



## ADULT ADVOCATES NEWSLETTER - DECEMBER 2023

### Shaping Smart Cities: Women in Urban Planning and Infrastructure

In this edition, we're highlighting the crucial role of women in urban planning and infrastructure, especially as we advance into the development of smart cities. We're celebrating the achievements of women engineers who are making our urban environments more efficient, sustainable, and inclusive. Join us in observing significant dates like International Day of Persons with Disabilities, Computer Science Education Week, and Games Day with a lens on women's contributions to these fields.

### International Day of Persons with Disabilities: Inclusive Urban Environments

Let's kick off the month by observing the International Day of Persons with Disabilities on December 3. It's a time to reaffirm our commitment to creating inclusive smart cities. This day reminds us that accessible urban planning isn't just a necessity but also an opportunity to innovate. Women engineers are at the forefront, advocating for and designing cities everyone can navigate and enjoy, without barriers.

For instance, in Barcelona, Spain, urban planners have introduced tactile paving and auditory signals at crosswalks to assist visually impaired pedestrians. Similarly, Singapore's "Silver Zones" initiative, led by women urban planners, focuses on making neighborhoods elderly-friendly with features like ramps and seating areas. These are just a few examples of how women engineers are driving inclusivity in urban environments, ensuring that cities are welcoming to all residents and visitors, regardless of their abilities.

### Computer Science Education Week & Hour of Code: Coding Our Way to Smarter Cities

During the second week of December, we dive into Computer Science Education Week and Hour of Code. These initiatives underscore the importance of computer literacy in our increasingly digital world. Women computer scientists and engineers are vital in developing the software and systems that underpin smart cities, from traffic management to energy distribution.

- **Advanced Traffic Management Systems:** In the realm of traffic management, cutting-edge systems have emerged. These systems leverage real-time data from traffic cameras, sensors, and GPS devices to predict congestion and optimize traffic flow. As a result, they have significantly reduced traffic jams and improved transportation efficiency in several smart cities.
- **Intelligent Energy Distribution Networks:** Smart grids have become integral to modern urban areas. These networks utilize data analytics to optimize power generation and distribution. By enhancing energy efficiency and reducing wastage, smart grids promote the integration of renewable energy sources into urban landscapes.

- **IoT-Based Waste Management Solutions:** The Internet of Things (IoT) has revolutionized waste management in smart cities. IoT-based systems employ connected sensors in waste bins to monitor fill levels in real-time. This data enables optimized waste collection routes, which in turn reduce fuel consumption and greenhouse gas emissions. These innovations are making urban waste management more sustainable and cost-effective.

Encourage young girls to participate in coding activities and consider how their skills can contribute to urban planning.

## Games Day: Strategy and Fun in Urban Design

On December 20, we celebrate Games Day. It's a playful reminder of how strategic thinking and creativity come together in engineering. Women in urban planning use simulation and game theory to predict the outcomes of infrastructure changes, making cities more livable and resilient. Use this day to engage young minds in urban planning through interactive games and apps that simulate city building and management.

## Smart Cities, Diverse Voices

Inclusion is the cornerstone of smart cities, and women's voices are essential in this dialogue. By bringing diverse perspectives to the table, women engineers ensure that future cities are built with empathy and understanding, accommodating the needs of all, including People of Color and individuals with disabilities.

## Discover Competitions and Challenges

Are your students or mentees ready to shape the future of our cities? Here are some opportunities to put their skills to the test:

- **Dec. 15**, deadline for the Urban Planning Challenge, inviting proposals for sustainable city designs.
- **Dec 7** is an information session about the [Jacobs Teen Innovation Challenge](#). This sustainability challenge for middle and high school teams is open **Jan 25 - April 30th**.



*For inspiration, check out one of last year's winners called project "Duckie". Two high school students from the Sage Creek High School SWENext Club, Sophia and Erin, created the "Duckie" chromebook extension specifically for students with ADHD or ADD. Read more about their amazing journey in the SWE All Together Blogpost "[Sage Creek SWENext Club: Designing the Future, Winning Today](#)".*

- **Feb 1** is the deadline for the [Engineer Girl Writing Contest](#). It is open to both boys and girls in grades 3-12. This year's theme is **"The Secret Life of Everyday Items"**.

- Join the Smart City App Hackathon, running from **Dec. 1 to Dec. 31**, where coders and creators can collaborate on solutions for urban living.
- **Jan. 15** is the opening date for the Women in Infrastructure Essay Contest, encouraging young women to express their ideas for smart urban development.

### **Follow SWE Outreach on Social Media**

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