

# Is Money the Only Incentive that Would Entice Residents to Install Green Infrastructure?

Nancy Ellwood  
CDM Smith – Cincinnati, OH  
Kate Johnson  
USEPA Region 5 – Chicago, IL

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**CDM  
Smith**

# Project Background



- USEPA Region 5 Study: Incentivizing Residential GI
  - Most municipal GI programs for stormwater management focus on public property
  - Approach is self-limiting – need to expand to residential for large stormwater impact
  - Residential GI currently under-implemented in most urban areas
  - Would incentivizing residential GI help? What type?

# Project Partners

- **Sponsor** – USEPA – Region 5 – Chicago, Illinois
- **Study Design** – CDM Smith – Cincinnati, Ohio
- **Local Officials** – Hamilton County & Cincinnati, Ohio
- **Local Task Force** – Green Infrastructure Group (local government, community leaders, nonprofits, educational institutions, consultants)

# Project Description

## Project Element

## Project Deliverable

Research existing residential  
GI incentive programs

Matrix of US GI incentive  
programs

Assess local government  
needs

Report on local municipal/county  
incentive program needs

**Evaluate homeowner GI  
incentive preferences**

**Subject of this presentation**

Develop GI incentive  
program plan

Proposed phased GI incentive  
program plan

# Presentation Focus:

## Homeowner GI Incentive Preferences

- Initial Assumptions



- Homeowner uncertainty – fear of the unknown

- Homeowners would not voluntarily incur costs

- Study Approach



- Door to Door Surveys

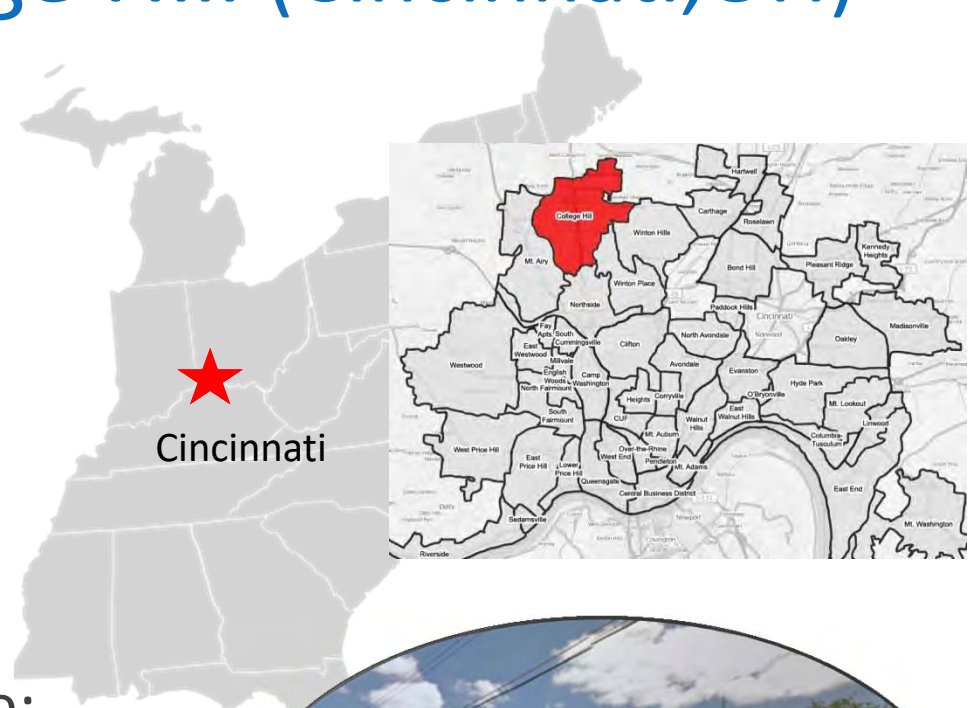
- Online Surveys

- Interviews/Paper Survey at Community GI Open House

- Lessons Learned

# Target Area: College Hill (Cincinnati, OH)

- Area: 3.72 square miles
- Population: 14,133
  - Male: 6,275
  - Female: 7,858
- Median Age: 42.7
- Households: 6,294
- Median Household Income: \$35,908
- Average Home Value: \$115,810
- Bachelor's Degree: 14.3%



# Survey Development

- Project partner meetings & conference calls  
– needed governmental and local input
- Tour of target area
- Final format & questions decided by consensus
- Lessons Learned: This is a major undertaking with this many partners

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# Door-to-Door Interviews

- Limited to three questions
- Conducted over several weeks – visited 924 homes
- Performed by volunteers – CUFA\*
- Advertised planned GI open house using flyer/doorhanger
- Lessons Learned: 75% of homeowners in target area do not have email

**College Hill Survey**  
I'm \_\_\_\_\_ with Communities United For Action. We're a grassroots organization that brings people together to address issues they're concerned about. Today we are taking a survey of your neighborhood about water runoff issues.

**Have you experienced any of the following:**

- \_\_\_ wet basement
- \_\_\_ soggy yard after a rain
- \_\_\_ standing water after a rain
- \_\_\_ mosquitos
- \_\_\_ high water bills
- \_\_\_ other: \_\_\_\_\_

**There are techniques, called Green Infrastructure, you can do to address some of these concerns. What things are you interested in learning more about:**

- \_\_\_ rain barrels
- \_\_\_ rain gardens
- \_\_\_ disconnecting your downspouts
- \_\_\_ tree planting
- \_\_\_ native landscaping
- \_\_\_ removing hard surfaces
- \_\_\_ other: \_\_\_\_\_

**What help would you need to do one or more of these Green Infrastructure techniques?**

- \_\_\_ information about how to do it
- \_\_\_ assistance installing the Green Infrastructure technique
- \_\_\_ training/workshops about landscape and/or rain gardens
- \_\_\_ access to free or low-cost materials
- \_\_\_ other: \_\_\_\_\_

We are having an open house on July 13 to give people more information about these things. Would you be able to come?  
Name: \_\_\_\_\_ address: \_\_\_\_\_ phone: \_\_\_\_\_  
e-mail: \_\_\_\_\_



\*Communities United for Action

# Door-to-Door Interviews – College Hill Residents

**Q1: Have you experienced any of the following?**

- Wet basement
- Soggy yard after a rain
- Standing water after a rain
- Mosquitos
- High water bills
- Other: \_\_\_\_\_

# Door-to-Door Interviews – College Hill Residents

**Q2: There are practices, called Green Infrastructure, you can do to address some of these concerns. What are you interested in learning more about?**

Rain barrels

Rain gardens

Disconnecting your downspouts

Tree planting

Native landscaping

Removing hard surfaces

Other: \_\_\_\_\_

# Door-to-Door Interviews – College Hill Residents

**Q3: What help would you need to do one or more of these Green Infrastructure techniques?**

\_\_\_ Information about how to do it

\_\_\_ Assistance installing the Green Infrastructure

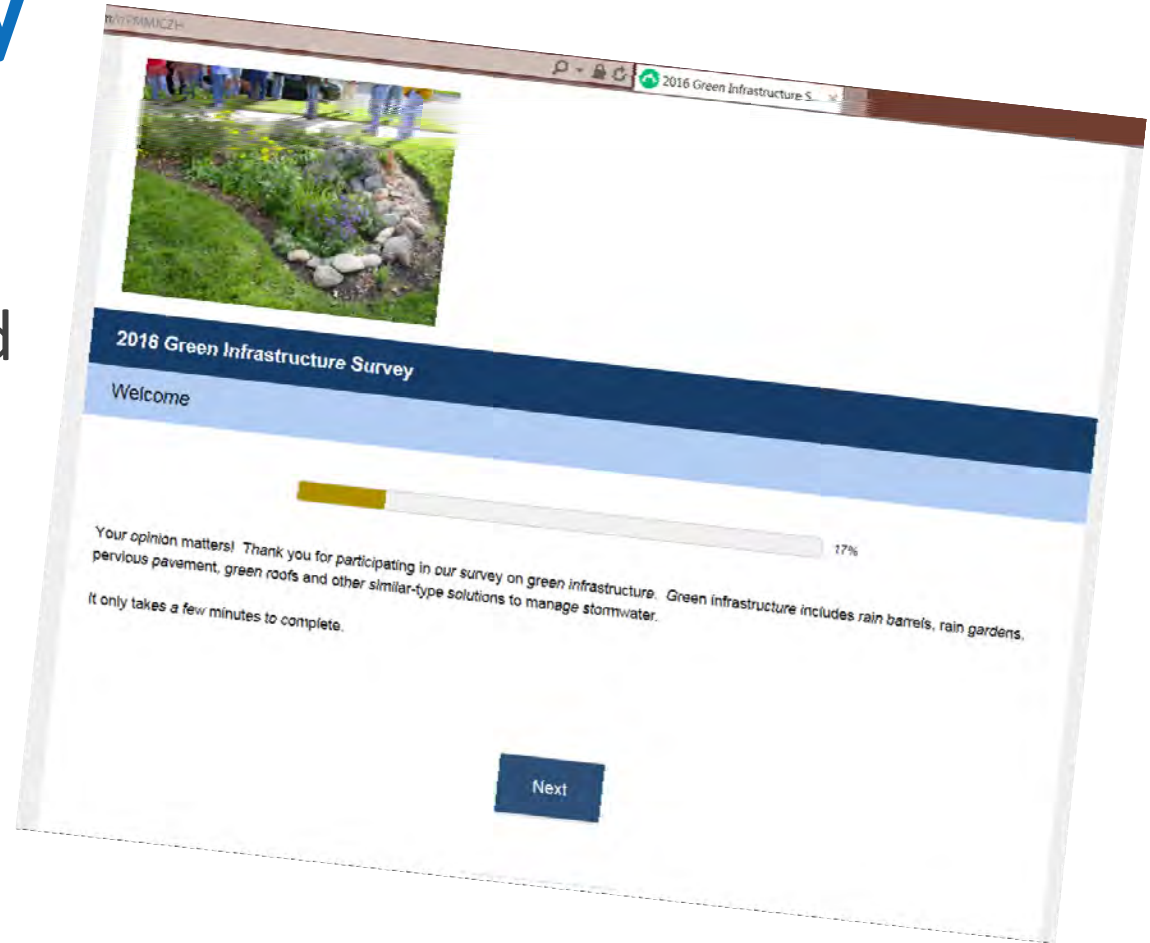
\_\_\_ Training/workshops about landscape &/or rain gardens

\_\_\_ Access to free or low-cost materials

\_\_\_ Other: \_\_\_\_\_

# Online Survey

- Full Survey: Thirteen (13) questions instead of three (3)
- Posted online using Survey Monkey
- Advertised via email & websites



# Online Survey

## 4. What currently happens to rainwater on your property?

- My gutters and downspouts handle the rainwater from my roof
- Rainwater in my yard runs off into the street or down a hillside
- Rainwater in my yard puddles in places
- I have a rain garden
- My downspout was disconnected to a rain barrel
- My downspout was disconnected to the yard
- I don't know
- Other

# Online Survey

**5. What would motivate you to install green infrastructure on your property?** *Please select all that apply.*

- I don't need motivation. I'm in.
- Training on how to install & maintain a DIY rain garden or rain barrel
- Be able to hire someone to install rain garden/rain barrel for me
- Be able to hire someone to maintain rain garden/rain barrel for me
- Discount on materials/supplies
- Financial incentives to offset the installation cost

# Online Survey

## 5. (cont.) What would motivate you to install green infrastructure on your property?

- Green infrastructure fully paid for by someone else
- Be able to contact an expert for technical assistance or advice
- Have access to helpful computer resources
- Recognition program for efforts to “go green”
- Discount on water/sewer bill
- Nothing would motivate me
- Other



# Online Survey

**6. What kinds of green infrastructure are you interested in learning more about?** *Please select all that apply.*

- Rain garden
- Downspout disconnection
- Pervious pavement
- Removing hard (impervious) surfaces that don't allow stormwater to soak into the grounds
- Cistern
- Tree planting
- Native landscaping
- Green roof

# Online Survey

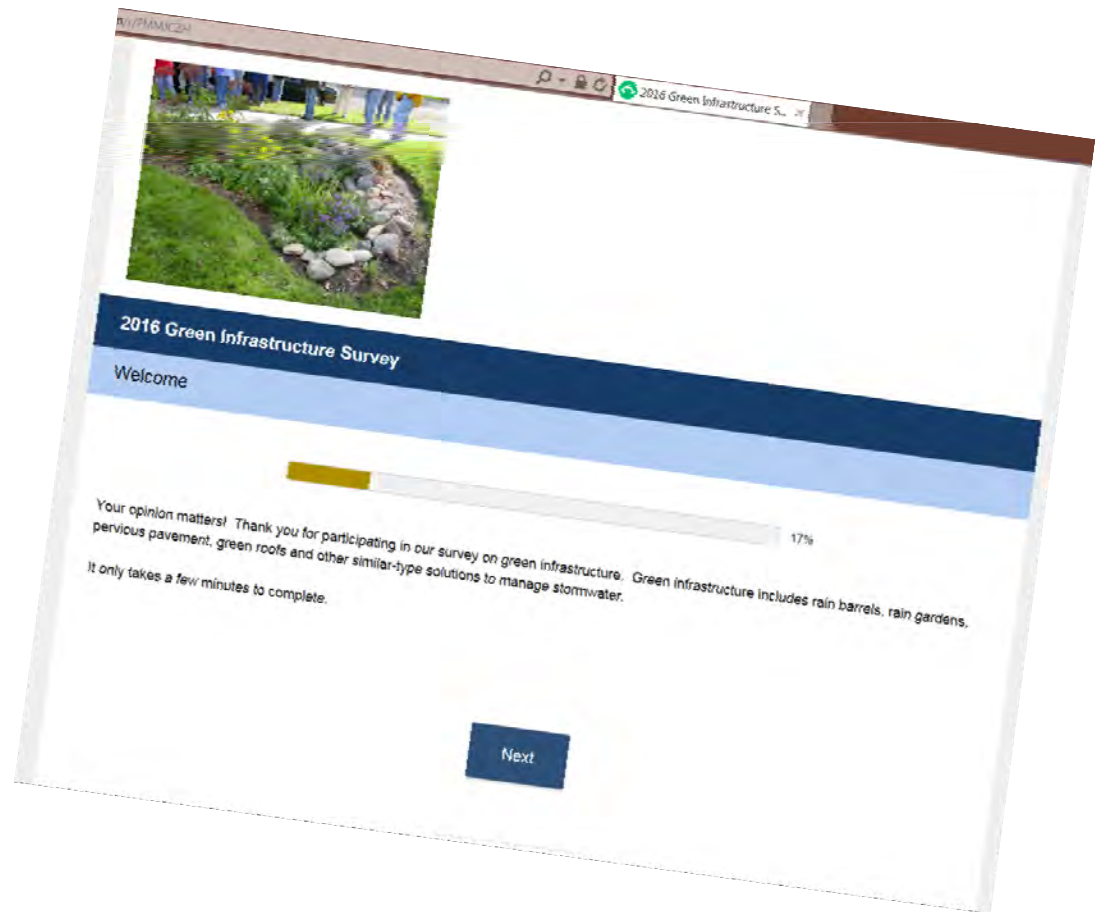
**7. How likely are you to install a rain barrel, rain garden or other natural solutions on your property?**

- Not likely
- Likely
- Very Likely
- Other

# Online Survey

- Lessons Learned:

Lots of work,  
small response  
(9)



# Green Infrastructure Open House



- Held in target community
- Early evening on weekday
- Green infrastructure education stations
- Fact sheet explaining GI and incentive types



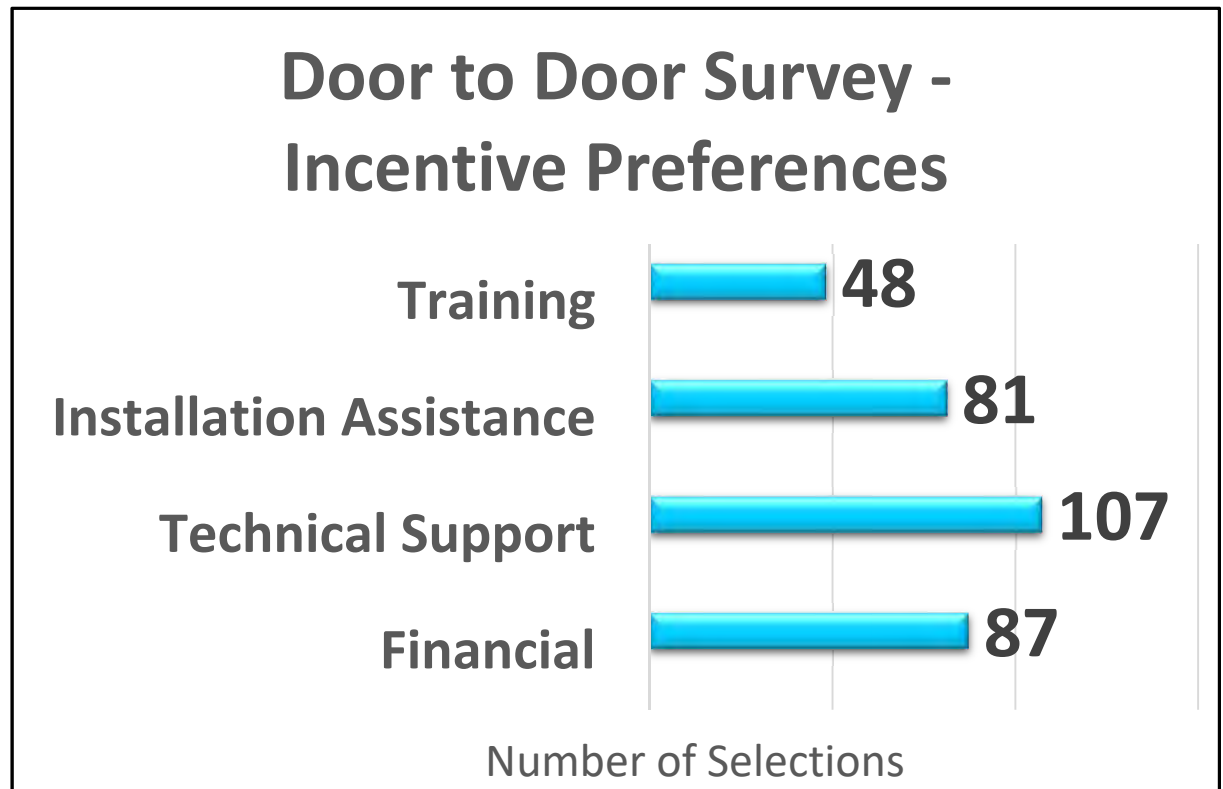
# Green Infrastructure Open House – Survey



- Full Survey (same as online)
- Line out the door before the event started
- Had to visit all learning stations to complete survey
- Lessons Learned: People want free rain barrels

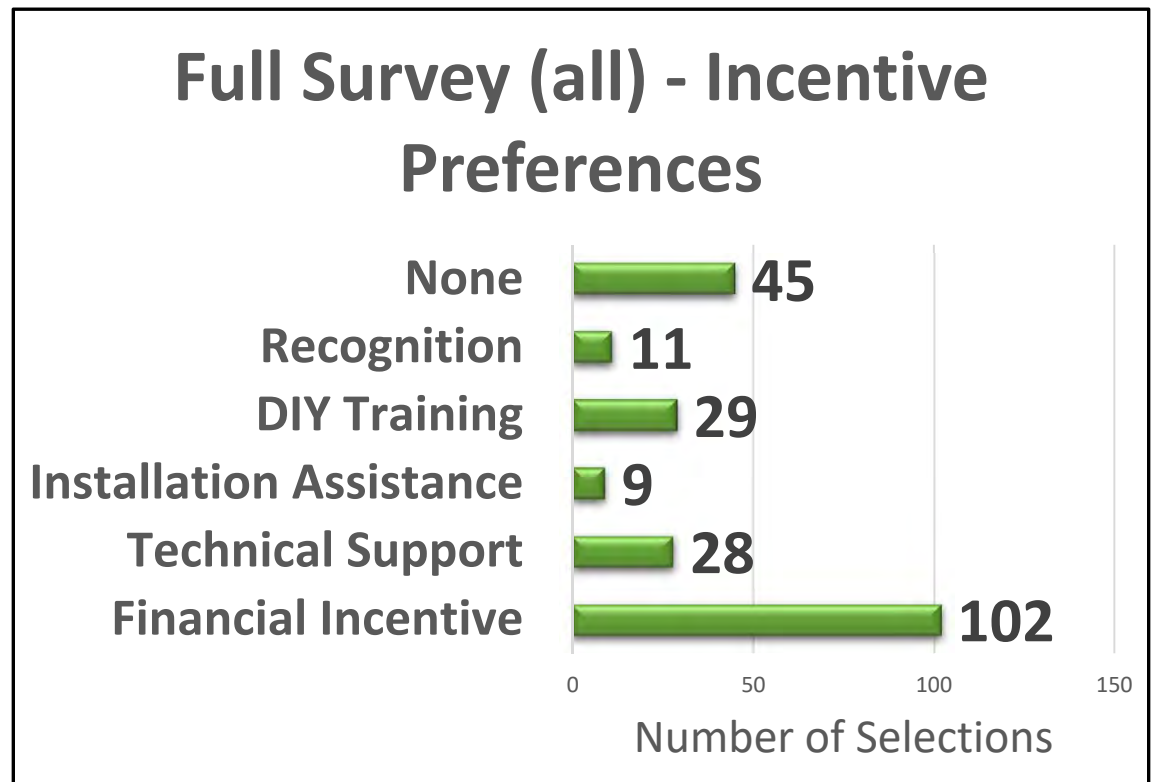
# Results: Door to Door Surveys

- 175 completed surveys – 323 selections
- “Technical Support” 1<sup>st</sup> choice
- Lessons Learned: Knocking on doors still works



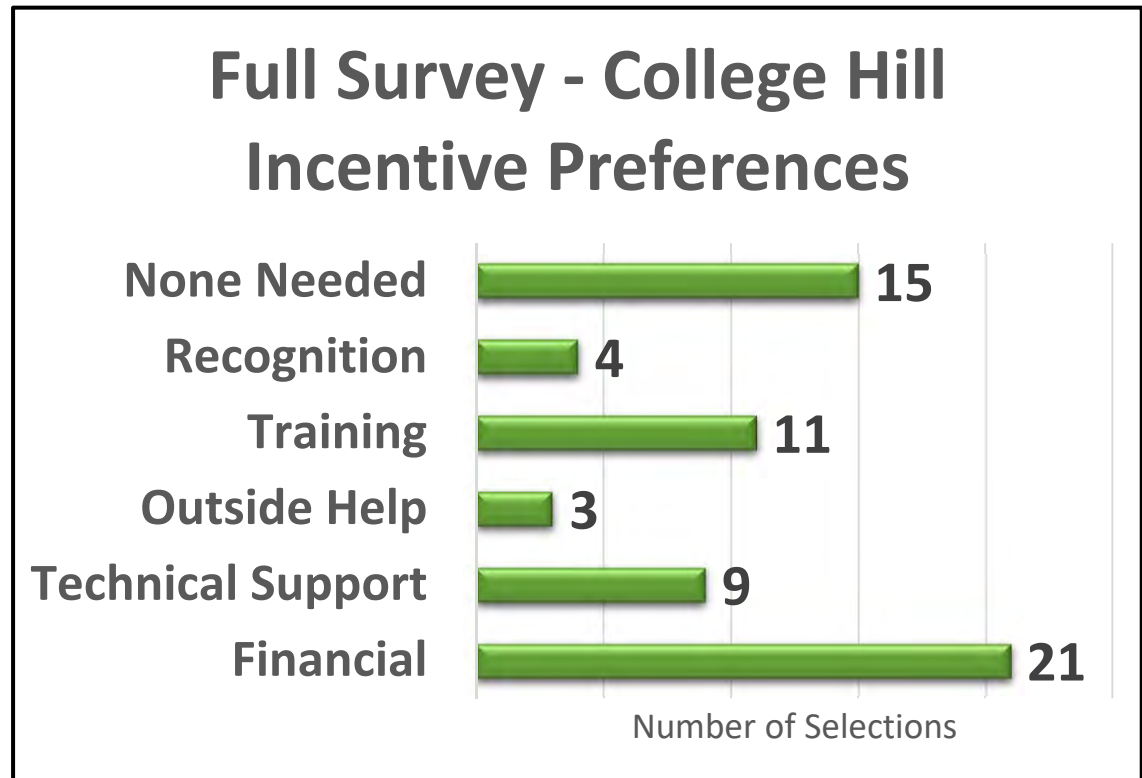
# Results: Full Survey (All)

- 79 total surveys completed
- “Financial Incentives” 1st choice
- Lessons Learned:  
Most open house participants not from target area



# Results: Full Survey (Target Area Only)

- 26 target area surveys
- 63 selections
- “Financial Incentive” = 1<sup>st</sup> choice
- Lessons Learned: Results not much different from all full survey participants



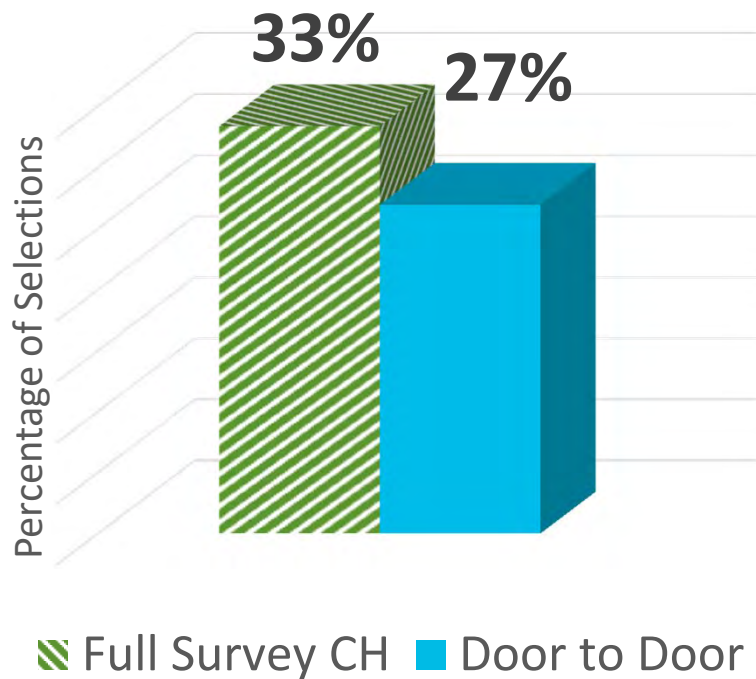


# Survey Results: Unexpected Outcome

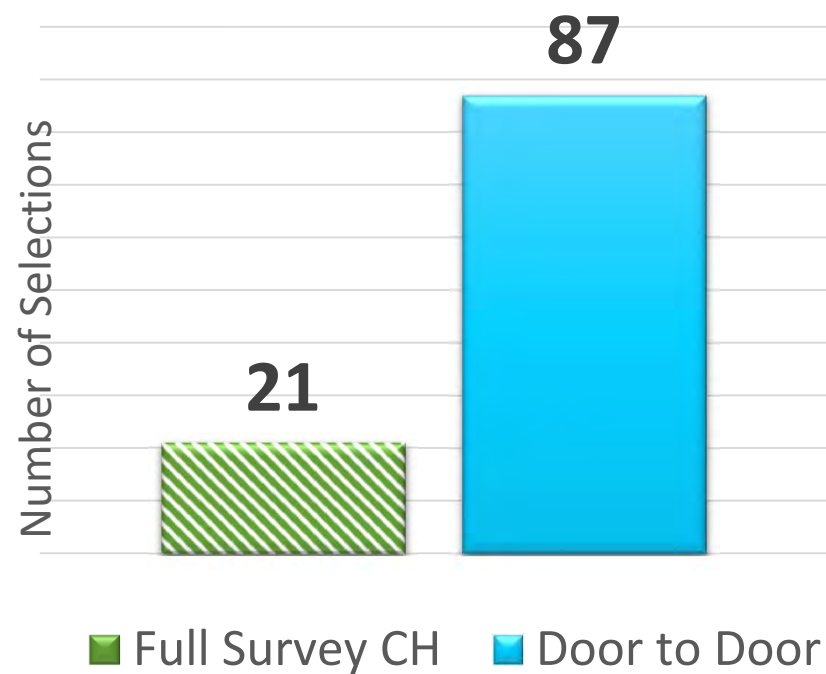
- At first look, preferences for technical & financial incentives are opposite for door-to-door versus full survey of target area residents
- Need to do a little more work ...

# Playing with Numbers: Which result to use?

Financial Incentive –  
Percentage of Selections



Financial Incentive -  
Number of Selections

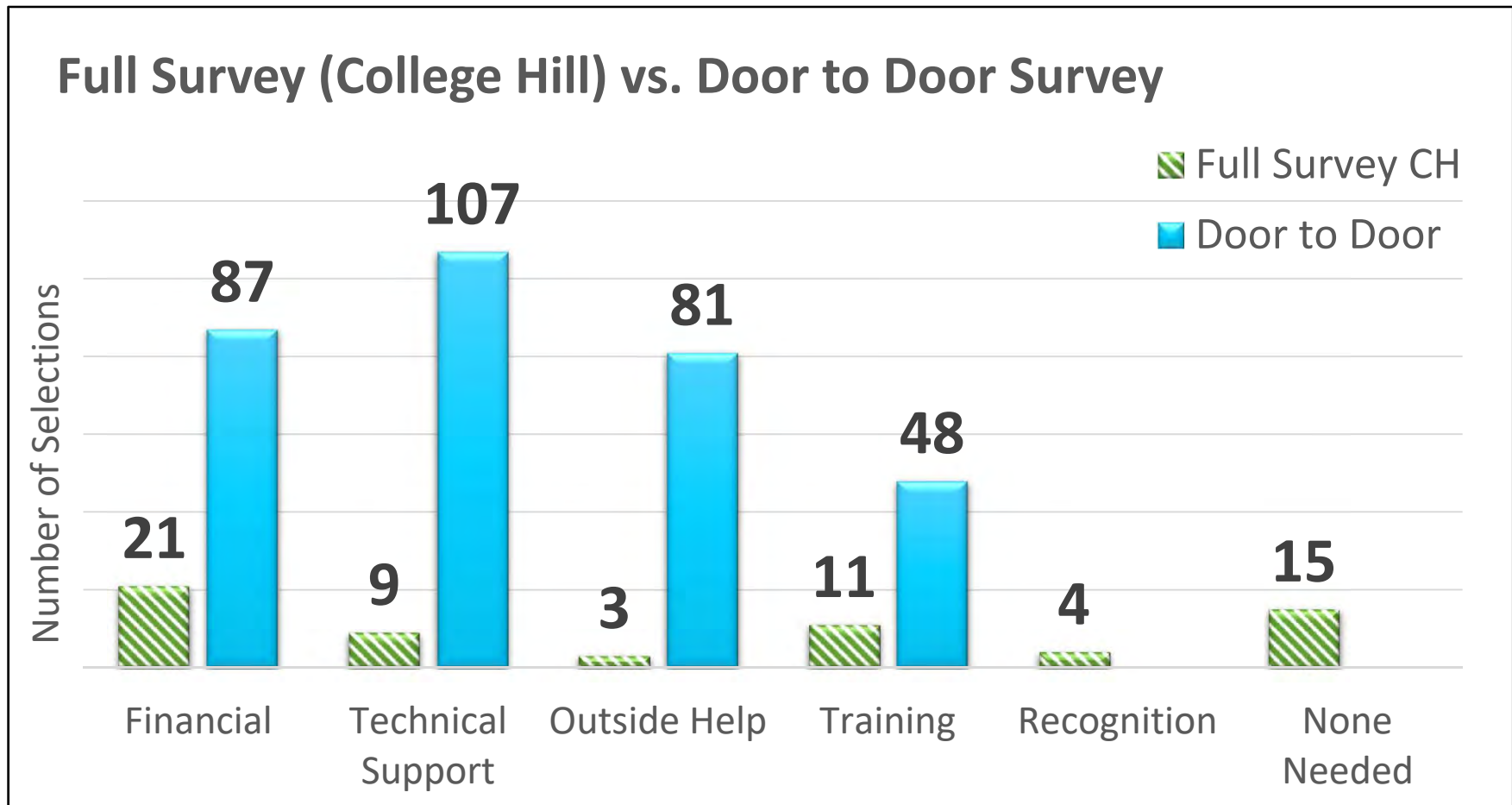


# Survey Results: What results to use?

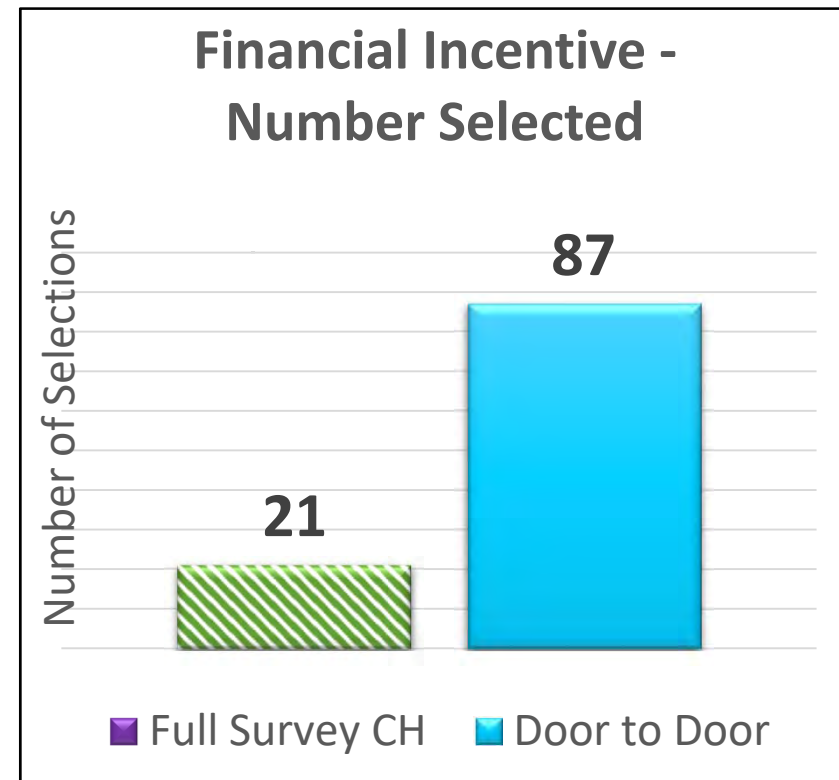
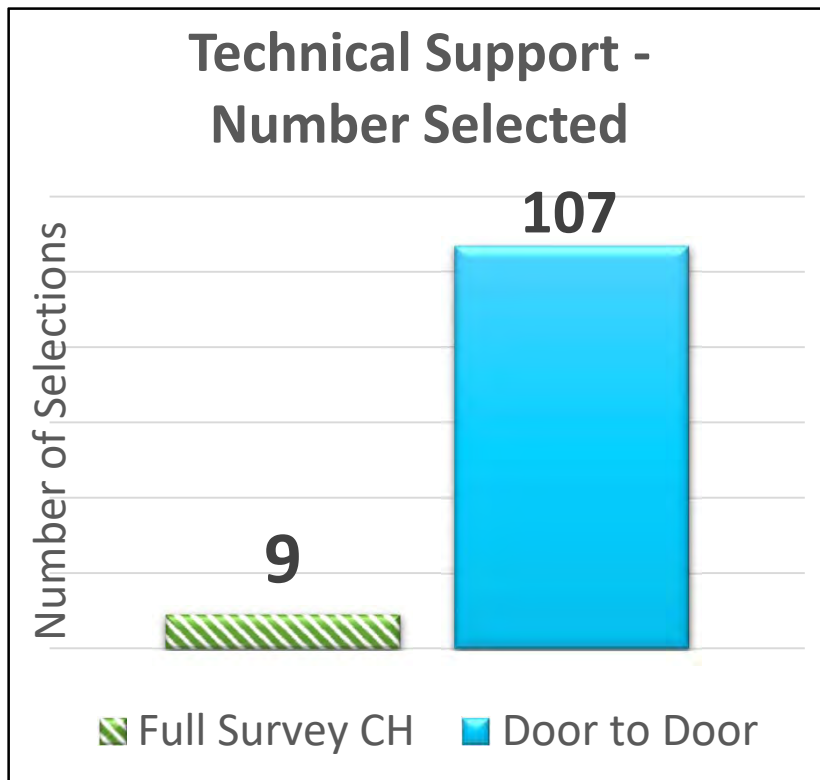
Project partners chose to go with:

- College Hill residents only
- The survey with the largest number of residents: Door-to-Door
- Number Selected (over percentage)

# Survey Results: Comparison of Incentive Preferences



# Top Incentive Preference – Technical Support



# Final Ranking of Residential Incentive Preferences

(Door to Door, Full Survey Selection Numbers)

1. Technical Support (107, 9)
2. Financial Incentives (87, 21)
3. Outside help (81, 3)
4. Training (48, 11)

(Note: Residential incentive preference aligned with municipal need to limit program costs.)

# Reassessment of Assumptions:

- **First assumption:** Fear of the unknown – supported by survey results
- **Second assumption:** Residents not likely to voluntarily spend money – disproved (at least for this target community)

# Final Step:

Developed phased incentive program plan that will meet preferences of target area residents.

REPORT

## Planning a Green Infrastructure Incentives Program for Target Neighborhoods in the City of Cincinnati



Prepared by CDM Smith  
for the U.S. EPA

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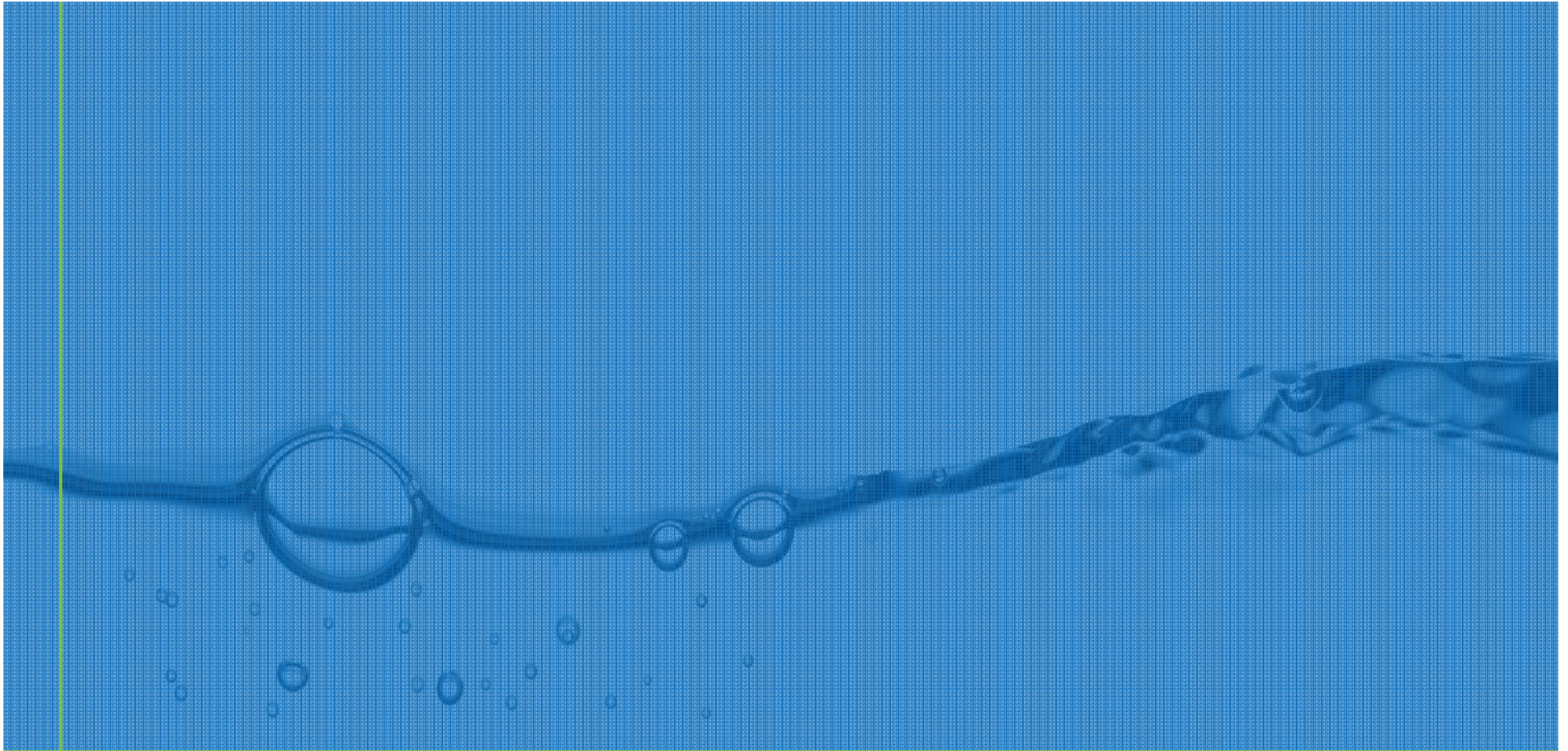




# Thanks to:

- USEPA
- City of Cincinnati
- Hamilton County, Ohio
- Green Infrastructure Group (GIG)
- Open House Volunteers
- CUFA (Communities United for Action)
- College Hill Residents





Questions?

Contact Information:

Nancy Ellwood

email: [ellwoodnk@cdmsmith.com](mailto:ellwoodnk@cdmsmith.com)

Phone: 513-583-9800