costly, city planners should build structures that are capable of withstanding these strong winds to protect the lives and property of their citizens.



## Promotion

### Volunteer Recruitment Flyer

Recruiting volunteers to participate in your City Build event is a great way to enhance the experience. Look to local colleges or high school age students to help facilitate groups. Contact your city office to recruit employees and help illustrate to participants the real-world jobs of people who help to make city decisions, envision the future infrastructure and create impact for generations to come.



You can access an editable version of this flyer in Canva [here](#).

### Contact Us:

If you would like further assistance or have questions about setting up a successful City Build program in your community, reach out to...

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