

Smart Cities Consumer Study

Silver Spring Networks in Collaboration with Power
Over Energy and the U.S. Department of Energy

October 2017



POWER TO THE PEOPLE

The 2017 Smart Cities Study

About the Study

Silver Spring Networks and **Power Over Energy** recently conducted a study with the **U.S. Department of Energy Office of Electricity Delivery and Energy Reliability**, to find out what consumers think of smart city technologies.

Objectives:

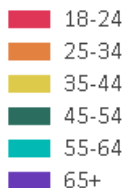
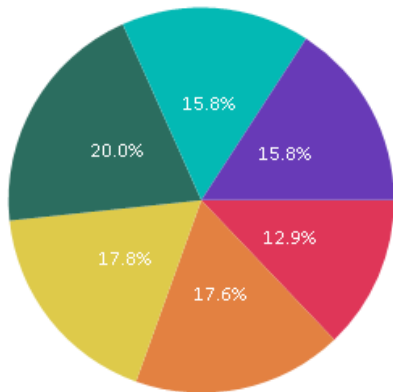
1. Measure awareness about smart city technologies
2. Gauge knowledge while educating consumers about benefits
3. Understand general sentiment and perceptions
4. Learn best ways to reach/educate consumers

Methodology

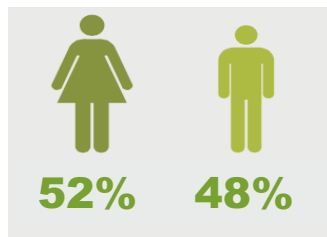
- **Online study:** Online consumer panel administered by Survey Sampling International (SSI)
- **Timeframe:** June-July 2017
- **Respondents:** 505 (430 from SSI national panel, 75 from Power Over Energy Facebook audience)
- **Demographics:** Nationally representative of US consumers, aligned to US Census.

Audience Demographics

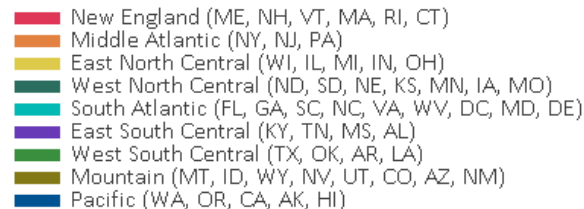
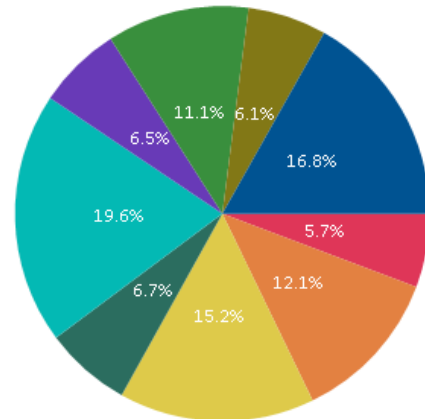
Age Range



Gender



Geography

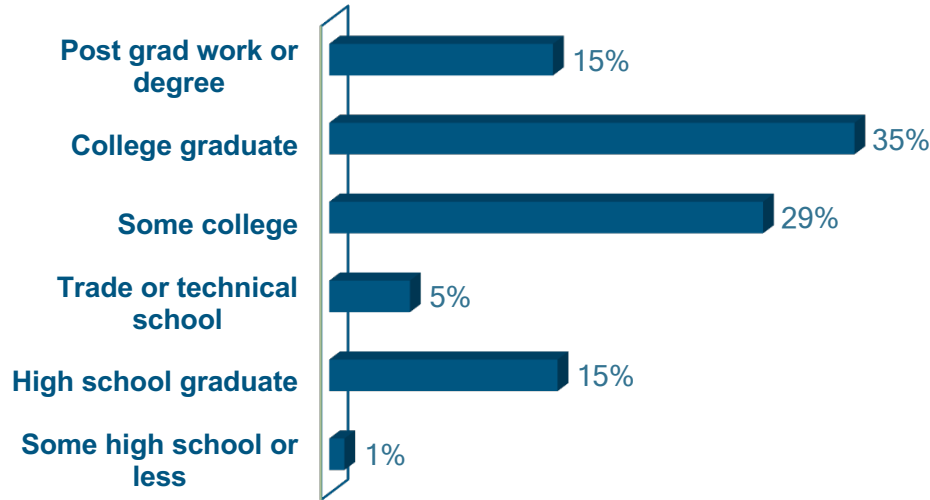


Takeaway

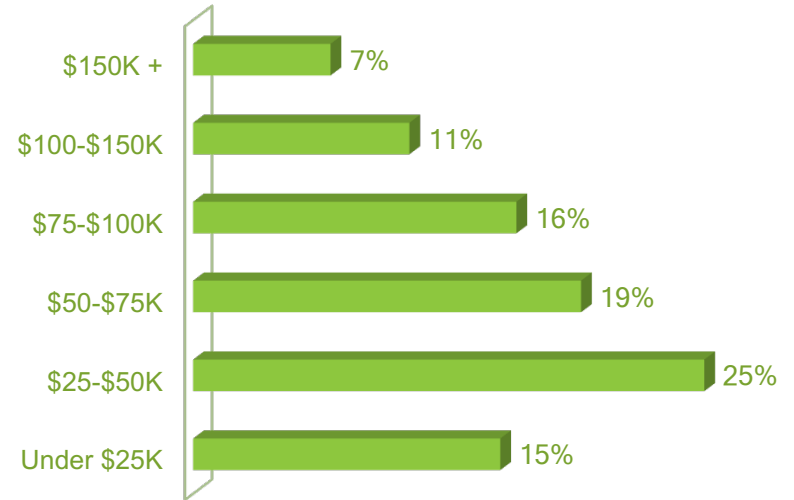
Even distribution by age, gender and geography.

Audience Demographics

Education Level



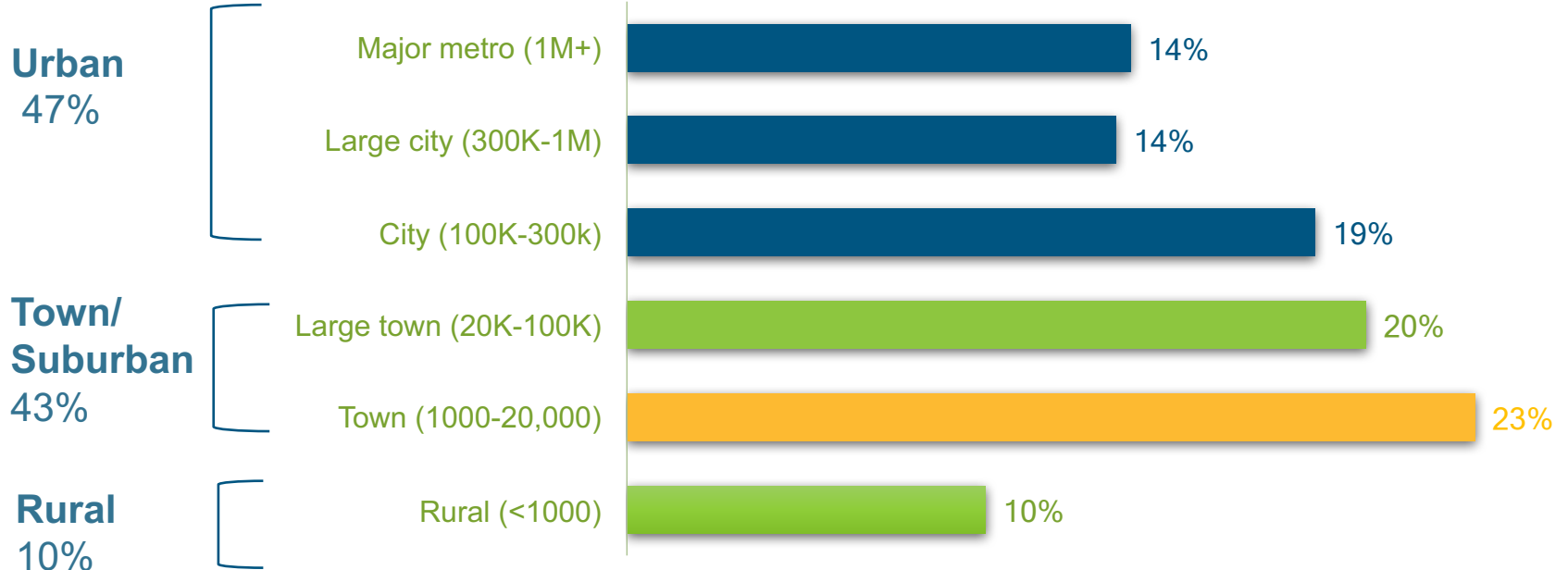
Household Income



Takeaway

50% are college graduates, with wide range of incomes.

Audience Demographics



Takeaway
90% are split between Urban and Town/Suburban.

Study Findings

Awareness/Knowledge

79% of respondents had little to no knowledge about Smart Cities before study

Smart streetlights are the most well-known smart city application

- Public safety is seen as most important smart streetlight benefit

Sentiment/Perceptions

When educated about benefits, 75% think smart cities would have a positive impact, only 3% said negative impact.

- Top two benefits: Reducing pollution and public safety
- Top two concerns: Cost and privacy
- Positive sentiment for smart cities is highest with millennials (83%) vs. 65+ (60%)

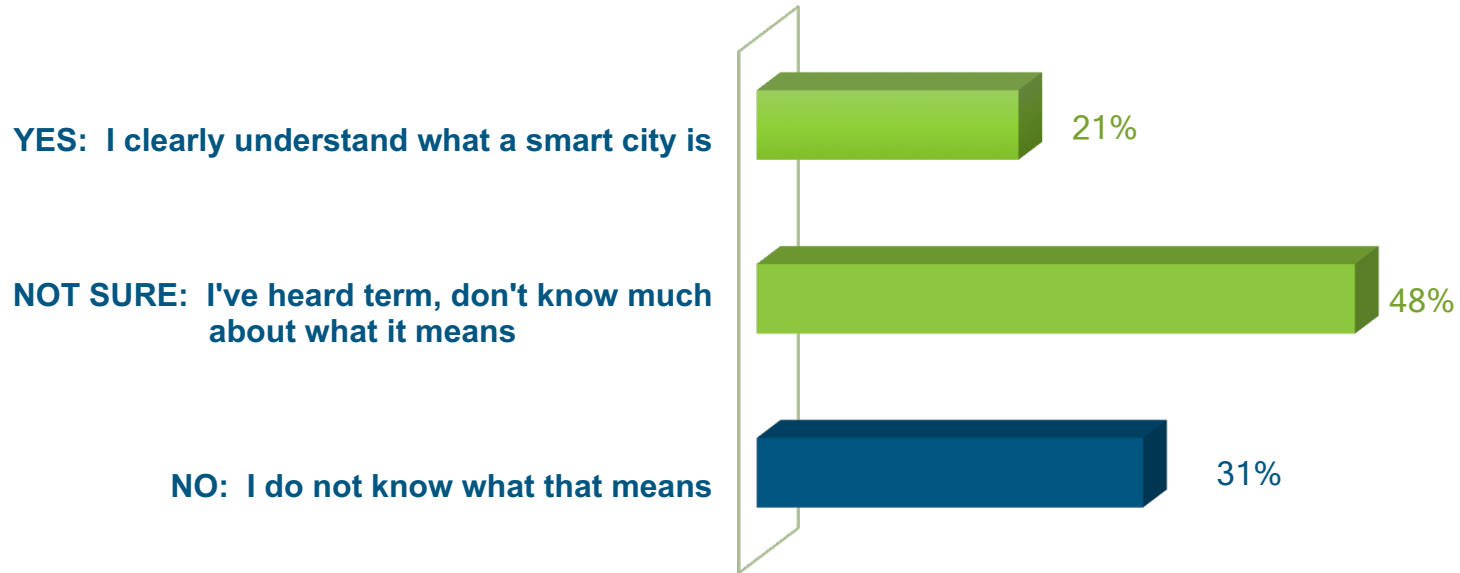
65% of participants have some interest in living with smart city technologies

- Of the 15% who are not interested, 50% are from rural areas
- 64% of those who clearly understand what a smart city is say it would be extremely or very important to live in one

50% expect to see impact of smart cities on daily life in next 1-3 years or less

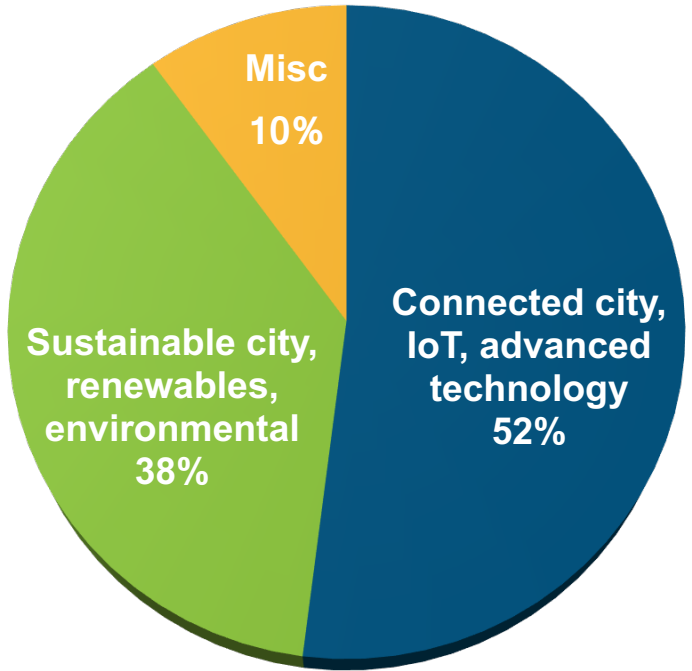
1. Are you familiar with the term “smart cities”?

79% have little to no knowledge of smart cities



1A. For those who understand what a smart city is, how do you define it?

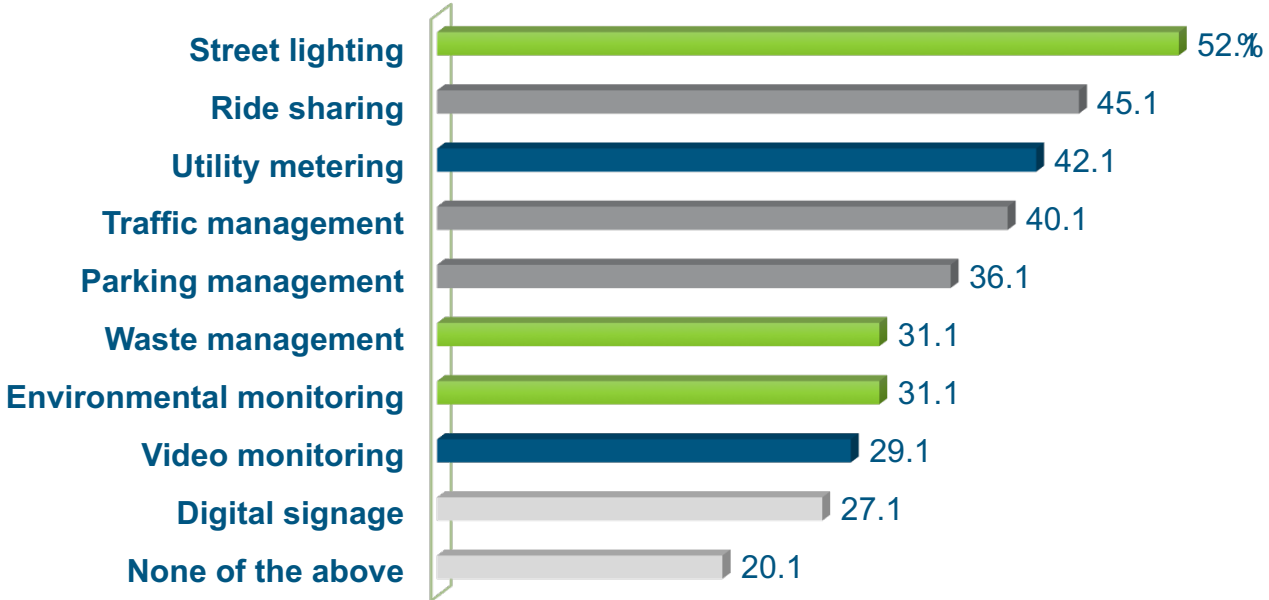
“A city that is dedicated to using renewable energy and recycling.”



“A city that incorporates IoT technology and apps to manage a city's infrastructure and improve the lives of its citizens.”

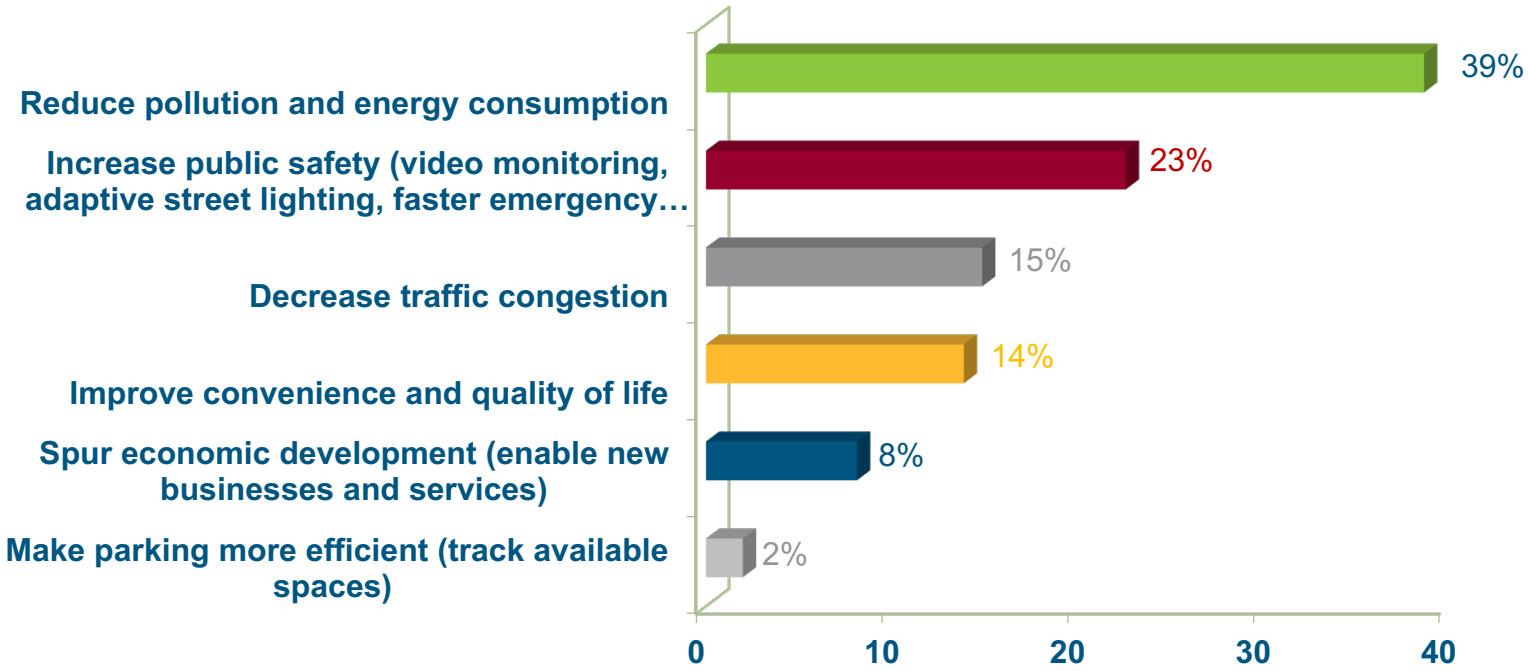
2. Which smart city applications are you familiar with?

Street lighting is most well-known application



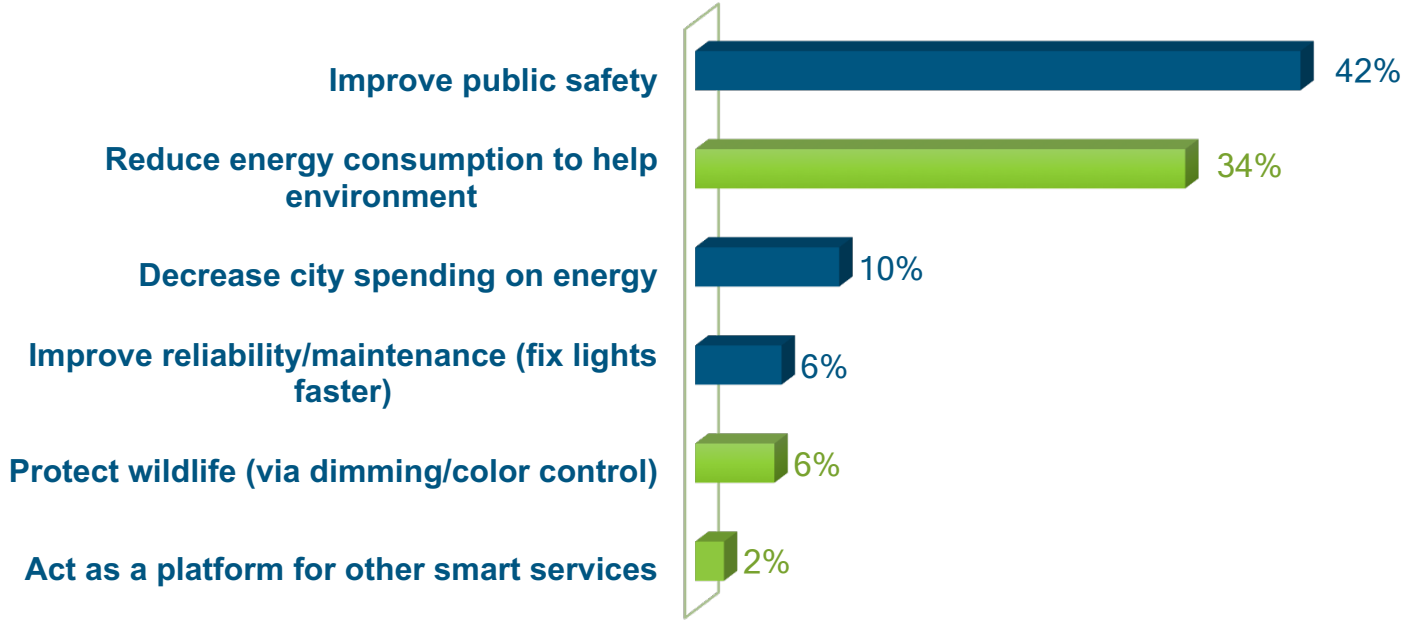
3. Which smart city benefits are most important to you?

Reducing pollution and increasing public safety are top benefits



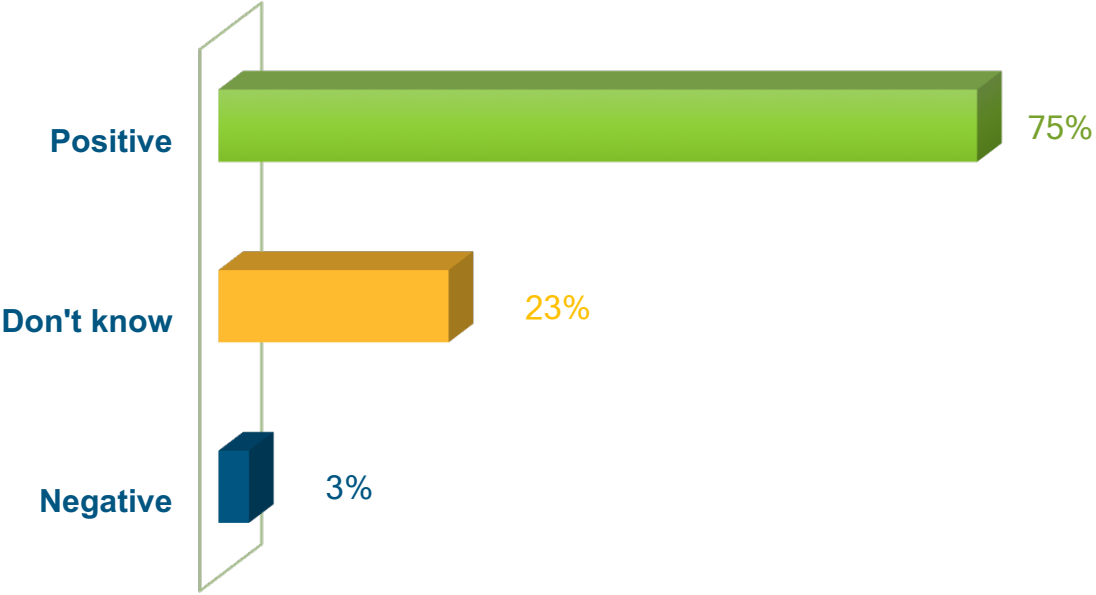
4. What are most important benefits of smart street lights?

Improving public safety is top street light benefit

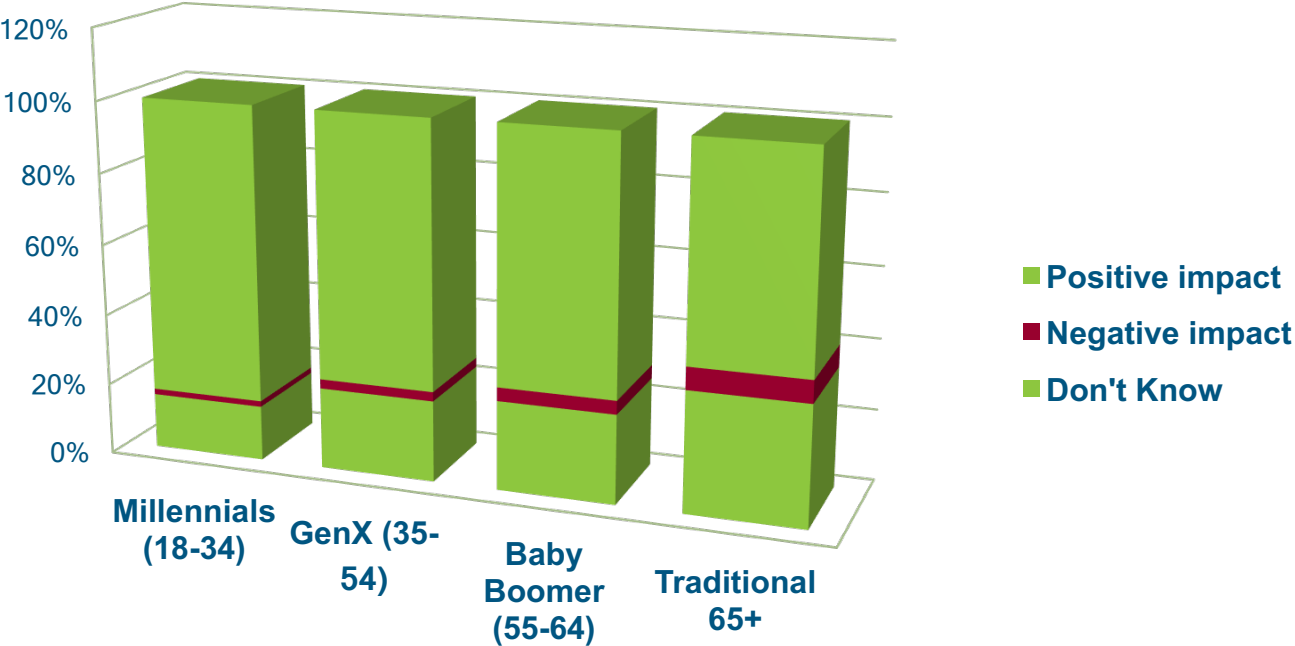


5. Do you think the impact of smart cities on you is more positive or negative?

75% of respondents said positive, only 3% said negative

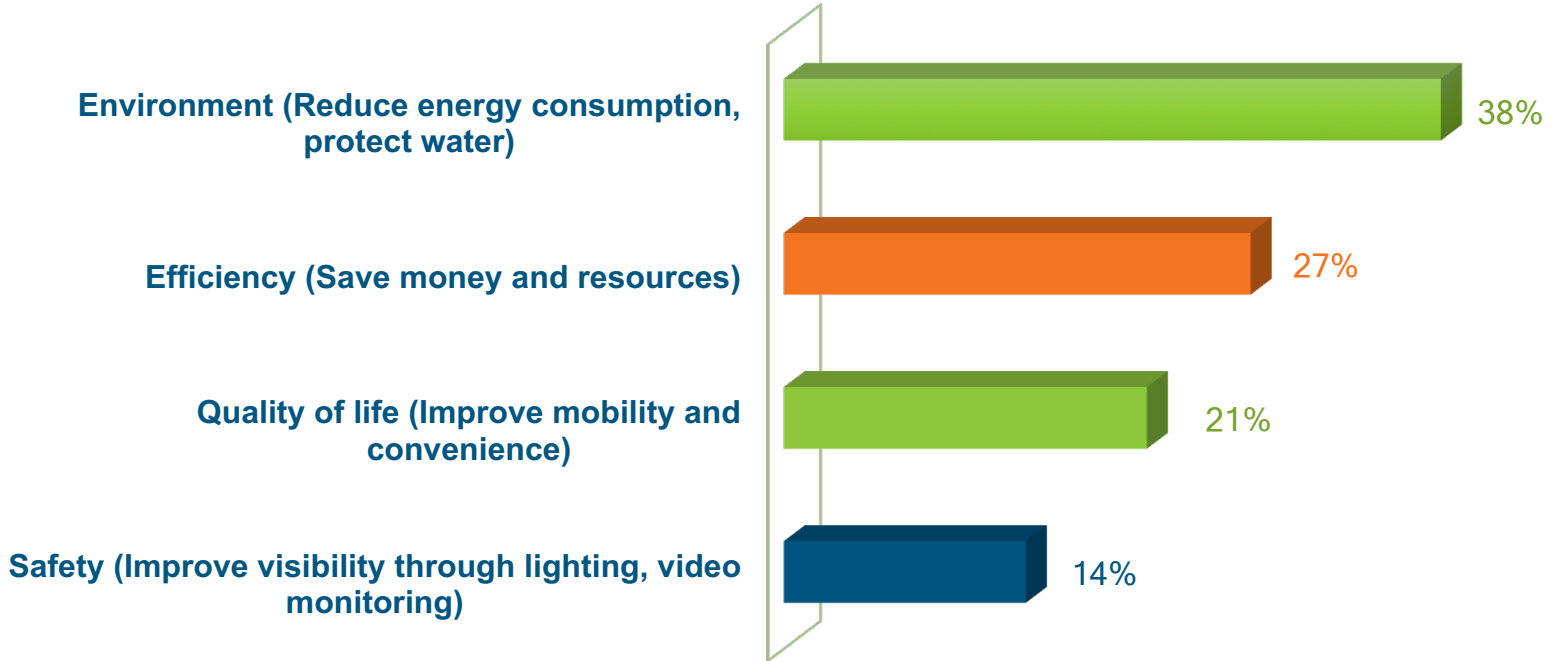


Positive impact sentiment highest with Millennials



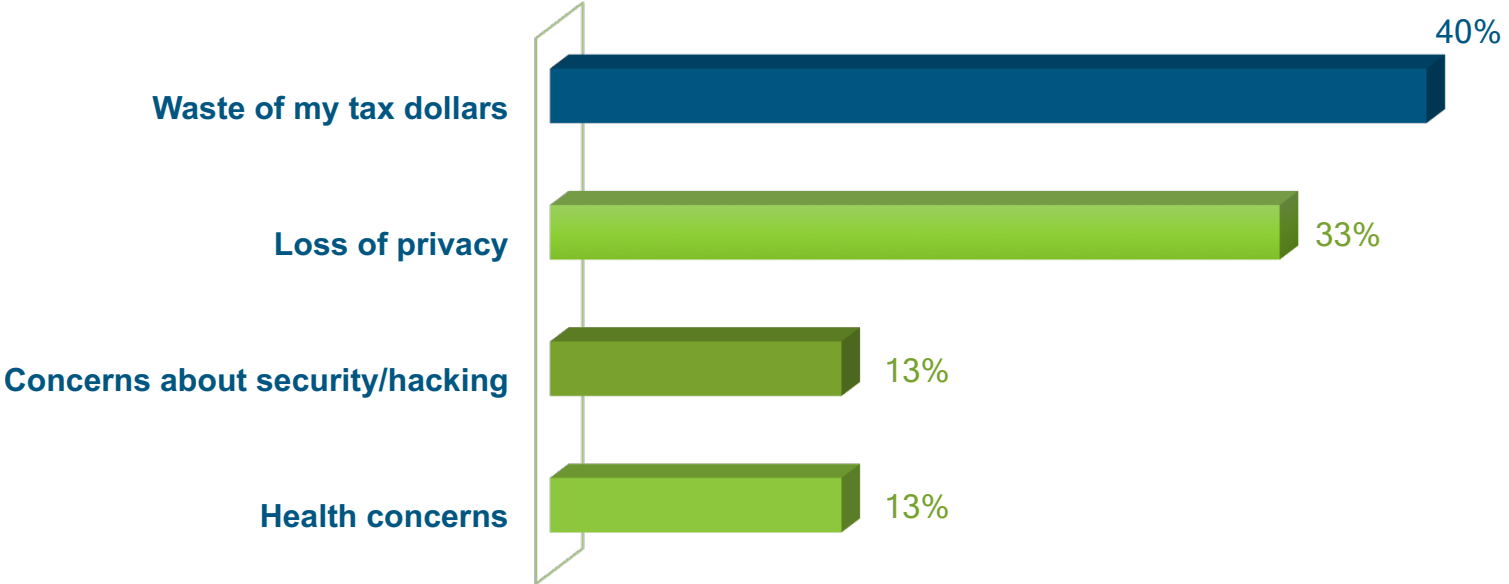
5A. If you said positive impact, what is primary reason?

Environmental concerns were top reason



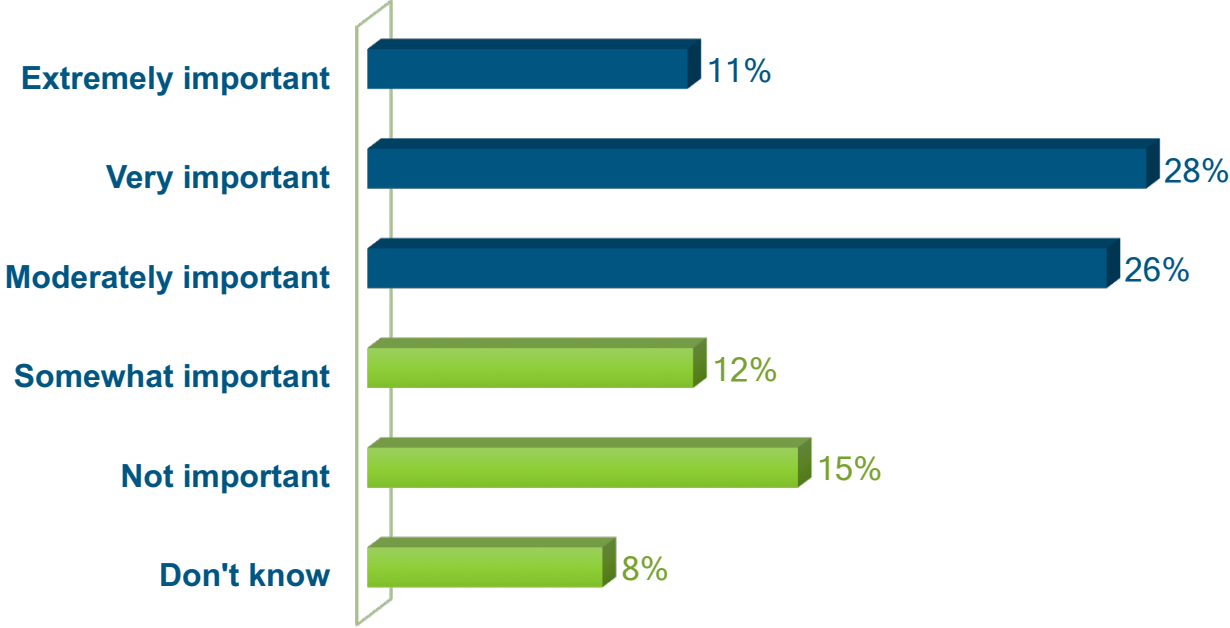
5B. If you said negative impact, what concerns you most?

Waste of tax dollars and loss of privacy



6. How important is it to you to live in a place with smart city technologies?

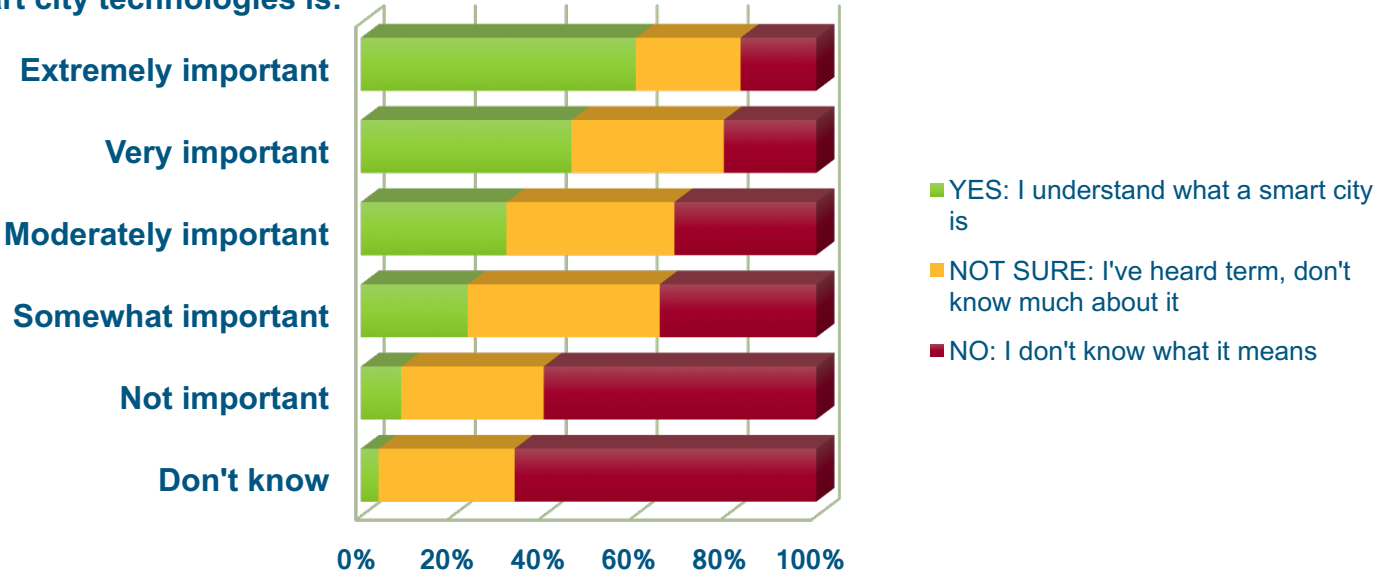
65% say it's extremely to moderately important



6. How important is it to you to live in a place with smart city technologies?

People who understand what a smart city is place more importance on living with the technologies

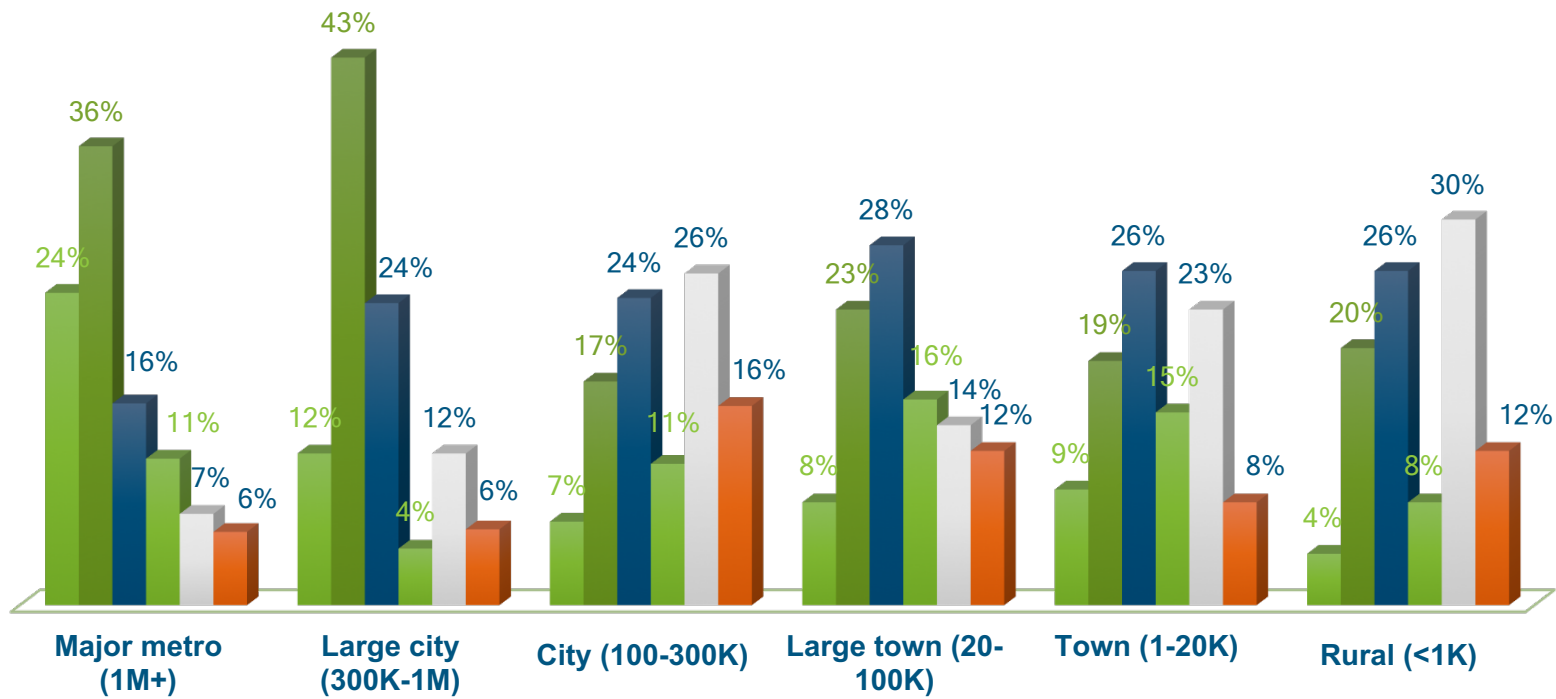
Living with smart city technologies is:



6. Importance by geographic area

3/4 of respondents in cities over 300K say its extremely to moderately important to live with smart cities technologies

■ Extremely important ■ Very important ■ Moderately important ■ Somewhat important ■ Not important ■ Don't know



6A. Reasons why people would want to live with smart city technologies

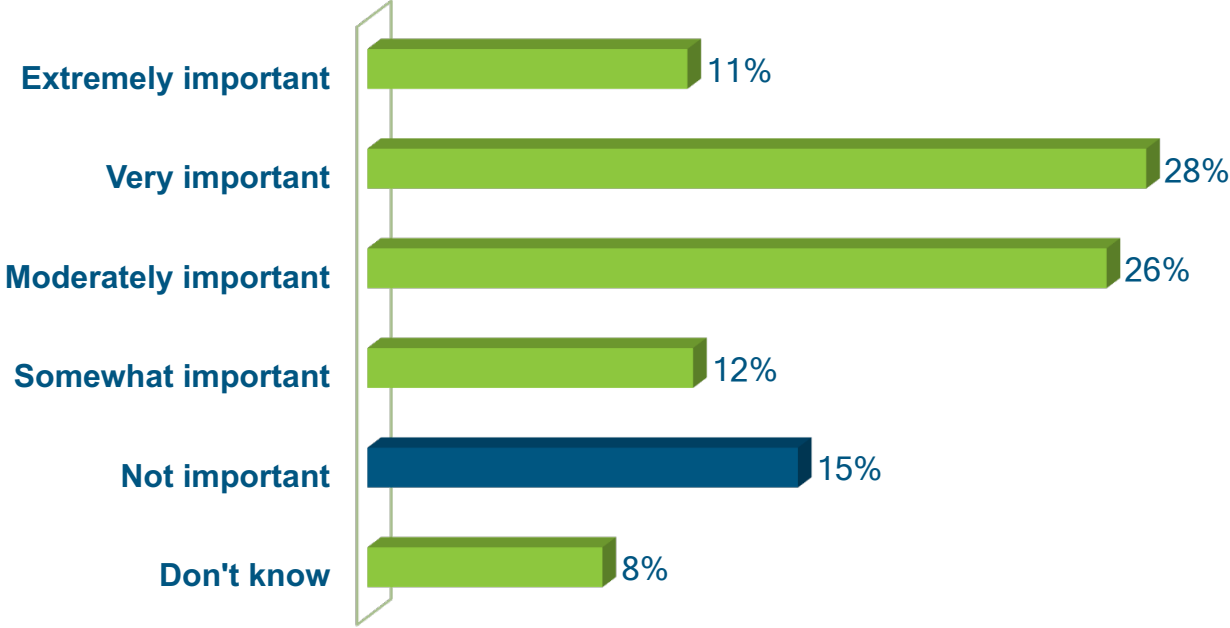


6A. Reasons why people would want to live with smart city technologies

- “**Public safety** and **protection of the environment.**”
- “I support improving **quality of life** and **saving energy.**”
- “I would like my city to **be an example** for the rest of the country on **how to live better.**”
- “I think they are pushing for more sustainability, economically, socially, and environmentally, and that is inspiring and better for everyone in the long run!”
- “It would be nice to **be part of a community** that is looking out for the **greater good in new and innovative ways.**”
- “It reduces the amount the city has to spend on repairs and energy to light the city therefore, **reducing the amount of taxes** that I should have to pay.”
- “I care about the environment for **future generations.** I think **we can do better.**”

6. How important is it to you to live in a place with smart city technologies?

Only 15% say it's not important



6A. Reasons why people would **not** want to live with smart city technologies



6A. Reasons why people would **not** want to live with smart city technologies

“When you turn things "smart" say **goodbye to your freedom.**”

“I prefer to live in the country and I think the more smart technology a city has the more **vulnerable it becomes to terrorist hacking.**”

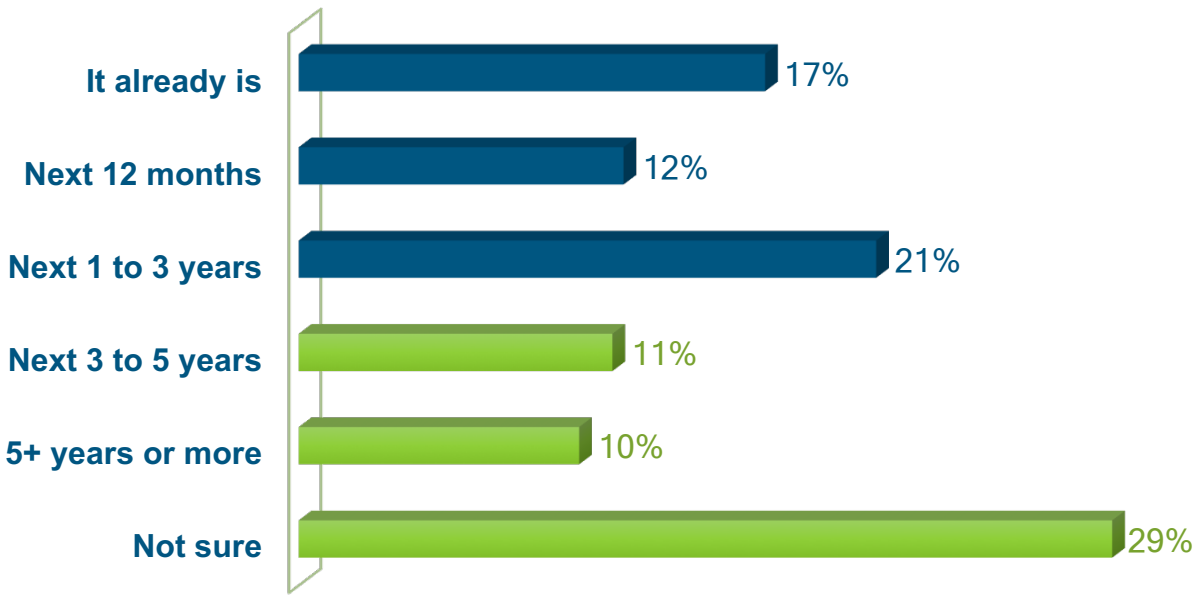
“I don't want to pay **high taxes** or be **monitored like a lab rat.**”

“Computer programs are susceptible to hacking, are **expensive** to develop and maintain, and can be used to harm those it was intended to benefit.”

“No experience with such a city. Just because something is new doesn't mean it is progress.”

7. When do you expect to see smart city technologies impact your daily life?

50% expect to see daily impact within next 1-3 years or less

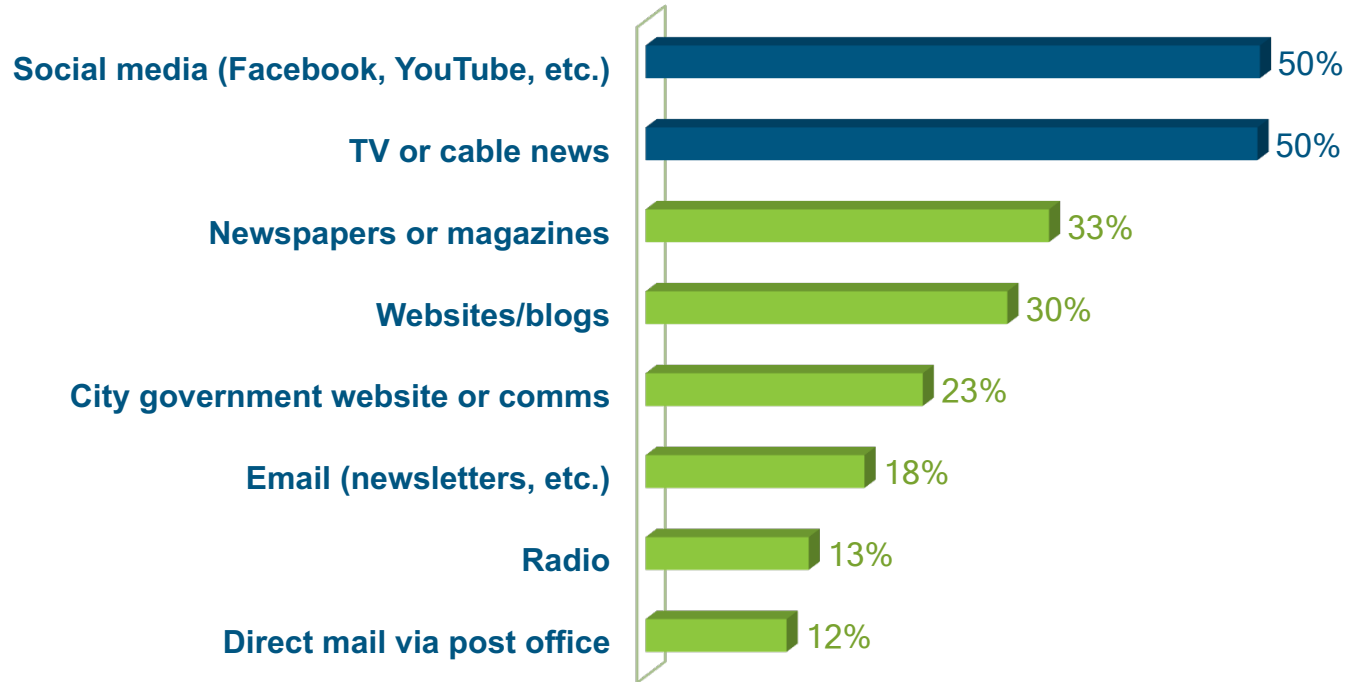


Study provides opportunity for education

- “I haven't heard of a smart city until this survey. I need to do more research.”
- “I'm not sure of the level of smart city I'm in, need to do more research.”
- “From what I have read here, it look like the Smart Cities program is trying to improve the general quality of life while reducing the demand on resources. Those are my two favorite things.”

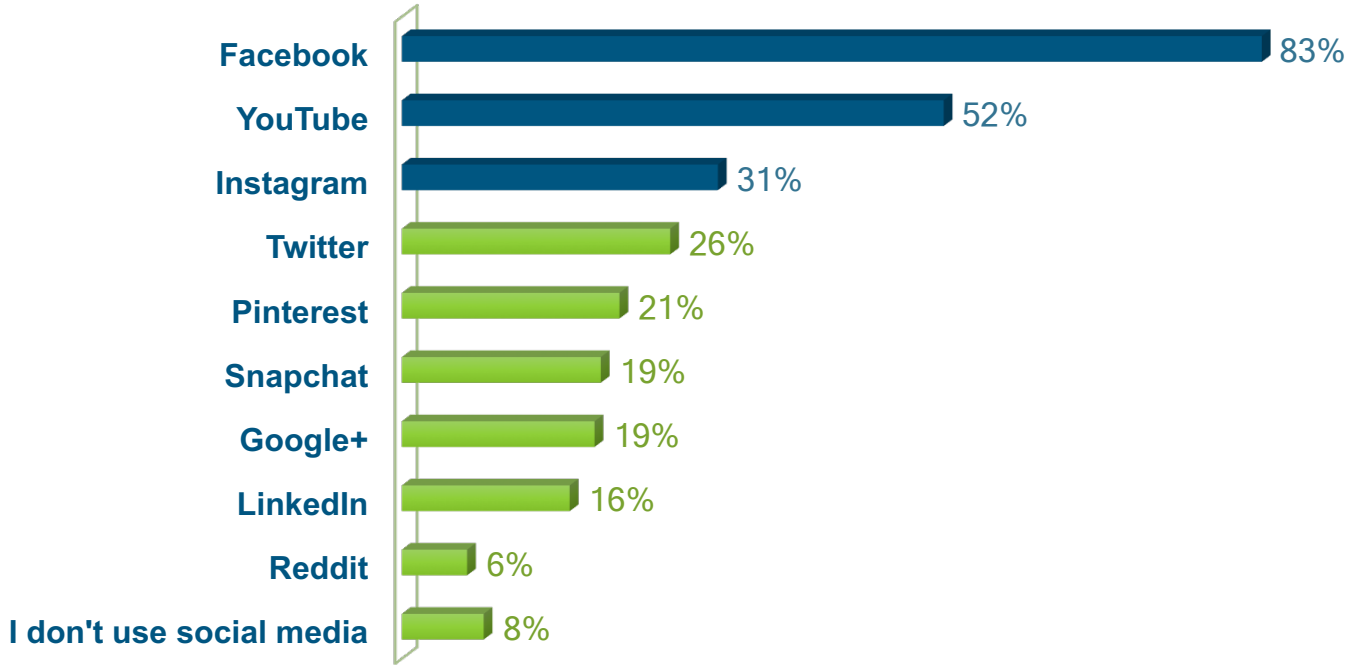
8. Where would you prefer to learn about smart cities?

Social media and TV are most preferred channels



9. Which of these social media do you routinely use?

Facebook, YouTube and Instagram are most popular



Insights

- There is a significant awareness gap among Americans about what smart cities are and why they should care. Nearly 80% of respondents had little to no knowledge of smart cities before the study.
- When educated about the benefits, 75% think smart cities would have a positive impact. Positive sentiment is highest among millennials. Protecting the environment and increasing public safety are top priorities.
- Only 3% said smart cities would have a negative impact, with top concerns being cost and loss of privacy.
- For cities interested in deploying smart city applications, citizens are most interested in the environmental and public safety benefits.
- Many are interested in learning more about smart cities and cite social media (Facebook and YouTube) and TV as their preferred channels to get information.