AGENDA
SPECIAL MEETING OF THE AMES CITY COUNCIL
CITY COUNCIL CHAMBERS - CITY HALL
515 CLARK AVENUE
APRIL 5, 2022

CALL TO ORDER: 6:00 p.m.

WORKSHOP ON CLIMATE ACTION PLAN:
1. Discussion on proposed low-carbon scenario

DISPOSITION OF COMMUNICATIONS TO COUNCIL:

COUNCIL COMMENTS:

ADJOURNMENT:

Please note that this agenda may be changed up to 24 hours before the meeting time as provided by Section 21.4(2), *Code of Iowa*.

CITY OF ames

Caring People ◆ Quality Programs ◆ Exceptional Service

MEMO

To: Mayor and City Council

From: Deb Schildroth, Assistant City Manager

Date: April 1, 2022

Subject: Objectives for the Fourth Climate Action Plan Steering Committee Meeting

At the December 21, 2021 Steering Committee meeting, the Committee established a target of 83% reduction of community greenhouse gases by 2030 and net-zero emissions by 2050. SSG has taken this target and modeled a draft low carbon scenario including Six Big Moves and a financial assumption totaling the six combined moves ($2.4 billion capital costs/$1.5 billion net returns and avoided costs). At the Tuesday, April 5 Steering Committee meeting, SSG will present the scenario with 29 proposed action steps that would as closely as possible achieve the selected GHG reduction target. In addition, the results of recent engagement activities will be presented at the meeting.

The main objective of the Steering Committee meeting is to review the information and gain a better understanding of what is needed to obtain the stated target. City staff believes the next step in the CAP process is for staff to work with the consultant to generate the following information for the proposed tasks:

- Feasibility to implement each task
- Legal authority to fund and legal authority to implement the tasks
- Cost to citizens
  Charged by the City: utility fees/property tax payments/permit fees
  Charged by non-City: apartment rent payments/building lease payments/construction costs
- Reduction of greenhouse gas emissions per $100,000 of investment
  This helps prioritize the tasks that provide the greatest carbon reduction for the least investment

Council may wish to add to this list requested information to understand the feasibility of each task.

Once the information is generated, a Staff Report will be presented to the Steering Committee. This will allow the Steering Committee to give direction regarding which of the low carbon tasks should be included in the overall low carbon scenario.

The steps that follow the final acceptance of the low carbon scenario include emissions and financial modeling and analysis, development of the implementation strategies, drafting the plan, and finalization of the plan.

Determining the most effective tasks for Ames continues to require thoughtful review and community input and feedback so that relevant, achievable, and cost-effective strategies are all included in the final Climate Action Plan.

City of Ames

Climate Action Plan + Target Setting

City Steering Committee: Introductory Workshop

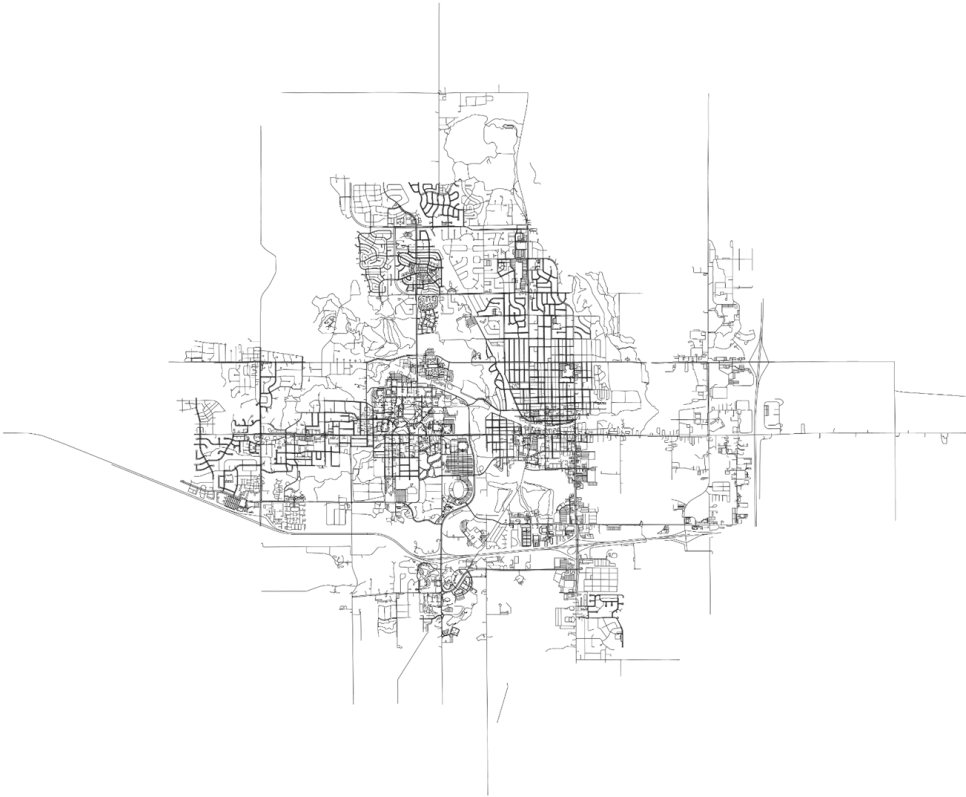
April 5th, 2022
6:00 PM-8:00 PM

CITY OF ames™

SSG SUSTAINABILITY SOLUTIONS GROUP

Meeting Agenda

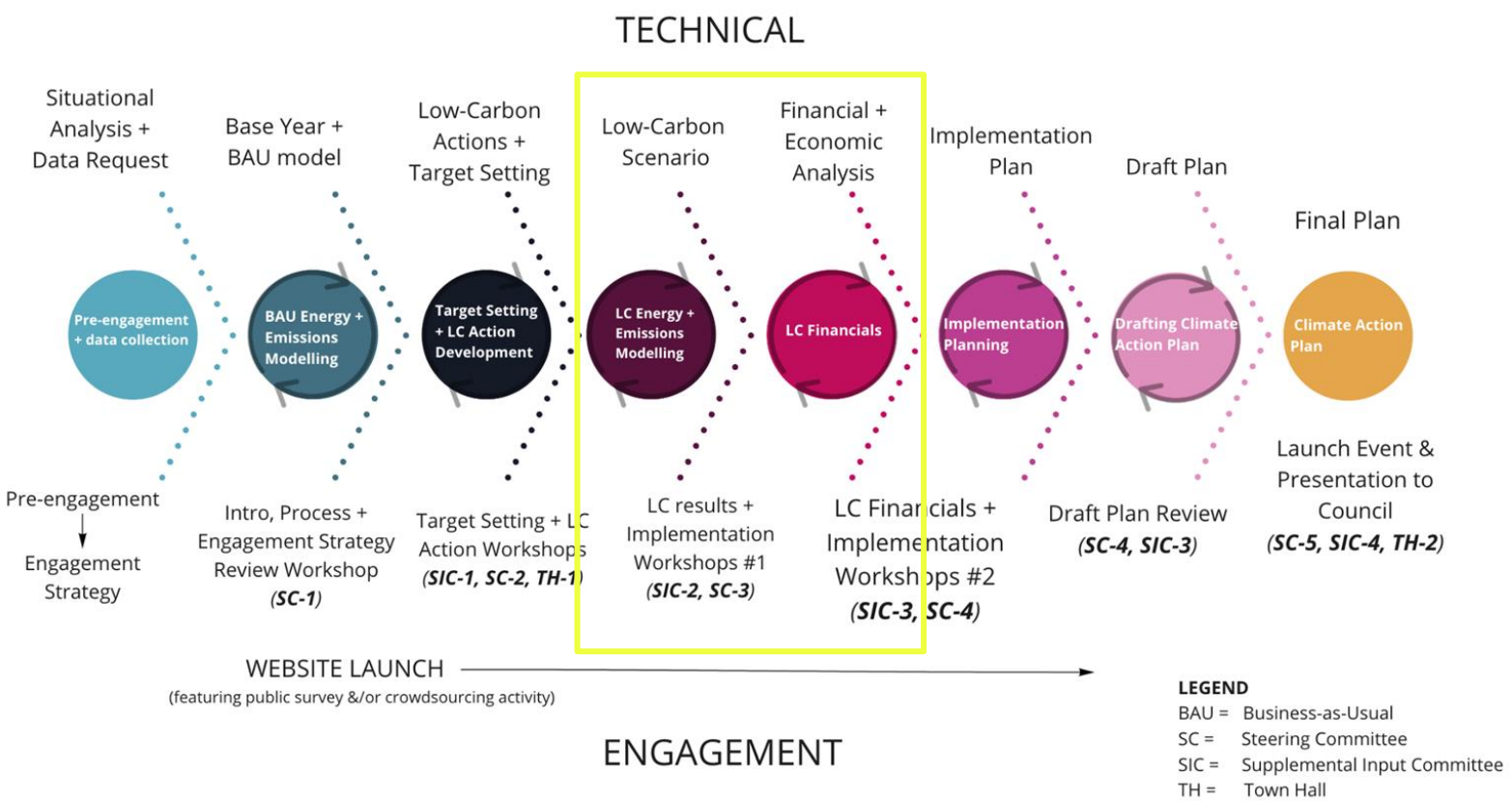
- Six Big Moves review
- Engagement results overview
- Low carbon scenario inputs
- Low carbon scenario results
- Financial analysis results



Meeting Objectives

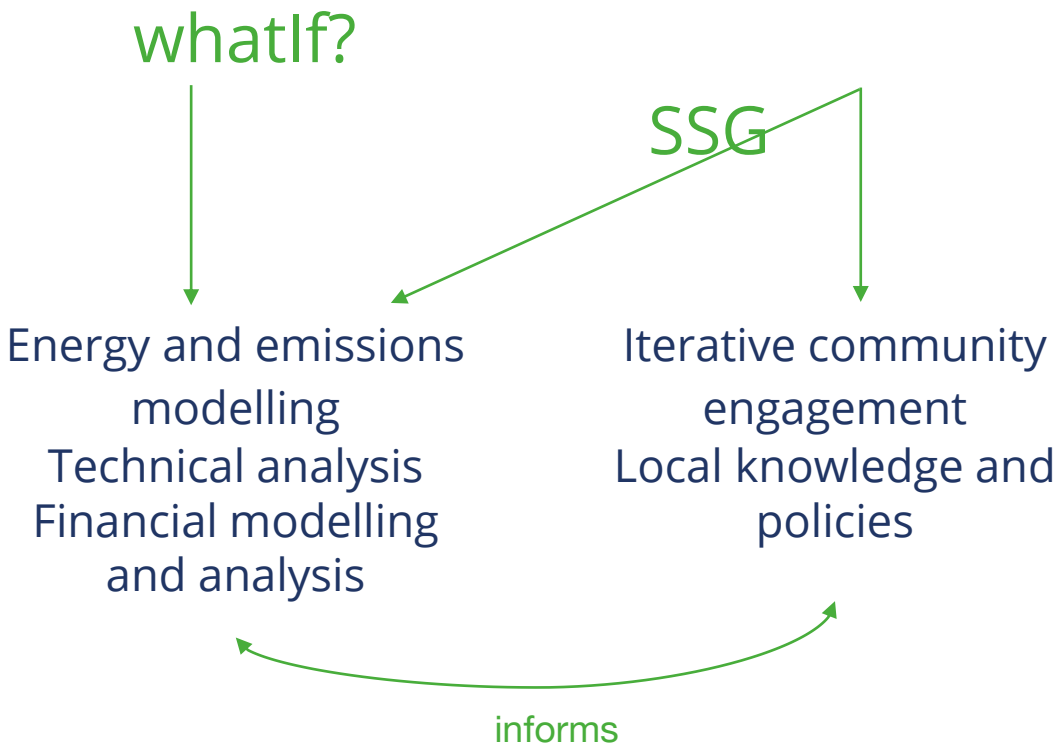
- **To inform** Steering Committee members about:
  - The low carbon scenario development
  - Public engagement results
  - The draft low carbon scenario and financial results

Project Overview



Approach Overview

APPROACH
Analyze and Engage



Iterative Process

Technical

- What actions
- How much, how fast
- How to sequence to maximize benefits

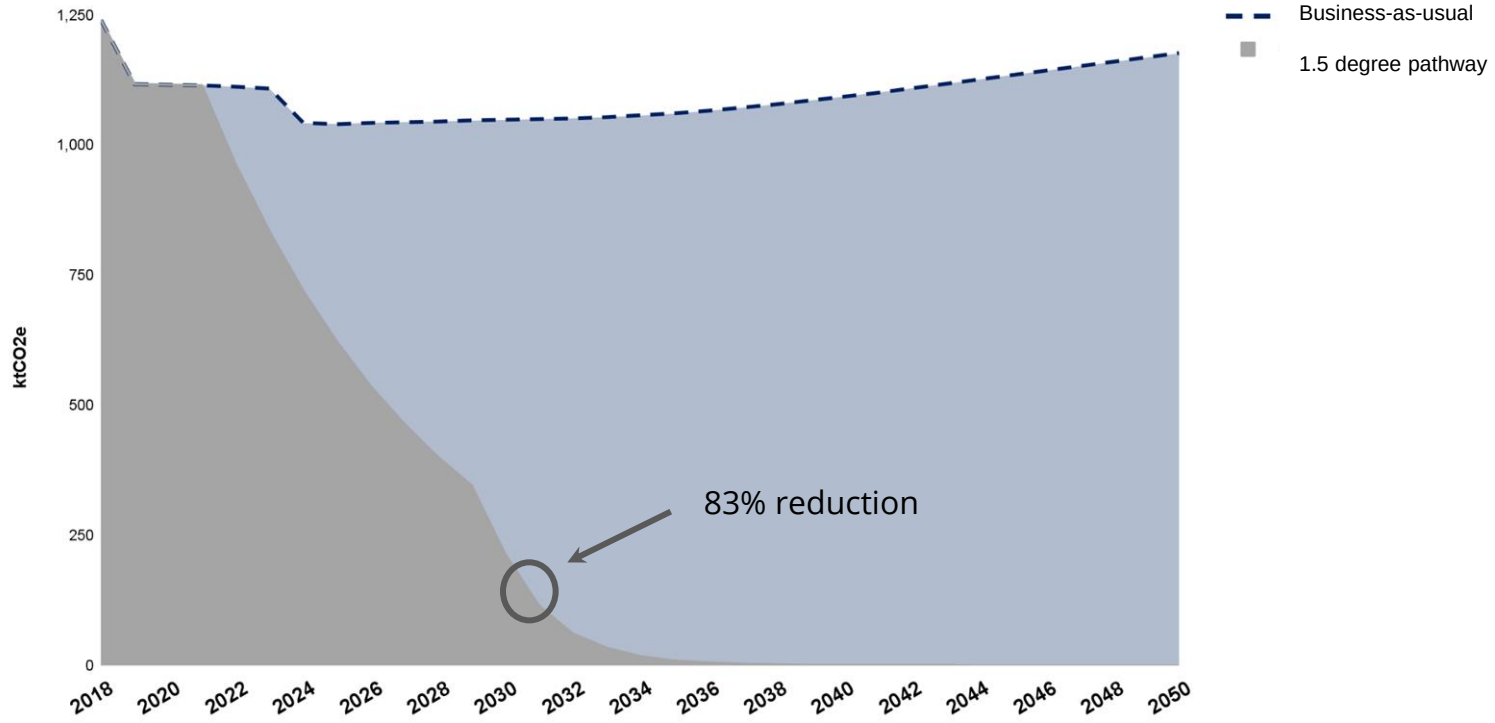
Engagement

- Local opportunities
- Local constraints/challenges
- Support needed and wanted
- Co-benefits

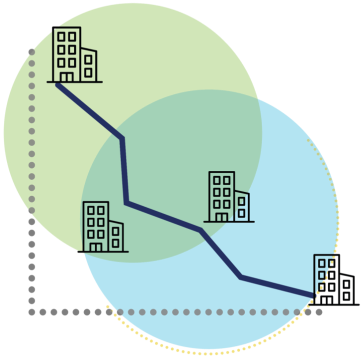
SSG

Target Review

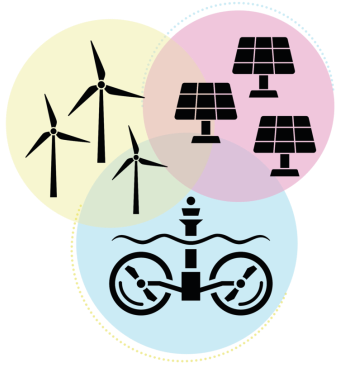
A reminder of the low carbon pathway selected



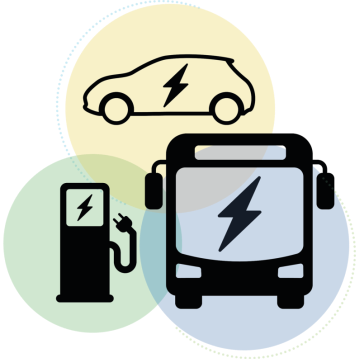
Building Retrofits



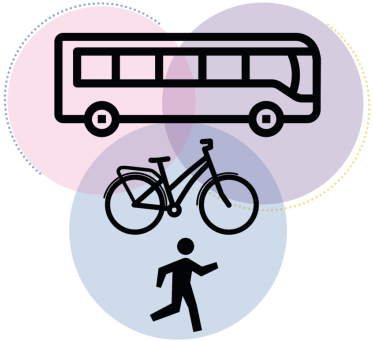
Net-Zero New Construction



Renewable Energy Generation



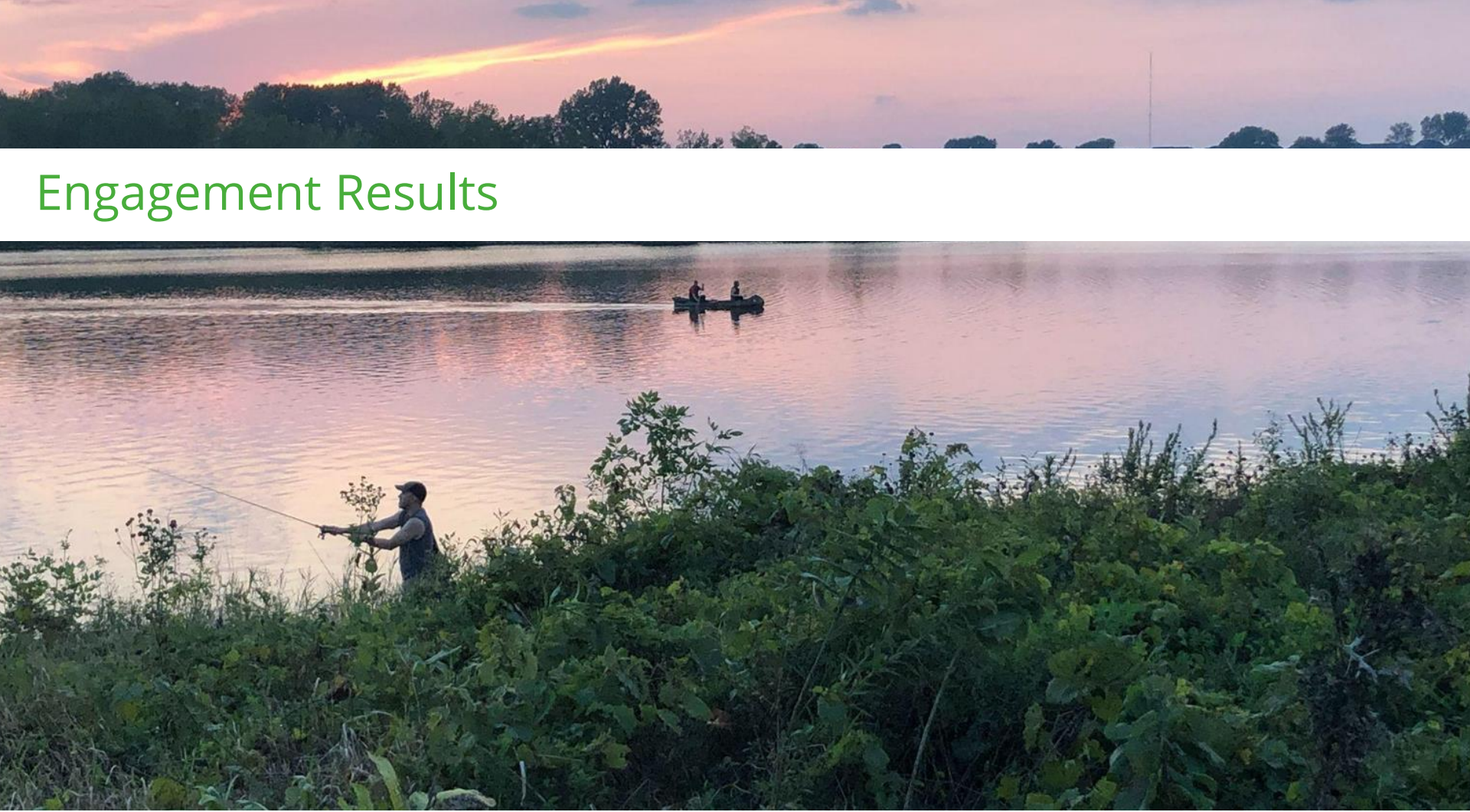
Reducing Vehicle Emissions



Increase Active Transportation and Transit Use

Reduce Waste Emissions

Engagement Results



Engagement in this phase

Supplemental Input Committee meetings

Community survey

Focus groups

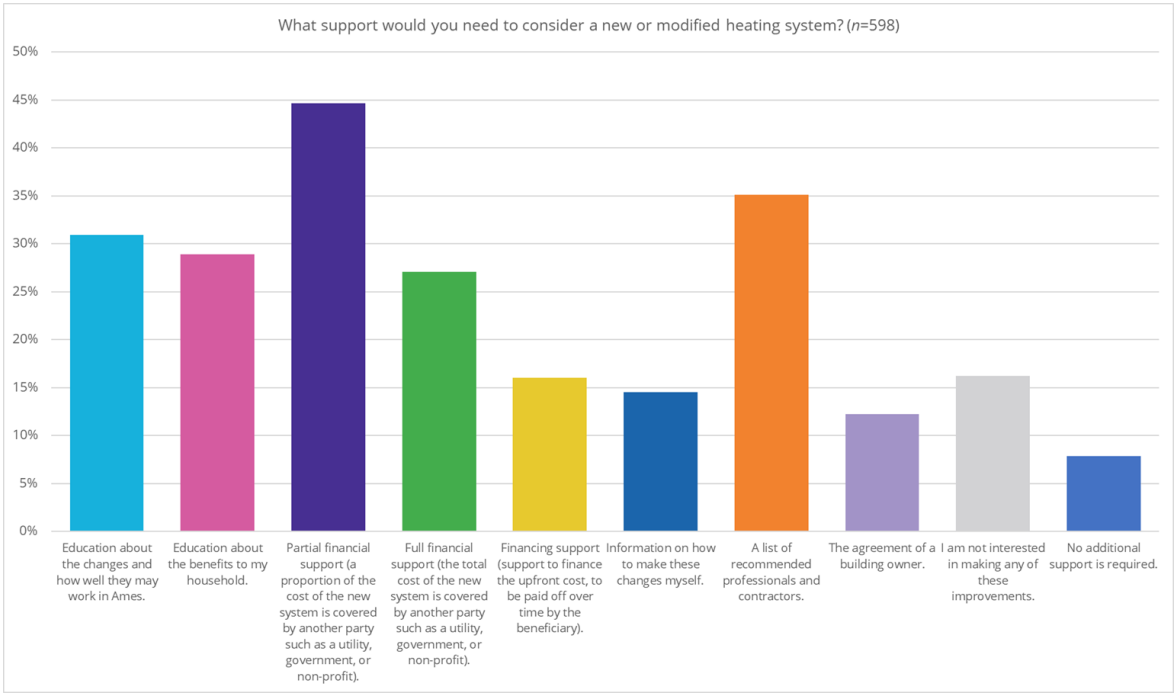
Staff Engagement

Survey Overview

- Open from March 2nd 2022 - March 20th 2022
- Available online and as a printed copy
- Promoted via a press release, City social media, City-led community outreach (in-person), and via Supplemental Input Committee member distribution to sectors
- Education pieces within the survey
- 626 responses

Survey Key Takeaways

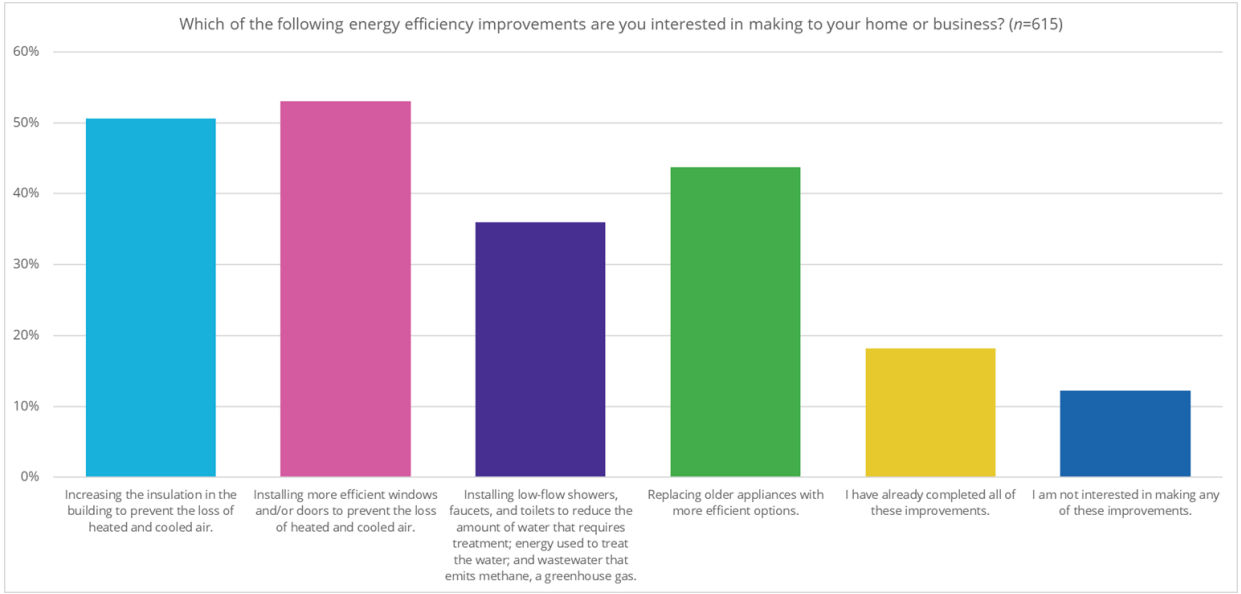
Across all actions, the highest ranked supports respondents want are partial financial assistance, a list of qualified contractors and/or suppliers, and education



Survey Key Takeaways

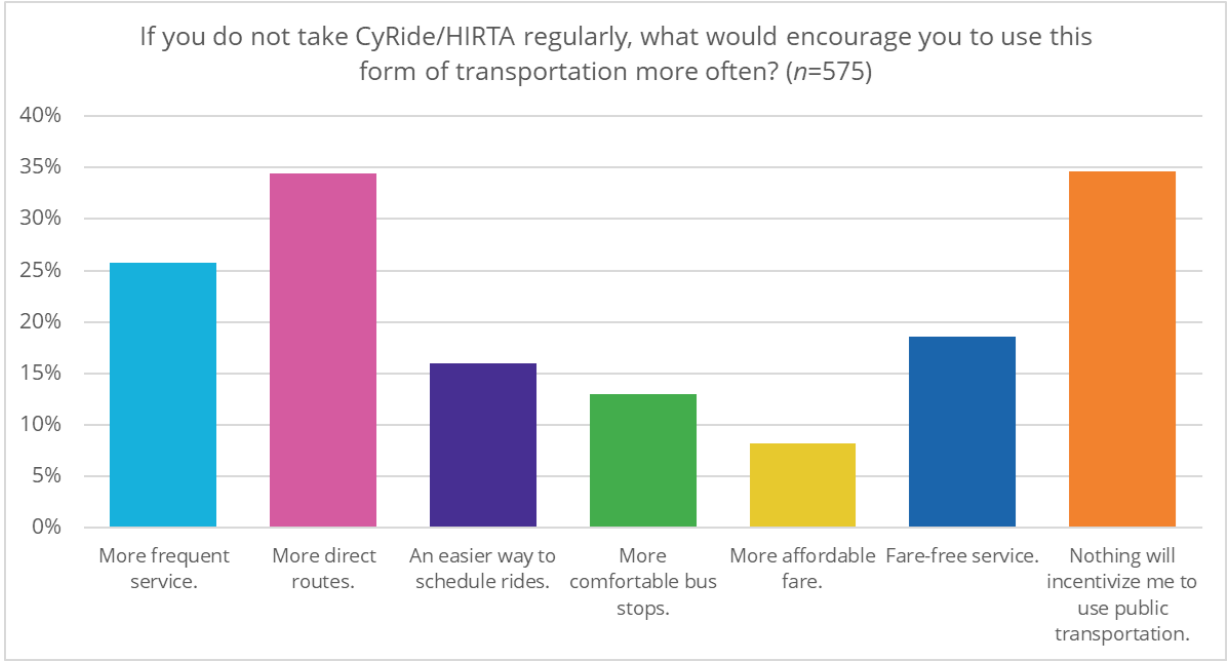
Regarding interest in and willingness to act, survey respondents responded most positively to:

- Waste reduction
- Building retrofits
- Heating system replacements
- Net-zero new homes
- Renewable energy



Survey Key Takeaways

- Support is divided for electric vehicle purchases
- There is lower support to move to active transportation and transit for those not already taking it



Focus Groups Overview

- Six focus groups
  - Business, training and labor sectors
  - Youth and students
  - Construction and development sectors
  - Non-profit sector and equity-seeking groups
  - Transportation sector
  - Residents and resident-led groups
- Short presentation on the CAP development process
- Roundtable discussion customized based on sector/group
- Equity question asked to each group

Supplemental Input Committee Overview

- Two Supplemental Input Committee meetings
  - Presentation of the big moves and feedback
  - Presentation of the low carbon scenario and financials and feedback

Supplemental Input Committee

Some mixed reactions and some disappointment with the outcome of the low carbon scenario

Somewhat okay but disappointed with the lack of prioritization of transportation needs

Relieved with the fact that there is at least a plan, but maybe some will choose to abstain from making opinions about the plan before they see concrete results

Impatient that change is so slow

Take it to the statehouse to overrule

Supportive of the intent, but very challenged with regard to implementaion

Happy with the goal

They would be ok because they understand all of the moving parts and balancing act with cost

Residential sector- some will be pleased about action, some will not support the cost, some will want more

Many of my sector members feel the urgency of the climate crisis and will want more ambitious action. However, lots of hope to keep the conversation positive and constructive.

Supplemental Input Committee

Education, cost, and technical challenges noted as challenges.

Education of public, affordability, cooperation between community schools and city

Need more leadership. Create positions whose jobs it is to carry out the plan

Finance and education about how

Electric distribution deficiencies, costs to implement, not enough people willing to work

Communication

Our governor:)

Better message to combat political misinformation.

Customization is a challenge. Each house is different. If a hire expert can help consistently apply changes it will help

Knowledge to implement deep home retrofits, large amount of renewable energy on grid, creative financing for home retrofits

Supplemental Input Committee

Waste reduction, City-led action, and building retrofits seen as opportunities.

ISU: Reduced waste emissions, net-zero new construction, renewable energy.

More convenient composting

More awareness/education, equity in green infrastructure implementation, start with municipal changes (not personal)

Home retrofits/electrification, waste diversion/reduction, access to electric vehicles

Don't invest in any infrastructure that doesn't serve the emission reduction goals

Building retrofits/energy efficiency; renewable energy investment; and changes to our waste management.

Free Recycling and composting programs Shared vehicle program Increase education of the community on climate change

Would like to see City be the example then huge educational campaign

Waste reduction, use of more public and active transportation

Staff Engagement Overview

- Low carbon assumptions review
  - Provided staff with an opportunity to comment on low carbon assumptions and provide feedback
  - Offered one-on-one meetings with technical advisory committee members
- Financial assumptions review
  - Provided staff with an opportunity to comment on financial assumptions and provide feedback
  - Offered one-on-one meetings with technical advisory committee members

Technical Approach

Low Carbon Action Development

- Develop a list of potential actions and strategies
  - Based on target, local context, and best practices
  - Met with staff (Technical Advisory Committee) to review
- Identify the technical potential of each action or group of actions to reduce energy and emissions
- Identify any actions that are overlapping and/or include dependencies on other actions
- Translate the actions into quantified assumptions over time
- Apply the assumptions to relevant sectors in the model to develop a low-carbon scenario
- Analyze results of the low-carbon scenario against the overall target, and adjust as needed (with rationale)

Financial Modeling Process

- Develop a financial dictionary/assumptions sheet
  - Based on most reliable and localized data possible
  - For each asset and process added and modified from the baseline scenario
  - Provide to staff technical team for review
  - Swap out any assumptions for local data provided (e.g. based on real data and studies staff have available)
- Load financial data in the model with views

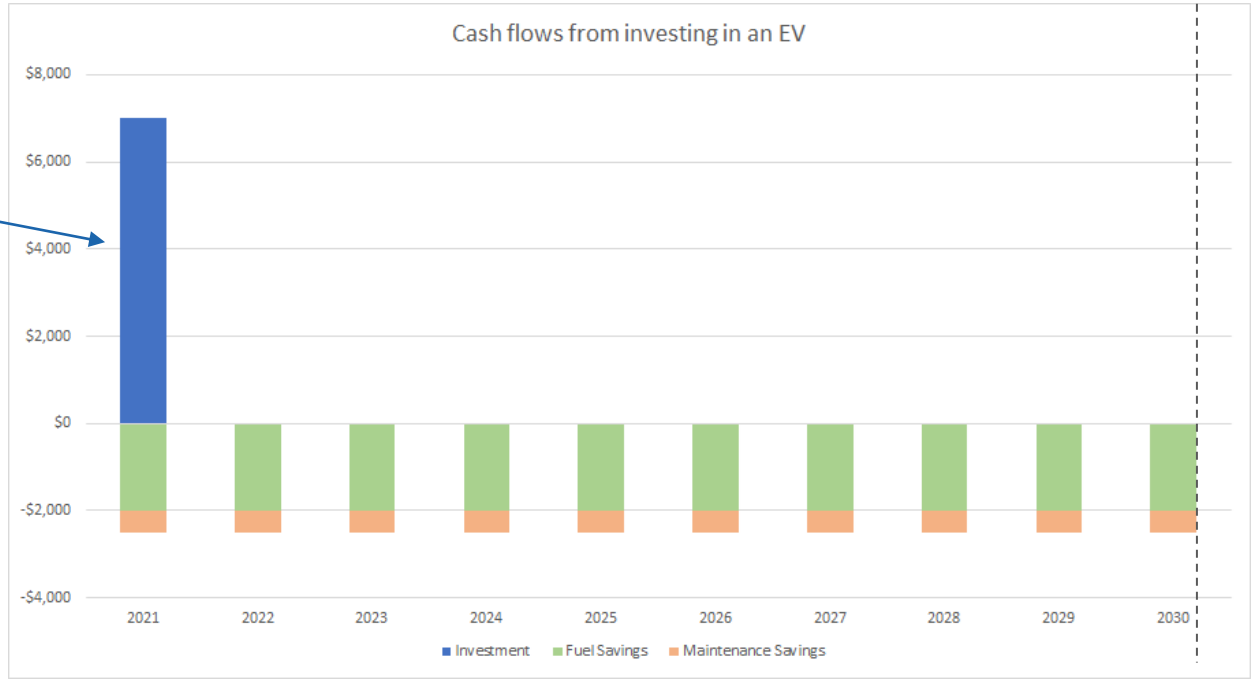
Financial Modeling Process (cont'd)

- Export data
  - Compares actions over BAP results
    - Differences in physical stock, energy use, emissions
    - These differences coupled with financial coefficients produce financial results by action
- Results analysis sheet
  - Cash flows
  - Net Present Value (NPV)
  - Marginal Abatement Cost Curves (MACCs)
  - High level graphs

NPV example: undiscounted cash flows

t = 10 years

Investment premium of buying Electric Vehicle (EV) versus Internal Combustion Engine (ICE) equivalent



What did we model?

- **Capital Investments** → Community based, result in jobs, create new economic development activities
- **Operating Expenses** → Decrease up to 50% due to increased efficiency across all sectors
- **Energy Expenses** → Energy expenses increase or decrease due to type and amount of energy being used
- **Carbon Savings** → Calculated if carbon pricing is place. Currently zero in Ames.

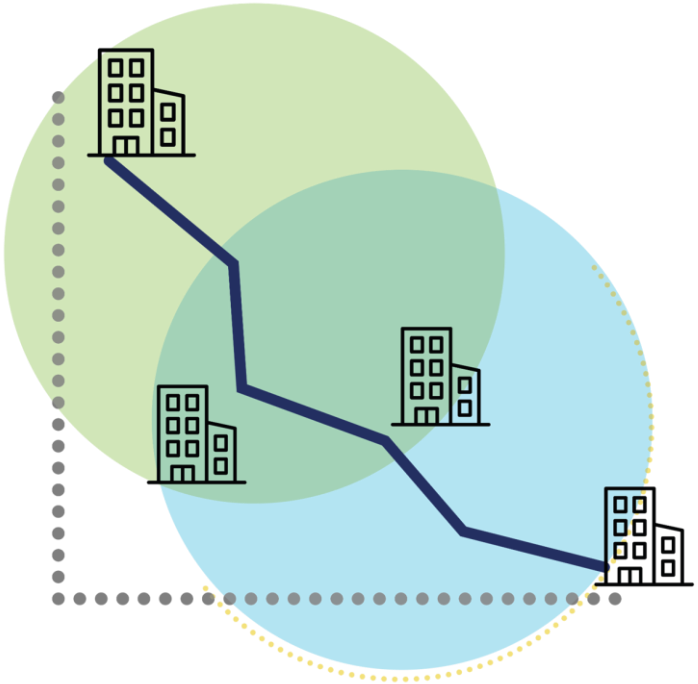
- **Return on Investment**

What was modeled - Run one (presented to SIC)

Building Retrofits

What

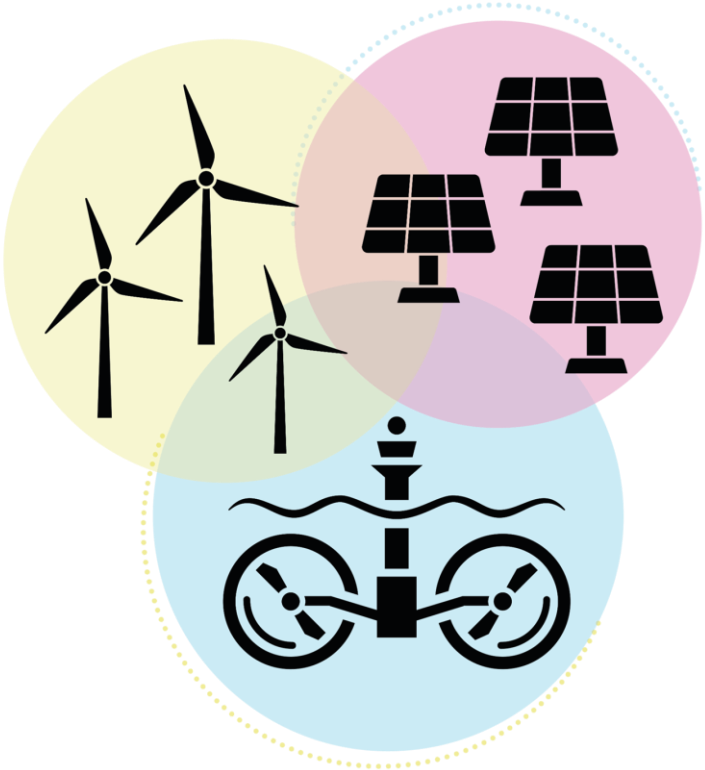
- 90% of residential buildings retrofit by 2035
- 90% of industrial, commercial and institutional buildings retrofit by 2035
- 30% energy savings below BAU through process efficiency in industrial buildings by 2030
- All municipal buildings retrofit by 2030
- Add air-source heat pumps for all buildings by 2040.
- Replace hot water heating systems with electric by 2040.
- Bring renewable natural gas online 2028-



Net-Zero New Construction

What

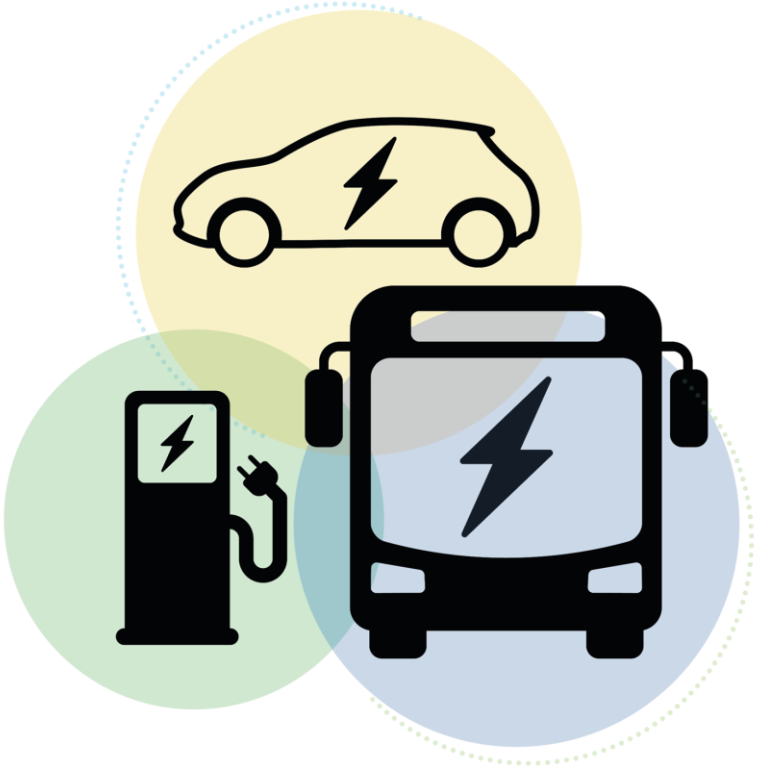
- All buildings constructed in 2026 and after will be net-zero ready
- Linear increase 2023-2026
- Passive house standard by 2030 in residential and commercial buildings
- All new Municipally-owned buildings to be net-zero energy ready (NZER) beginning in 2023 and passive house by 2025.



Renewable Energy Generation

What

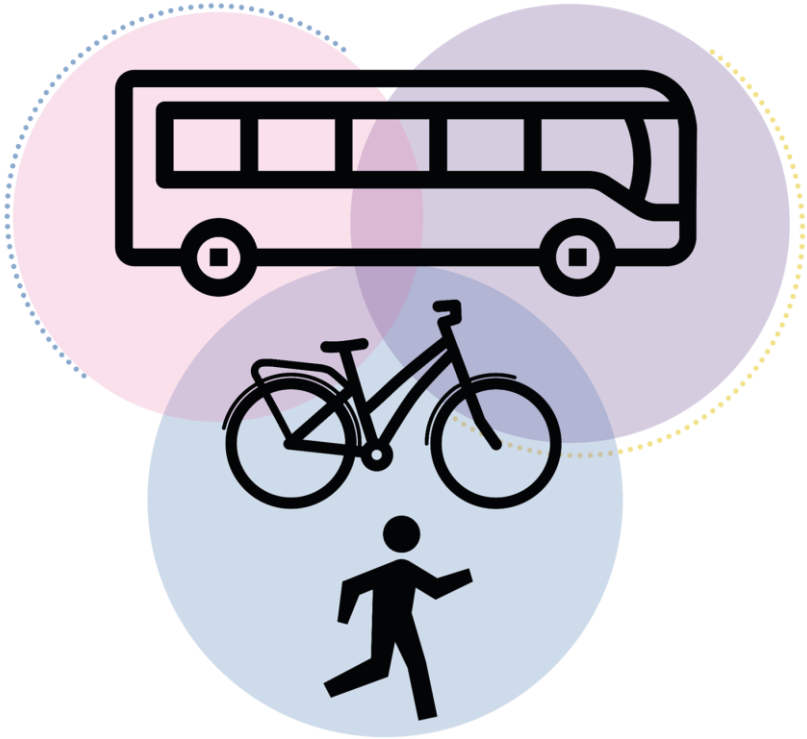
- Max out rooftop solar potential (220 MW)
- 50 megawatt solar farm by 2025, additional 50 MW by 2030 and an additional 200 MW between 2035 and 2045
- 20 MW wind farm by 2026
- Add Tesla power walls or other home-scale battery storage to every home when an electric vehicle is acquired
- Local production: Moved to electric (2024) and RNG (2030)



Reducing Vehicle Emissions

What

- All light and medium duty vehicles sold in 2030 are zero emissions vehicles
- All heavy duty vehicles sold in 2030 and after are electric
- Between 2023 and 2030 proportion of biodiesel use increasing by 5% each year
- Transit electrification



Increase Active Transportation and Transit Use

What

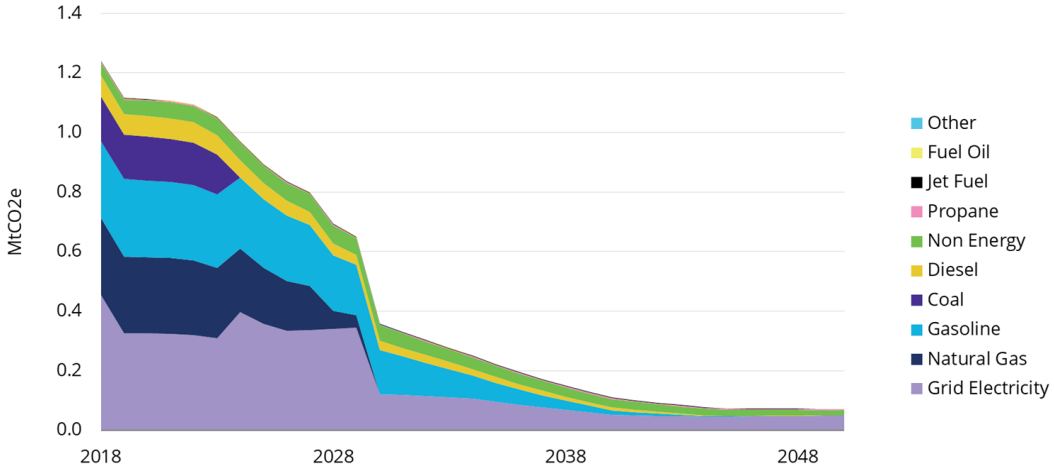
- By 2050, 10% of trips in the City completed using transit
- 17 buses replaced with electric by 2027; Then replace at end of lifecycle for remaining buses.
- By 2050, 40% of trips under 1.25 miles completed by walking, 25% of trips 1.25 miles - 3 miles completed by biking
- Car and bike share programs
- Reduction in vehicle miles travelled

Reduce Waste Emissions

What

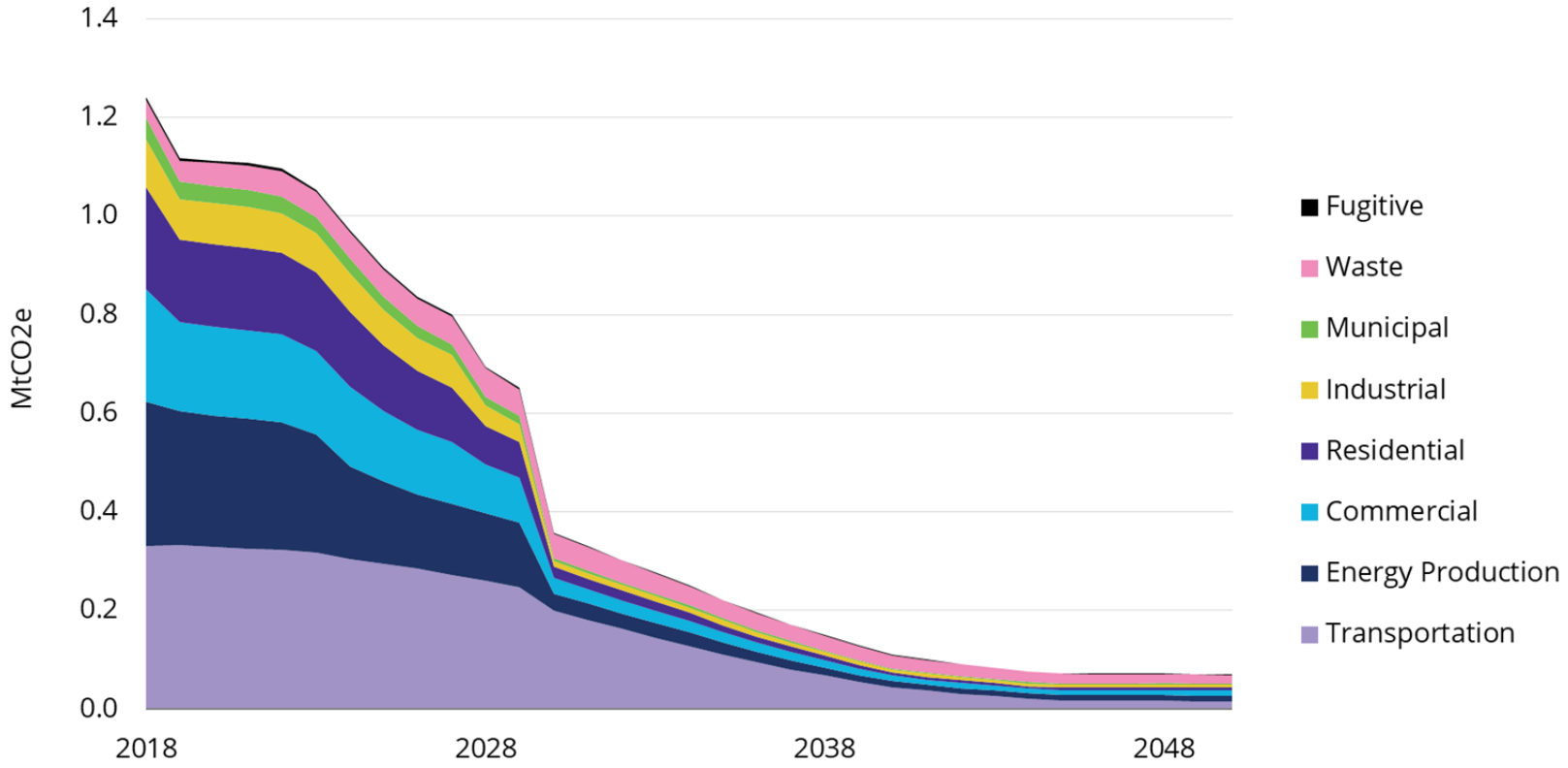
- Waste decreases by 20% per household at the source by 2030; 50% per household at the source by 2050 below the BAU
- 50% of commercial waste is diverted at source by 2030 below the BAU
- 90% of organic/food waste is diverted by 2028
- 90% of glass, metal, and paper, cardboard, and other paper products are recycled by 2028

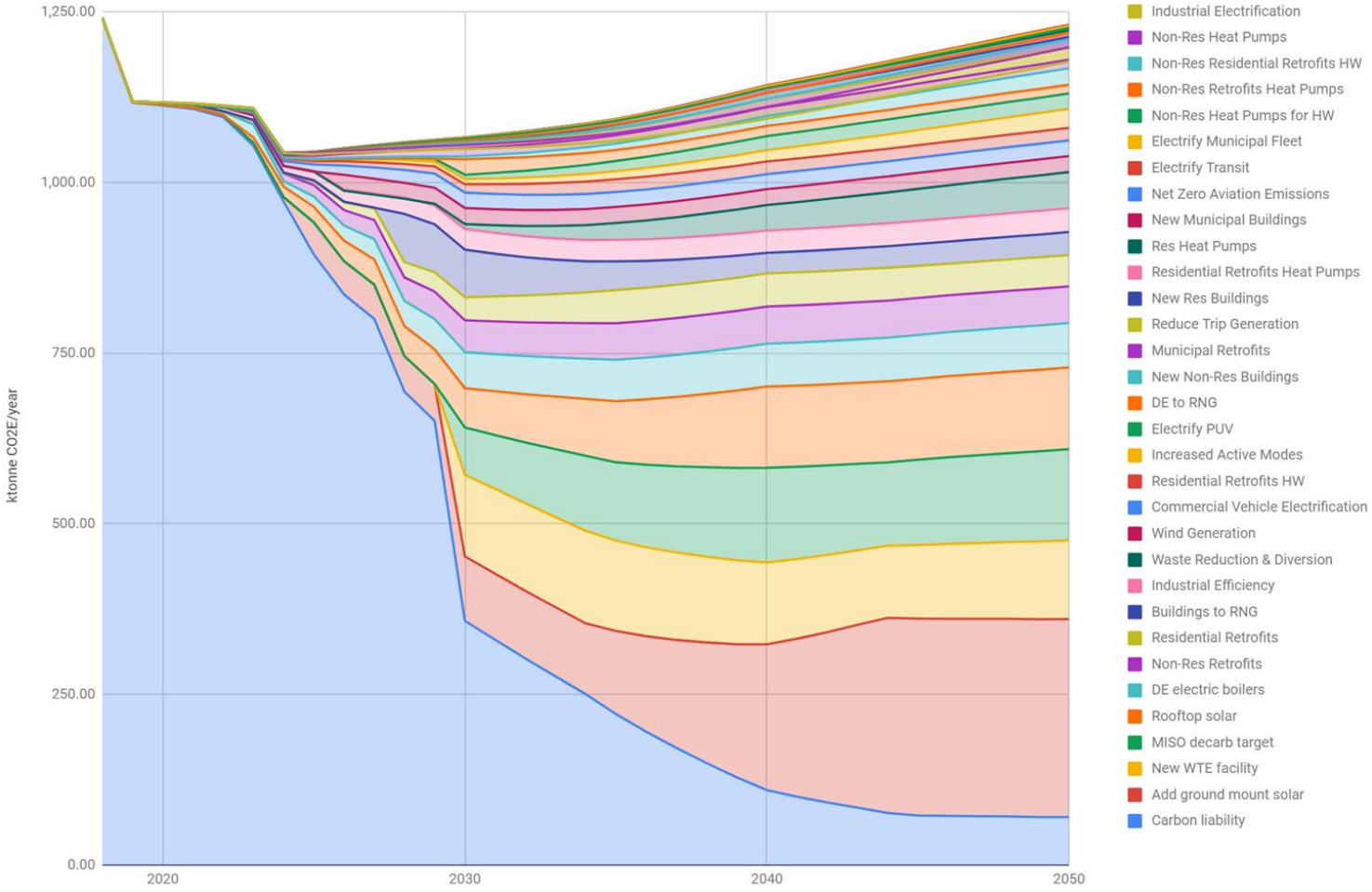
Results - Run one (presented to SIC)



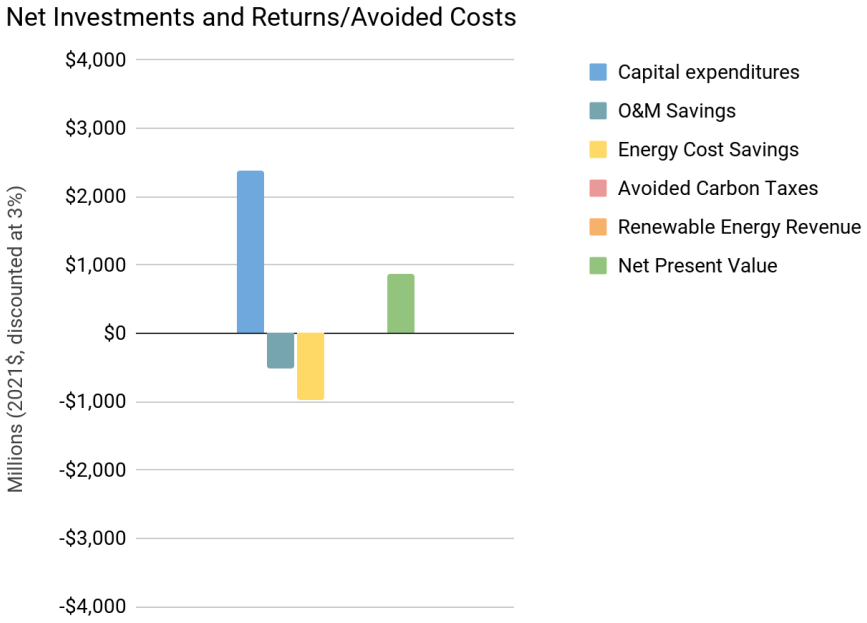
Results

- 70% reduction by 2030
- 94% reduction by 2050
- 4.8 tonnes GHG emissions per capita by 2030
- 0.8 tonnes GHG emissions per capita by 2050


1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
MtCO2e
2018
2028
2038
2048
Fugitive
Waste
Municipal
Industrial
Residential
Commercial
Energy Production
Transportation

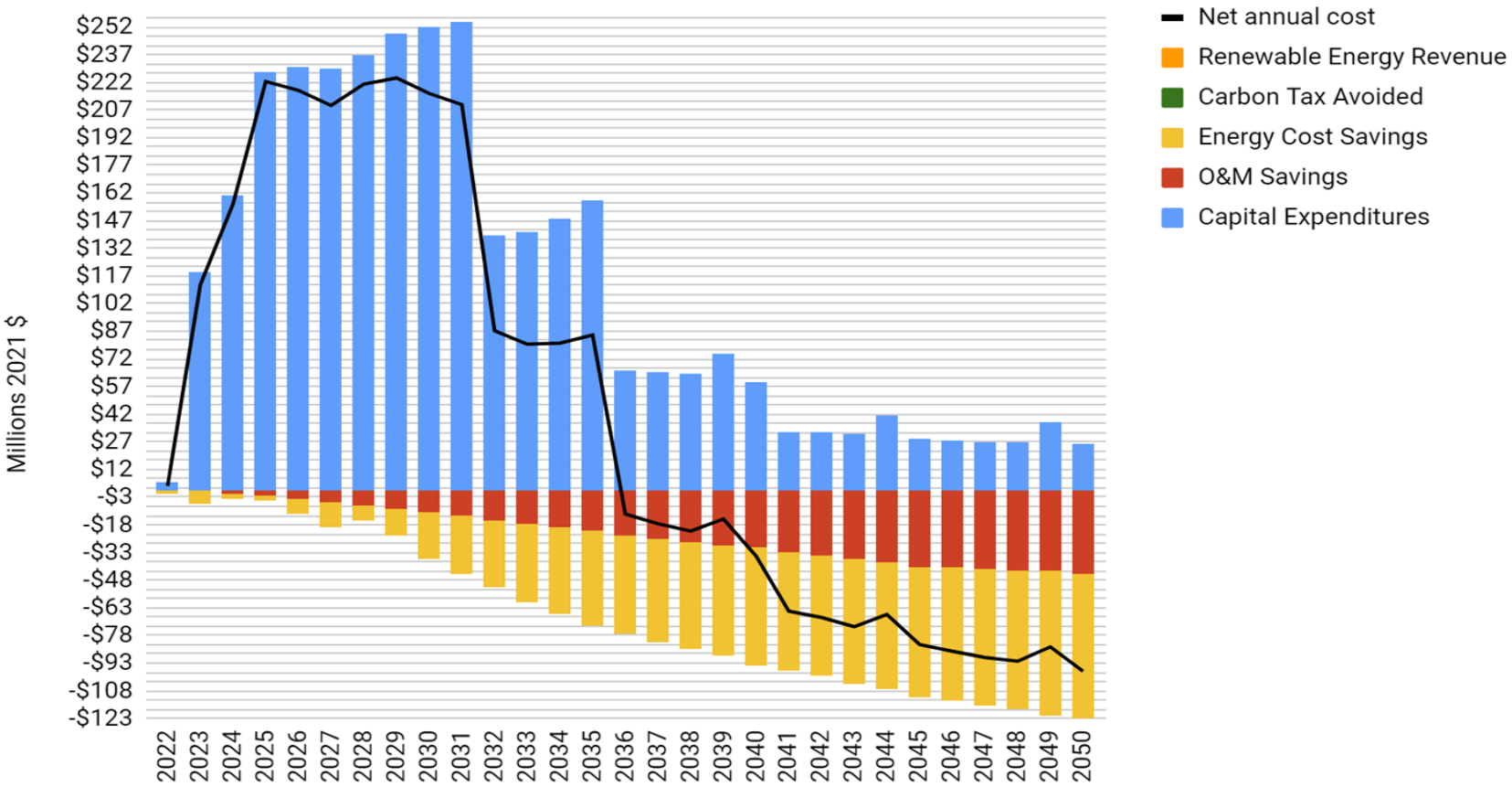

1,250.00
1,000.00
750.00
500.00
250.00
0.00
ktonne CO2E/year
2020
2030
2040
2050
Industrial Electrification
Non-Res Heat Pumps
Non-Res Residential Retrofits HW
Non-Res Retrofits Heat Pumps
Non-Res Heat Pumps for HW
Electrify Municipal Fleet
Electrify Transit
Net Zero Aviation Emissions
New Municipal Buildings
Res Heat Pumps
Residential Retrofits Heat Pumps
New Res Buildings
Reduce Trip Generation
Municipal Retrofits
New Non-Res Buildings
DE to RNG
Electrify PUV
Increased Active Modes
Residential Retrofits HW
Commercial Vehicle Electrification
Wind Generation
Waste Reduction & Diversion
Industrial Efficiency
Buildings to RNG
Residential Retrofits
Non-Res Retrofits
DE electric boilers
Rooftop solar
MISO decarb target
New WTE facility
Add ground mount solar
Carbon liability

Draft Financial Results

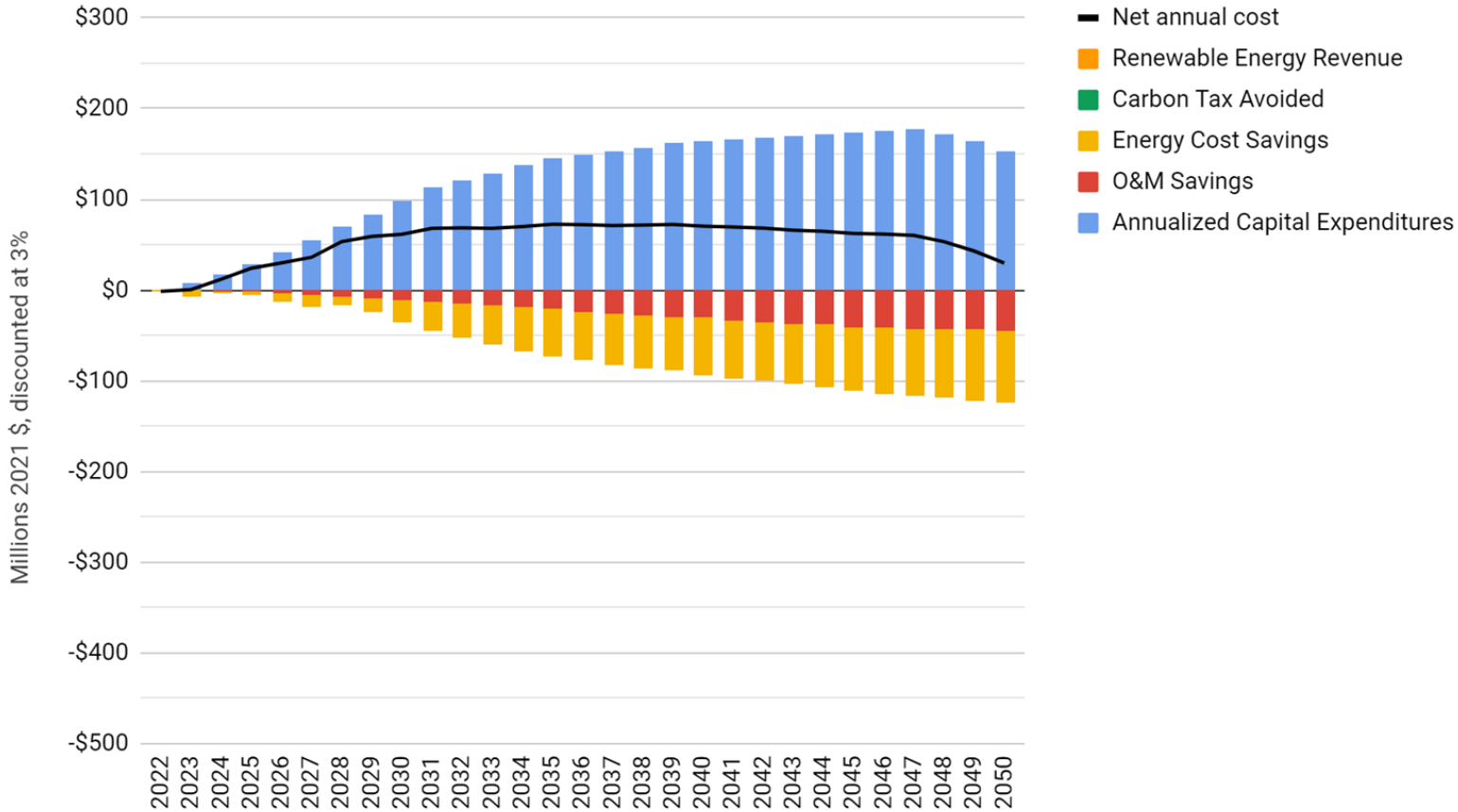


- Overall capital expenditures ~$2.4 billion
- Net returns and avoided costs ~1.5 billion
- NPV ~$850 million over 28 years

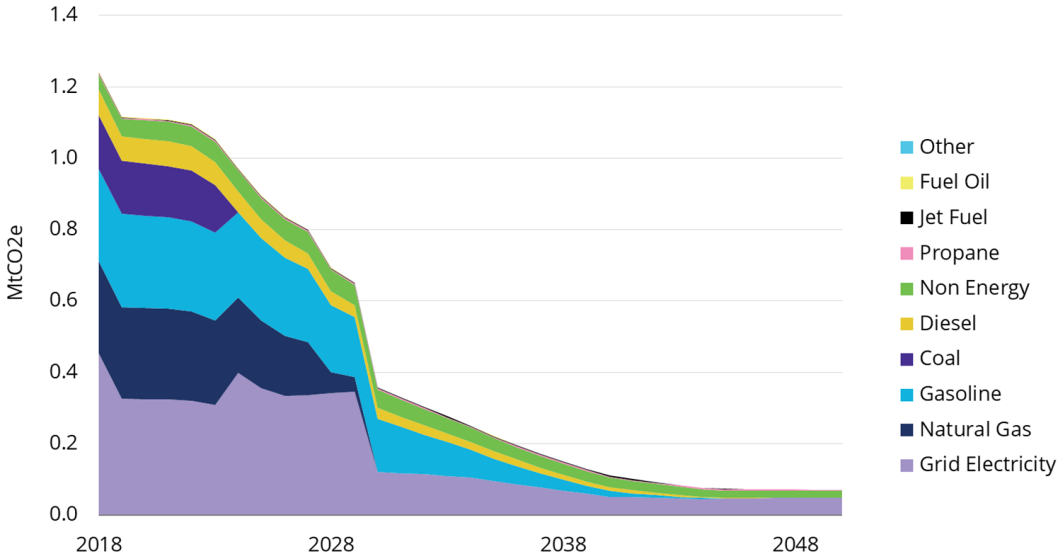
Year-over-year Incremental Investment and Returns/Avoided Costs



Year-Over-Year Investment and Returns/Avoided Costs, Amortized CAPEX (3%)



Results - Run two (adapted after SIC)



Results

- 78% reduction by 2030
- 98% reduction by 2050
- 3.2 tonnes GHG emissions per capita by 2030
- 0.2 tonnes GHG emissions per capita by 2050
- Achieved through Renewable Energy Certificate purchases
- Additional cost = ~$621 million

Financial Insights

- Cheap natural gas and expensive electricity impact financials
- Investments can be amortized to reduce capital requirement
- The savings are long term- renewable energy has no fuel costs
- If natural gas prices or gasoline prices increase, the financial benefits increase significantly
- There are costs but also community economic development opportunities

Key takeaways

- Outreach reflected the need for the plan to be equitable
- There is a gap between Council's target and what has been modeled to date due to the transportation sector - it is up to Council to decide how to proceed
- The plan is meant to be a living plan that adapts with changing conditions over time
- The plan has a net present value of $850,000 over 28 years - approximately $500 per resident per year
- The financials are highly volatile, especially in the current national and global context
- There is a cost to inaction as well
    - $96 billion cost and 440 deaths in the Midwest in the past decade (2020)

“When Franklin D. Roosevelt became president in 1933, most of rural America still had no electricity. In 1935, he created the Rural Electrification Administration, and in just five years the nation built 250,000 miles of power lines and hooked up nearly a million farms. By the early 1950s, virtually the entire country had electricity.”

- Energy Innovation Policy and Technology LLC

Thank You!

Actions Survey Summary

Prepared for the Ames Climate Action Plan

CITY OF Ames

March 2022

SSG whatIf?

Disclaimer

Reasonable skill, care and diligence has been exercised to assess the information acquired during the preparation of this analysis, but no guarantees or warranties are made regarding the accuracy or completeness of this information. This document, the information it contains, the information and basis on which it relies, and factors associated are subject to changes that are beyond the control of the author. The information provided by others are believed to be accurate but have not been verified.

This report presents analysis of public survey results. The public survey was released with the intent to receive public feedback on greenhouse gas emissions reduction actions.The authors do not accept responsibility for the use of this analysis for any purpose other than that stated above and does not accept responsibility to any third party for the use, in whole or in part, of the contents of this document. This analysis applies to Ames and cannot be applied to other jurisdictions without analysis. Any use by the Ames, its sub-consultants or any third party, or any reliance on or decisions based on this document, are the responsibility of the user or third party.

About the Survey

The Ames Climate Action Plan (CAP) Actions Survey is a component of the broader project engagement plan that is aimed at collecting broad public input on the CAP.

The survey provided an opportunity for members to be involved in of the community to shaping the development of actions for the Climate Action Plan (CAP), submit feedback on the Big Moves being proposed to reach the greenhouse gas (GHG) emissions reduction target for the CAP, voice their concerns, and provide the City of Ames with insights on how they want to participate in reducing emissions in the community.

As part of the Ames Climate Action Plan, Ames City Council set a target of reducing greenhouse gas emissions by 83% below 2018 levels by 2030 and reaching net-zero emissions by 2050.

Reaching that target will require action by the City, residents, and businesses, and support from other levels of government.

Survey Summary

- Open from March 2nd 2022 - March 20th 2022
- Available online and as a printed copy
- Promoted via a press release, City social media, City-led community outreach (in-person), and via Supplemental Input Committee member distribution to sectors
- 626 responses

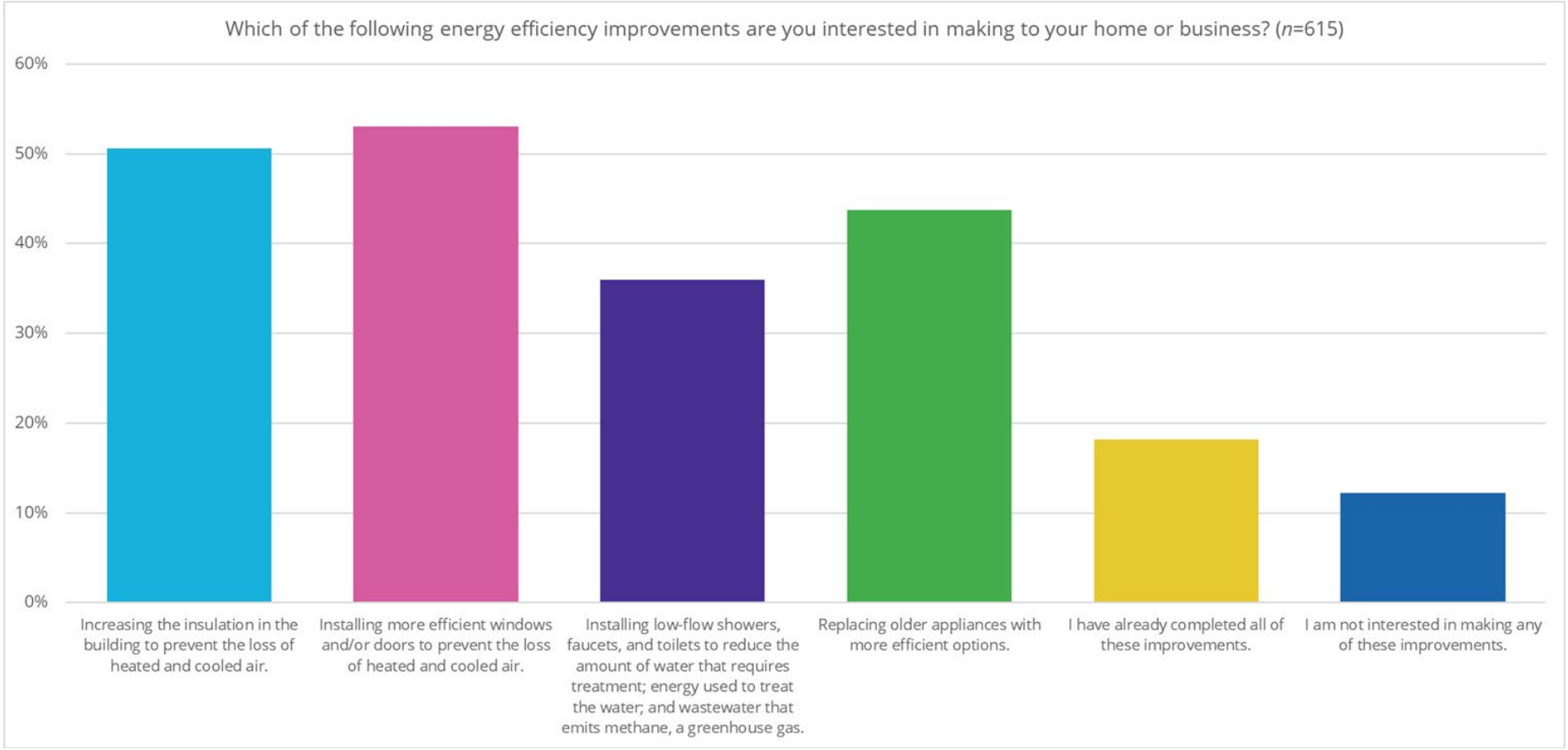
Note that this summary provides an overview of the preliminary survey analysis. This includes aggregated results for each question (e.g. not broken down by demographics collected). During the next phase of the project survey results will be further disaggregated to inform program, policy, and incentive suggestions.

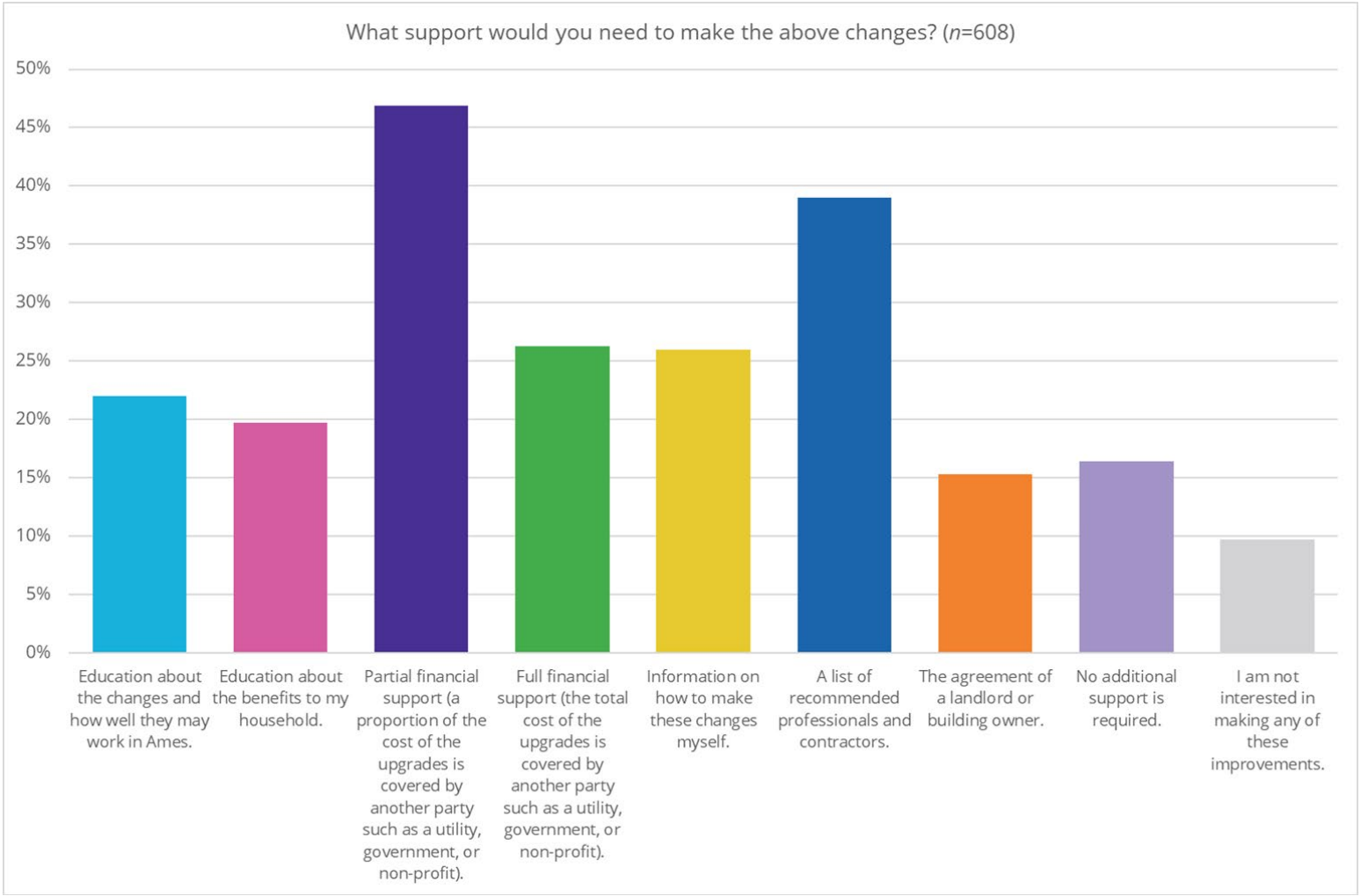
SECTION ONE RESULTS

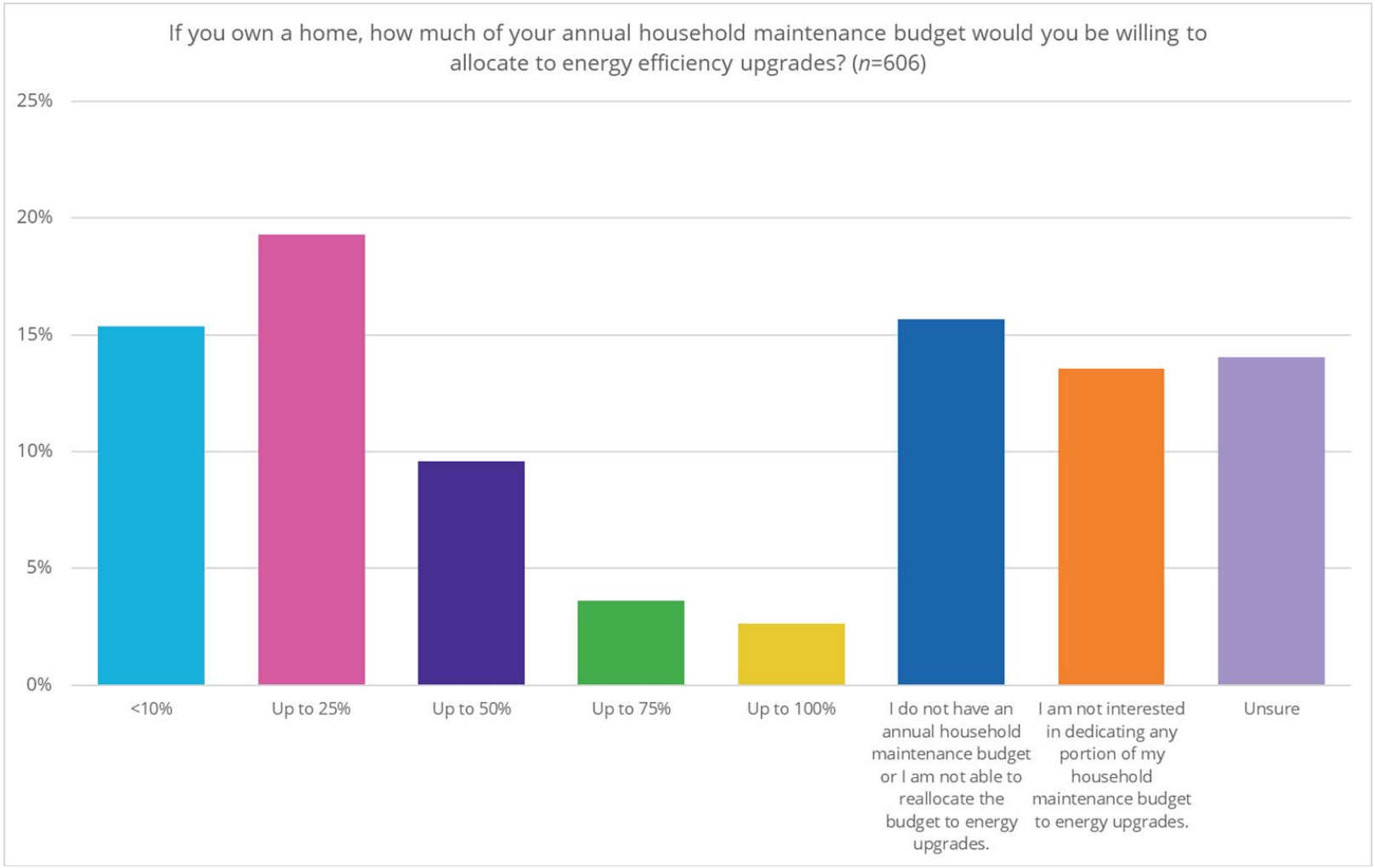
Big Moves

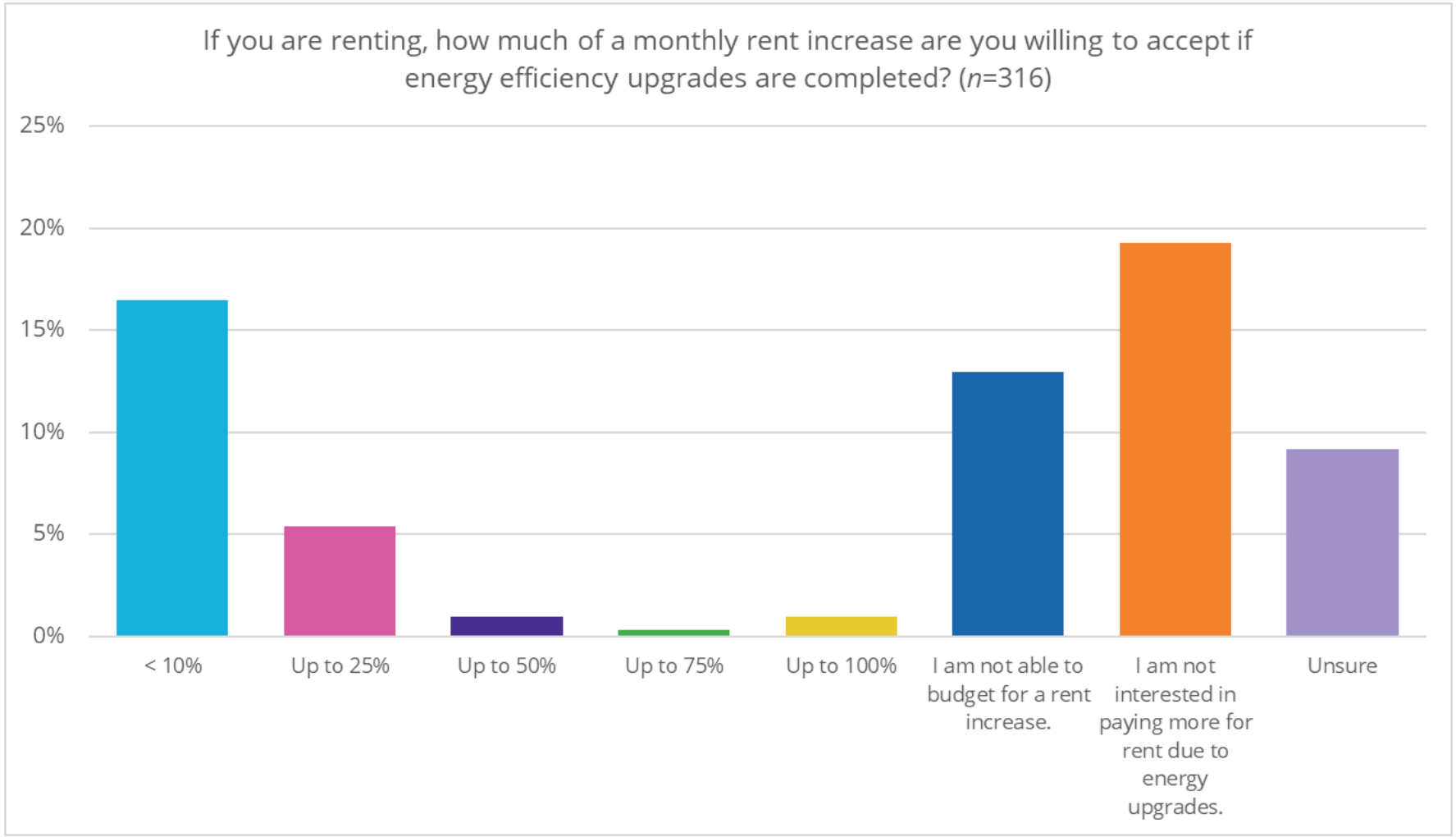
BIG MOVE ONE

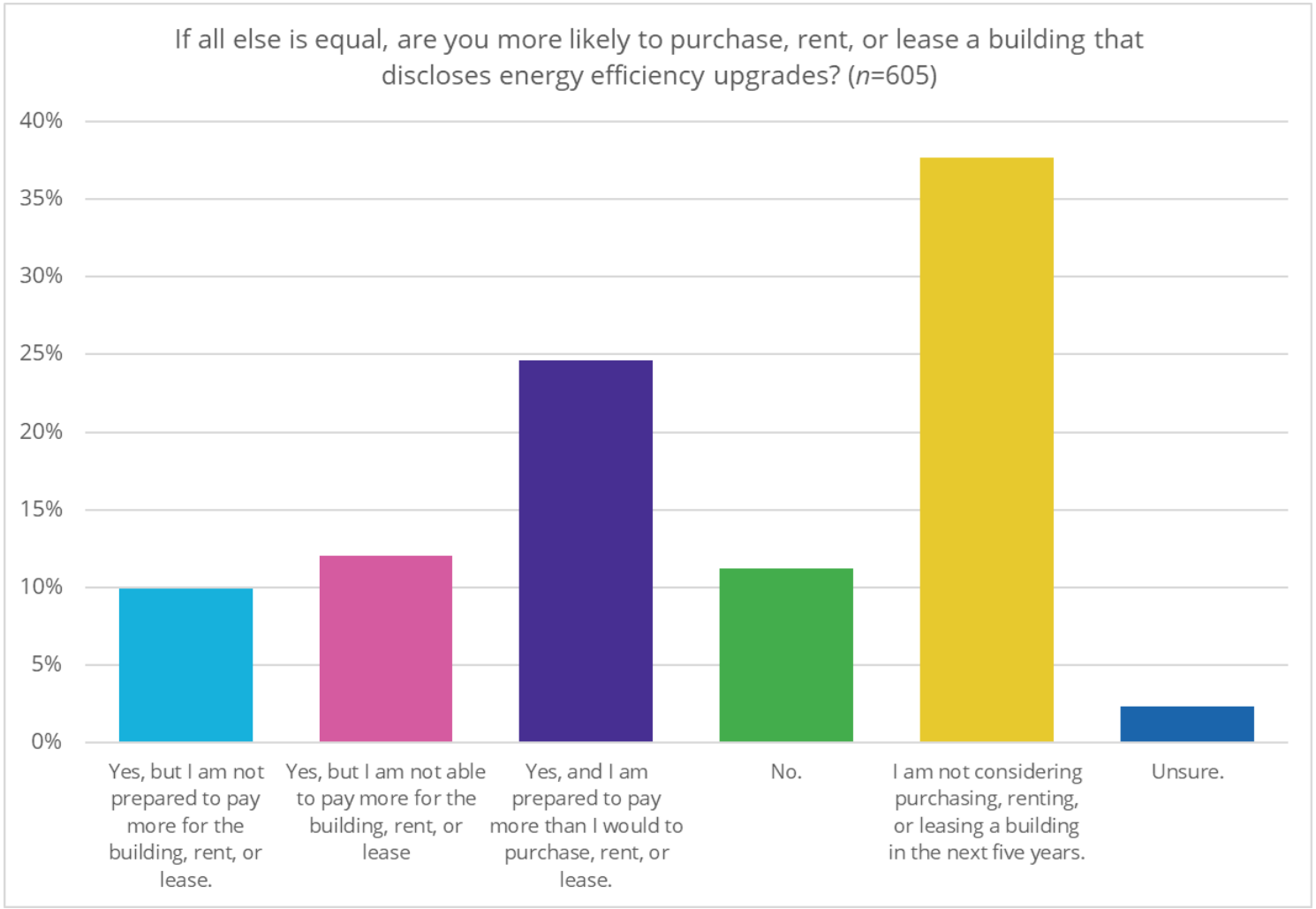
Building Retrofits

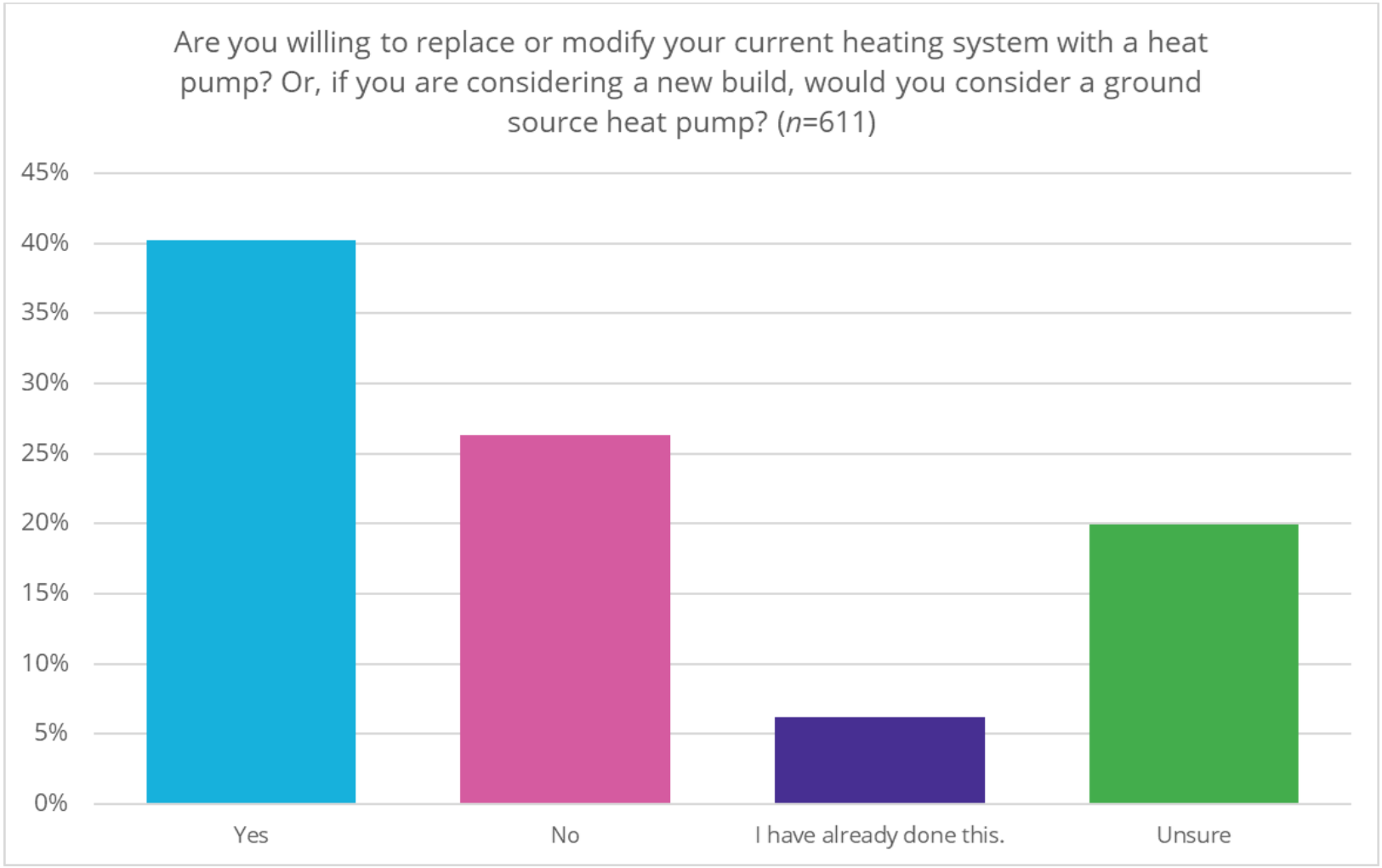

Which of the following energy efficiency improvements are you interested in making to your home or business? (n=615)
60%
50%
40%
30%
20%
10%
0%
Increasing the insulation in the building to prevent the loss of heated and cooled air.
Installing more efficient windows and/or doors to prevent the loss of heated and cooled air.
Installing low-flow showers, faucets, and toilets to reduce the amount of water that requires treatment; energy used to treat the water; and wastewater that emits methane, a greenhouse gas.
Replacing older appliances with more efficient options.
I have already completed all of these improvements.
I am not interested in making any of these improvements.

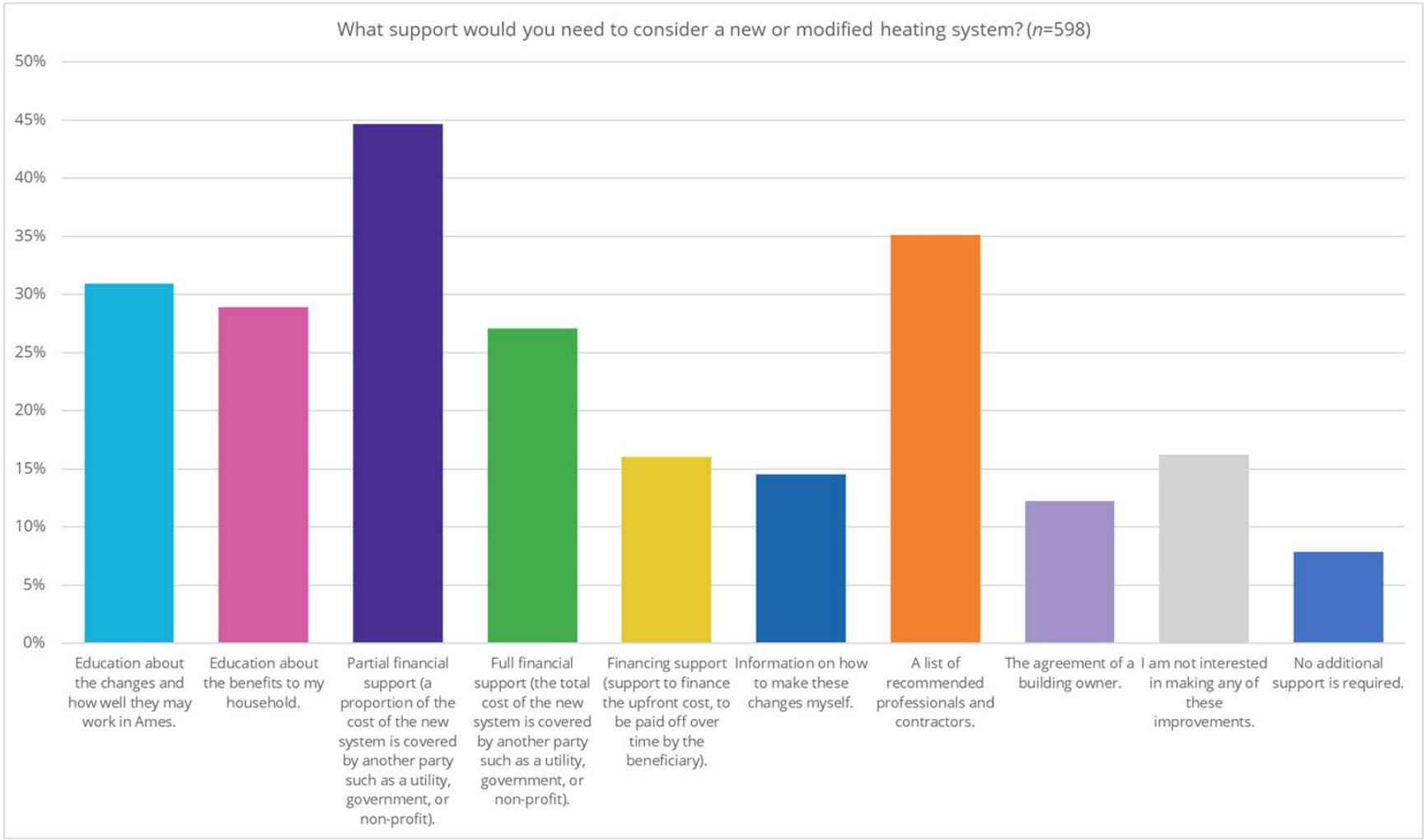

What support would you need to make the above changes? (n=608)
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Education about the changes and how well they may work in Ames.
Education about the benefits to my household.
Partial financial support (a proportion of the cost of the upgrades is covered by another party such as a utility, government, or non-profit).
Full financial support (the total cost of the upgrades is covered by another party such as a utility, government, or non-profit).
Information on how to make these changes myself.
A list of recommended professionals and contractors.
The agreement of a landlord or building owner.
No additional support is required.
I am not interested in making any of these improvements.

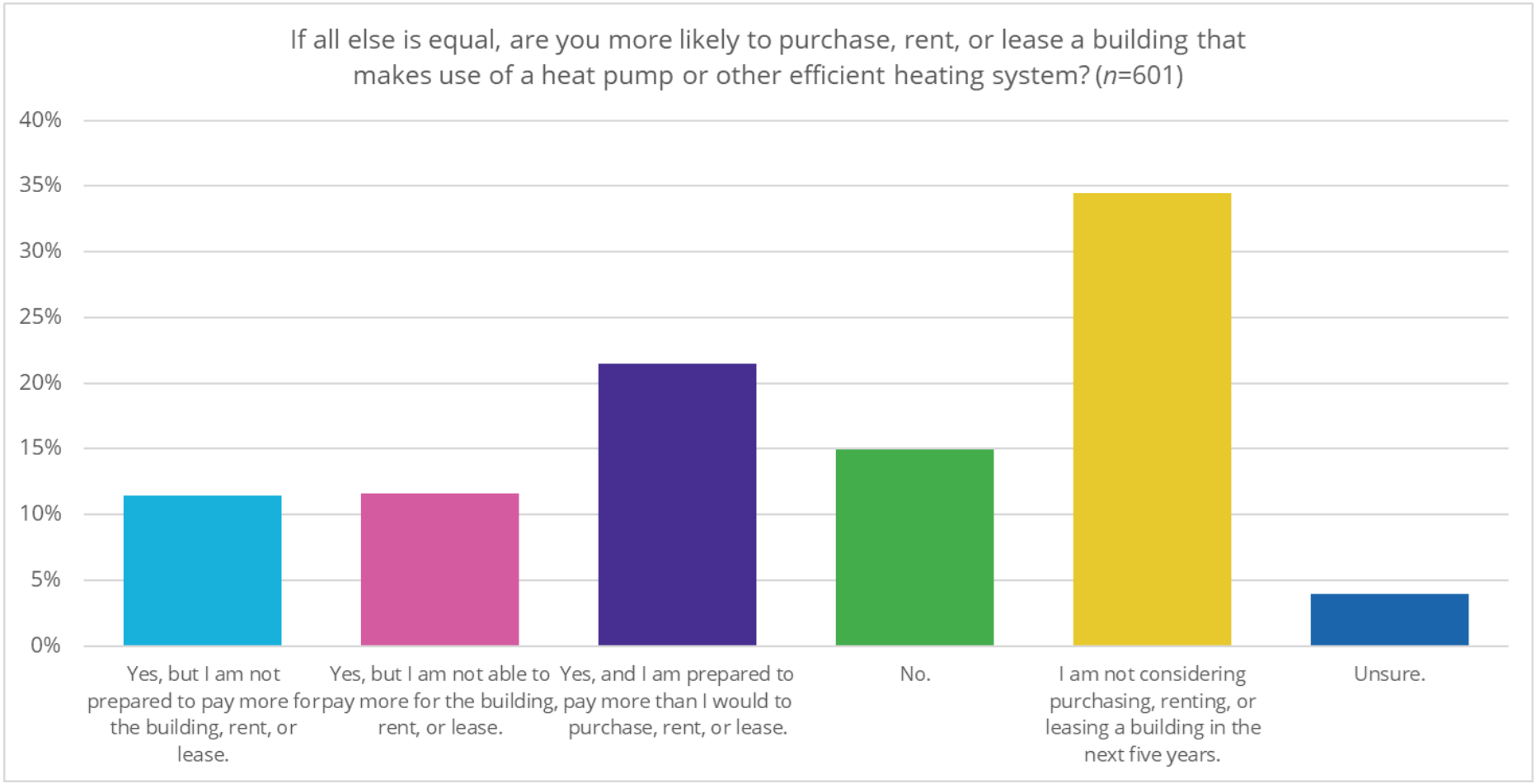

If you own a home, how much of your annual household maintenance budget would you be willing to allocate to energy efficiency upgrades? (n=606)
25%
20%
15%
10%
5%
0%
<10%
Up to 25%
Up to 50%
Up to 75%
Up to 100%
I do not have an annual household maintenance budget or I am not able to reallocate the budget to energy upgrades.
I am not interested in dedicating any portion of my household maintenance budget to energy upgrades.
Unsure


If you are renting, how much of a monthly rent increase are you willing to accept if energy efficiency upgrades are completed? (n=316)
25%
20%
15%
10%
5%
0%
< 10%
Up to 25%
Up to 50%
Up to 75%
Up to 100%
I am not able to budget for a rent increase.
I am not interested in paying more for rent due to energy upgrades.
Unsure


If all else is equal, are you more likely to purchase, rent, or lease a building that discloses energy efficiency upgrades? (n=605)
40%
35%
30%
25%
20%
15%
10%
5%
0%
Yes, but I am not prepared to pay more for the building, rent, or lease.
Yes, but I am not able to pay more for the building, rent, or lease
Yes, and I am prepared to pay more than I would to purchase, rent, or lease.
No.
I am not considering purchasing, renting, or leasing a building in the next five years.
Unsure.

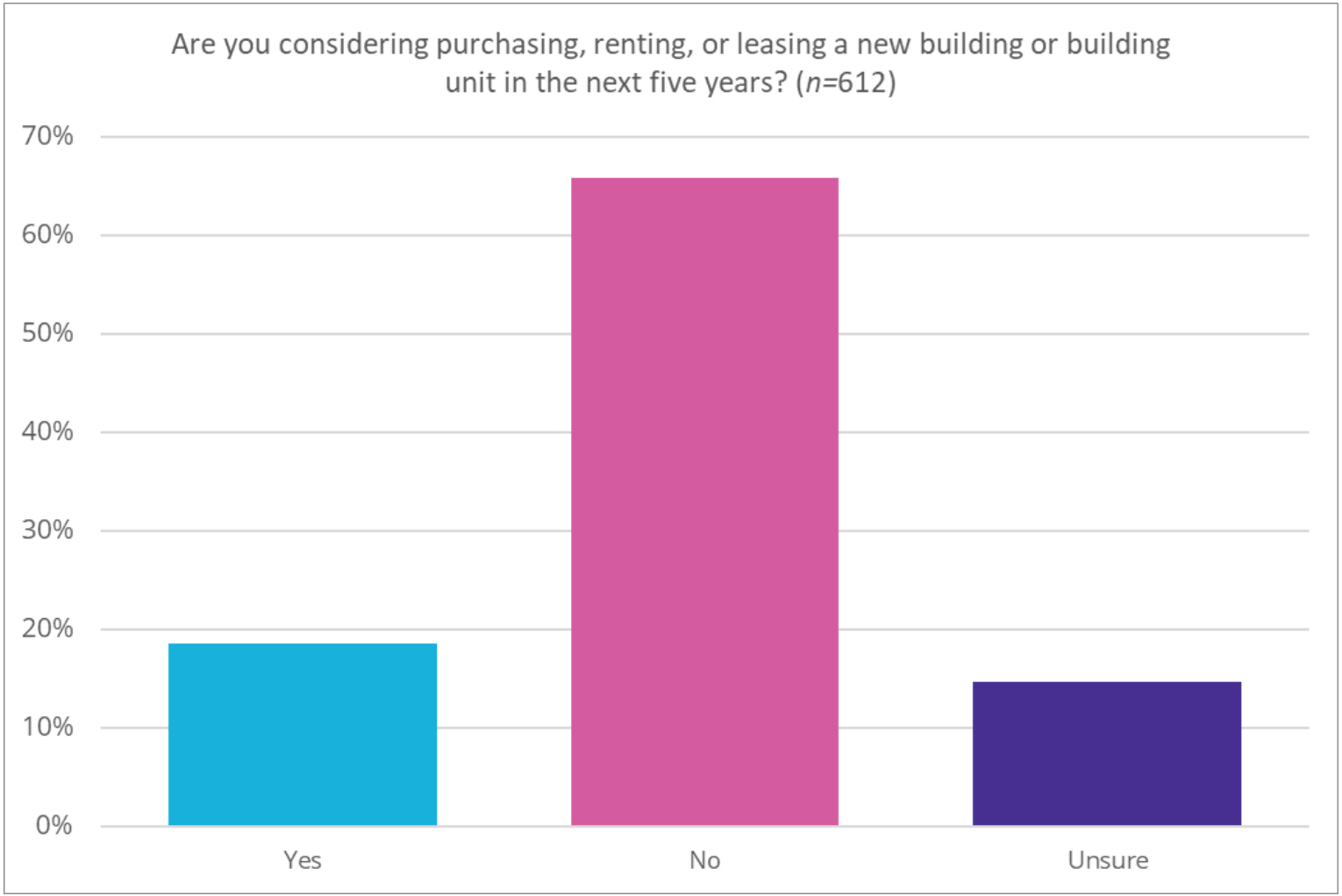

Are you willing to replace or modify your current heating system with a heat pump? Or, if you are considering a new build, would you consider a ground source heat pump? (n=611)
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Yes
No
I have already done this.
Unsure

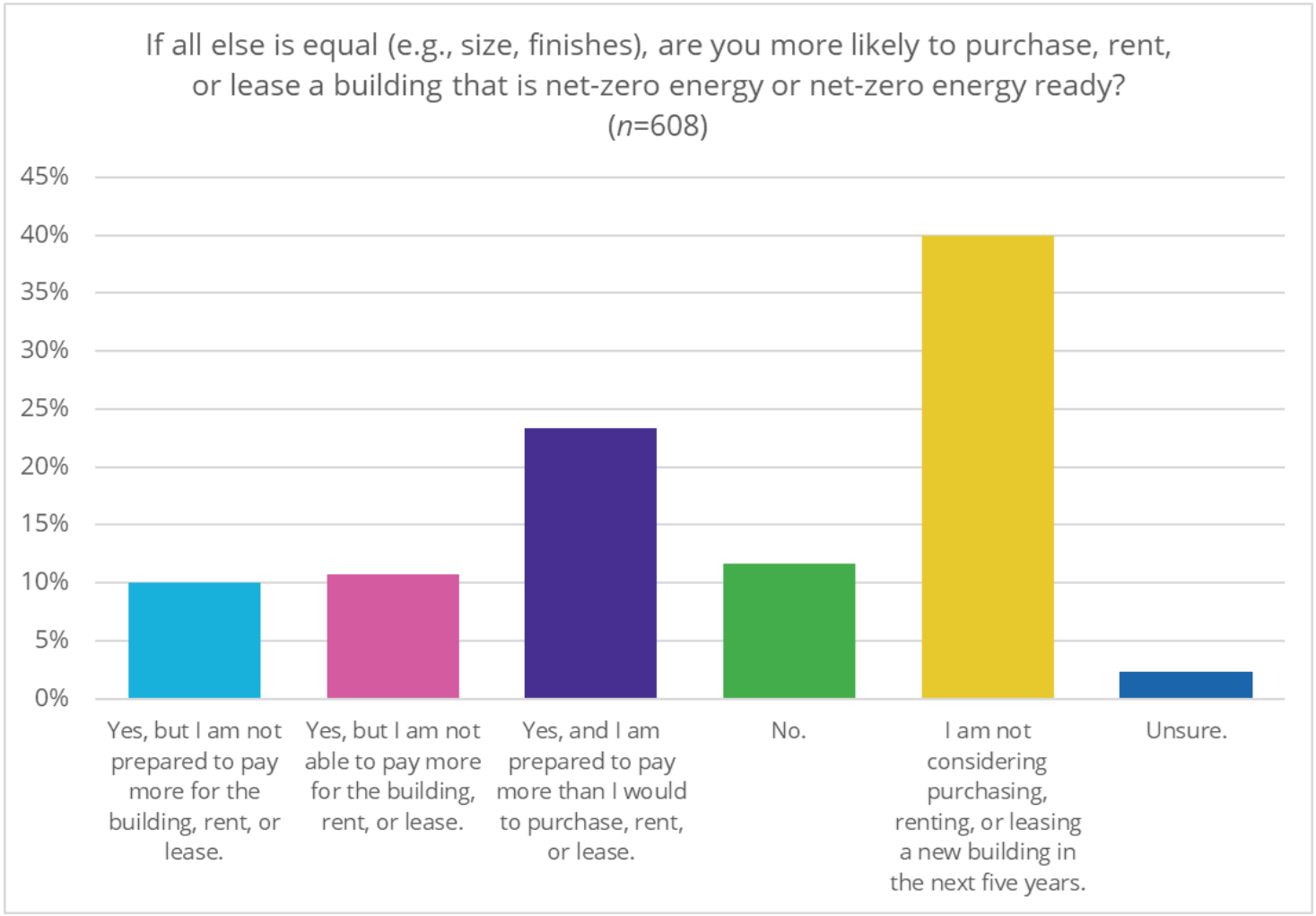

What support would you need to consider a new or modified heating system? (n=598)
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Education about the changes and how well they may work in Ames.
Education about the benefits to my household.
Partial financial support (a proportion of the cost of the new system is covered by another party such as a utility, government, or non-profit).
Full financial support (the total cost of the new system is covered by another party such as a utility, government, or non-profit).
Financing support (support to finance the upfront cost, to be paid off over time by the beneficiary).
Information on how to make these changes myself.
A list of recommended professionals and contractors.
The agreement of a building owner.
I am not interested in making any of these improvements.
No additional support is required.

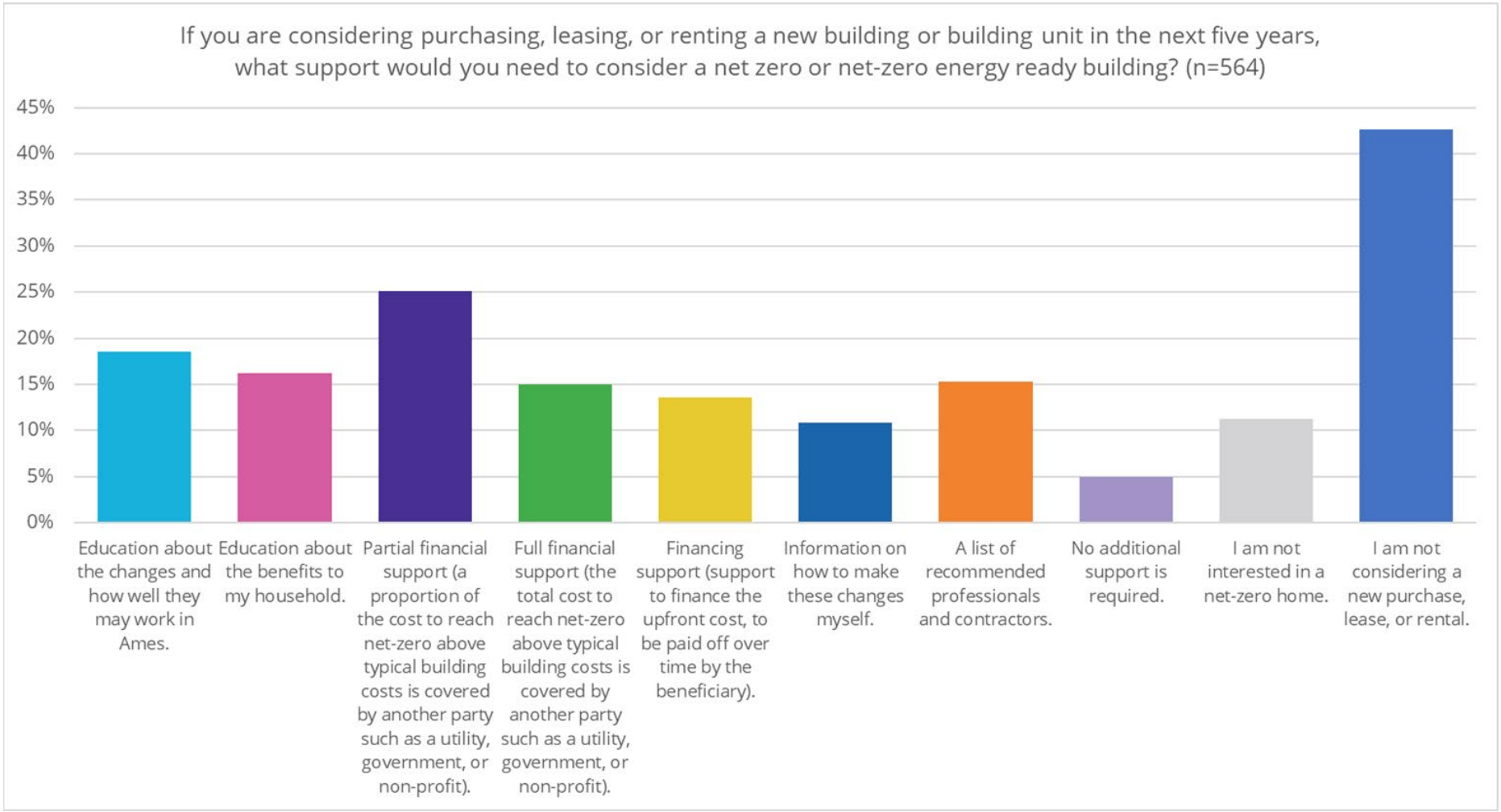

If all else is equal, are you more likely to purchase, rent, or lease a building that makes use of a heat pump or other efficient heating system? (n=601)
40%
35%
30%
25%
20%
15%
10%
5%
0%
Yes, but I am not prepared to pay more for the building, rent, or lease.
Yes, but I am not able to pay more for the building, rent, or lease.
Yes, and I am prepared to pay more than I would to purchase, rent, or lease.
No.
I am not considering purchasing, renting, or leasing a building in the next five years.
Unsure.

BIG MOVE TWO

Net Zero New Construction

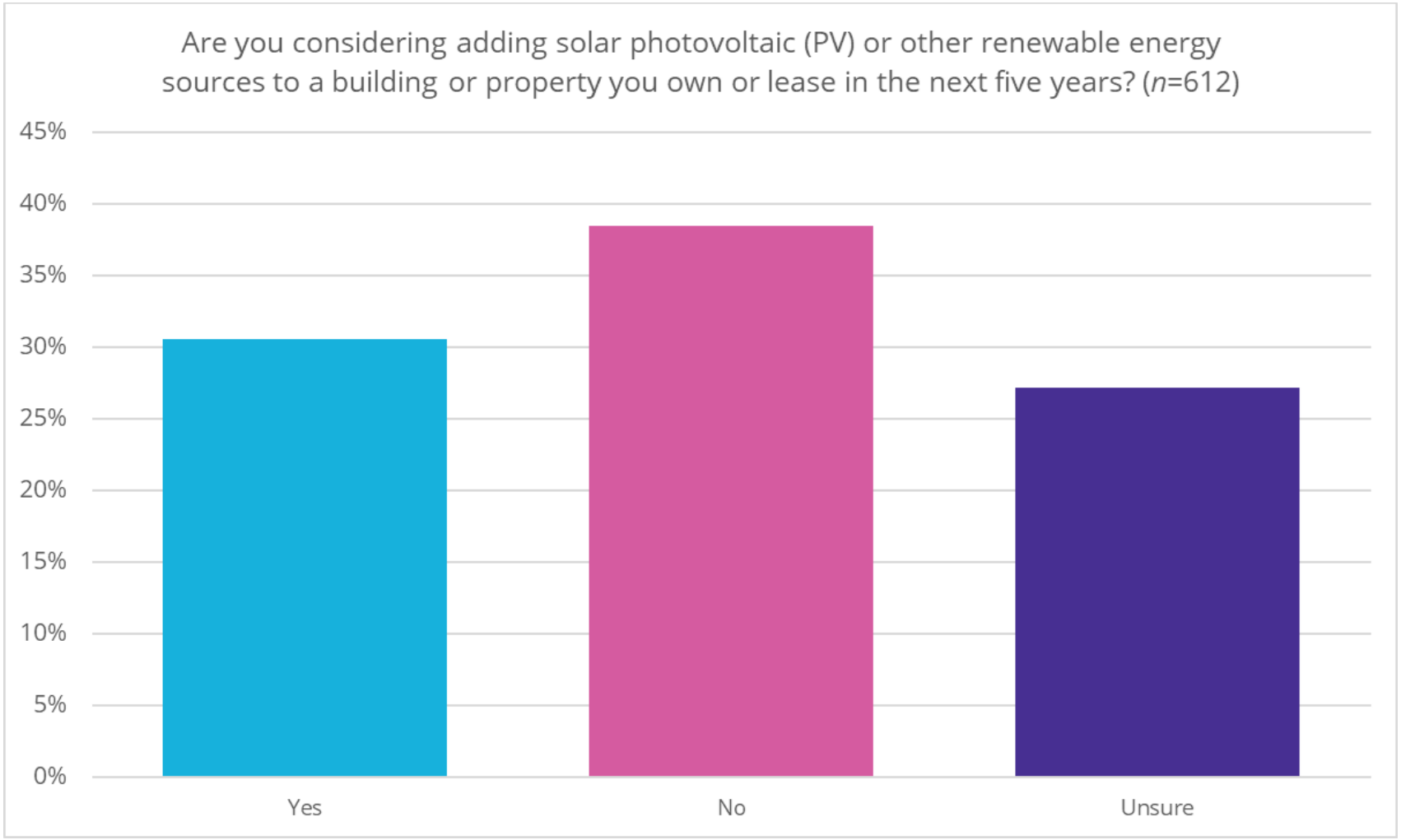

Are you considering purchasing, renting, or leasing a new building or building unit in the next five years? (n=612)
70%
60%
50%
40%
30%
20%
10%
0%
Yes
No
Unsure

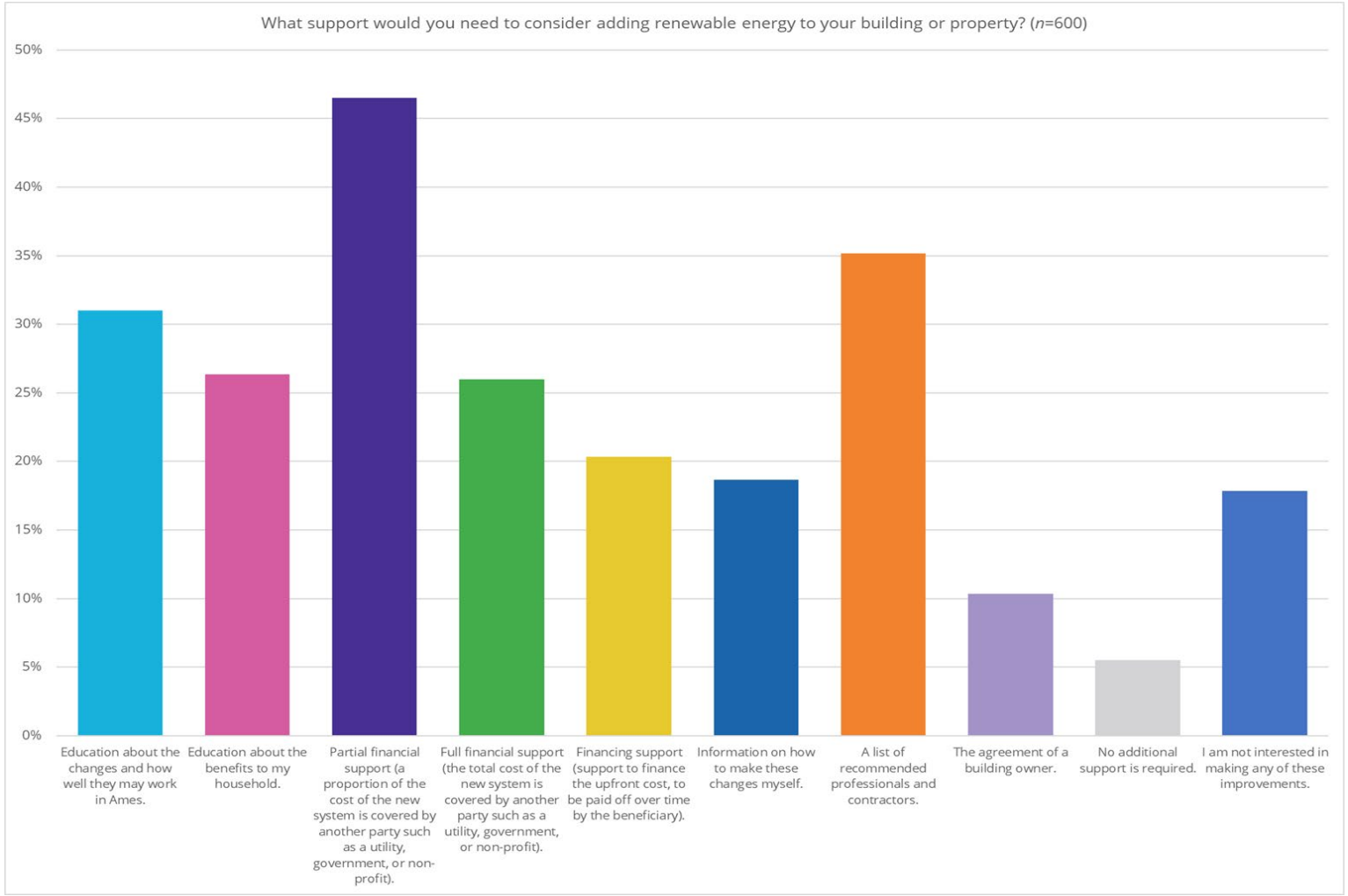

If all else is equal (e.g., size, finishes), are you more likely to purchase, rent, or lease a building that is net-zero energy or net-zero energy ready? (n=608)
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Yes, but I am not prepared to pay more for the building, rent, or lease.
Yes, but I am not able to pay more for the building, rent, or lease.
Yes, and I am prepared to pay more than I would to purchase, rent, or lease.
No.
I am not considering purchasing, renting, or leasing a new building in the next five years.
Unsure.

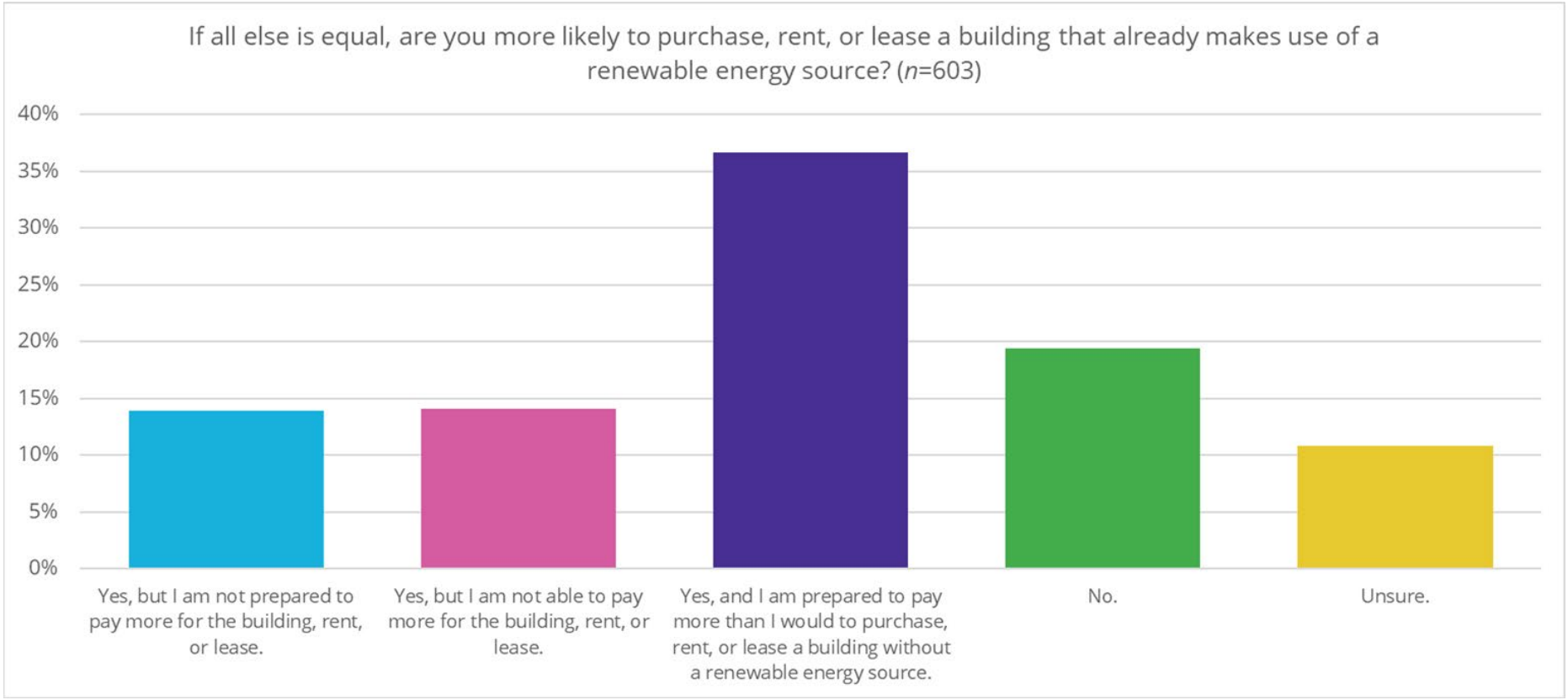

If you are considering purchasing, leasing, or renting a new building or building unit in the next five years, what support would you need to consider a net zero or net-zero energy ready building? (n=564)
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Education about the changes and how well they may work in Ames.
Education about the benefits to my household.
Partial financial support (a proportion of the cost to reach net-zero above typical building costs is covered by another party such as a utility, government, or non-profit).
Full financial support (the total cost to reach net-zero above typical building costs is covered by another party such as a utility, government, or non-profit).
Financing support (support to finance the upfront cost, to be paid off over time by the beneficiary).
Information on how to make these changes myself.
A list of recommended professionals and contractors.
No additional support is required.
I am not interested in a net-zero home.
I am not considering a new purchase, lease, or rental.

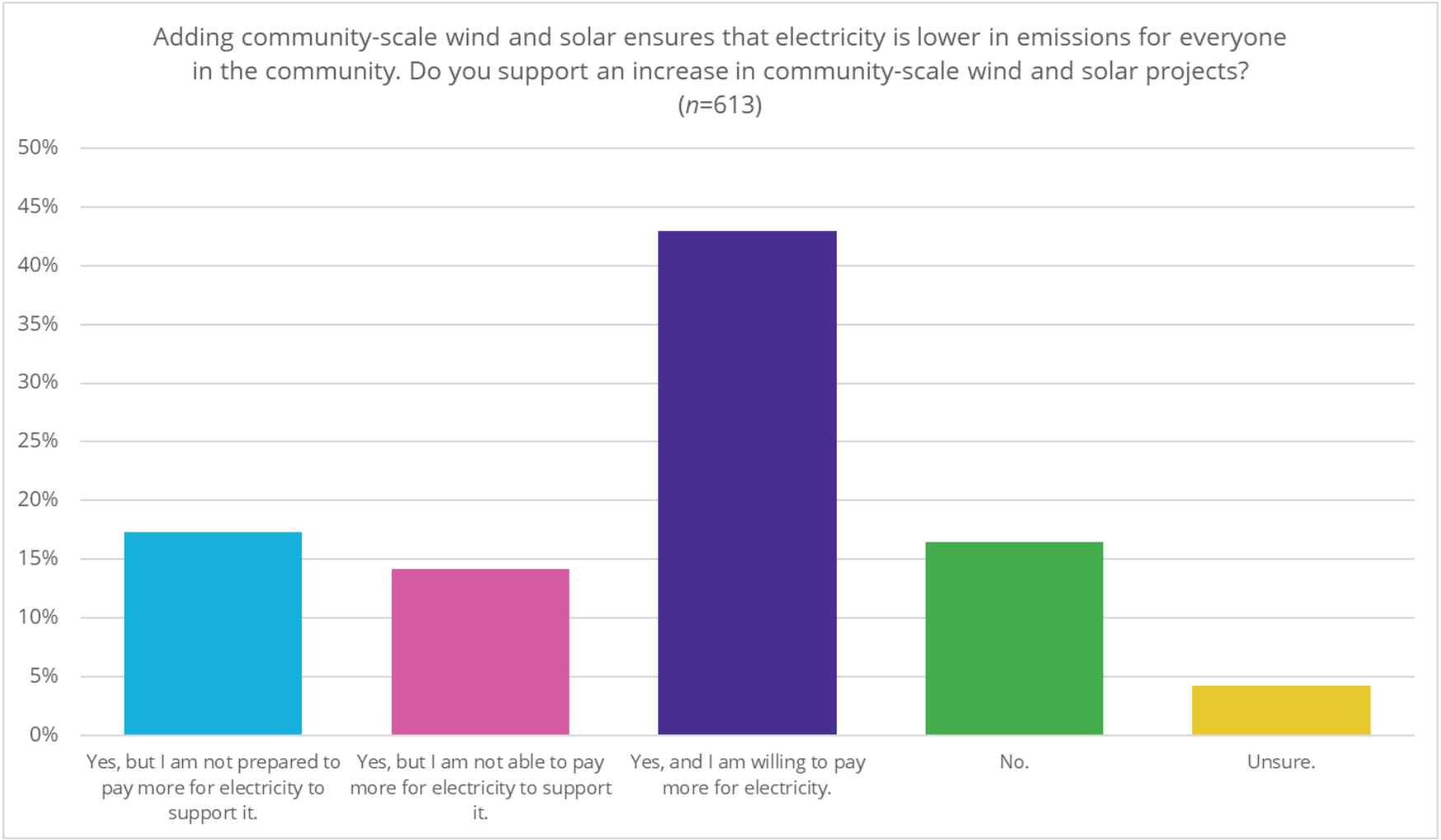
BIG MOVE THREE

Renewable Energy Generation


Are you considering adding solar photovoltaic (PV) or other renewable energy sources to a building or property you own or lease in the next five years? (n=612)
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Yes
No
Unsure

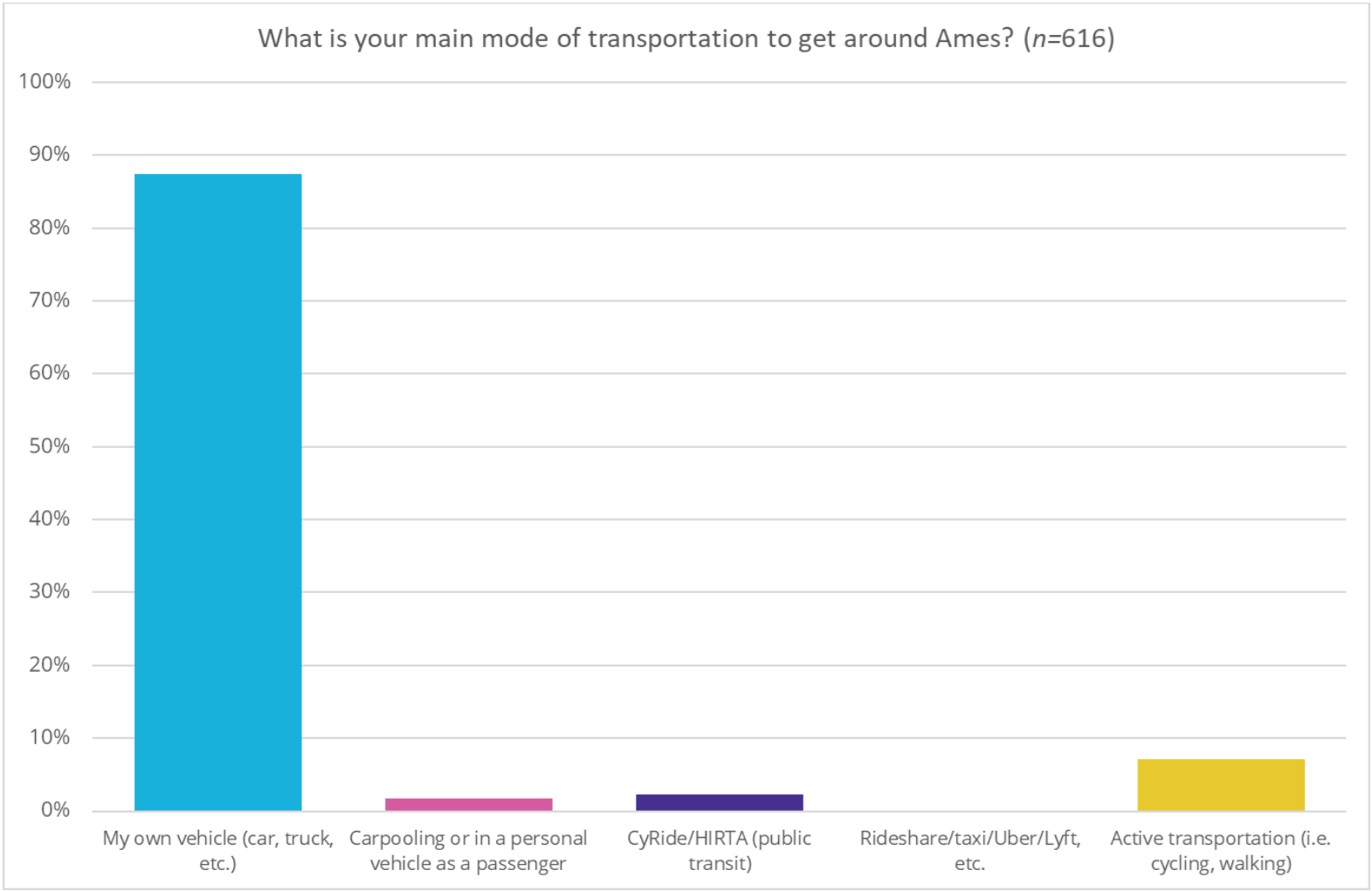

What support would you need to consider adding renewable energy to your building or property? (n=600)
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Education about the changes and how well they may work in Ames.
Education about the benefits to my household.
Partial financial support (a proportion of the cost of the new system is covered by another party such as a utility, government, or non-profit).
Full financial support (the total cost of the new system is covered by another party such as a utility, government, or non-profit).
Financing support (support to finance the upfront cost, to be paid off over time by the beneficiary).
Information on how to make these changes myself.
A list of recommended professionals and contractors.
The agreement of a building owner.
No additional support is required.
I am not interested in making any of these improvements.

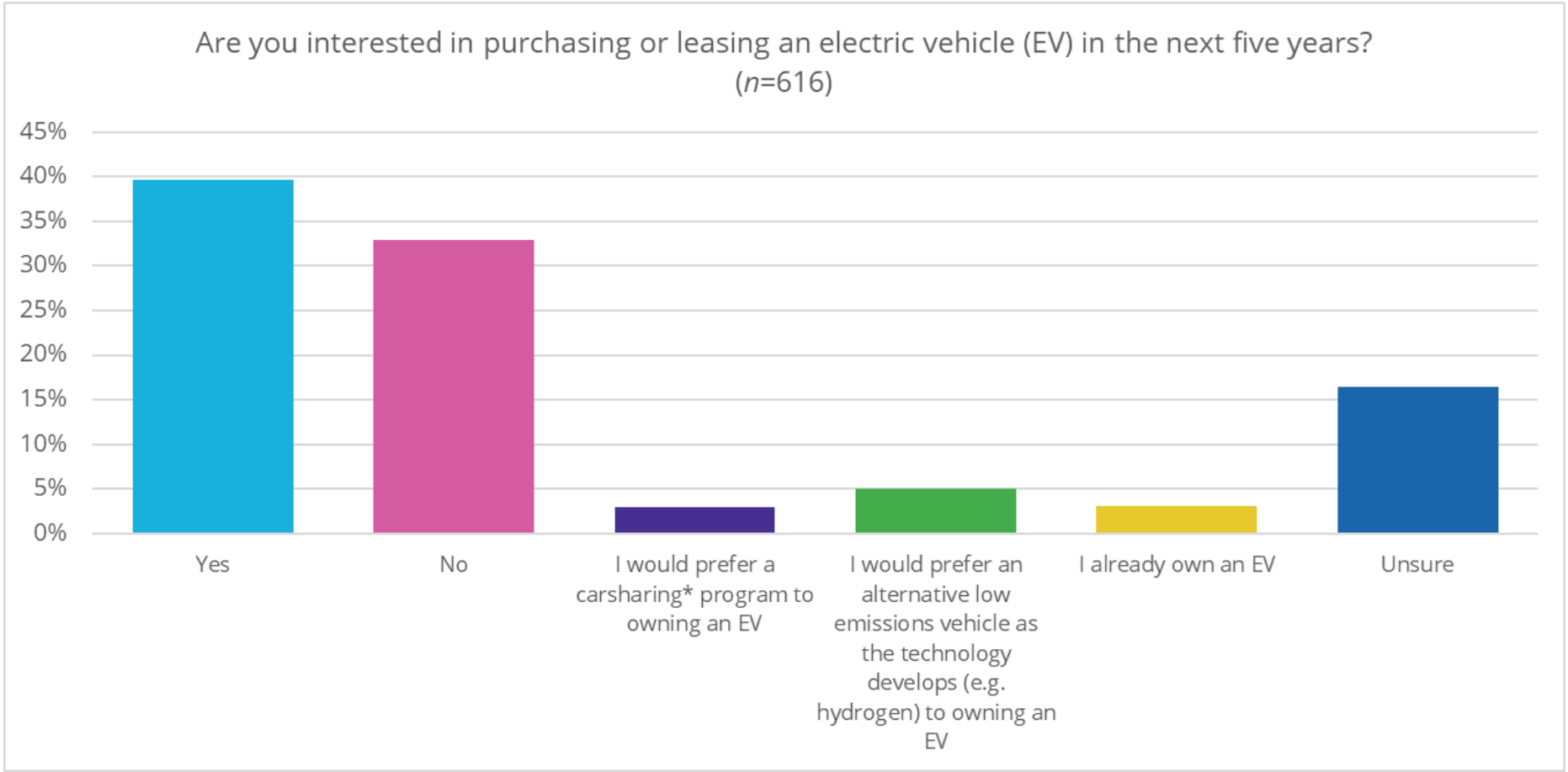

If all else is equal, are you more likely to purchase, rent, or lease a building that already makes use of a renewable energy source? (n=603)
40%
35%
30%
25%
20%
15%
10%
5%
0%
Yes, but I am not prepared to pay more for the building, rent, or lease.
Yes, but I am not able to pay more for the building, rent, or lease.
Yes, and I am prepared to pay more than I would to purchase, rent, or lease a building without a renewable energy source.
No.
Unsure.

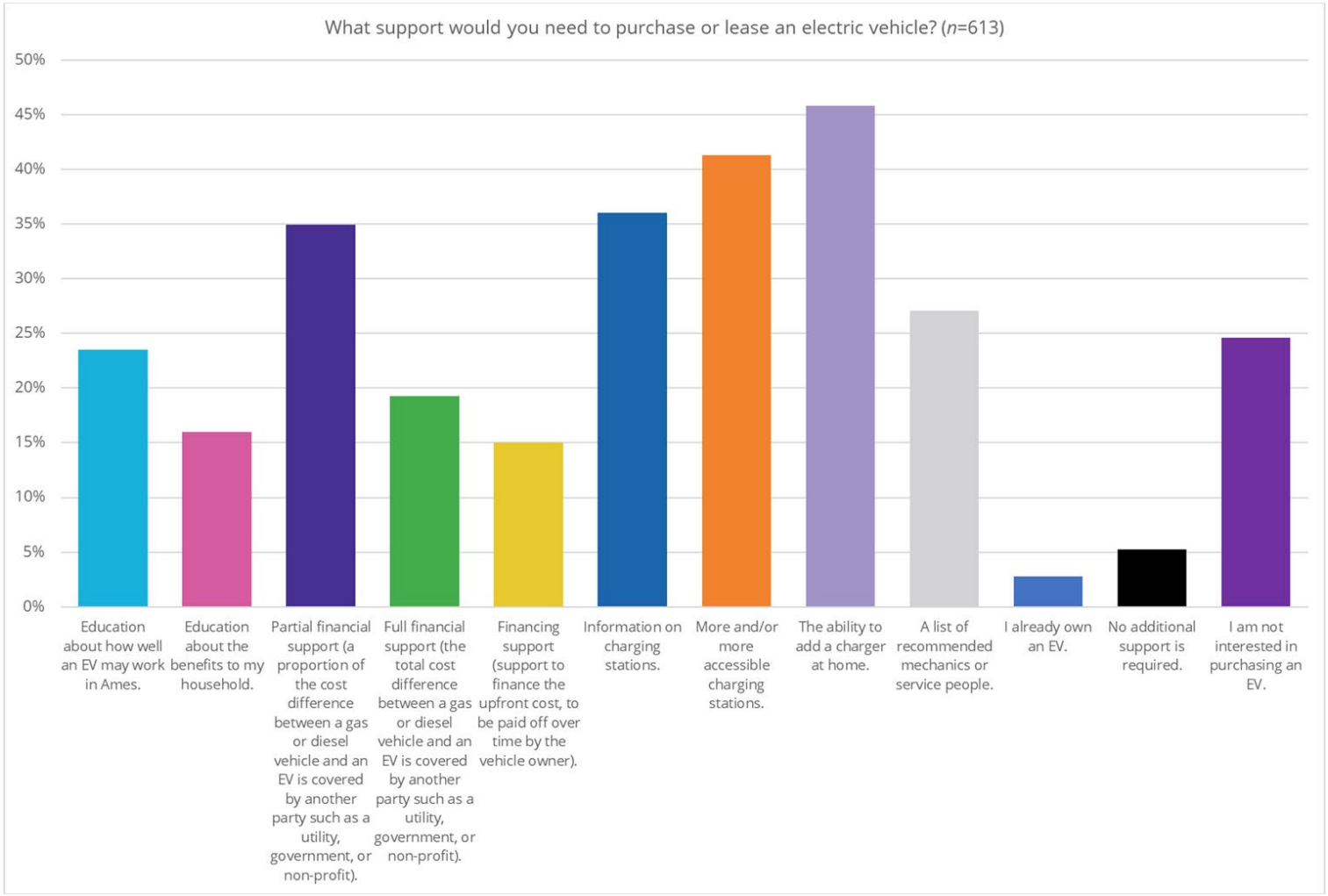

Adding community-scale wind and solar ensures that electricity is lower in emissions for everyone in the community. Do you support an increase in community-scale wind and solar projects? (n=613)
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Yes, but I am not prepared to pay more for electricity to support it.
Yes, but I am not able to pay more for electricity to support it.
Yes, and I am willing to pay more for electricity.
No.
Unsure.

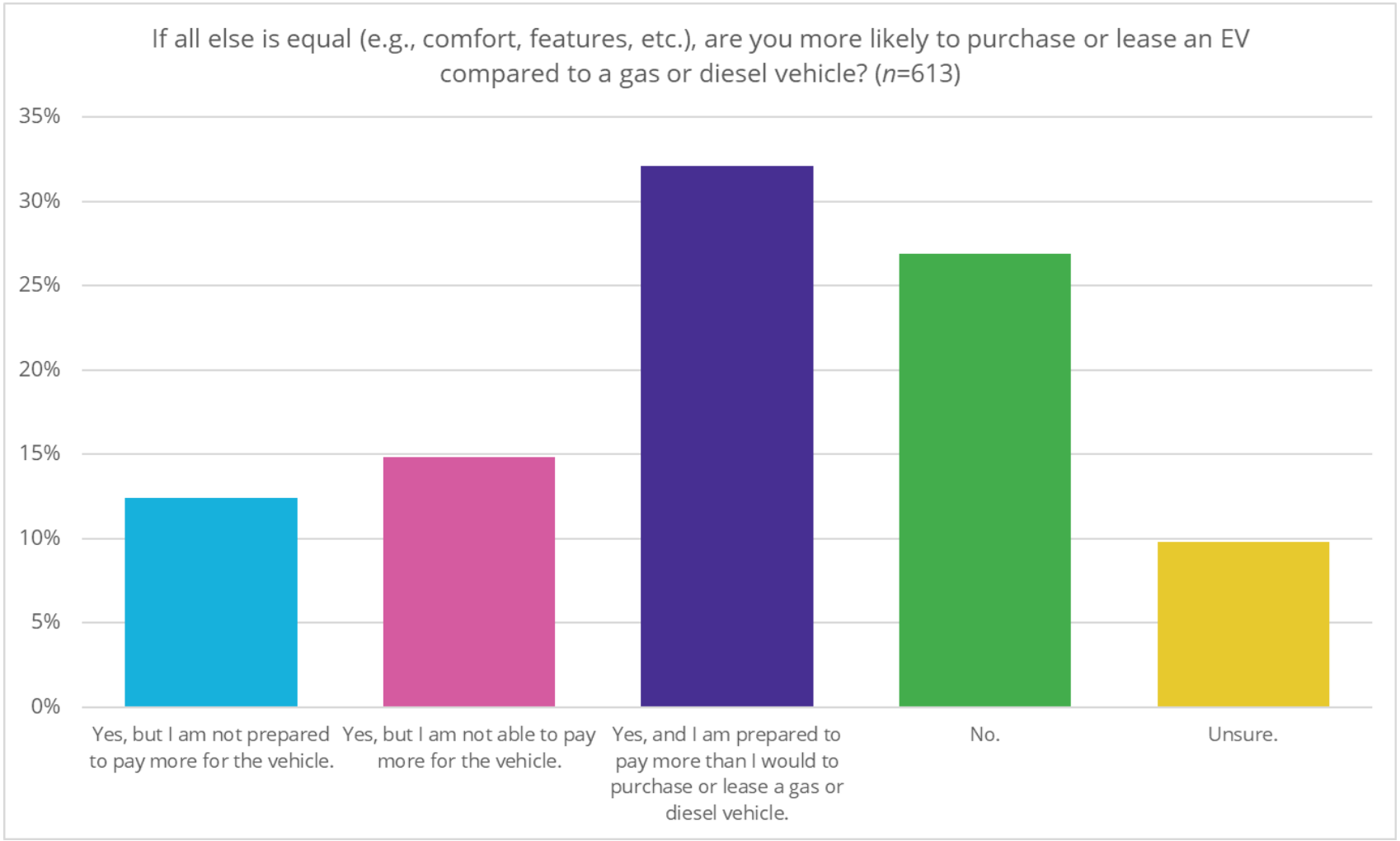
BIG MOVE FOUR

Reducing Vehicle Emissions


What is your main mode of transportation to get around Ames? (n=616)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
My own vehicle (car, truck, etc.)
Carpooling or in a personal vehicle as a passenger
CyRide/HIRTA (public transit)
Rideshare/taxi/Uber/Lyft, etc.
Active transportation (i.e. cycling, walking)

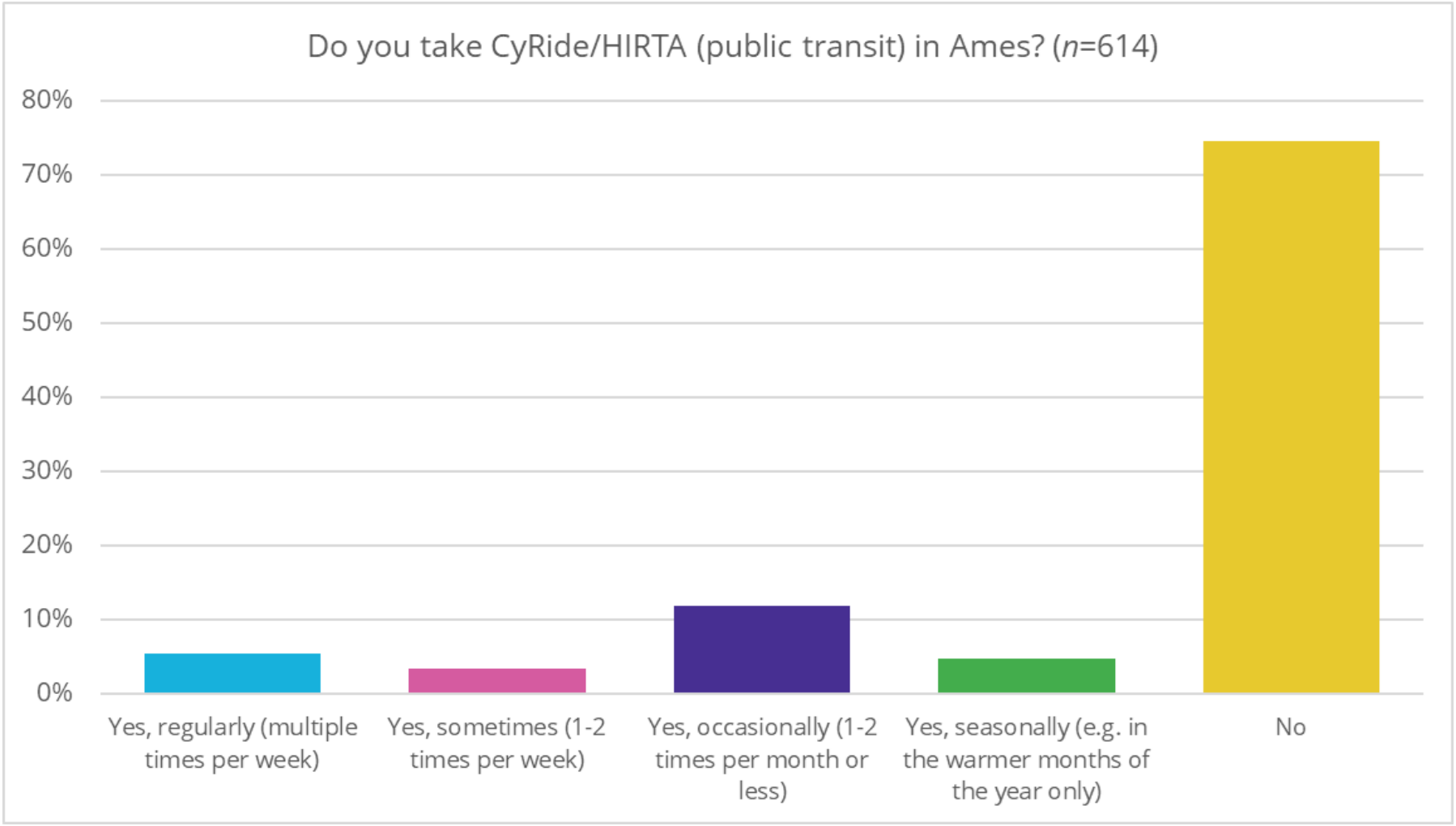

Are you interested in purchasing or leasing an electric vehicle (EV) in the next five years?
(n=616)
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Yes
No
I would prefer a carsharing* program to owning an EV
I would prefer an alternative low emissions vehicle as the technology develops (e.g. hydrogen) to owning an EV
I already own an EV
Unsure

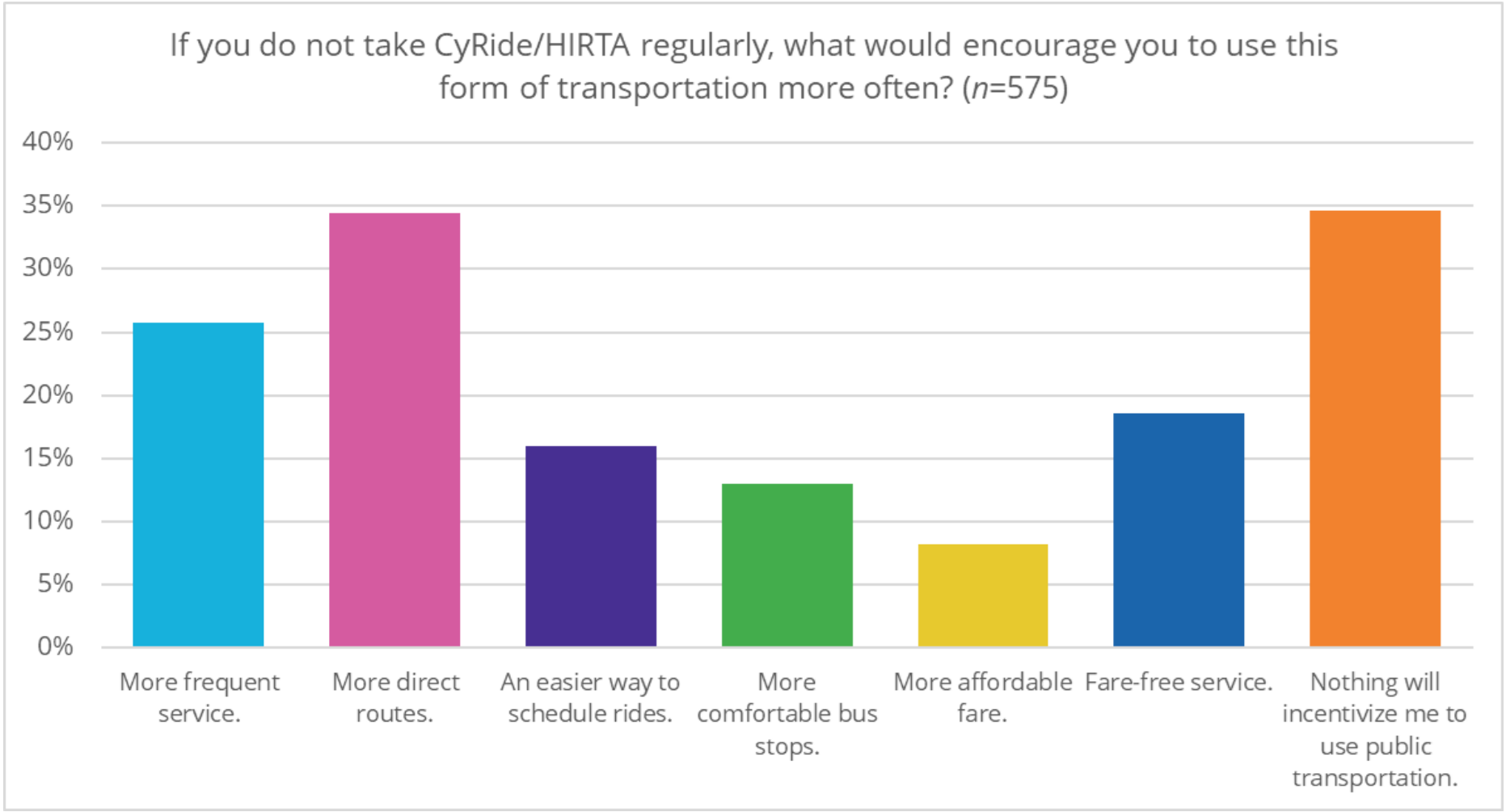

What support would you need to purchase or lease an electric vehicle? (n=613)
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Education about how well an EV may work in Ames.
Education about the benefits to my household.
Partial financial support (a proportion of the cost difference between a gas or diesel vehicle and an EV is covered by another party such as a utility, government, or non-profit).
Full financial support (the total cost difference between a gas or diesel vehicle and an EV is covered by another party such as a utility, government, or non-profit).
Financing support (support to finance the upfront cost, to be paid off over time by the vehicle owner).
Information on charging stations.
More and/or more accessible charging stations.
The ability to add a charger at home.
A list of recommended mechanics or service people.
I already own an EV.
No additional support is required.
I am not interested in purchasing an EV.

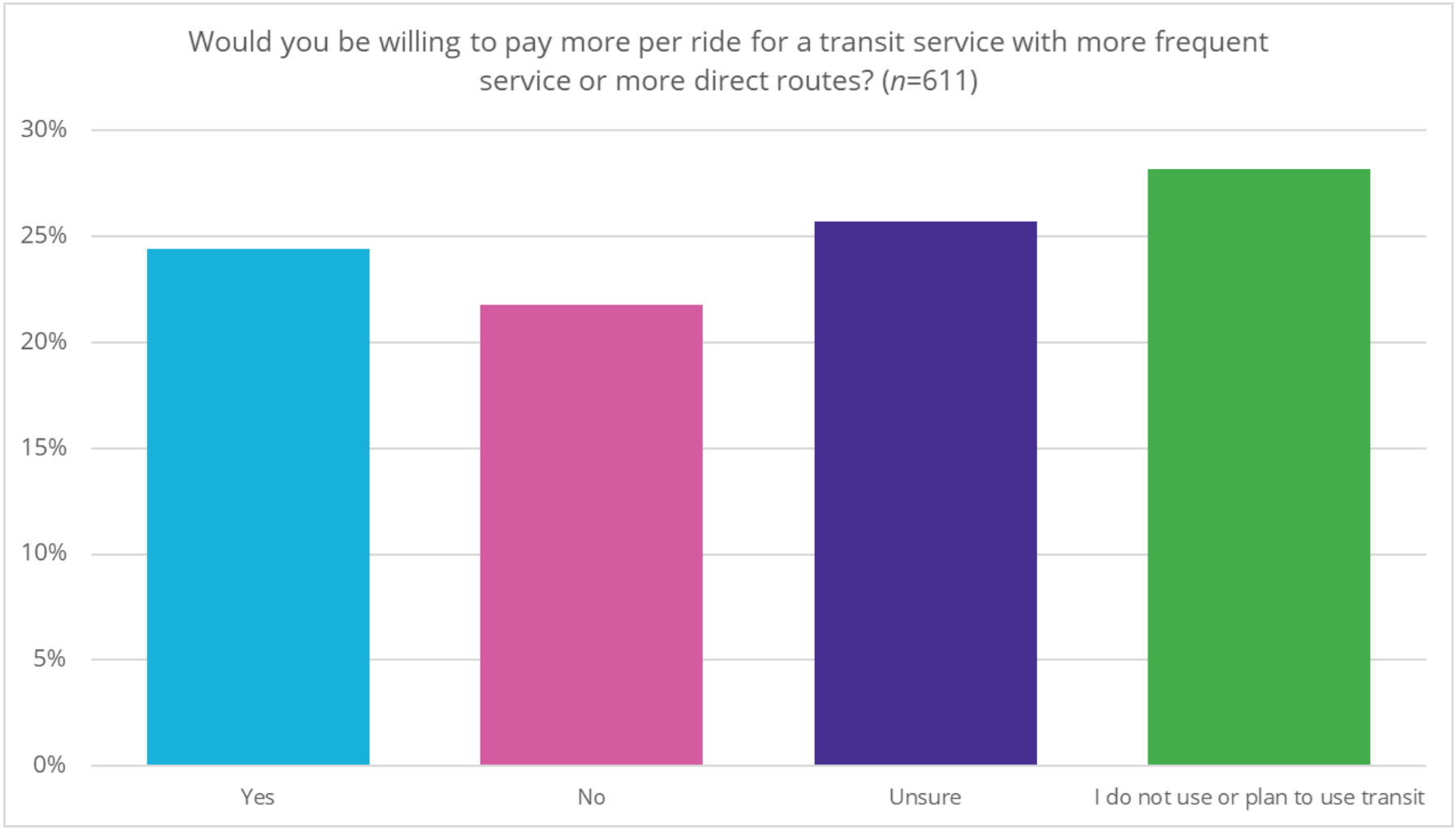

If all else is equal (e.g., comfort, features, etc.), are you more likely to purchase or lease an EV compared to a gas or diesel vehicle? (n=613)
35%
30%
25%
20%
15%
10%
5%
0%
Yes, but I am not prepared to pay more for the vehicle.
Yes, but I am not able to pay more for the vehicle.
Yes, and I am prepared to pay more than I would to purchase or lease a gas or diesel vehicle.
No.
Unsure.

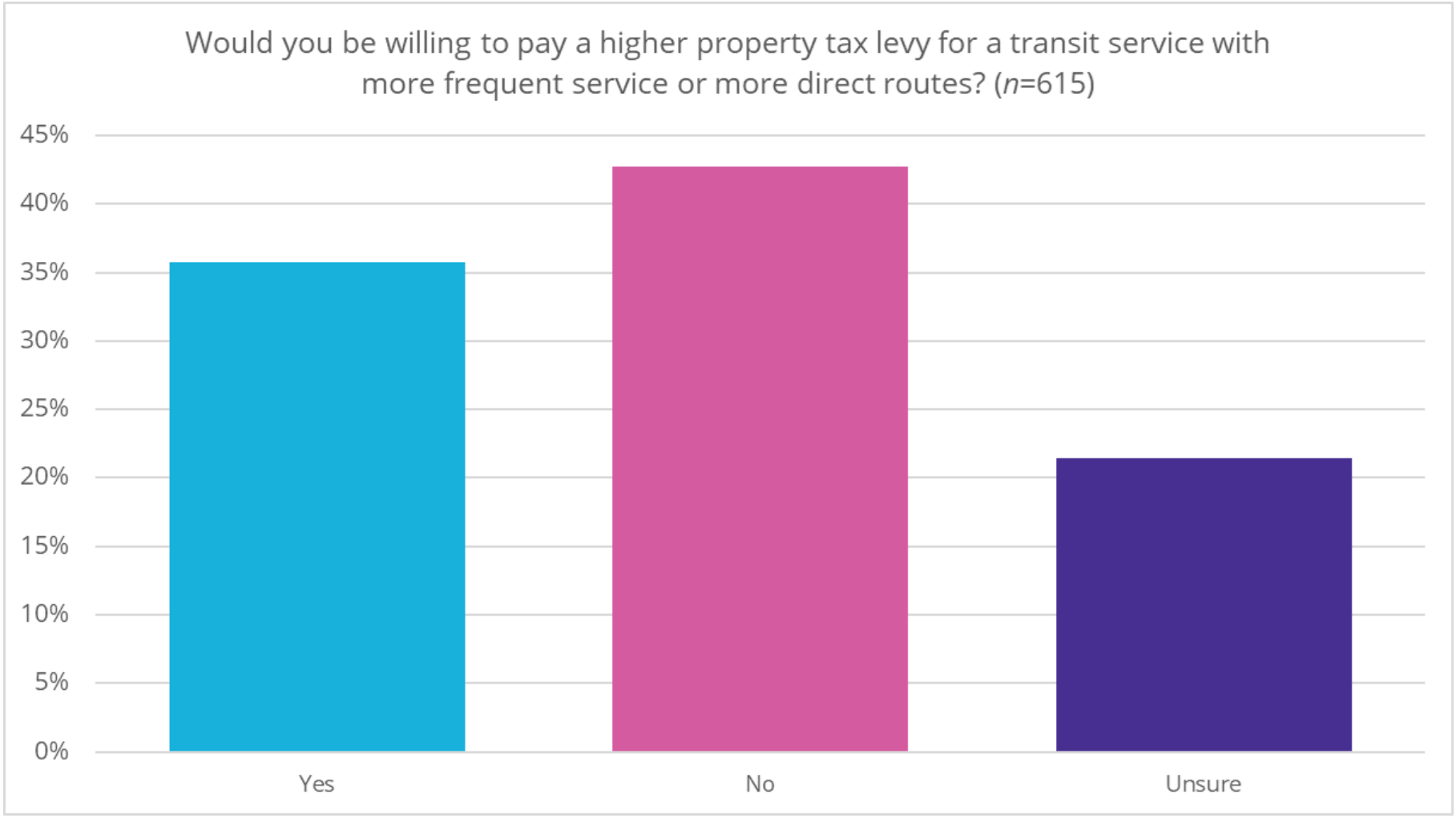
BIG MOVE FIVE

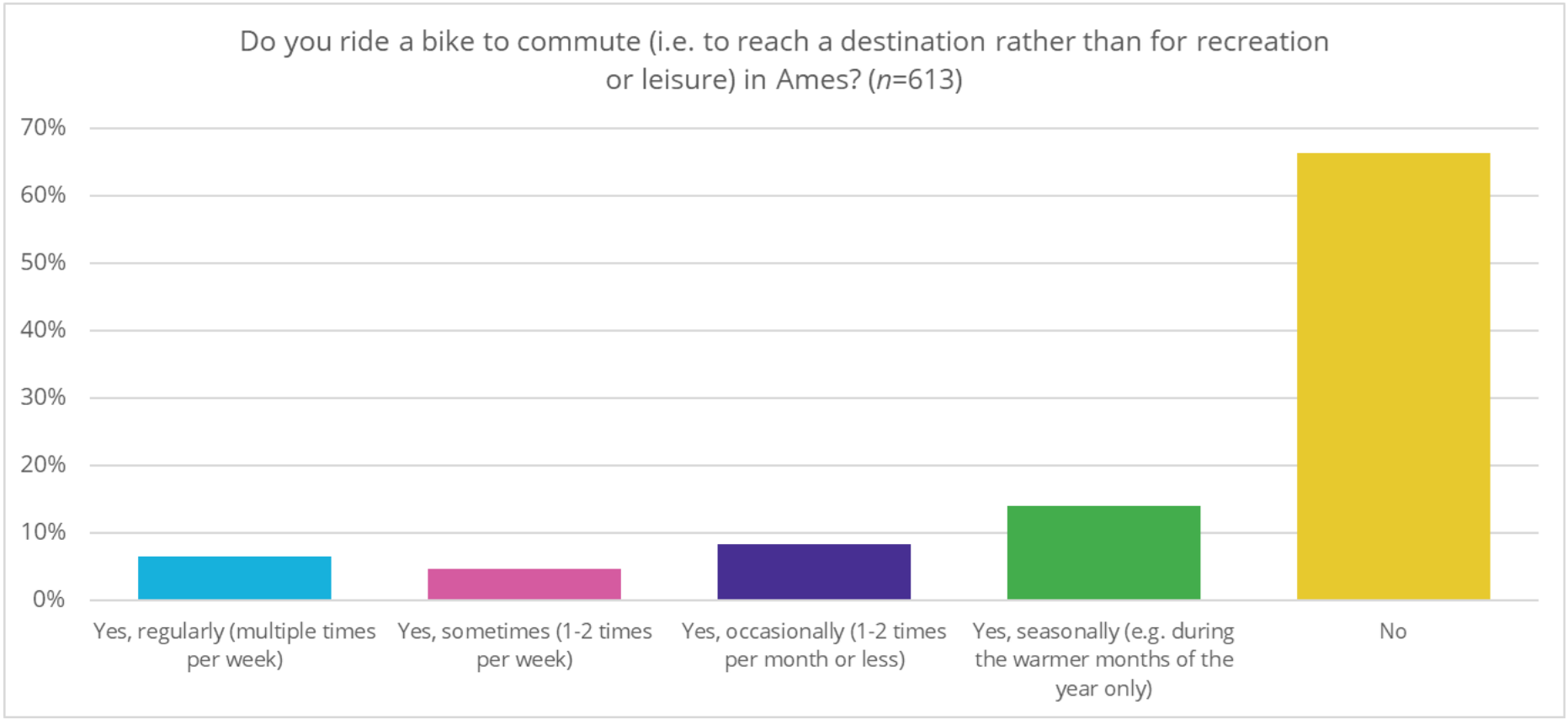
Increasing Active Transportation and Transit Use

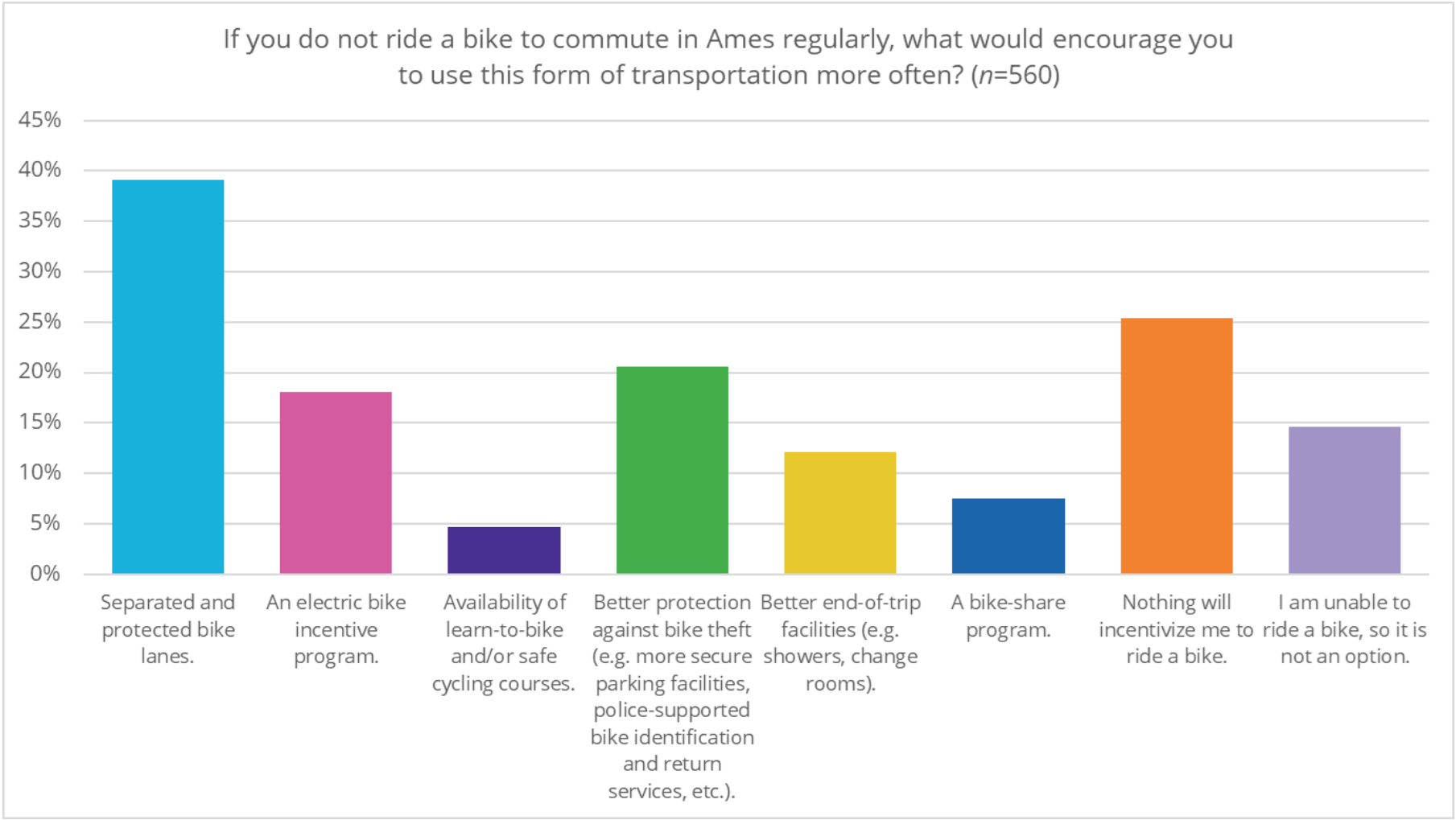

Do you take CyRide/HIRTA (public transit) in Ames? (n=614)
80%
70%
60%
50%
40%
30%
20%
10%
0%
Yes, regularly (multiple times per week)
Yes, sometimes (1-2 times per week)
Yes, occasionally (1-2 times per month or less)
Yes, seasonally (e.g. in the warmer months of the year only)
No

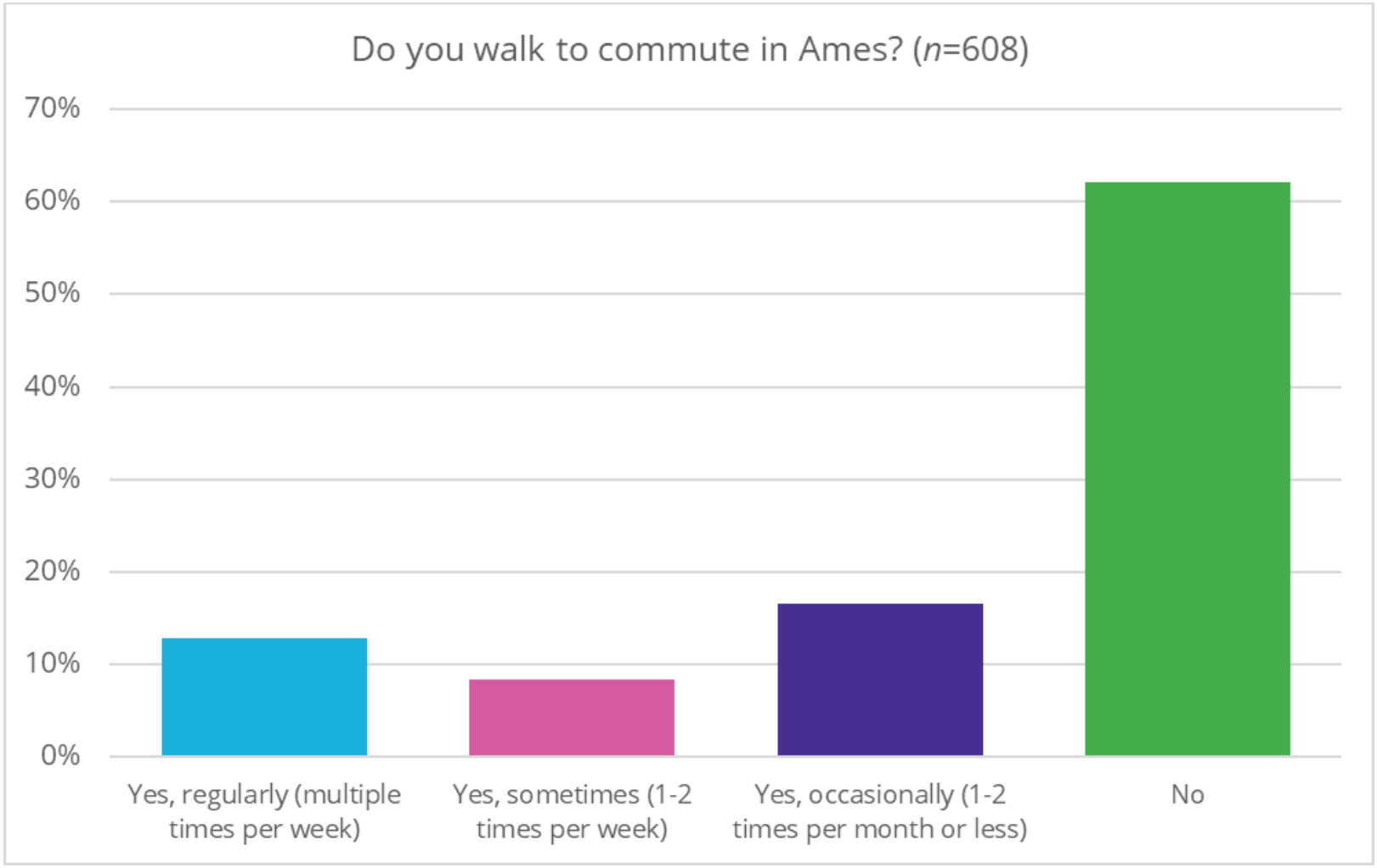

If you do not take CyRide/HIRTA regularly, what would encourage you to use this form of transportation more often? (n=575)
40%
35%
30%
25%
20%
15%
10%
5%
0%
More frequent service.
More direct routes.
An easier way to schedule rides.
More comfortable bus stops.
More affordable fare.
Fare-free service.
Nothing will incentivize me to use public transportation.

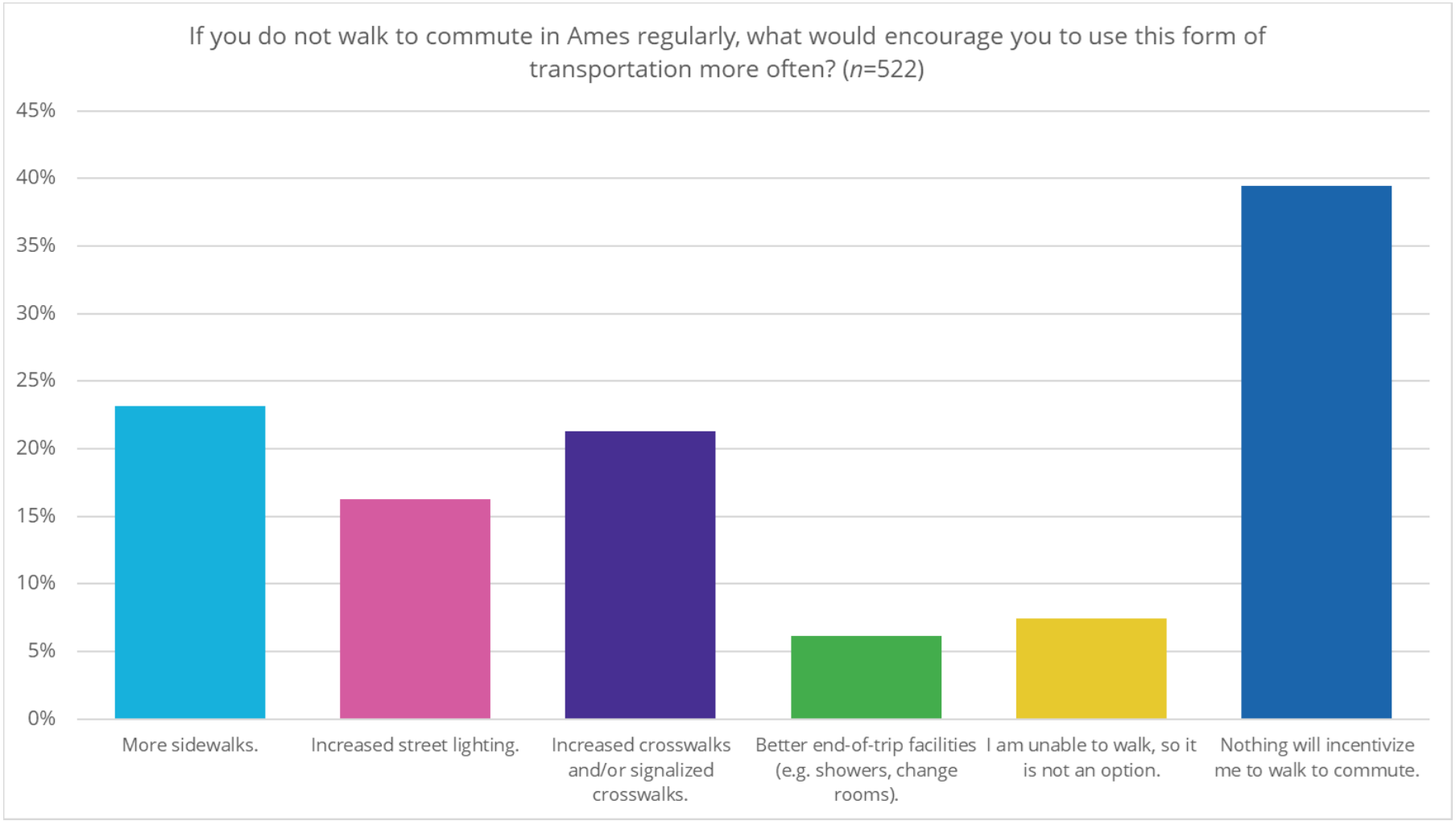

Would you be willing to pay more per ride for a transit service with more frequent service or more direct routes? (n=611)
30%
25%
20%
15%
10%
5%
0%
Yes
No
Unsure
I do not use or plan to use transit

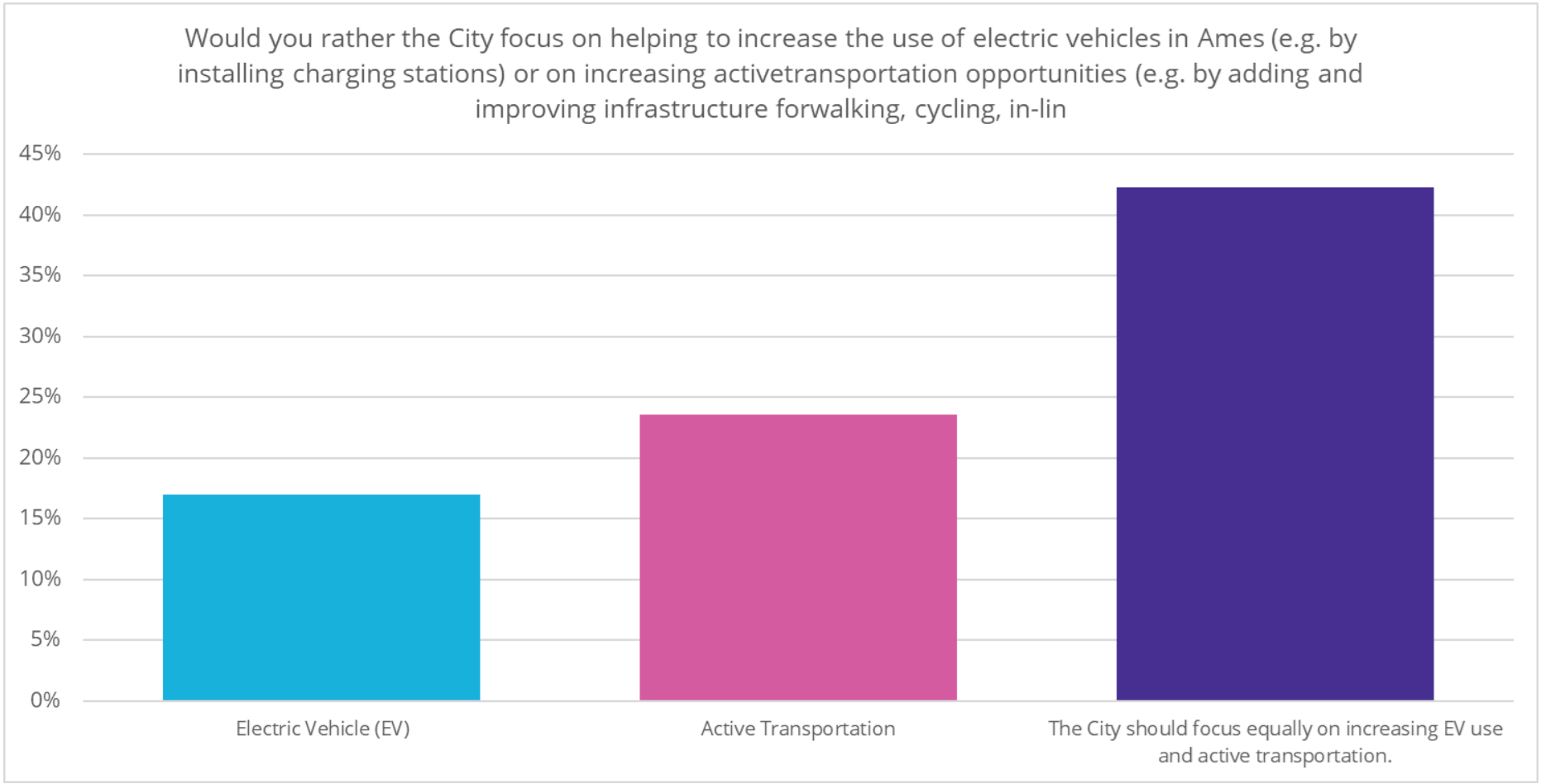

Would you be willing to pay a higher property tax levy for a transit service with more frequent service or more direct routes? (n=615)
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Yes
No
Unsure


Do you ride a bike to commute (i.e. to reach a destination rather than for recreation or leisure) in Ames? (n=613)
70%
60%
50%
40%
30%
20%
10%
0%
Yes, regularly (multiple times per week)
Yes, sometimes (1-2 times per week)
Yes, occasionally (1-2 times per month or less)
Yes, seasonally (e.g. during the warmer months of the year only)
No


If you do not ride a bike to commute in Ames regularly, what would encourage you to use this form of transportation more often? (n=560)
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Separated and protected bike lanes.
An electric bike incentive program.
Availability of learn-to-bike and/or safe cycling courses.
Better protection against bike theft (e.g. more secure parking facilities, police-supported bike identification and return services, etc.).
Better end-of-trip facilities (e.g. showers, change rooms).
A bike-share program.
Nothing will incentivize me to ride a bike.
I am unable to ride a bike, so it is not an option.

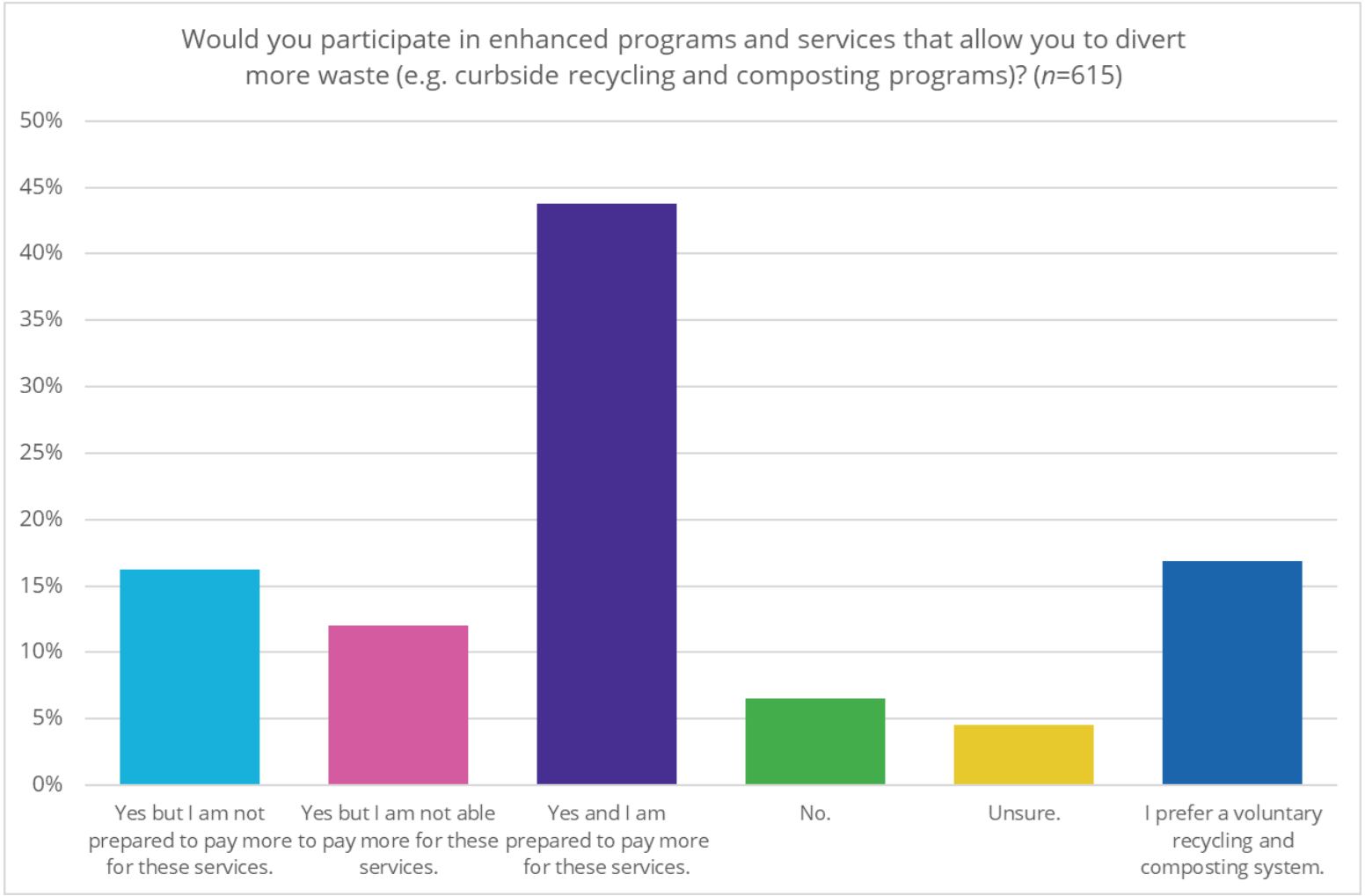

Do you walk to commute in Ames? (n=608)
70%
60%
50%
40%
30%
20%
10%
0%
Yes, regularly (multiple times per week)
Yes, sometimes (1-2 times per week)
Yes, occasionally (1-2 times per month or less)
No

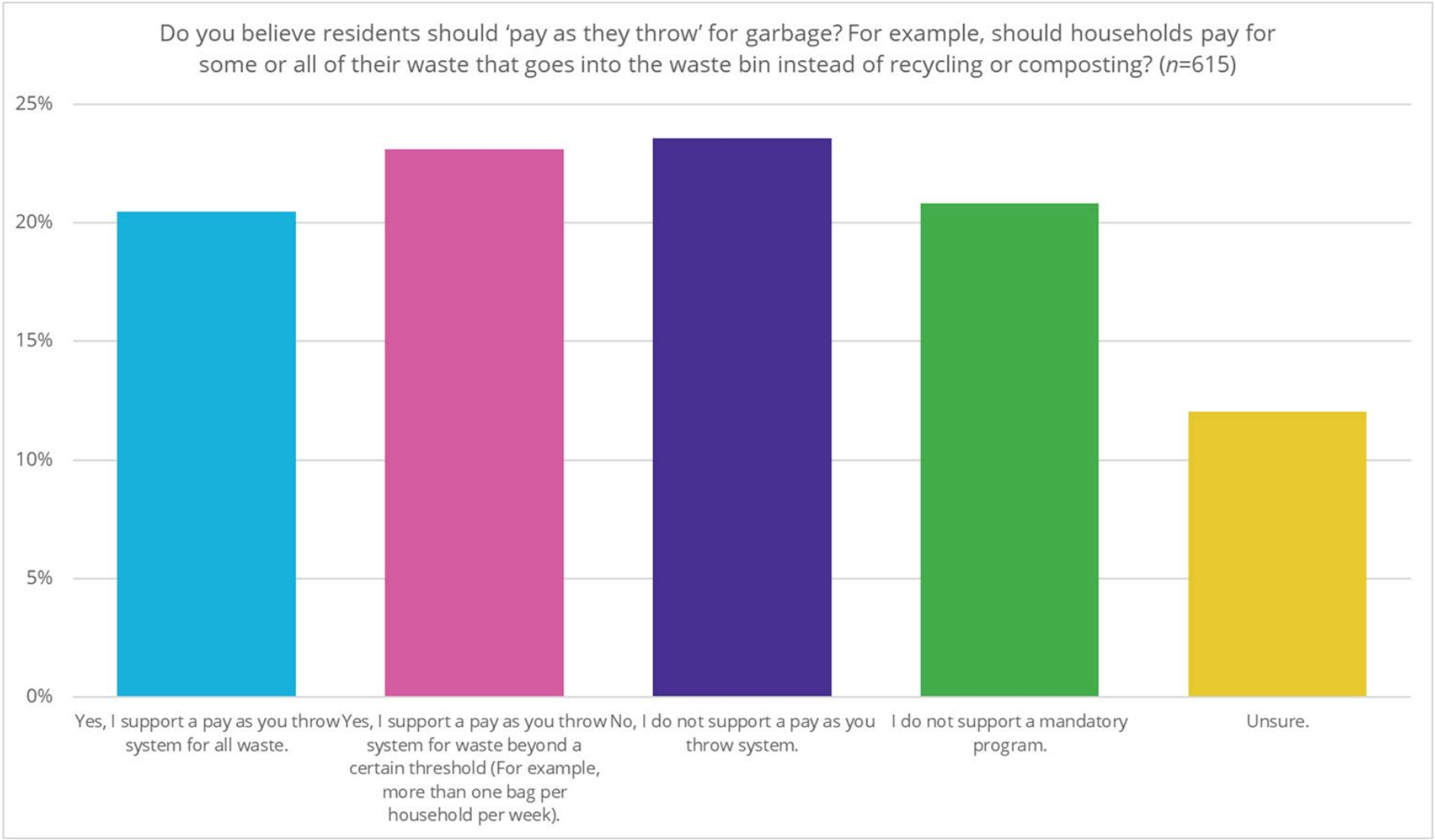

If you do not walk to commute in Ames regularly, what would encourage you to use this form of transportation more often? (n=522)
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
More sidewalks.
Increased street lighting.
Increased crosswalks and/or signalized crosswalks.
Better end-of-trip facilities (e.g. showers, change rooms).
I am unable to walk, so it is not an option.
Nothing will incentivize me to walk to commute.

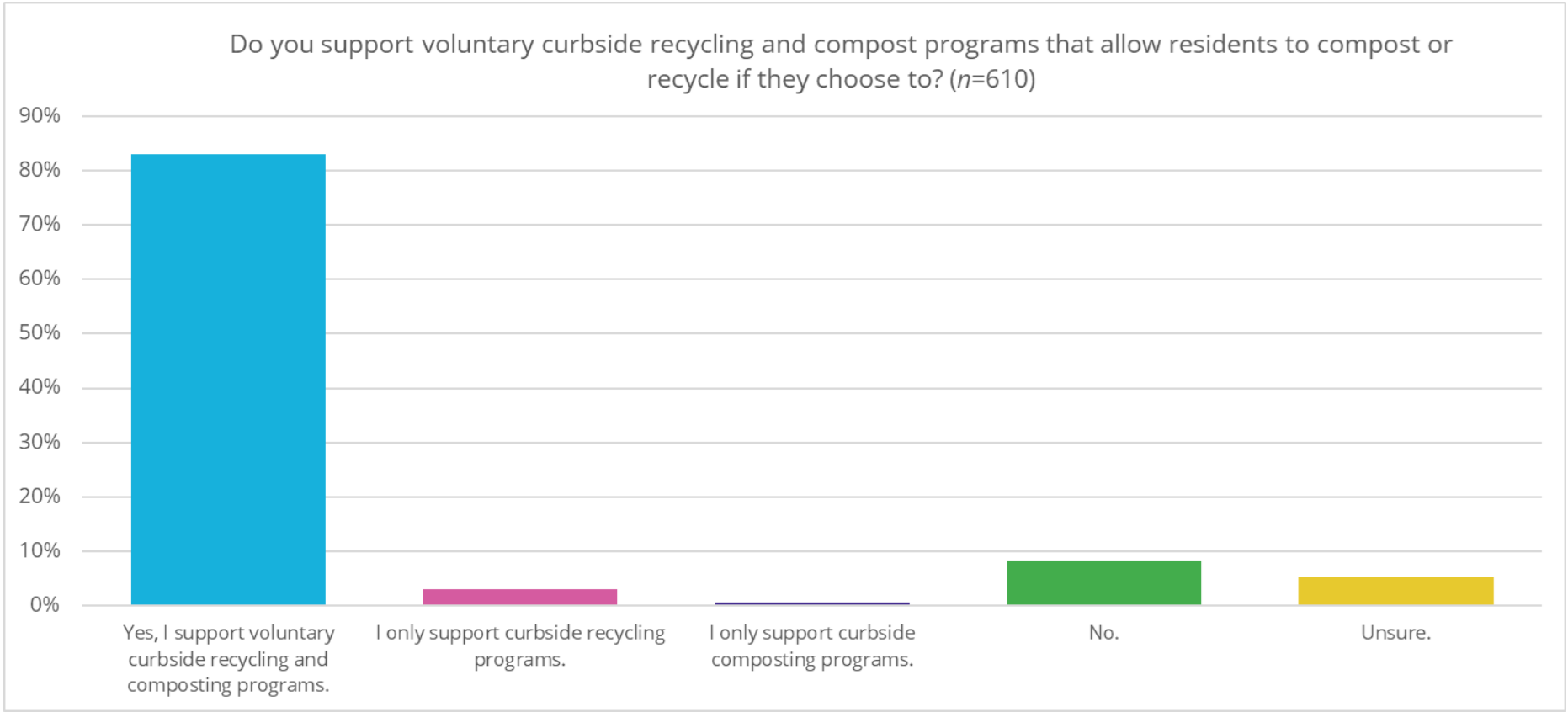

Would you rather the City focus on helping to increase the use of electric vehicles in Ames (e.g. by installing charging stations) or on increasing activetransportation opportunities (e.g. by adding and improving infrastructure forwalking, cycling, in-lin
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Electric Vehicle (EV)
Active Transportation
The City should focus equally on increasing EV use and active transportation.

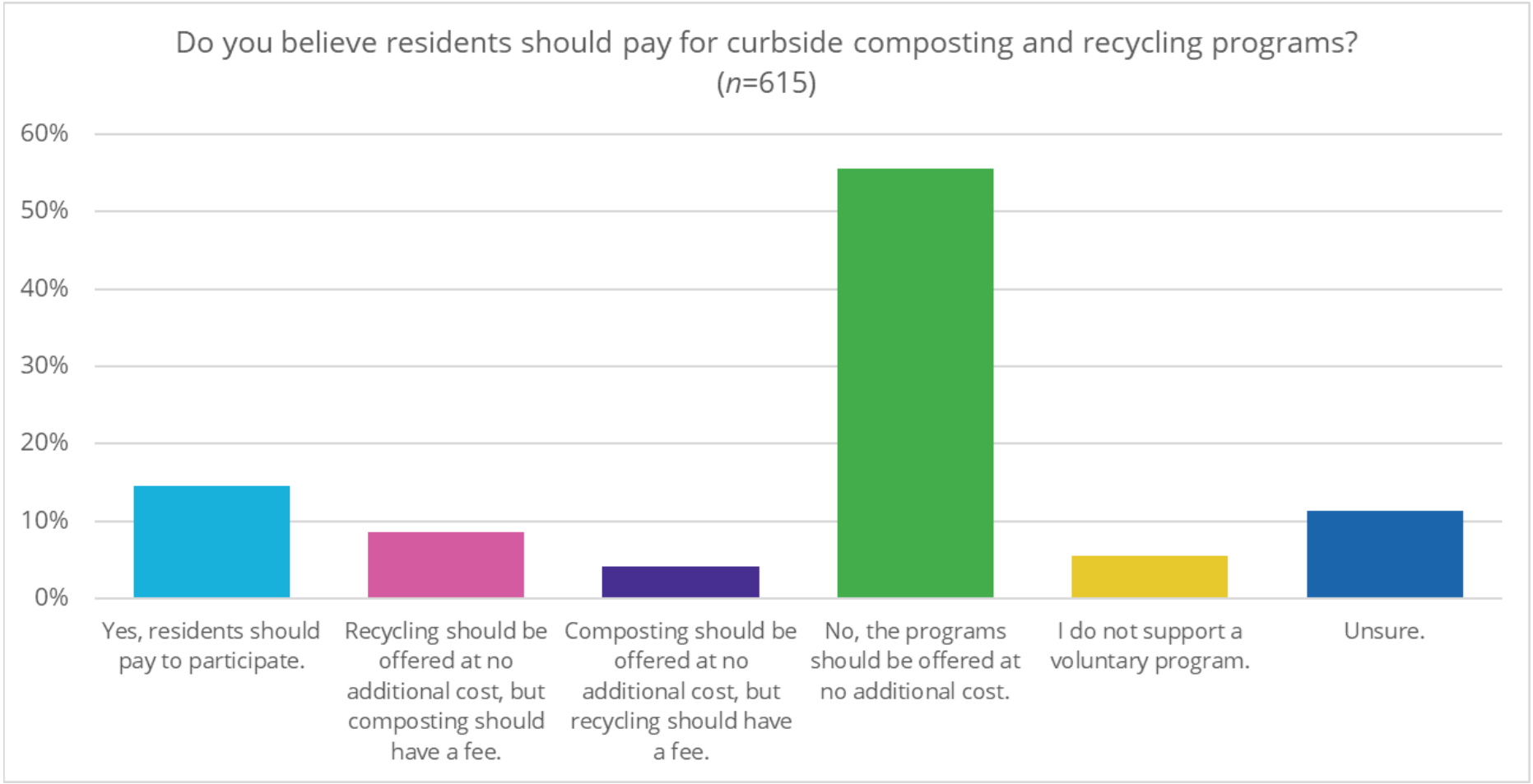
BIG MOVE SIX

Reducing Waste Emissions

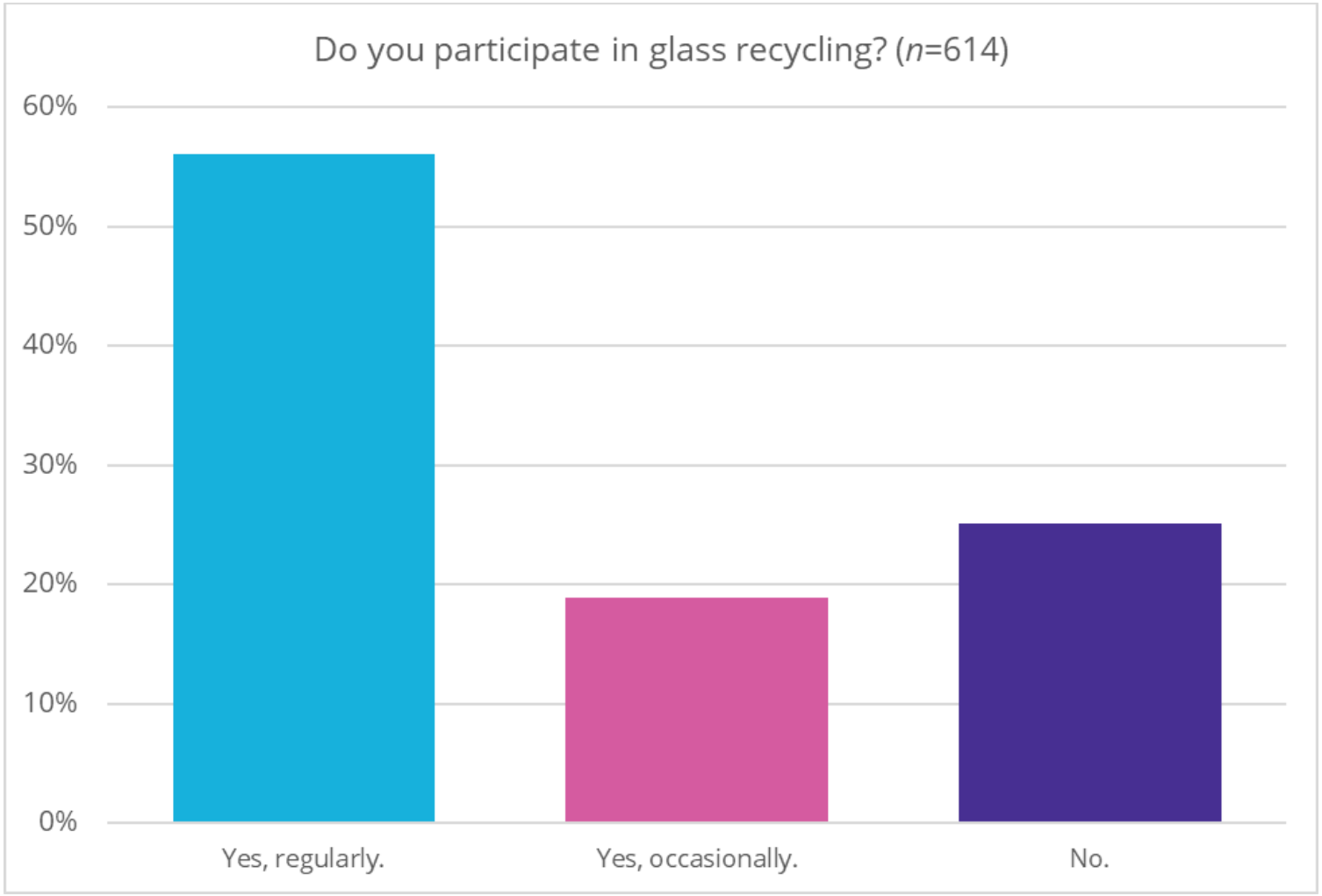

Would you participate in enhanced programs and services that allow you to divert more waste (e.g. curbside recycling and composting programs)? (n=615)
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Yes but I am not prepared to pay more for these services.
Yes but I am not able to pay more for these services.
Yes and I am prepared to pay more for these services.
No.
Unsure.
I prefer a voluntary recycling and composting system.

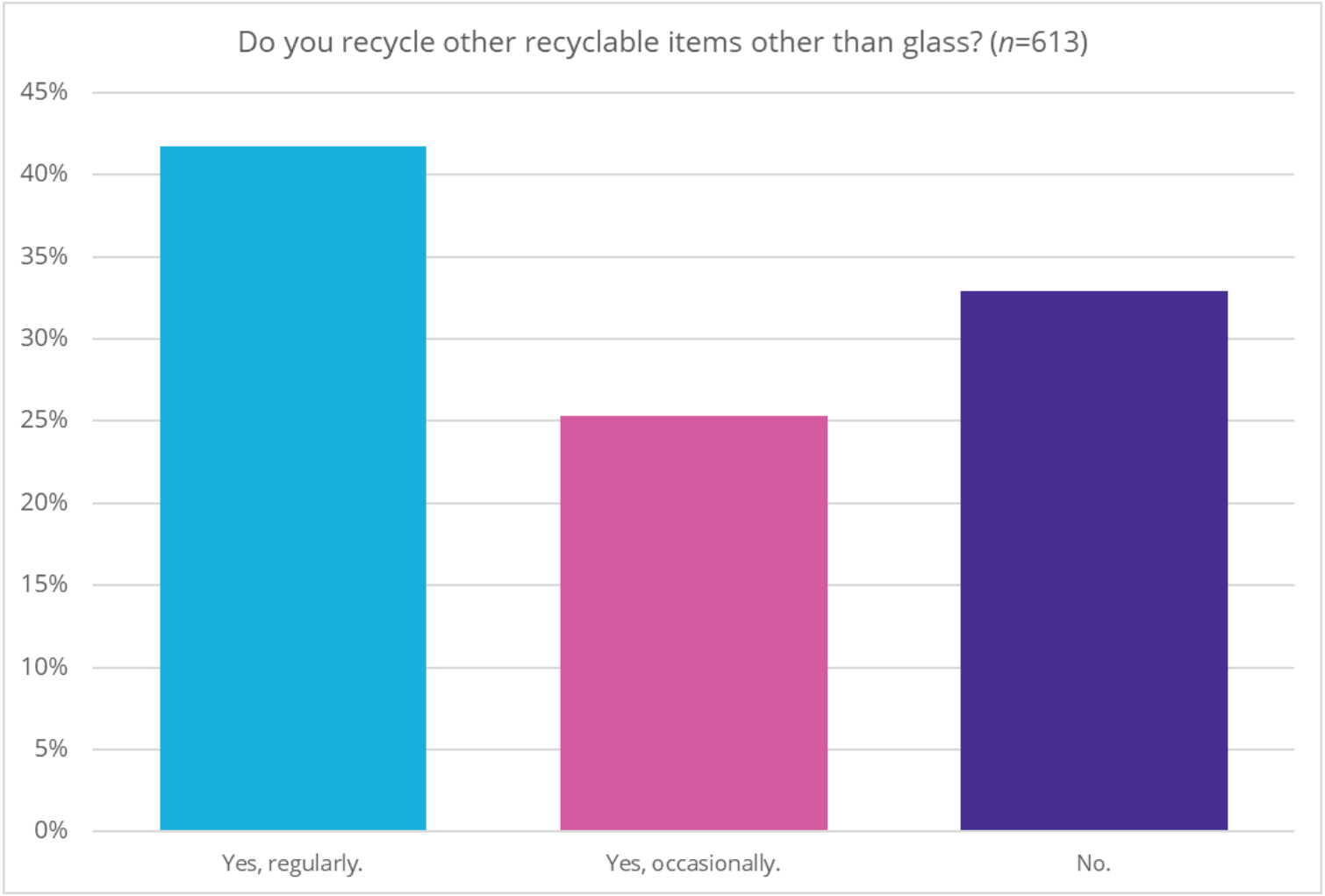

Do you believe residents should 'pay as they throw' for garbage? For example, should households pay for some or all of their waste that goes into the waste bin instead of recycling or composting? (n=615)
25%
20%
15%
10%
5%
0%
Yes, I support a pay as you throw system for all waste.
Yes, I support a pay as you throw system for waste beyond a certain threshold (For example, more than one bag per household per week).
No, I do not support a pay as you throw system.
I do not support a mandatory program.
Unsure.

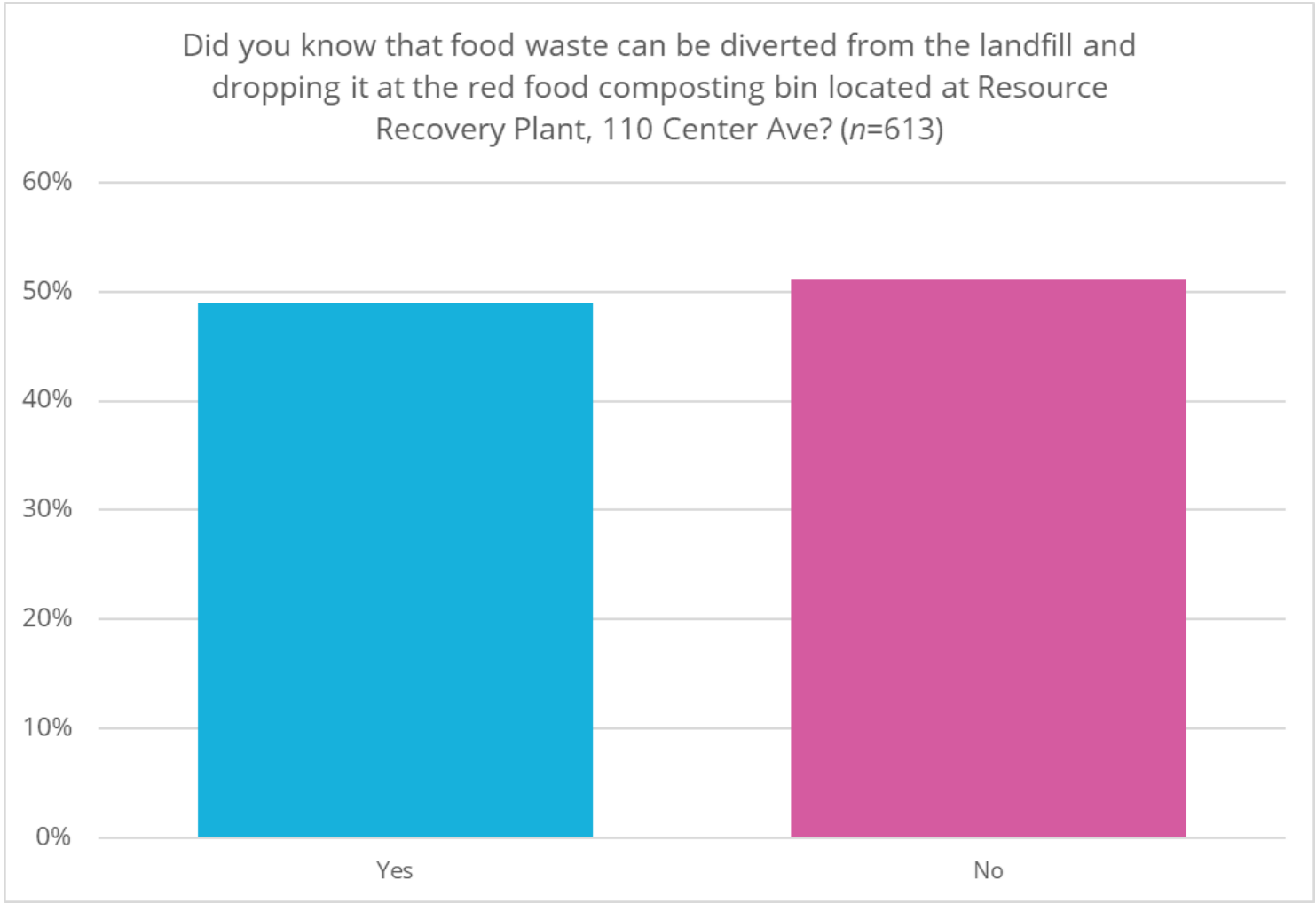

Do you support voluntary curbside recycling and compost programs that allow residents to compost or recycle if they choose to? (n=610)
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Yes, I support voluntary curbside recycling and composting programs.
I only support curbside recycling programs.
I only support curbside composting programs.
No.
Unsure.

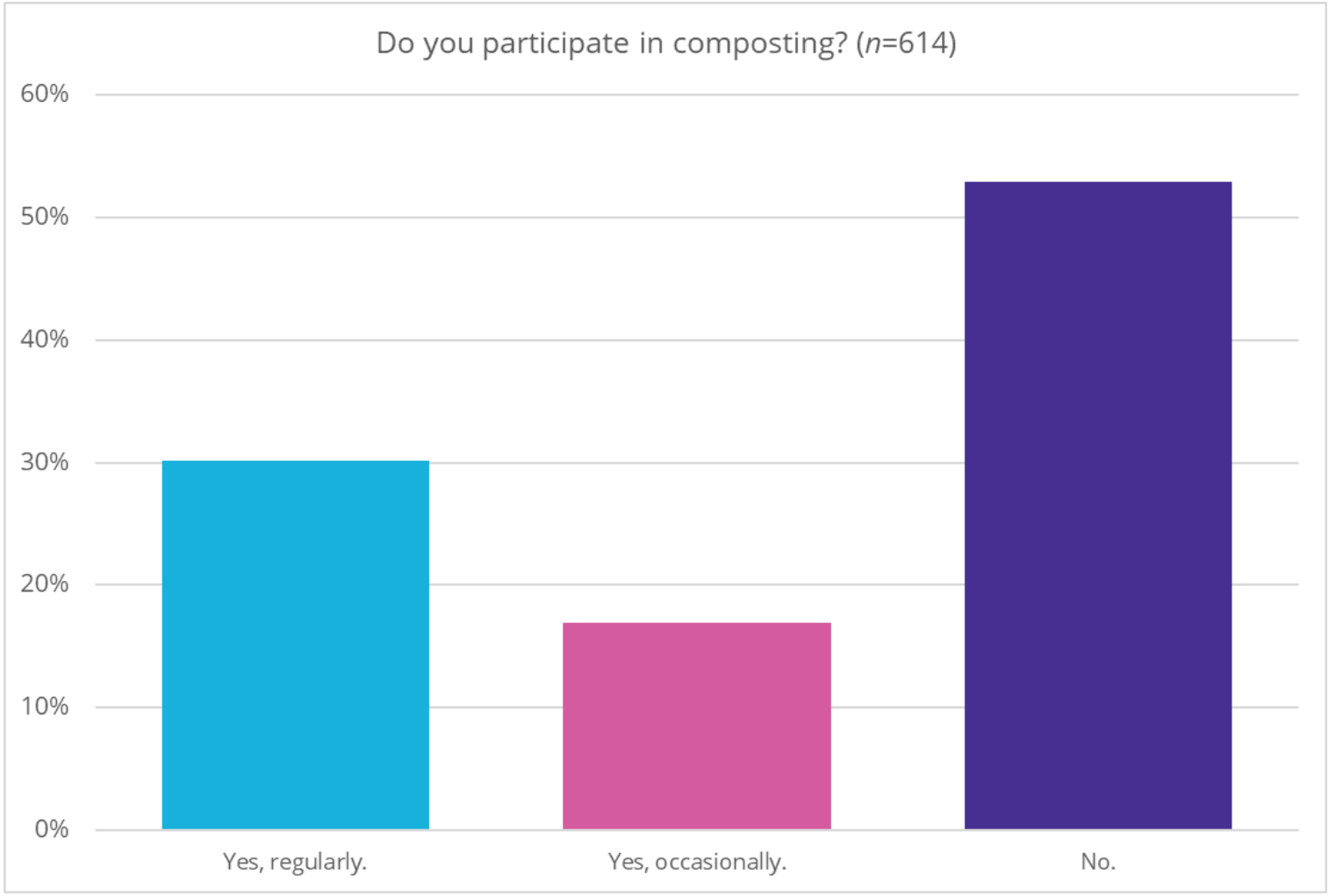

Do you believe residents should pay for curbside composting and recycling programs?
(n=615)
60%
50%
40%
30%
20%
10%
0%
Yes, residents should pay to participate.
Recycling should be offered at no additional cost, but composting should have a fee.
Composting should be offered at no additional cost, but recycling should have a fee.
No, the programs should be offered at no additional cost.
I do not support a voluntary program.
Unsure.


Did you know that glass food containers can be recycled by dropping them into yellow recycling bins at local grocery stores? (n=614)
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Yes
No


Do you participate in glass recycling? (n=614)
60%
50%
40%
30%
20%
10%
0%
Yes, regularly.
Yes, occasionally.
No.

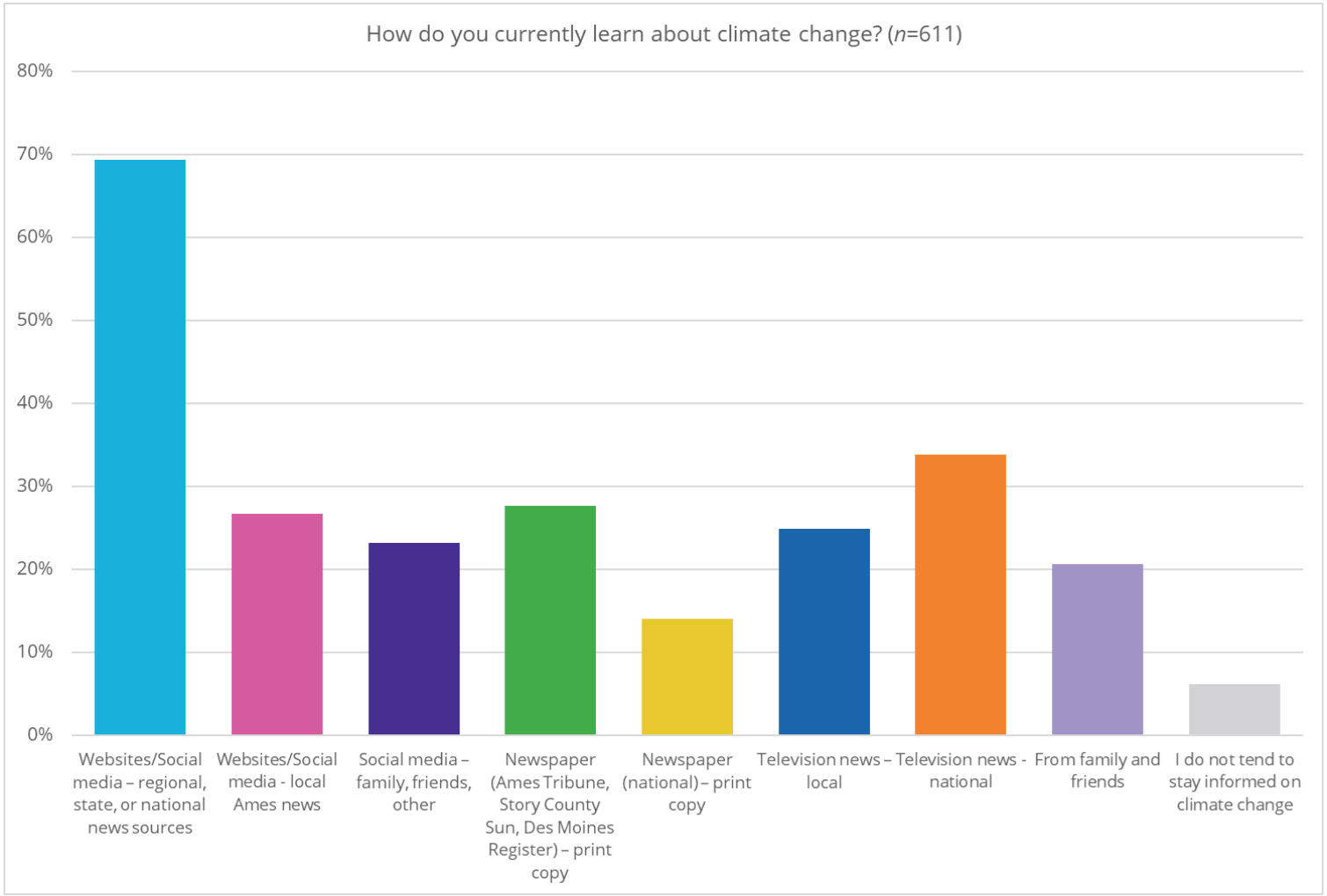

Do you recycle other recyclable items other than glass? (n=613)
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Yes, regularly.
Yes, occasionally.
No.

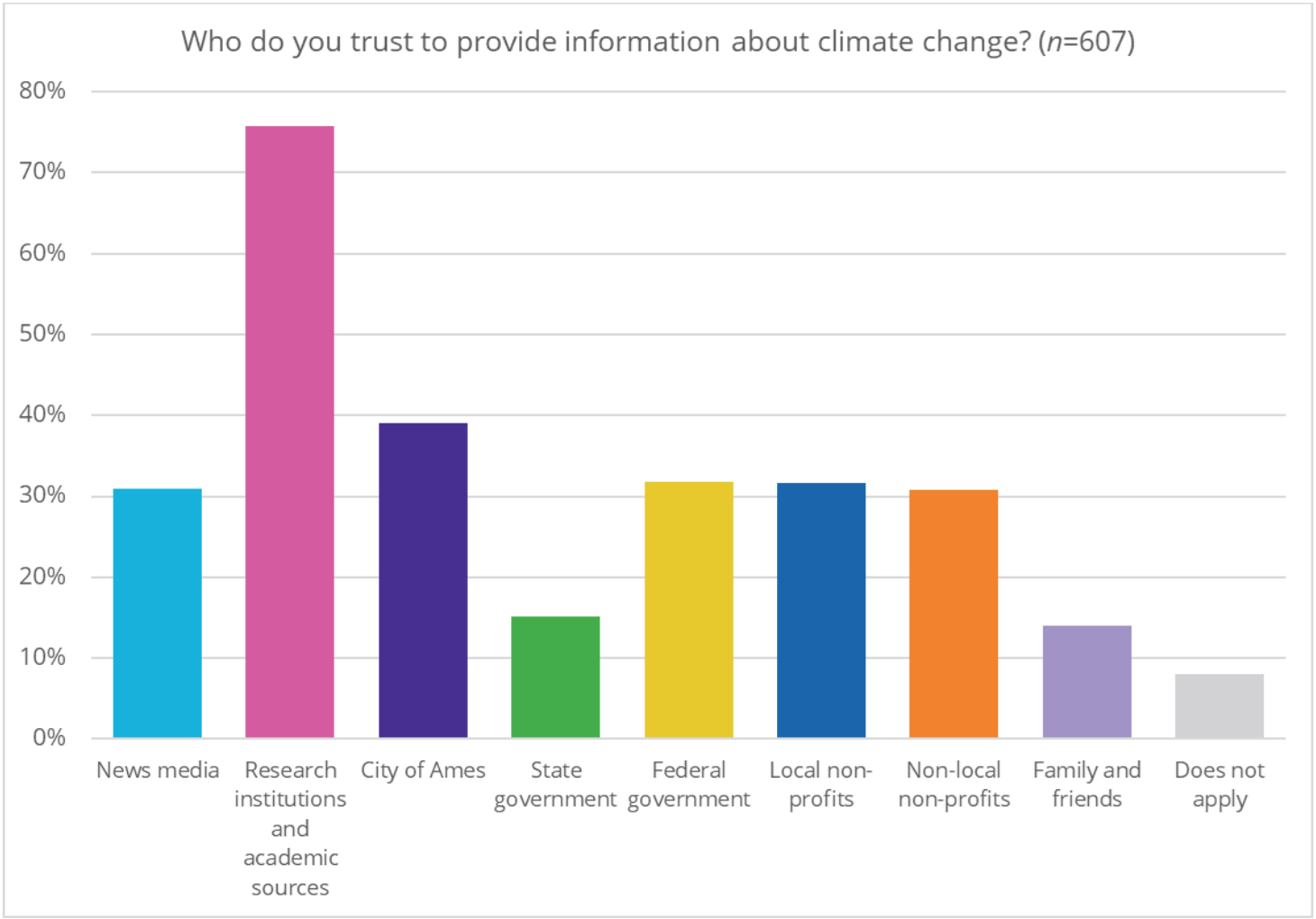

Did you know that food waste can be diverted from the landfill and dropping it at the red food composting bin located at Resource Recovery Plant, 110 Center Ave? (n=613)
60%
50%
40%
30%
20%
10%
0%
Yes
No

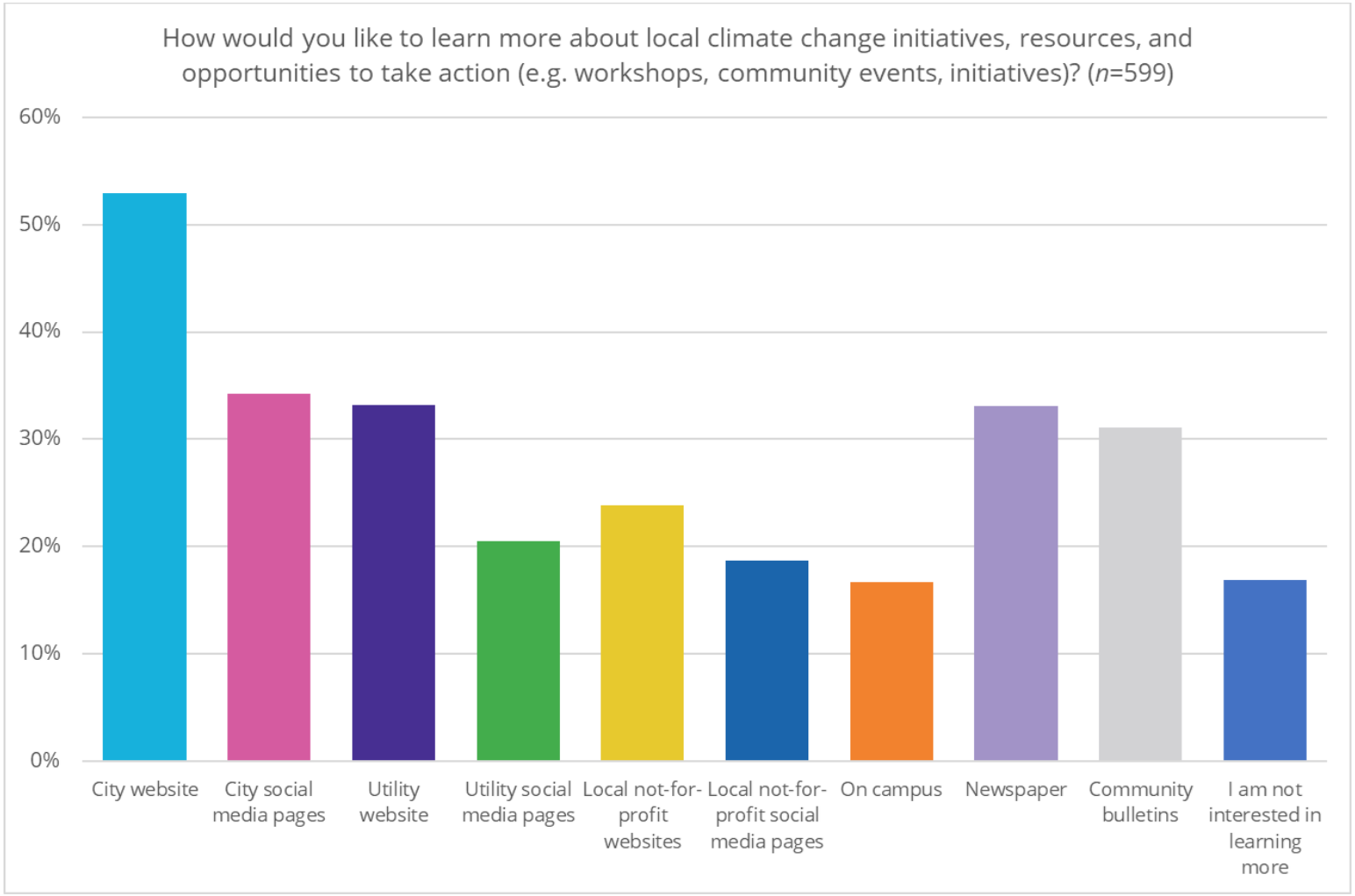

Do you participate in composting? (n=614)
60%
50%
40%
30%
20%
10%
0%
Yes, regularly.
Yes, occasionally.
No.

SECTION TWO RESULTS

Information and Resources


How do you currently learn about climate change? (n=611)
80%
70%
60%
50%
40%
30%
20%
10%
0%
Websites/Social media – regional, state, or national news sources
Websites/Social media - local Ames news
Social media – family, friends, other
Newspaper (Ames Tribune, Story County Sun, Des Moines Register) – print copy
Newspaper (national) – print copy
Television news – local
Television news - national
From family and friends
I do not tend to stay informed on climate change


Who do you trust to provide information about climate change? (n=607)
80%
70%
60%
50%
40%
30%
20%
10%
0%
News media
Research institutions and academic sources
City of Ames
State government
Federal government
Local non-profits
Non-local non-profits
Family and friends
Does not apply

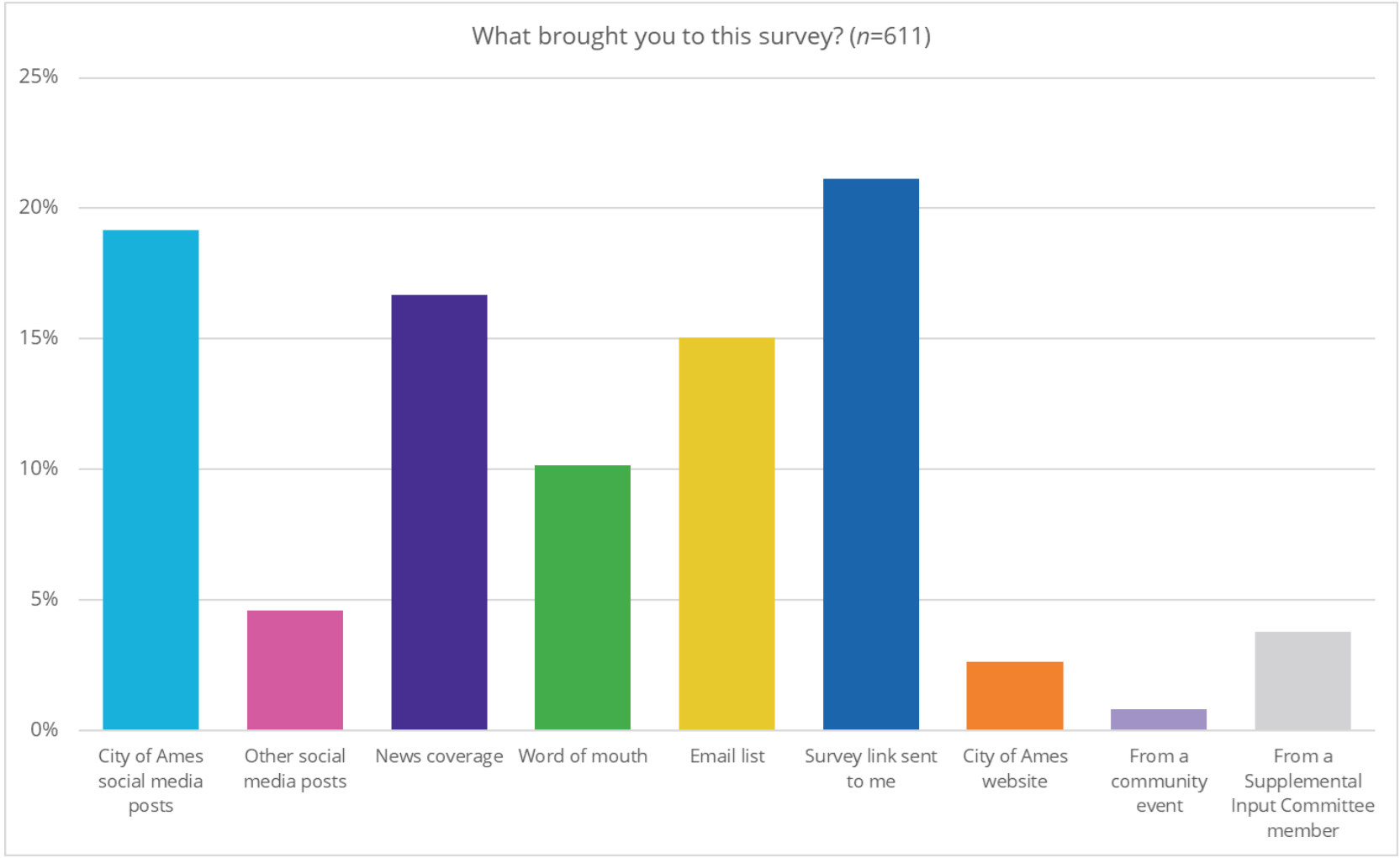

How would you like to learn more about local climate change initiatives, resources, and opportunities to take action (e.g. workshops, community events, initiatives)? (n=599)
60%
50%
40%
30%
20%
10%
0%
City website
City social media pages
Utility website
Utility social media pages
Local not-for-profit websites
Local not-for-profit social media pages
On campus
Newspaper
Community bulletins
I am not interested in learning more

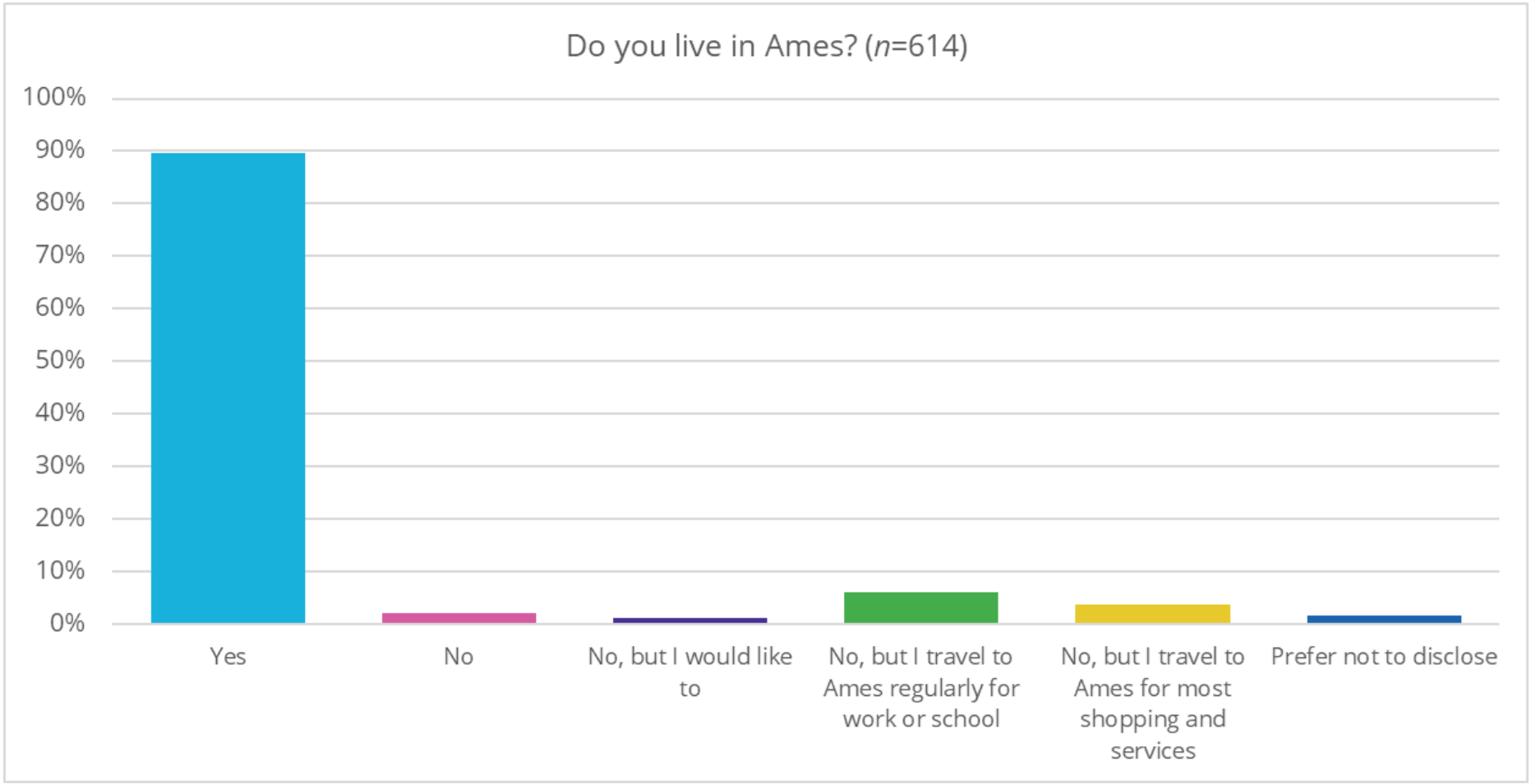
SECTION THREE RESULTS

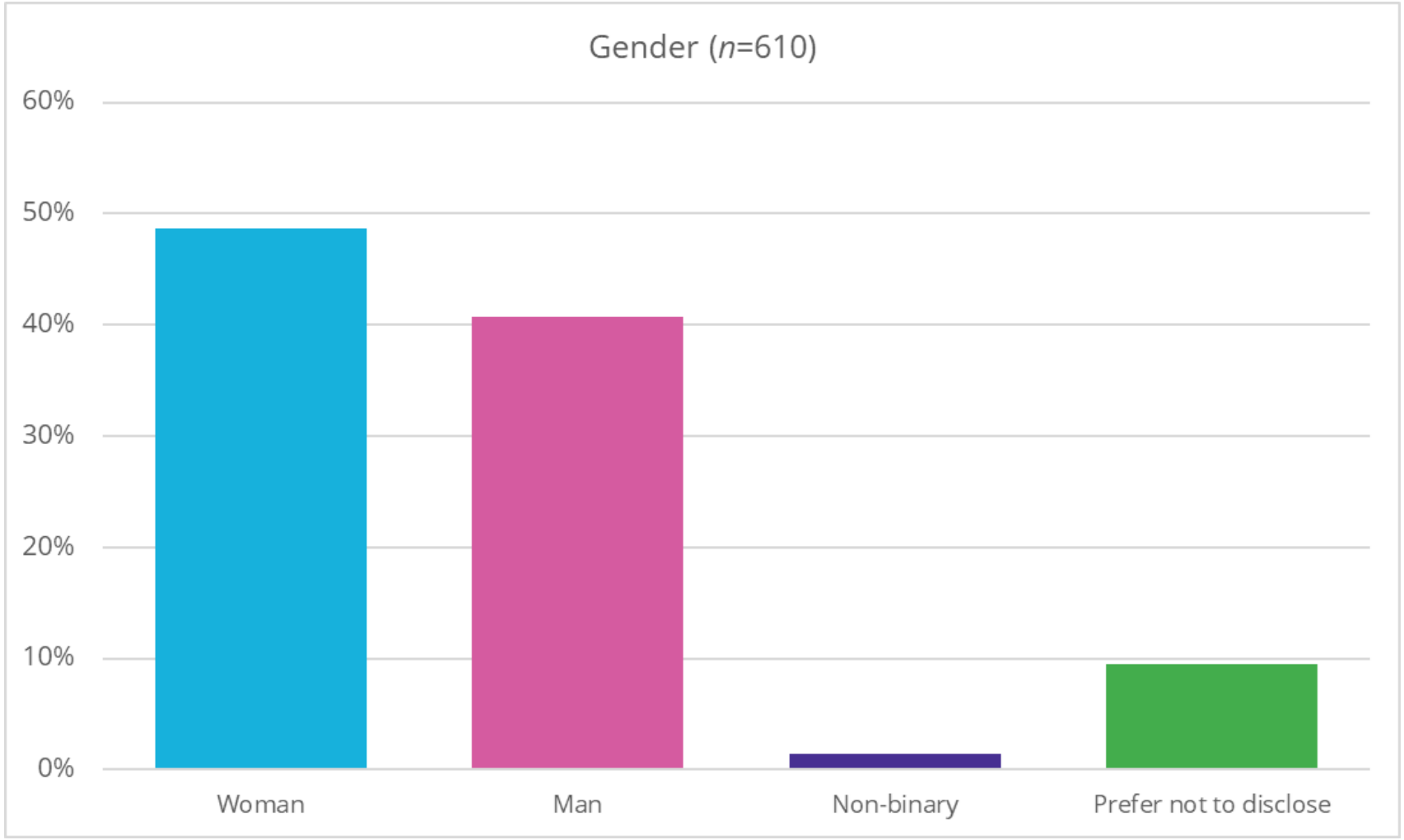
Additional Input

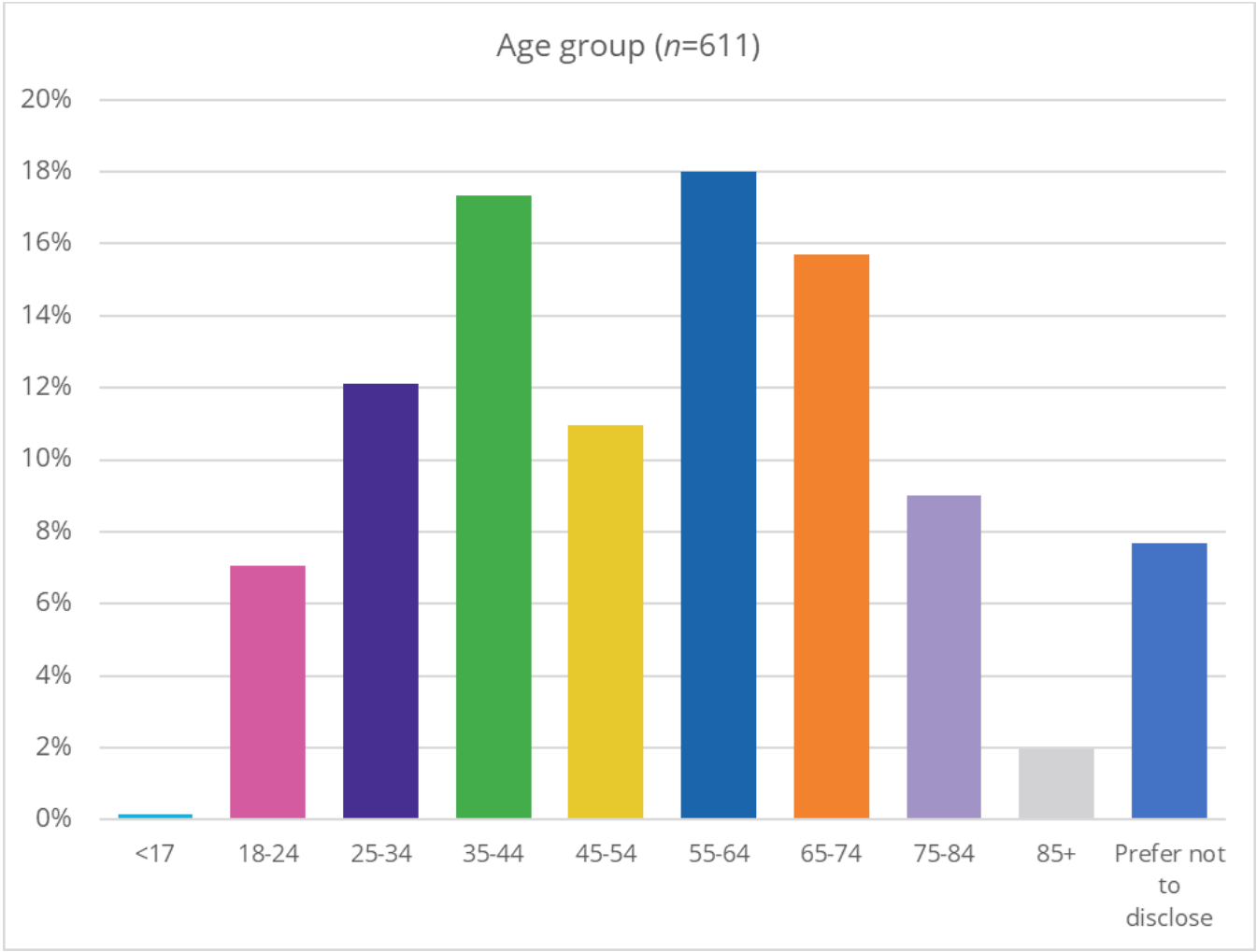
SECTION FOUR RESULTS

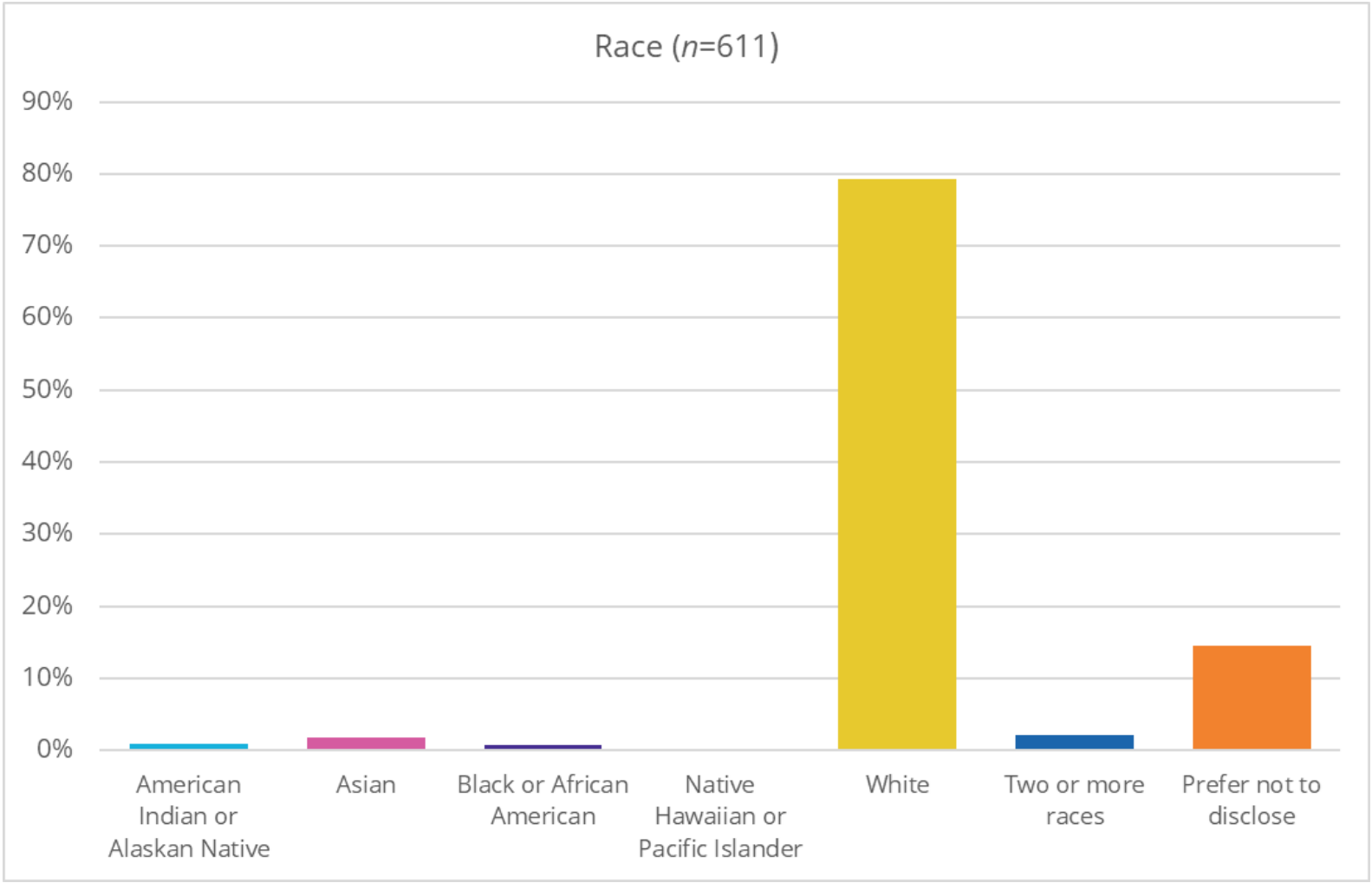
Demographics

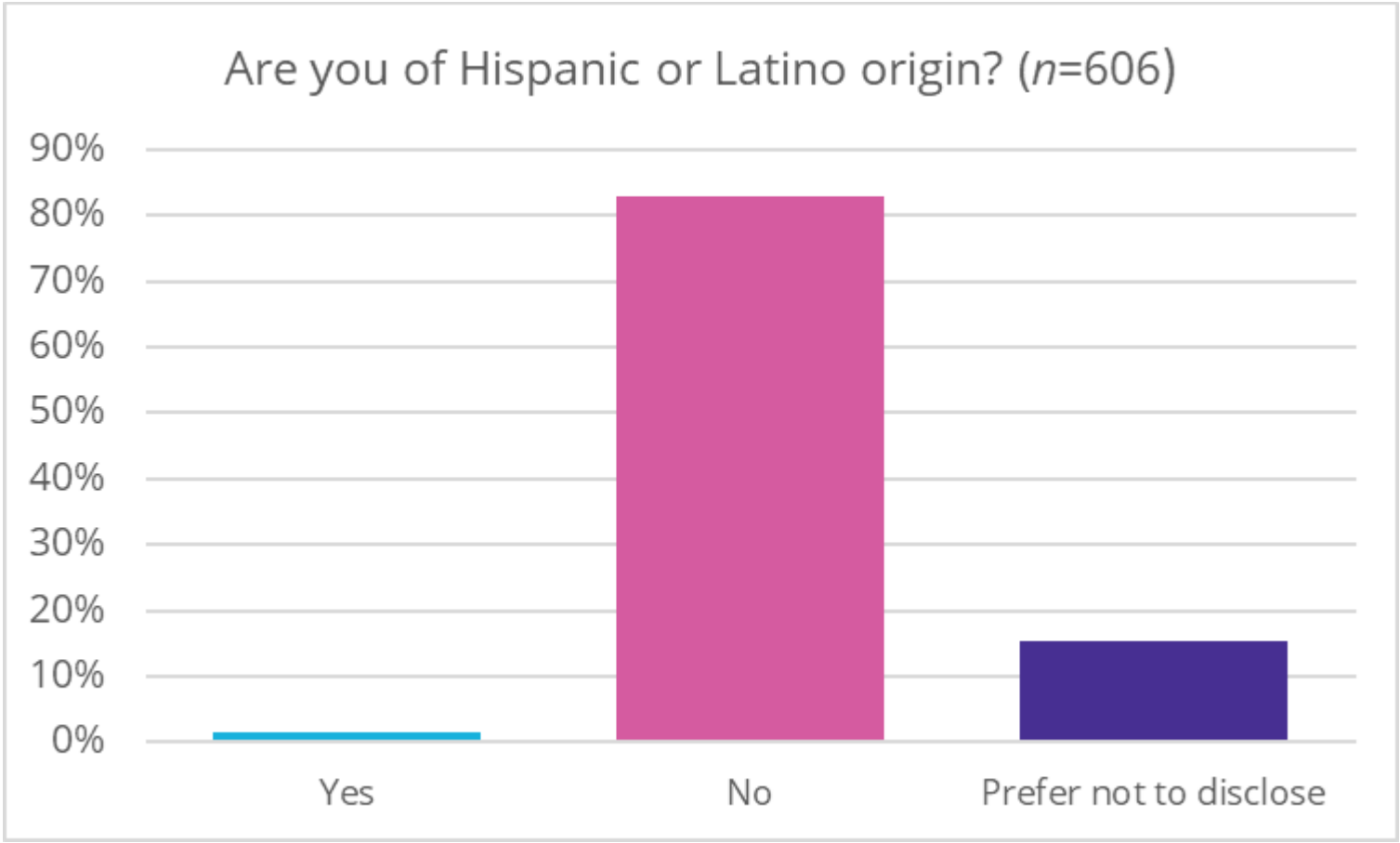

What brought you to this survey? (n=611)
25%
20%
15%
10%
5%
0%
City of Ames social media posts
Other social media posts
News coverage
Word of mouth
Email list
Survey link sent to me
City of Ames website
From a community event
From a Supplemental Input Committee member

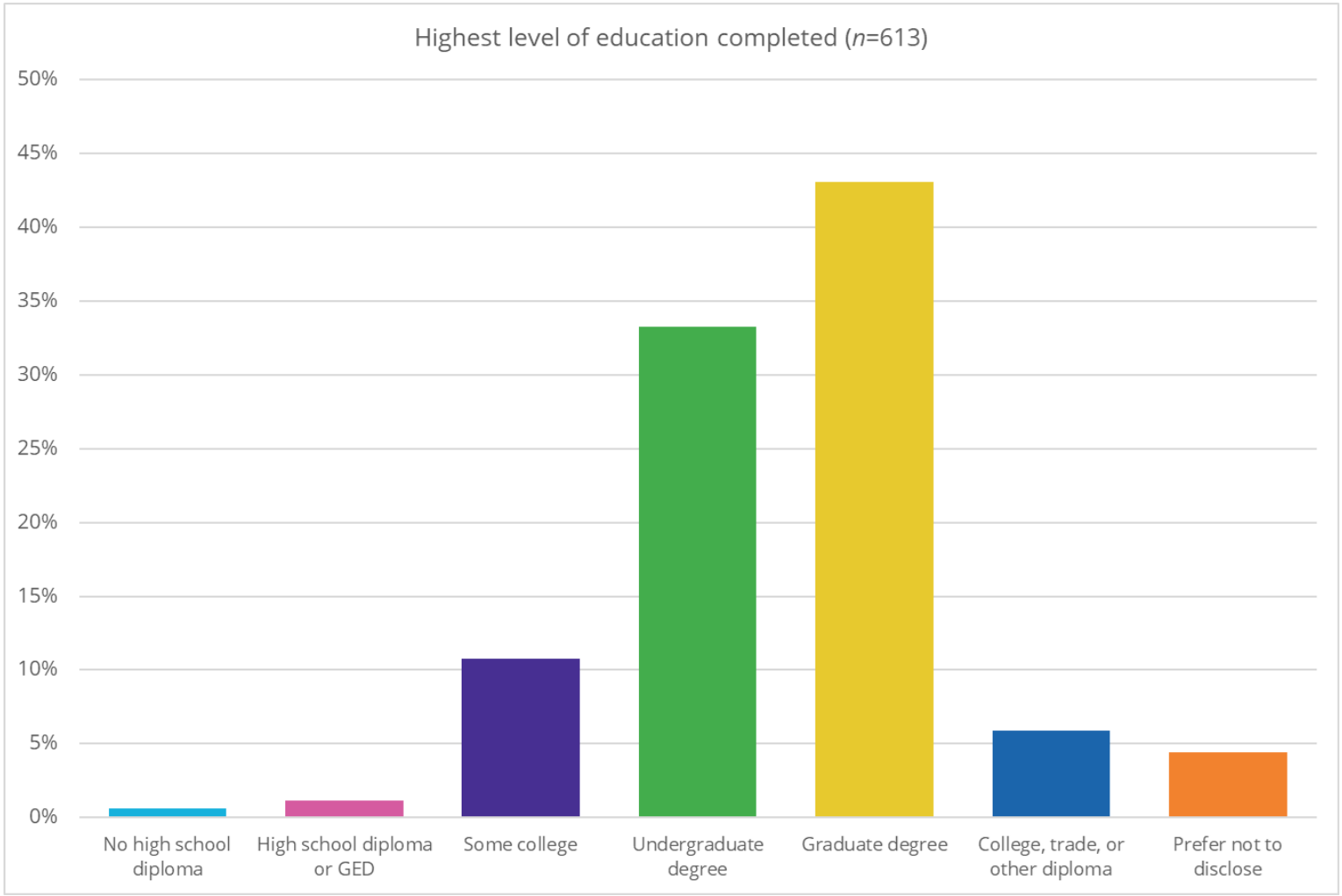

Do you live in Ames? (n=614)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Yes
No
No, but I would like to
No, but I travel to Ames regularly for work or school
No, but I travel to Ames for most shopping and services
Prefer not to disclose

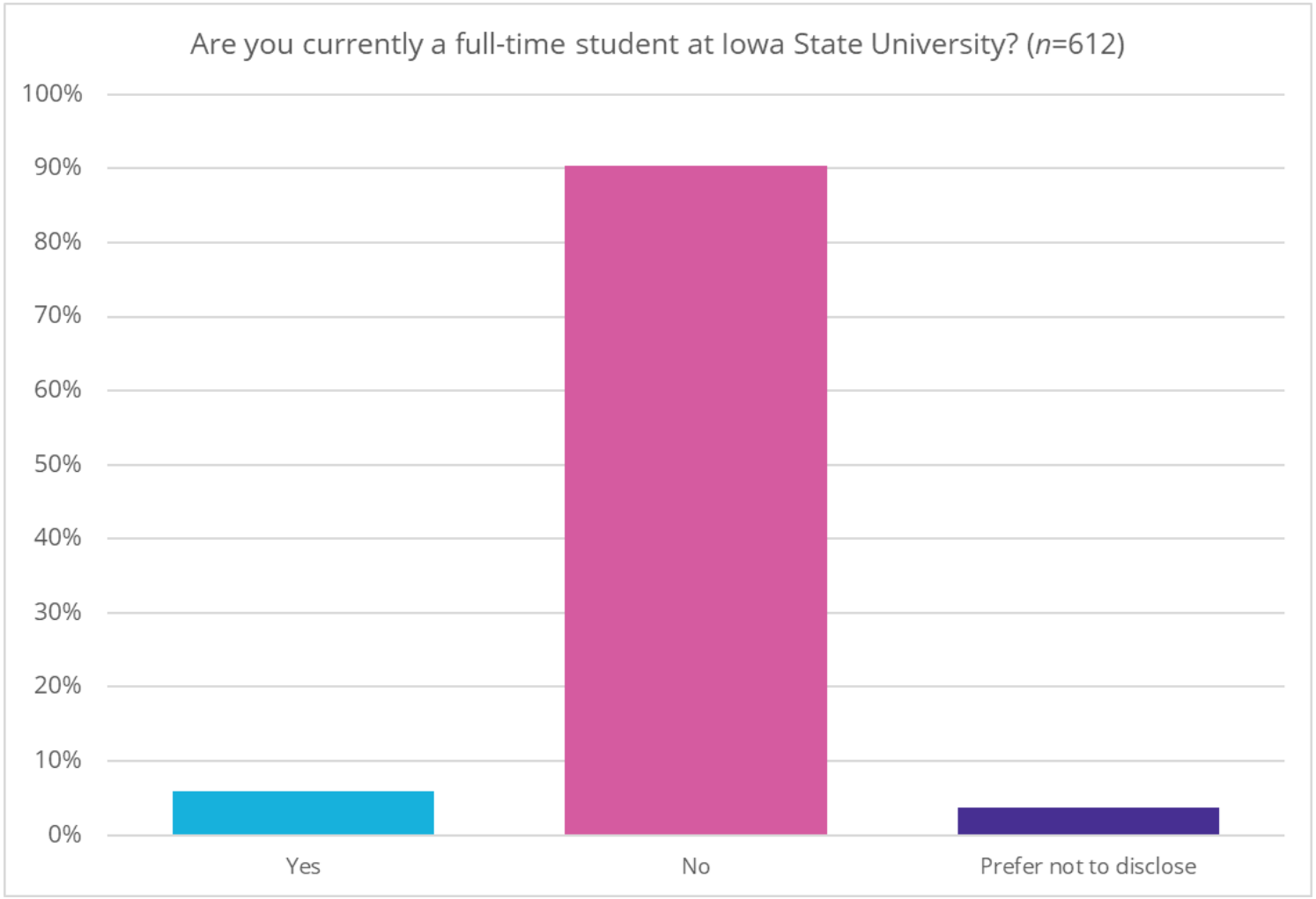

Gender (n=610)
60%
50%
40%
30%
20%
10%
0%
Woman
Man
Non-binary
Prefer not to disclose

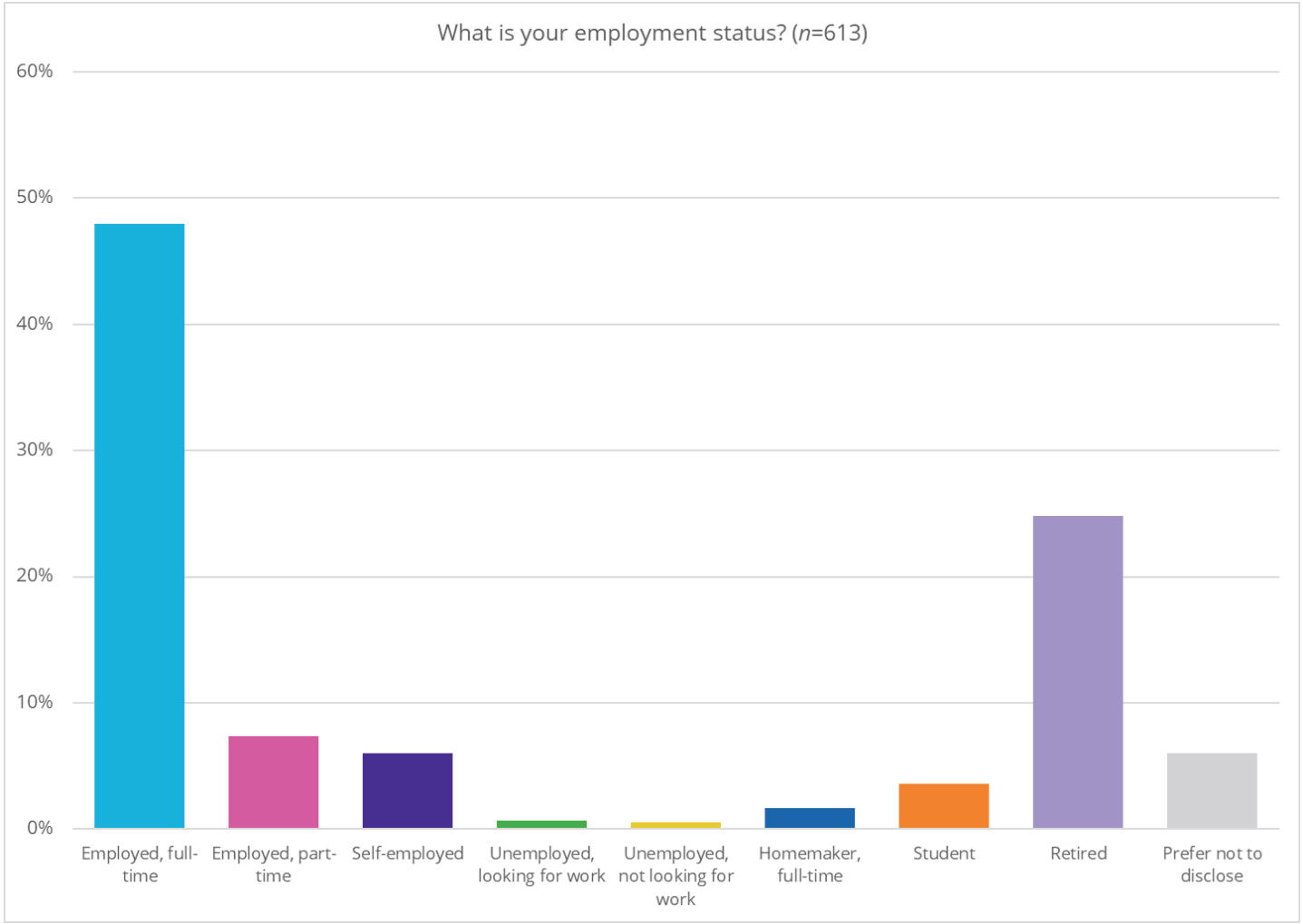

Age group (n=611)
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
<17
18-24
25-34
35-44
45-54
55-64
65-74
75-84
85+
Prefer not to disclose

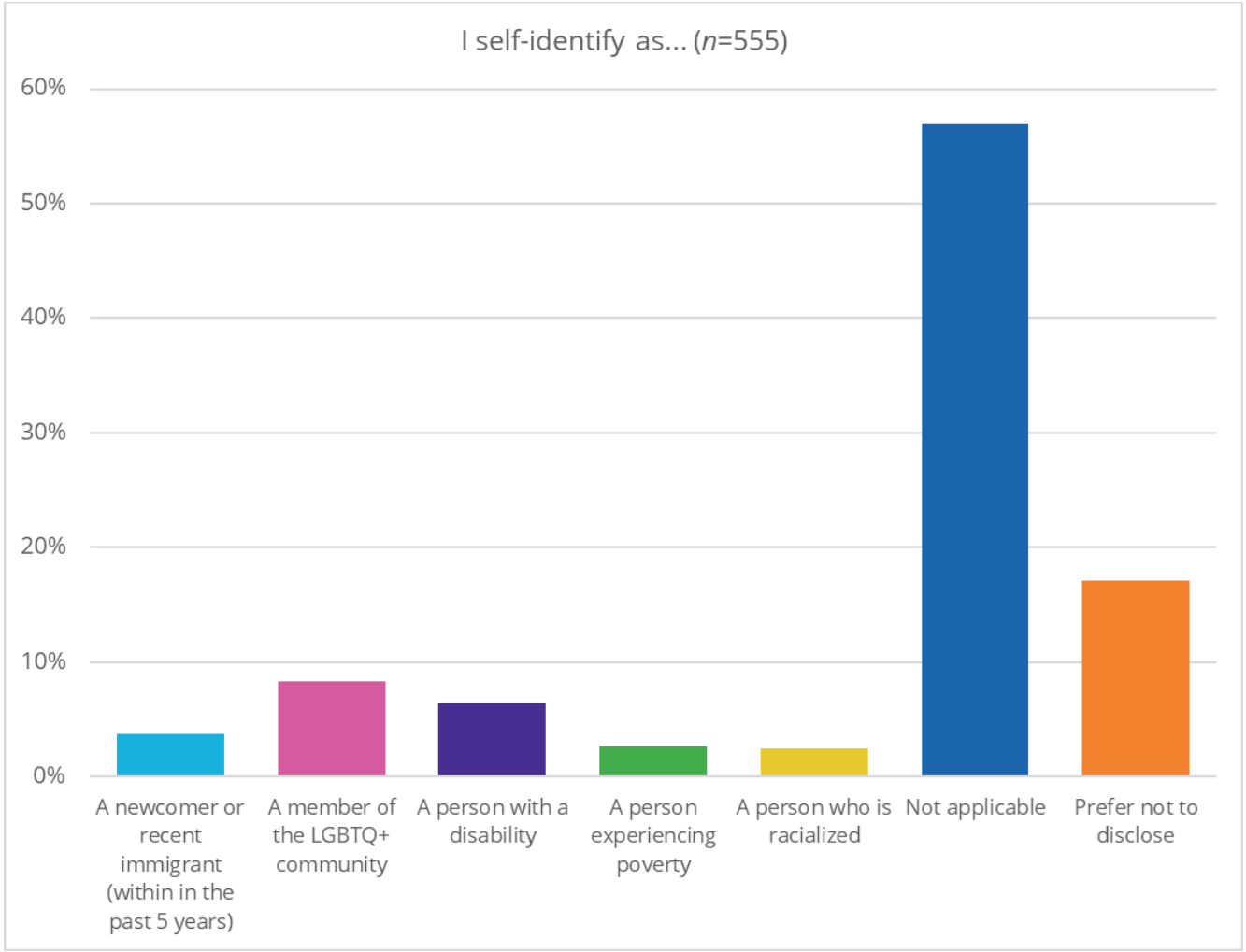

Race (n=611)
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
American Indian or Alaskan Native
Asian
Black or African American
Native Hawaiian or Pacific Islander
White
Two or more races
Prefer not to disclose

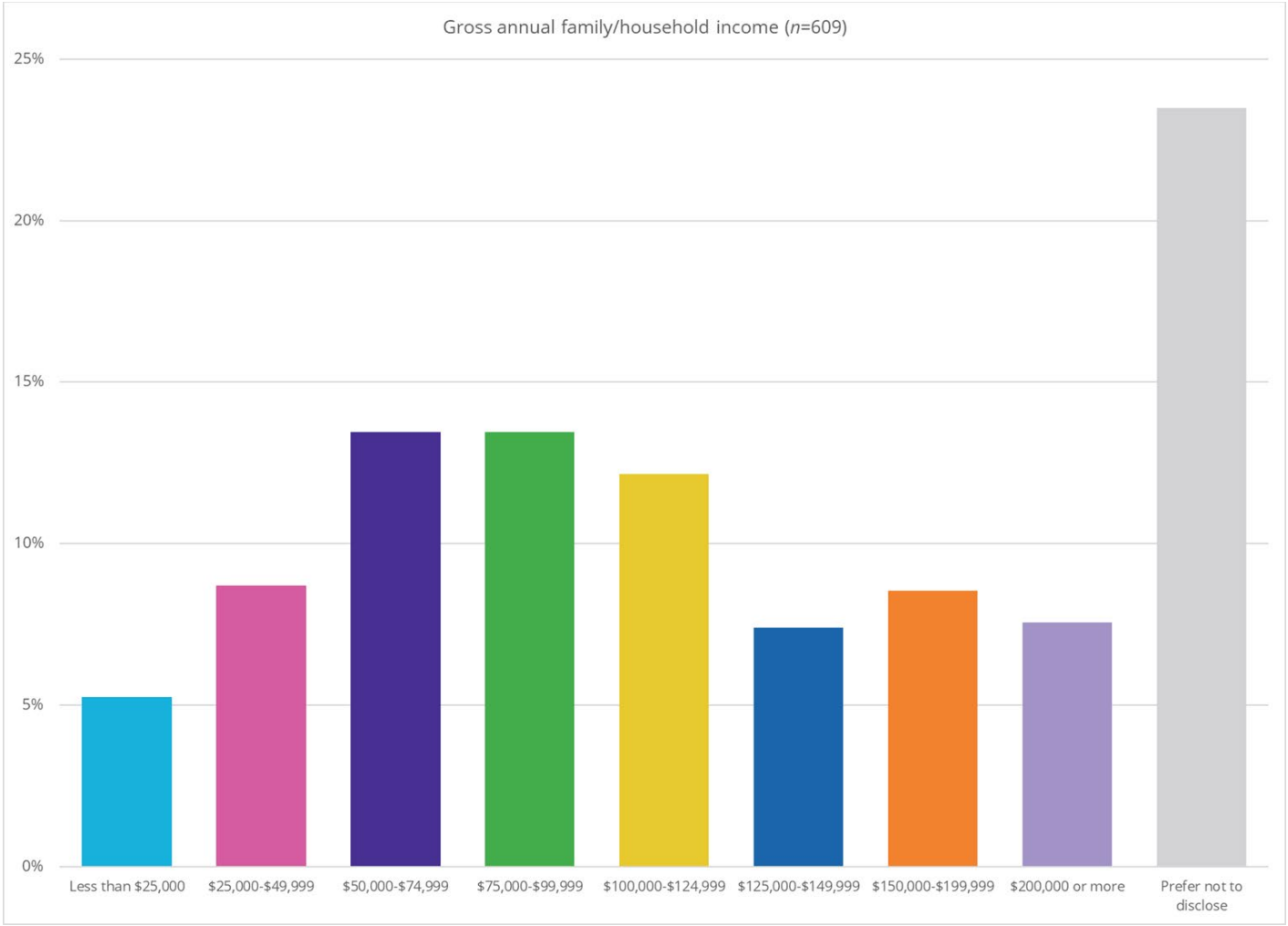

Are you of Hispanic or Latino origin? (n=606)
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Yes
No
Prefer not to disclose

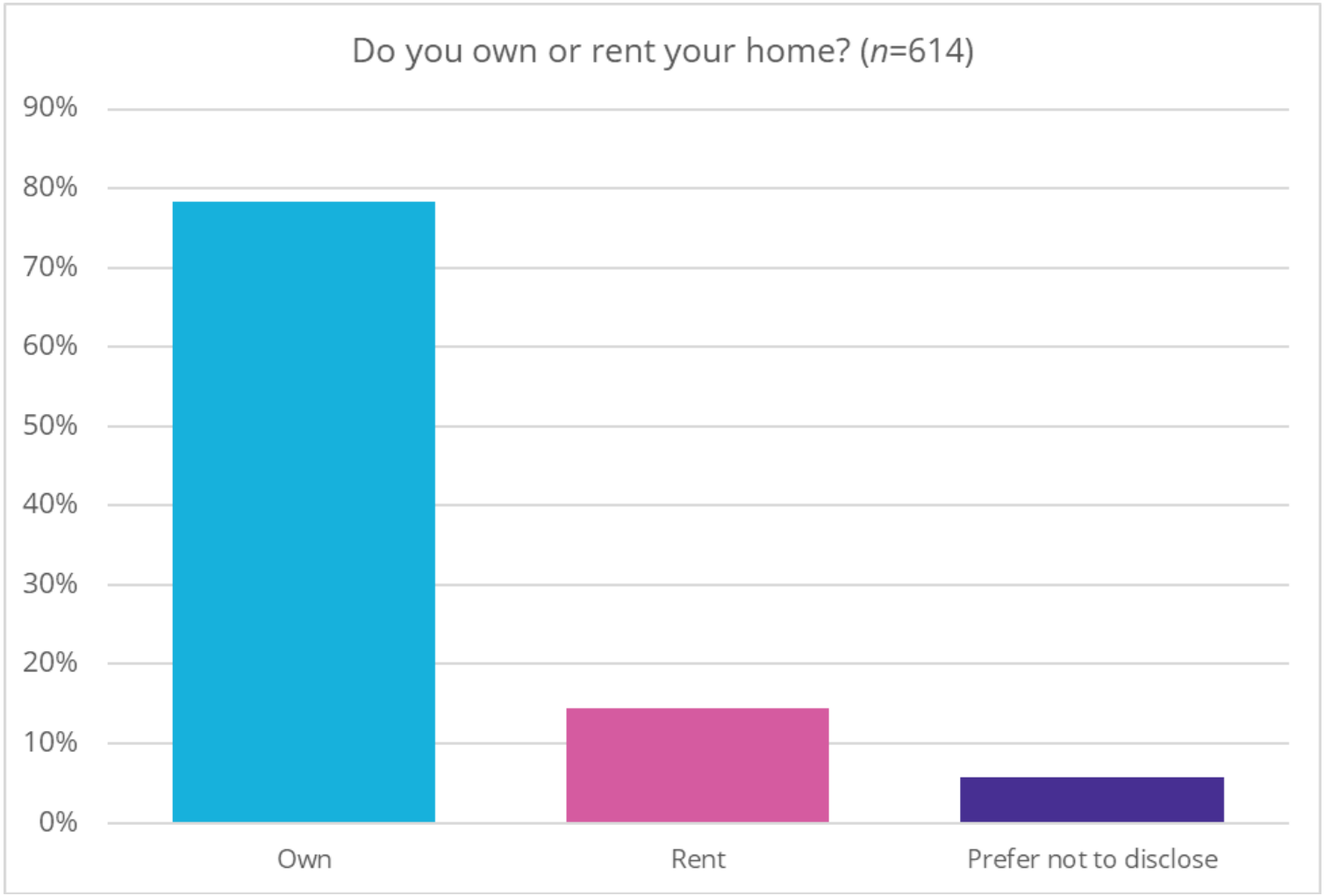

Highest level of education completed (n=613)
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
No high school diploma
High school diploma or GED
Some college
Undergraduate degree
Graduate degree
College, trade, or other diploma
Prefer not to disclose


Are you currently a full-time student at Iowa State University? (n=612)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Yes
No
Prefer not to disclose


What is your employment status? (n=613)
60%
50%
40%
30%
20%
10%
0%
Employed, full-time
Employed, part-time
Self-employed
Unemployed, looking for work
Unemployed, not looking for work
Homemaker, full-time
Student
Retired
Prefer not to disclose


I self-identify as... (n=555)
60%
50%
40%
30%
20%
10%
0%
A newcomer or recent immigrant (within in the past 5 years)
A member of the LGBTQ+ community
A person with a disability
A person experiencing poverty
A person who is racialized
Not applicable
Prefer not to disclose


Gross annual family/household income (n=609)
25%
20%
15%
10%
5%
0%
Less than $25,000
$25,000-$49,999
$50,000-$74,999
$75,000-$99,999
$100,000-$124,999
$125,000-$149,999
$150,000-$199,999
$200,000 or more
Prefer not to disclose


Do you own or rent your home? (n=614)
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Own
Rent
Prefer not to disclose

What is your initial reaction to the low carbon pathway and the results it is projected to produce?

Mentimeter

That people are going to complain about how much money it will cost.

Any effort sounds great. Glad we're taking a relatively strong approach

Good but need more reduction for ISU and transportation to meet 2030 gpal

Utility is key

honestly, a little disappointed. Climate change is actively happening, big changes HAVE to happen, and for that to happen people HAVE to be uncomfortable.

Unsure at this time

I see challenges - particularly in transportation and the slow turnover of vehicles

Given that we have ISU which Ames has very limited jurisdiction over, I think it's pretty promising

Some of the actions seem unrealistic and we still don't reach target— very disappointing. Also feels like there are opportunities (notably sequestration) that aren't being leveraged.

What is your initial reaction to the low carbon pathway and the results it is projected to produce?

Mentimeter

It's not enough. There is a cost to NOT meeting the target, too. It's just not quantified.

Adequate pacing and timeline but not sure about how the community will react

Encouraged by retrofitting interest

Disappointed but I understand

Skeptical as to wide participation

Lots of building retrofits is good

It is unrealistic. These are huge costs - housing is skyrocketing and adding more costs doesn't help.. Electric vehicles can't be made fast enough - electric grid can't handle the projected load

Disappointed in slim focus on just emissions, need more holistic approach -sequestration and climate resilience

I'm glad we're at least doing something and hope we can continue to do more if there's community will

What is your initial reaction to the low carbon pathway and the results it is projected to produce?

Mentimeter

Cost ok but some people may oppose this

Is there a way to retrofit existing personalVehicles

We need a cost-benefit analysis: what are the costs of doing nothing?

Good goals for retrofit, new buildings, waste reduction

Interesting. Estimated carbon fee and dividend impacts would be very interesting for even modest scenarios. Sometimes these costs are going to be taken regardless. Do these projections consider the costs that would happen without reducing emissions?

Politics not helpful

People want positive change

25

How does it align with feedback you have heard from your sector to date?

Mentimeter

EV and retrofit fits my sector

Waste reduction

People want positive change

Need for partial financial help

Waste reduction is wanted.

They will balk at cost

Transportation is a huge challenge.

The university is trying to move toward a low-carbon scenario, but not clear how the magnitudes of changes match these goals.

The equity considerations are being somewhat addressed

How does it align with feedback you have heard from your sector to date?

Mentimeter

That we have to do something, so let's start somewhere.

People skeptical about battery issues.

Will still want more detail on how to implement

Lack of nature-based solutions disappoints my sector

People want our institutions to lead us and help us make big changes together

People are looking for city leadership

A lot of people say they don't know enough

We need to start somewhere

We need to more fully market and incentivize active transportation

How does it align with feedback you have heard from your sector to date?

Mentimeter

We knew there would be costs. This model does not capture the cost of doing nothing.

Heavy need for ed on changes, why change and up front costs have many benefits long term

City has to overcome inertia and start taking actions. Even little steps would be encouraging

Build on good work Ames is already doing

Are we sure we're utilizing all options? We could do WAY more biodiesel now

Plan largely focused on infrastructure. Many having noted need for behavioral change.

I felt like the survey results aligned well with much of what I heard.

More people are just not convinced of climate change and feel it is political rather than science.

How does it not align with feedback you have heard from your sector to date?

Mentimeter

No nature based solutions

New construction goals are unattainable

It relies a lot on people doing the right thing. Which people often don't do...

Concerned the amount of action will be overwhelming

Retrofitting university buildings does not seem to be viable.

People want more definitive action and creativity. Anything is possible if there's collective will and leadership.

Not as heavy as hoped for on active transportation

A want more active transportation and EV options. Education needs to be extremely worked on. Education should be the first thing on the list.

I hear people talk about needing more active transportation but the survey reflects people can't be convinced to change their transportation methods

How does it not align with feedback you have heard from your sector to date?

Mentimeter

It should include an adaptive implementation plan

Need to get people out of fossil fueled cars

Work to convert those who are "unsure"

More folks completely resistantBut still significant support

Really need more EV stations

Are there adequate markets for recycling

Plan largely focused on infrastructure. Many are anticipating some incorporation of behavioral change.

Too little emphasis on transportation, more awareness programs, focus on resilience methods, lowering the individual impact

Need to focus on low hanging fruit and really juice it, whereas some things that are more difficult may be avoided

What is going to be a challenge and/or what is pushing too far or too fast?

Mentimeter

Working with Iowa state given its unique relationship with Ames.

Getting the community as a whole to take significant/costly/complicated action.

The cost will present a challenge.

High cost perception

turnover of assets before end of useful life

Garnering community support is difficult and hard to do later in the process

Convincing people to take transit when its really cold/hot

Switching to biofuels has been raised as a concern because of issues with extreme cold

Getting people out of their cars before end of life cycle

What is going to be a challenge and/or what is pushing too far or too fast?

Mentimeter

ISU has a carbon reduction plan going on, and it is not clear how well that will align with city interests nor how adaptable it is to city interests.

Net zero in new construction by 2026 is too fast. We are told our current transformers aren't suited for powering homes and charging EV's

All growth will involve pain, we need to try

Challenge is helping homeowners come up with cost to convert

Moving the "unsure" into supporters

ISU not turning to more clean renewables

Being equitable, not everyone can afford higher cost of housing or transportation

Impacts of climate change are going to continue to be increasing challenges to goals of society.

Getting agreement among all sector of the community, especially the typically underrepresented (usually silent) groups.

What is going to be a challenge and/or what is pushing too far or too fast?

Mentimeter

Retrofitting buildings presents a lot of pushback because of past experience with building codes, permits, inspections etc

Engaging the marginal

Providing appropriate incentives that result in desired actions

Getting more people to use active and shared transportation

Physical conversion requires more time based on resources than plan

Residential efficiency seems like a stretch. It would be helpful for public to understand the many ways it can be approached e.g., through innovative financing, group purchasing , etc

Education on climate change.

Lag time for installment of infrastructure and availability based on increased demand

Having seen the community engagement results what feels really well aligned with your sectors input at this point? And with the low carbon scenario?

Mentimeter

A need for more education

Interest in moving forward

Need for new building codes

People are ready for home retrofit and recycling with financial supports

Little desire to use public transit

Education. Education. Say it again for the people in the back, education!!!!!

People seem generally supportive but still have no concrete idea of what it's going to take

People are willing to pay more for better things

University would be very interested in net-zero new construction.

Having seen the community engagement results what feels really well aligned with your sectors input at this point? And with the low carbon scenario?

Mentimeter

A somewhat well done balance between personal convenience and everyone being willing to do their part

New waste solutions

The importance of building retrofits, importance of renewable energy, and importance of changes to our waste management systems all seem very well aligned.

12

Having seen the community engagement results what does not feel well aligned with your sectors input at this point? And with the low carbon scenario?

Mentimeter

Vehicle sharing and active transportation improvements

Surprised at the responses that say they would pay more for utilities

More talk about making green transportation accessible in my sector

Unwillingness to change transportation methods

Cost

It appears it will challenging to ramp up capacity to implement changes at required rate

Need to realize that things change over time. Electric cars aren't super attractive now but in a few years they likely will be

Unsure people

Sunk costs is always issue opposing change

16

Having seen the community engagement results what does not feel well aligned with your sectors input at this point? And with the low carbon scenario?

Mentimeter

Better information as to how to determine approx cost of retrofit items

40% not plan to buy, rent, or lease space in next 5 years

I have heard lots of support for investment in active transportation in Ames, especially considering we are a university town.

People won't change car culture

There may be support for various aspects, but there is concern about how to pay for it on a limited budget. Will it force people out of Ames due to cost to live here?

Concern regarding overall participation /input

Ames transit designed around transport to campus. Much harder to serve scattered emplo you ment

16

From the perspective of your sector, what are the top three opportunities for getting started on implementation?

Mentimeter

Decrease reliance on personal nonEV cars

Use ed to move the "unsure" into supporters

Waste reduction, use of EV's, building retrofits

City should buy lots of renewable energy on large scale (with plans for much more than we currently need, because we'll be using more electricity in the near future)

Anything that the city itself can control

1. More education is needed and desired2. People want help finding experts (list of contractors)3. Some financial assistance or incentives

Increased public transportation availability/useRetrofits in homesChange in transportation habits (better pedestrian/bicycle infrastructure)

Build on readiness for free curbside recycling and composting-low hanging fruit

Renewable utilitiesSequestration related to ag surroundings Education

From the perspective of your sector, what are the top three opportunities for getting started on implementation?

Mentimeter

ISU: Reduced waste emissions, net-zero new construction, renewable energy,

More convenient composting

More awareness/education, equity in green infrastructure implementation, start with municipal changes (not personal)

Home retrofits/electrification, waste diversion/reduction, access to electric vehicles

Don't invest in any infrastructure that doesn't serve the emission reduction goals

Building retrofits/energy efficiency; renewable energy investment; and changes to our waste management.

Free Recycling and composting programs Shared vehicle program Increase education of the community on climate change

Would like to see City be the example then huge educational campaign

Waste reduction, use of more public and active transportation

From the perspective of your sector, what are the top three opportunities for getting started on implementation?

Mentimeter

Easy steps - 1 minimum efficiency standards for rental housing, 2 reduce waste burned in power plant to buy more from grid, 3 begin diversifying utility generating assets with more renewables

Viewing retrofits as good investment for aging structures as well as good for climate plan.

Increased help with residential conversions. Increased access to EVs Help get charging sites

Build collaborative models to bring together sectors

Mandate curbside collection of plastic

Propose concrete rebate and tax credits for retrofit

Create holistic centralized strategies that are consistently applied. For example whenever retrofits are happening anyway (eg replacing siding) it can be done better (eg add Insualtion)

Finance and education

How to implement deep home retrofits, creative financing, making the electric grid green

From the perspective of your sector, what are the top three challenges to address?

Mentimeter

The state of Iowa government

Need more cheap renewable energy. And lots of it

Cost, buy in, lack of understanding

Education, equity, and our state government leaders :)

retrofitting of university buildings; energy consumption for cooling university buildings

Educating the public, managing the relationship between Iowa state and Ames, the power purchasing stuff

Equitable implementation, keeping life normal while making strong changes, increasing community awareness

Non EV car Transportation, the unsure, and costs

Overcome the high level of climate change denial among members of one of the two major political parties

From the perspective of your sector, what are the top three challenges to address?

Mentimeter

Education of public, affordability, cooperation between community schools and city

Need more leadership. Create positions whose jobs it is to carry out the plan

Finance and education about how

Electric distribution deficiencies, costs to implement, not enough people willing to work

Communication

Our governor:)

Better message to combat political misinformation.

Customization is a challenge. Each house is different. If a hire expert can help consistently apply changes it will help

Knowledge to implement deep home retrofits, large amount of renewable energy on grid, creative financing for home retrofits

From the perspective of your sector, what are the top three challenges to address?

Mentimeter

Education; accessing financial levers for community investment; and the climate crisis itself will present challenges to society.

Offer up incentives.

Have people volunteer to help educate and build systems. Can build a community solar system with volunteers

Not convinced of need or the chance of success

Reward those that buy in

23

If Council were to adopt this pathway on Tuesday, April 5th, how do you think your sector members would feel?

Mentimeter

To be honest a tad disappointed.

I think my sector would be very pleased.

Challenged - not sure how Council goal aligns with university's ongoing plan.

Excited but pensive. Need leadership to lead the way forward

Like that change is being made, unsure on how possible/effective it will be

Let's get started and the sooner the better.

Excited that we are moving forward and trying to address the issues

Still confused, somewhat deflated, lack of trust that we know what we're doing

Ok but disappointed there are no nature-based and resiliency solutions

If Council were to adopt this pathway on Tuesday, April 5th, how do you think your sector members would feel?

Mentimeter

Somewhat okay but disappointed with the lack of prioritization of transportation needs

Relieved with the fact that there is at least a plan, but maybe some will choose to abstain from making opinions about the plan before they see concrete results

Impatient that change is so slow

Take it to the statehouse to overrule

Supportive of the intent, but very challenged with regard to implementaion

Happy with the goal

They would be ok because they understand all of the moving parts and balancing act with cost

Residential sector- some will be pleased about action, some will not support the cost, some will want more

Many of my sector members feel the urgency of the climate crisis and will want more ambitious action. However, lots of hope to keep the conversation positive and constructive.

If Council were to adopt this pathway on Tuesday, April 5th, how do you think your sector members would feel?

Mentimeter

Glad future generations and social justice are being considered

Hopeful about potential incentives and other supports for change

Thanks

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