Communication Campaigns: Public Transit & Recycling

A Fall 2021
Collaborative Project with
Arizona State University's
Project Cities & the
City of Peoria

Sustainable Cities Network
Arizona State University
Project Cities

PEORIA ARIZONA

PART 1:

Project and Community Introduction

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City of Peoria
and Project Cities

ACKNOWLEDGMENTS

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On behalf of the Julie Ann Wrigley Global Futures Laboratory, the Global Institute of Sustainability and Innovation, and the School of Sustainability, we extend a heartfelt thank you to the City of Peoria for enthusiastically engaging with students and faculty throughout the semester. These projects provide valuable real-world experience for our students and we hope that their perspectives shine light on opportunities to continuously improve Peoria's future livelihood and community well-being.

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ABOUT PROJECT CITIES

The ASU Project Cities program uses an innovative, new approach to traditional university-community partnerships. Through a curated relationship over the course of an academic year, selected Community Partners work with Project Cities faculty and students to co-create strategies for better environmental, economic, and social balance in the places we call home. Students from multiple disciplines research difficult challenges chosen by the city and propose innovative sustainable solutions in consultation with city staff. This is a win-win partnership, which also allows students to reinforce classroom learning and practice professional skills in a real-world client-based project. Project Cities is a member of Educational Partnerships for Innovation in Communities Network (EPIC-N), a growing coalition of more than 35 educational institutions partnering with local government agencies across the United States and around the world.

ABOUT SUSTAINABLE CITIES NETWORK

Project Cities is a program of ASU's Sustainable Cities Network. This network was founded in 2008 to support communities in sharing knowledge and coordinating efforts to understand and solve sustainability problems. It is designed to foster partnerships, identify best practices, provide training and information, and connect ASU's research to front-line challenges facing local communities. Network members come from Arizona cities, towns, counties, and Native American communities, and cover a broad range of professional disciplines. Together, these members work to create a more sustainable region and state. In 2012, the network was awarded the Pacific Southwest Region's 2012 Green Government Award by the U.S. EPA for its efforts. For more information, visit *sustainablecities.asu.edu.*

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ASU Sustainable Cities Network
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Project Cities

Sustainability through local action

ABOUT PEORIA

Ranked as the No. 1 place to live in Arizona by Money Magazine, the City of Peoria is currently home to over 191,000 residents. The City enjoys a reputation as a family-oriented, active community with an exceptional quality of life. Peoria entertainment and recreational amenities include attractions such as Lake Pleasant, trails, and community parks.

The City has also demonstrated a strong commitment to sustainability, as evidenced by its incorporation of LEED building design standards, a council-adopted Sustainability Action Plan, and the "Green Team" staff dedicated to managing organization-wide sustainability initiatives.

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Peoria is the place
World class ▪ Sustainable ▪ Future Ready

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February 28, 2022

Dear Peoria community members,

On behalf of the City of Peoria, we would like to express our appreciation to all who have been involved with Arizona State University's (ASU) Project Cities program. Over the last year, our staff has had the opportunity to collaborate with faculty and students across several academic programs, benefitting from their insights, ingenuity, and diverse perspectives on a number of projects. Many of these entailed public participation, and you may have met some of these engaging students at a community event, or completed a community survey.

Project Cities is one of several partnerships we enjoy with ASU, and part of our ongoing strategy to connect with community partners to leverage our resources as we address the many challenges facing local governments. Working with students at an undergraduate, graduate and capstone project level brings a fresh perspective and resourcefulness to complex issues. This partnership has resulted in extensive research, recommendations, and deliverables that take several key initiatives to the next level. These include our efforts around increasing transit ridership, community engagement strategies, historic preservation and innovative recycling methods. Through this partnership, we have developed an understanding of the feasibility of each initiative much more quickly than we could have without their collaboration.

The results provided on each project position us to serve our community with cost-effective and innovative programs in the interest of continuous improvement. The city has already begun to incorporate the students' deliverables into next steps in advancing these projects. We look forward to continuing this work on additional projects in the coming year with such talented students and faculty.

The City of Peoria appreciates the ongoing and growing relationship with Arizona State University and the many ways in which the alliance provides mutual value.

Sincerely,

Cathy Carlat, Mayor

Jeff Tyne, City Manager

Peoria, Arizona

Proud partner of

ASU Sustainable Cities Network

Arizona State University

Project Cities

Rio Vista Recreation Center

Demographics

total population: **190,985**

median age: **35**

highly skilled and educated workforce of 85,252

11,997 veterans live in Peoria

78% of residents are homeowners

median property value: **$399,025**

33% of residents hold a Bachelor's degree or higher

median household income: **$79,700**

Schools

#3 of 131 Best School Districts for Athletes in Arizona

#5 of 40 Best School Districts in Phoenix Metro Area

#7 of 130 Best School Districts in Arizona

The Peoria Unified School District consistently receives high ratings and offers signature programs such as the Career and Technical Education programs. Deer Valley Unified School District has two highly-rated K-8 schools within the city, including an Academy of Arts.

Peoria is also home to Huntington University, a liberal arts college offering digital media education in animation, broadcasting, film, graphic design and other digital media arts.

Leading industries

Peoria, Arizona is not just a scenic suburb of Phoenix, but also a thriving economic development hub with an educated workforce and high-end residential living. There are over 4,000 employers and more than 75,000 people employed within Peoria. Leading industries include health care and social assistance, retail trade, and finance and insurance. Highest-paying industries include utilities, manufacturing and public administration. Beyond these industries, Peoria works actively to attract businesses from aerospace and defense, film and digital media, technology and innovation, hospitality and tourism, and research and development. Peoria is the place for business owners, developers and investors.

Health Care & Social Work

10,905 employees

Retail Trade

10,628 employees

Finance & Insurance

6,574 employees

History

Founded in 1886 by Midwestern settlers, Peoria is nestled in the Salt River Valley and extends North into the foothills around Lake Pleasant. Beginning as a small agricultural town, the economy received a major boost when a railroad spur line was built along Grand Avenue. The construction of the Roosevelt Dam in 1910 secured a reliable water supply, attracting more settlers to the area and business endeavors to the town center. Peoria's economy continued to have an agricultural focus for decades. Continually growing, Peoria assumed city status in 1971 with a population of 4,792. It has since grown into a city with a population over 190,000, and is renowned for its high quality of life and recreational amenities.

Sustainability

Peoria has demonstrated leadership in municipal sustainability efforts through a wide range of actions. Listed below are some of the City's sustainability accomplishments.

- Incorporation of LEED building design standards
- Appointment of a full-time city staff member who manages and coordinates sustainability initiatives
- Sustainable urban planning practices including open space planning and water management principles
- Sustain and Gain: Facebook page and brochures keep residents up to date on city sustainability efforts and ways to get involved
- Water Conservation Program: free public classes, public outreach at city events, and water rebate incentives for residents
- Council-Adopted Sustainability Action Plan: this strategic planning document, in its second iteration, ensures city departments are developing sustainability-oriented goals, tracking success metrics, and encouraging cross-communication in the preparation of Sustainability Update presentations made to the Peoria City Council on an annual basis
- Sustainable University: courses and workshops to empower residents to make small changes that make Peoria a better place to live; topics covered include residential solar, gardening, composting and recycling

Awards and recognition

- Number One City to Live, Work and Play in 2021 *(Ranking Arizona)*
- Received three Crescordia awards by Arizona Forward at the annual Environmental Excellence Awards in 2016
- 12th City for Green Space in the U.S. in 2019 *(Wallethub)*
- Top 15 Safest Cities in the U.S. 2017-2019 *(Wallethub)*
- 6th Wealthiest ZIP Code in 2020 *(Phoenix Business Journal)*
- Top 50 Hottest Hoods in 2018 *(Phoenix Business Journal)*
- 10th Best City to Raise a Family in 2018 *(Wallethub)*
- Top 100 Golf Course in U.S. 2017-2019 *(Golf Digest)*

Lake Pleasant

1886 — **2020**

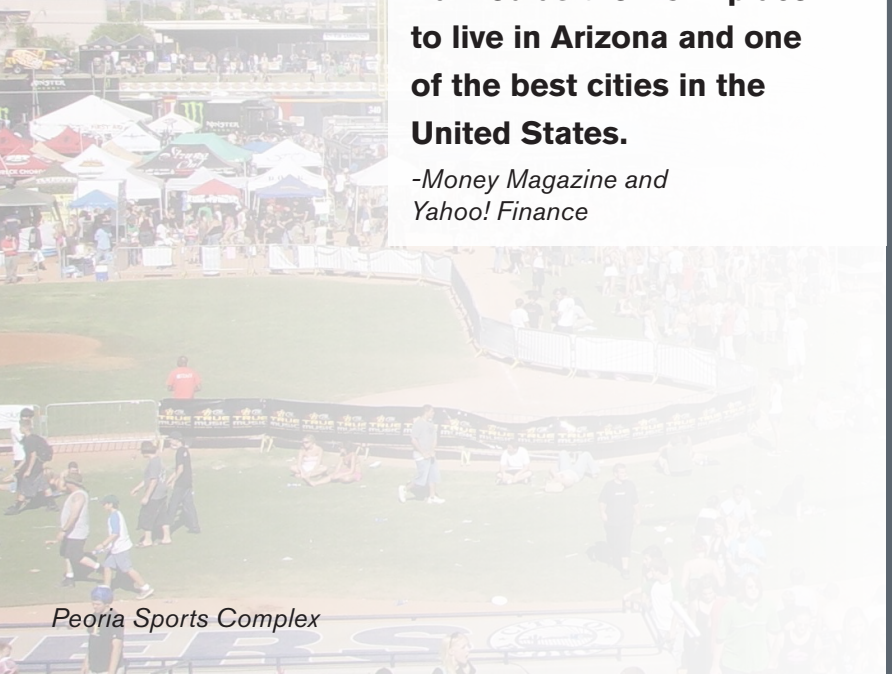
- **1889** — Peoria founded by William J. Murphy
- **1889** — First school district formed
- **1919** — Chamber of Commerce organized
- **1954** — Assumed city status with a population of 4,792
- **1954** — Peoria incorporated
- **1971** — Centennial celebration
- **1977** — Brewers spring training begins at Greenway Sports Complex
- **1986** — Theater for the Performing Arts and Rio Vista Recreation Center opened
- **1994** — Peoria Sports Complex opened
- **2007** — 20-year extension spring training agreement with San Diego Padres and Seattle Mariners
- **2012** — Selected as site of new $70M health clinic for Maricopa County Integrated Health System
- **2017**

Livability

Peoria is renowned as a great place to raise a family and start a career. A plethora of local amenities and attractions contribute to Peoria's livability. Beyond the tourist attractions of Spring Training and Lake Pleasant, the City offers many community facilities and recreational opportunities for all ages and interests such as an extensive public park system and annual community events. Peoria's dedication toward livability is also evident in the City's latest General Plan which addresses sustainable water use, housing, public services and more.

Ranked as the No. 1 place to live in Arizona and one of the best cities in the United States.

-Money Magazine and Yahoo! Finance



Peoria Sports Complex

Peoria strives to uphold these six major livability priorities in order to maintain an exceptional quality of life for its citizens:

- Arts, Cultural and Recreational Enrichment
- Economic Prosperity
- Smart Growth
- Superior Public Services
- Healthy Neighborhoods
- Integrated Transportation

Community Facilities

- Peoria Community Center
- Rio Vista Recreation Center
- Peoria Sports Complex
- Peoria Center for the Performing Arts
- 39 neighborhood parks
- 2 libraries
- 3 swimming pools
- 5 golf courses
- 9 lighted multi-purpose ball fields
- 15 tennis courts

Lake Pleasant

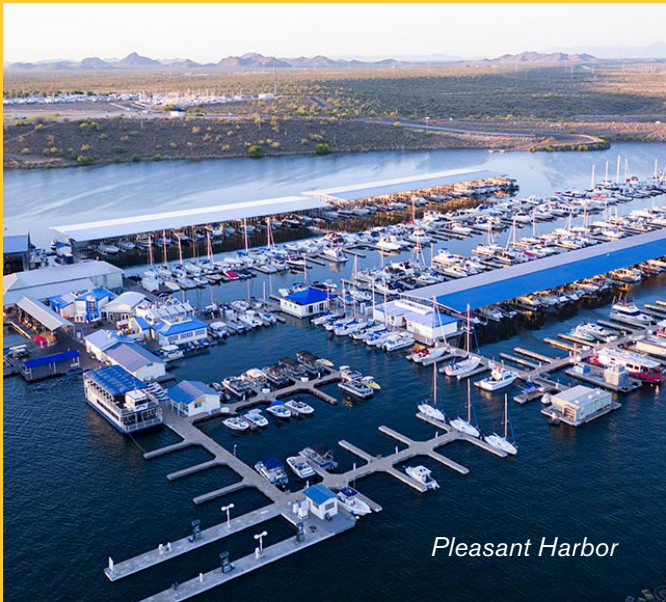
Urban ecology, ecotourism and recreation

Peoria is surrounded by the natural beauty of the Sonoran Desert and is home to Lake Pleasant, a 23,000-acre park and major recreational asset to the North Valley. The transient Agua Fria River and New River flow through Peoria, as do a multitude of washes and creeks. Most notable perhaps is Skunk Creek — known for the recreational trails running alongside it — which forges a connection between Peoria and Glendale. Northern Peoria is home to beautiful mountains and buttes including Sunrise Mountain, Calderwood Butte and Cholla Mountain.

Boasting over 300 days of sunshine annually, Peoria's ecotourism opportunities are a steady industry for residents and visitors. The City features over 60 miles of trails for walking, biking and horseback riding, as well as 570 total acres of accessible park land.

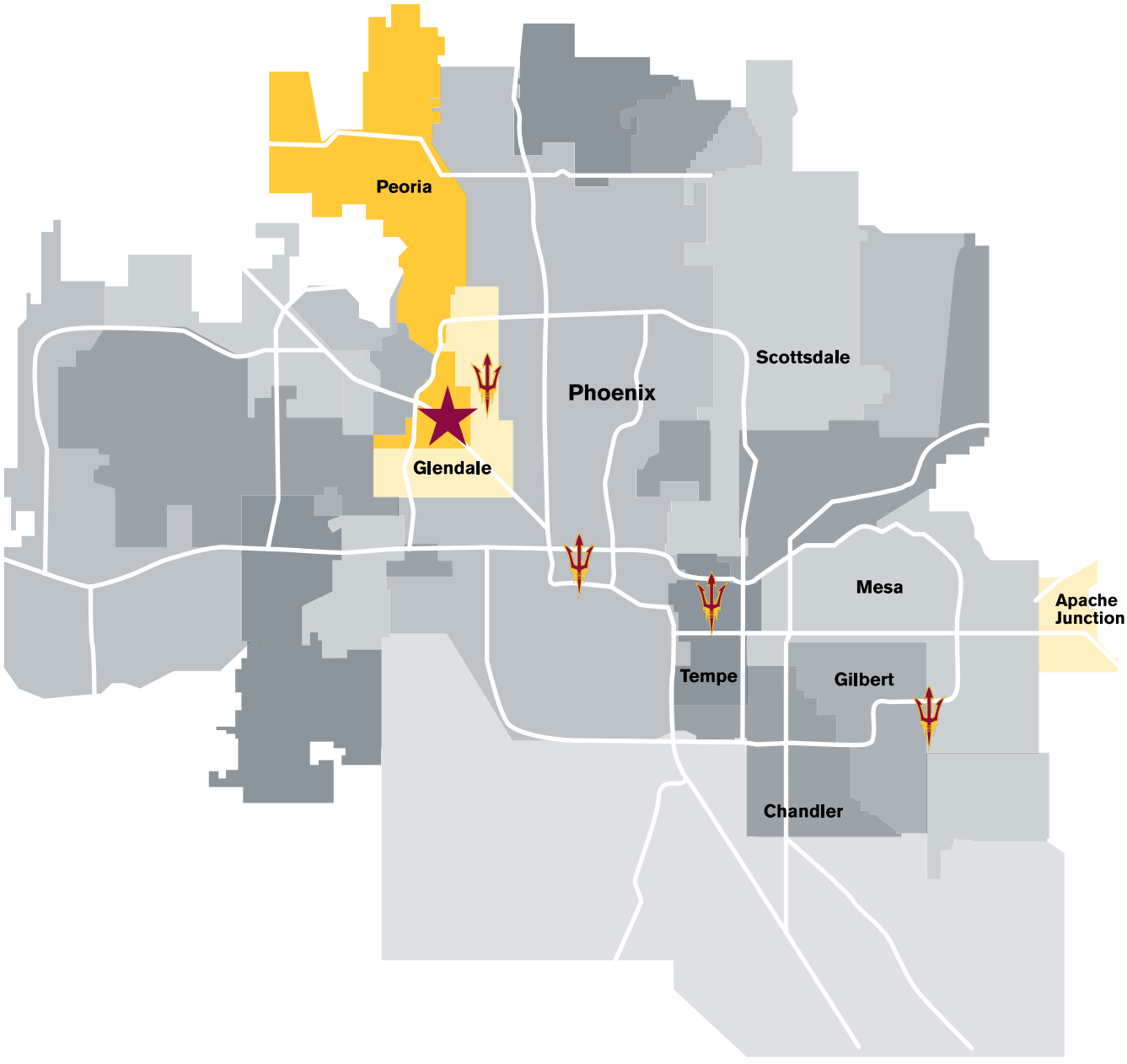
Lake Pleasant Regional Park contains a full-service marina, providing opportunities for water-oriented recreation such as kayaking, water skiing and even scuba diving. Visitors can also go horseback riding, take gliding lessons, hike, camp and more.

Skunk Creek



Pleasant Harbor

MAP OF PROJECT CITIES PARTNER COMMUNITIES IN THE GREATER PHOENIX METROPOLITAN AREA



Peoria City Hall

ASU campus

EXECUTIVE SUMMARY

As a continually growing city, Peoria strives to provide its residents with innovative and robust services. As one of the leading communities in sustainability, Peoria has driven sustainability forward with the expansion of its public transit services and recycling education programs. Peoria has launched various initiatives of its services, including the launch of the Peoria On The Go (POGO) neighborhood bus circulator and its various recycling programs.

The City's Solid Waste Division is interested in developing a recycling education program to reduce solid waste contamination in its recycling bins and encourage more residents to participate in their program. The Transit Division has recently relaunched its POGO circulator with new routes. It seeks to develop a messaging campaign to encourage ridership and address residents' concerns about utilizing public transit.

Figure 1 *Students get a first-hand glimpse at Peoria municipal recycling and transit vehicles during the Fall 2021 Municipal Operations Center visit*

Communication campaigns are an effective, purposeful strategy aimed at a target audience to inform, educate, and potentially change behaviors. A robust strategy consists of a targeted approach to a targeted public and messaging strategies that seek to inform and educate. To craft effective messaging strategies, the City of Peoria partnered with students from the ASU School of Social and Behavioral Sciences to develop communication campaigns for its POGO service and recycling programming.

Students from Nicole Lee's **CMN 520: Communication Campaigns** class were split into groups to tackle two of Peoria's largest public services: recycling and public transit. Each group designed a communication campaign, complete with campaign strategies and tactics to facilitate the design of an overarching campaign to increase public ridership and recycling. Students conducted a literature review of similar communication strategies and distributed a survey to Peoria residents to gather information about their perceptions of recycling and public transportation.

Students identified two core themes to increase awareness: increased social media usage and public/private partnerships to boost public participation in these services. By developing robust social media campaigns for Peoria's Transit Division and Solid Waste Division, Peoria staff can target its residents to encourage public participation through incentives, such as prizes and targeted messages that vary depending on the age group. Additionally, both student groups identified public partnerships through events and collaborations with other services, such as Peoria's libraries and local businesses.

The following campaigns are supported by peer community review, academic research, and the community Omnibus survey. By better understanding resident perceptions and opinions of these services, the City can develop targeted communications to residents to increase transit ridership and recycling.

KEY STUDENT RECOMMENDATIONS

Recommendations for transit campaigns	Read more
Collaborate with local businesses along the POGO routes to cross-promote POGO services. Specific suggestions include: ▪ Offer promotional perks, such as discounts, to residents who come to the business using public transit. ▪ Advertise Peoria's businesses at POGO stops in return for businesses advertising Peoria's public transit.	pp.34, 48-53, 56-57
Host a public event to highlight POGO, including a POGO bus tour and local businesses.	pp.49, 52, 57
Recruit a local radio station to co-sponsor a POGO event to provide live entertainment and cross-promotion.	pp.36, 49, 57
Enhance information dissemination to the public by highlighting the benefits of using public transportation, such as better quality of life.	pp.28, 31, 34, 44
Expand the POGO network to include stops near Peoria's most popular restaurants and establishments.	pp.37, 49
Develop a mobile app that hosts information regarding bus routes, stops, and schedules. Additionally, users can purchase tickets/passes before riding the bus.	pp.28, 46, 48, 51-53, 55
Conduct a more extensive survey of Peoria residents to capture why they do not use public transportation.	p.45
Design a user-friendly website with route information and schedules. The website should include clickable links, such as: ▪ Where to Buy Tickets, ▪ Real-Time Schedule of Buses, ▪ Maps of Route Information, and ▪ How to Ride information.	pp.27-28, 48
Develop a short informational video that explains the process of riding the bus, such as where to buy tickets and the bus routes. Host this video on the website for easy access.	pp.48, 52, 54, 56

KEY STUDENT RECOMMENDATIONS

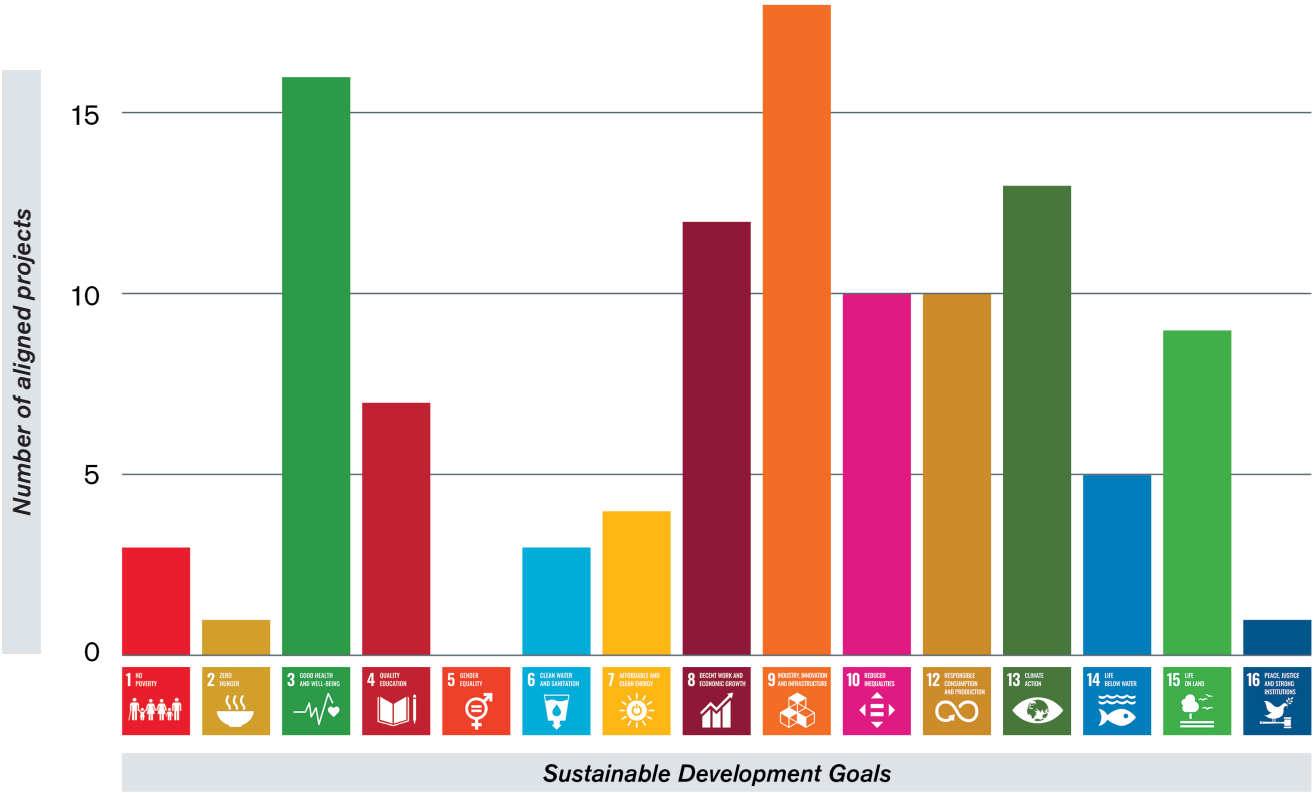
Recommendations for recycling campaigns	Read more
Host "A Day at the Ops," an event where children and their parents can tour the Municipal Operations Center. Following the tour, distribute recycling "Do's and Don'ts" materials, pencils, stickers, and other marketing materials.	pp.91-94
Engage with after-school programs, such as the local Y, to create a leadership program for teens where teens can collaborate with a Public Works Liaison to develop recycling materials for Peoria's youth.	pp.93-94, 101-102
Partner with the Getting Arizona Involved in Neighborhoods event, an annual community day promoting civic participation. Through this event, market the #RecycleRightPeoria campaign by emphasizing individual duty and civic responsibility to recycling.	p.94
Distribute engaging, colorful informational fliers about #RecycleRightPeoria to Peoria residents via water bill notices.	pp.95-97
Utilize social media platforms, especially Facebook, to reach Peoria residents with information about Peoria's recycling initiatives and educational materials to reduce waste contamination.	pp.77-79, 96-97
Employ local newspapers to reach additional audiences that may not use social media.	pp.75-77, 96-97, 105
Provide additional direct feedback to Peoria residents regarding their recycling contamination by providing feedback via their recycling bins.	pp.76-77, 98-100
Expand the Blue Lid Pilot Program to additional Peoria residents to better inform recycling habits and reach a larger audience.	pp.71-72, 88, 99
Energize residents through #RecyleRightPeoria social media challenges to engage residents in learning about proper recycling. Challenges such as "show us your recycling bin" directly engage residents and prompt their participation in better recycling habits.	pp.99-100, 101-102

CITY OF PEORIA PROJECTS: ALIGNMENT WITH THE UNITED NATIONS' SUSTAINABLE DEVELOPMENT GOALS

As the leading international framework for sustainable decision-making, the 17 Sustainable Development Goals (SDGs) lay out a path for partnerships toward global peace and prosperity. The SDGs provide a set of goals and metrics for project impact to be measured, offering an illustration of the benefits experienced by the cities, towns, and students who participate in a Project Cities partnership. For details on the SDGs, visit **sdgs.un.org/goals.**

Every project in the PC program aligns with SDGs 11 and 17.

The figure below illustrates SDG project alignment throughout the City of Peoria's partnership with Project Cities, through the Fall 2021 semester.



TOP THREE GOALS ADDRESSED IN THE FOLLOWING REPORT

This project examines the role of public communication in successful municipal recycling and transit scenarios. Students develop strategies and tactics intended to assist the City of Peoria in sharing key information with its citizens to work toward the ultimate sustainability goals of reducing recycling contamination and increasing public transit ridership.

Goal 10: Reduced Inequalities

"Reduce inequality within and among countries."

Expanding communication and education efforts around transit and recycling programs helps keep all Peoria residents and visitors informed and able to take advantage of important public services.

Goal 12: Responsible Consumption and Production

"Ensure sustainable consumption and production patterns."

Reducing recycling contamination and reliance on personal vehicles are important sustainability steps that can contribute to reducing landfill waste and lowering greenhouse gas emissions.

Goal 15: Life on Land

"Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss."

This type of municipal sustainability effort can help protect important natural resources and wildlife habitat.

The following report summarizes and draws highlights from work and research conducted by students in CMN 520 Communication Campaigns, for the Fall 2021 partnership between ASU's Project Cities and the City of Peoria.

To access the original student reports, additional materials, and resources, visit:

links.asu.edu/PCPeoriaTransit-RecyclingMessaging21F

ASU Sustainable Cities Network
Arizona State University

Project Cities

Sustainability through local action

PART 2:

Ready to Ride: Transit Messaging to Increase Ridership

PUBLIC COMMUNICATION STRATEGIES TO INCREASE AWARENESS AND ENCOURAGE PUBLIC TRANSIT USE

CMN 520:
COMMUNICATION CAMPAIGNS

SCHOOL OF SOCIAL AND BEHAVIORAL SCIENCES

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INTRODUCTION

As one of the thriving cities in Arizona, Peoria is determined to provide a seamless and unparalleled living experience to its residents. Providing options for public transportation is one of the city's objectives to achieve the goal. However, like other cities heavily dependent on private vehicles as a mode of transportation, the City of Peoria faces challenges to materializing its ideal vision due to low public transit ridership. Through primary and secondary research, students identified reasons why public transit is a less-preferred transportation option for many Peoria residents. The research findings guided the creation of Ready to Ride, a communication campaign designed to increase awareness about public transportation options in Peoria, encourage the residents to use public transit more often, and eventually improve ridership.

Figure 1 *Peoria on the Go (POGO) bus exterior and interior, by City of Peoria*

RESEARCH METHODS

Situation analysis

The situation analysis identifies why residents do not utilize the services offered through Peoria's Transit Division. Recently, public transit has shifted from a secondary mode of transportation to a primary mode in many metropolitan areas (American Public Transportation Association, 2021). Thus, the research aims to understand the reasons behind the lack of ridership within the City of Peoria and the motivations behind individuals' reasons for choosing one mode of transportation over another.

Research report

To inform their communication strategy, students developed four research questions:

- **RQ1:** How often do the residents of the City of Peoria use public transportation?
- **RQ2:** What reasons do City of Peoria residents use/do not use public transportation?
- **RQ3:** How knowledgeable are City of Peoria residents about topics concerning public transportation?
- **RQ4:** Which media sources do residents of the City of Peoria use to find information regarding public transportation? (i.e., social media, website, etc.)

To address the research questions, students conducted an online survey with the ASU Project Cities team to gain in-depth knowledge about public transit ridership among City of Peoria residents.

Editor's Note
Omnibus surveys involve sharing a structured questionnaire developed by multiple entities to a wide audience. In this case, Peoria residents answered questions created by multiple student groups for several Peoria projects.

Campaign plan

Guided by the extensive literature review and **Omnibus survey**, students developed the Ready to Ride campaign, which consists of four strategies and accompanying tactics, designed to increase public transit ridership. Students also propose a campaign timeline and budget, designed to provide several options for the City of Peoria to consider as they build out their communication campaigns.

FINDINGS & ANALYSIS

Situation analysis

As one of the fastest-growing cities in Arizona, Peoria is dedicating its best resources to embody its vision to become a top, desirable, and sustainable city to live in the state. Establishing reliable and favorable public transportation service is one way to achieve this vision. Through its Transit Division, the City of Peoria is working continuously to improve Peoria's public transit quality and ridership. Internal and external factors are examined to understand current Peoria residents' behavior toward public transit. External factors such as Arizona's scorching summers and unreliable public transit image become drivers behind Peoria's lack of public transit ridership. In addition, the lack of communication and advertisement surrounding the availability and the quality of the service has fueled Peoria residents' reluctance to use public transportation.

Public transportation is a service that many citizens often overlook. Despite having access to various public transit options, most residents choose to find alternate means of transportation, whether by car, ride-share apps, biking, or even walking. The City of Peoria has ensured that its residents have access to public transportation through programs such as Peoria On The Go (POGO) and Dial-A-Ride while also relying on outside "fixed routes" from Valley Metro, operated by the City of Phoenix.

Editor's Note

Peoria launched its neighborhood circulator, Peoria On the Go (POGO), formally in October 2021, following the original pilot program, which started in 2019. In the 2019-2020 academic year, Peoria partnered with Project Cities to connect two university classes to research local and global transit circulators and devise recommendations for improvements.

Students from ASU's Community Impact Lab worked with Peoria's Transit Division to research the underutilization of the circulator by Peoria youth. Read more at **links.asu.edu/PCPeoriaTransit19F_Report**.

Students from the ASU School of Geographical Sciences and Urban Planning conducted a peer community study to identify best practices in managing transit circulators. Read more at **links.asu.edu/PCPeoriaTransit20S_Report**.

Previous studies have found that the intentions to switch from private modes of transportation (e.g., driving) to public transport (e.g., buses) are higher for car commuters than motorcycle commuters because of the perceived ease of use and the type of marketing used (Chen & Chao, 2011). Through academic research focusing on public transportation in differing metropolises, students better understand how decisions around public transport are made, including citizens' ridership and public policies created to enhance or detract from a city's ability to offer such services.

Using the Integrated Model of Behavioral Prediction (Yzer, 2011), students ascertained what issues need to be addressed in their efforts to help the City of Peoria increase ridership across its various services and routes. In doing so, the students hope to raise awareness of these services and help change the negative preconceptions surrounding public transportation, in addition to convincing more citizens to switch from private modes of transportation to the various modes of public transit that Peoria offers.

Internal factors

To give residents easy access to transportation, the City of Peoria has committed itself to stay up-to-date by enhancing passenger experiences with new technology, improving provided services, and continuing efforts to customize transit services for various groups within the community. To ensure all residents have access to transportation, Peoria also offers Fixed Route, Circulator Route, Dial-A-Ride, and ADA Paratransit services (City of Peoria, 2021).

Editor's Note

On Wednesday, January 5, 2022, Peoria started a four-month pilot program for its new autonomous medical shuttle, RoboRide. The free shuttle operates in the healthcare district, near Plaza Del Rio Boulevard. RoboRide was also a finalist for Arizona Forward's 2020-2021 Environmental Excellence Awards, receiving an award of distinction. Read more about the awards at **arizonaforward.org/events-programs/environmental-excellence-awards/environmental-excellence-awards-submission/technology-innovation/**

The first iteration of the city's Transit Division started over fifty years ago, in 1970 (City of Peoria, 2021). Since then, Peoria has steadily grown and is anticipated to grow by 100,000 people and 26,600 jobs by 2040 (City of Peoria, 2021). To keep up with the city's growth, residents provided input in the development of the Transit Master Plan that will implement a more safe, connected and efficient transportation system. The plan encompasses opportunities for local businesses, express commuter buses, and higher capacity services such as Bus Rapid Transit and a commuter rail (City of Peoria, 2021). In addition, the Transit Master Plan will "consider new mobility systems, such as Waymo and Robo Ride that can provide transport options'' (City of Peoria, 2021).

Editor's Note
In November 2020, Peoria residents approved the Plan Peoria 2040 General Plan, which calls for the creation of a Transit Master Plan to plan for an expanded and connected transportation system.

The overall goal of this project is to increase ridership across the various services offered by the city, specifically POGO and the fixed-route buses. The purpose of these services is to cater to specific subgroups of riders and their transportation needs. The Transit Master Plan will consider opportunities to improve access and mobility throughout a great portion of the city (City of Peoria, 2021).

Municipality

Peoria's Transit Division web page is currently housed under the city's main government website. With all department information housed under the same website, residents may have to go through extra steps to access the information they need. There is an opportunity to further develop Peoria Transit Division into a separate website, including information about the various transit services offered, route and schedules, and ticketing information.

Additionally, all departments are grouped under a combined social media presence page for all departments, which can be challenging for residents to access relevant information related to Peoria's transit services, such as routes and schedules.

Current technology

Hosting a shared website and social media pages may pose challenges for residents seeking information from the Transit Division. Additionally, as individuals often rely on apps for information, the lack of a user-friendly mobile application provided by the City may pose an additional challenge for residents seeking transit information. Discussions with the city point of contact hinted that an app may be in the works. It is crucial to make sure the new app will facilitate the needs of all potential riders.

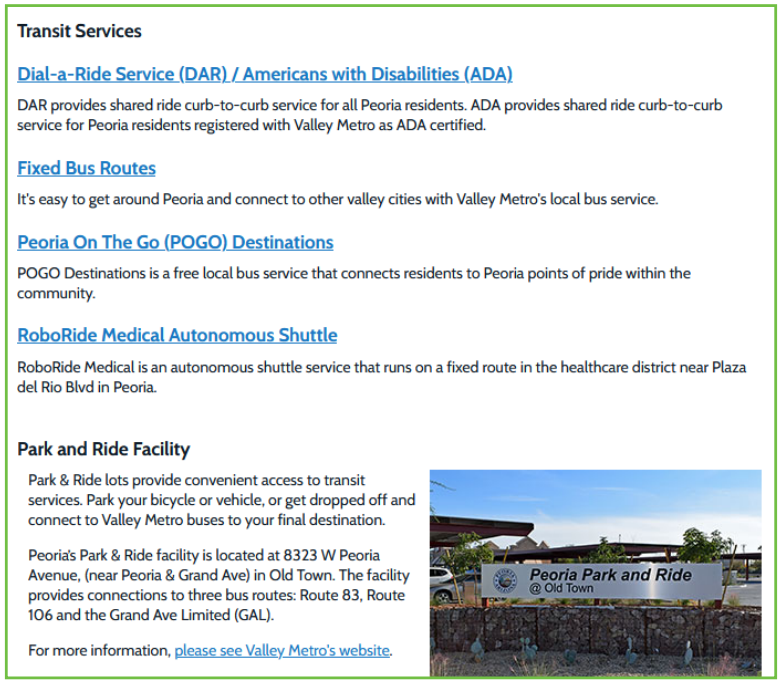

Figure 2 *Main links on the Peoria Transit Division webpage*

External factors

Creating public modes of transportation is a strenuous task, especially when considering the effects on lower-income neighborhoods that suffer from limited access to public transit systems, education, and healthcare (Fumgalli et al., 2021). Peoria can overcome these obstacles by disseminating information about bus routes, stops, schedules, etc. in a way that is accessible by all; perhaps by providing the information needed through the internet and mobile applications so users can have convenient access to public transit (Castellanos & Fruett, 2014). Additionally, to help maximize the effect of public transportation on improving quality of life, precise audience targeting, more accurate route scaling, and proper scheduling needs to be considered (Fumgalli et al., 2021).

Governmental influence

Governmental influence is an essential external factor in how people perceive public transit and its presence in their community. While most people react positively to public transportation, there is still a disconnect between positive polling numbers and actual ridership. A 2013 poll by Manville and Cummins (2015) showed that over 70% of Americans voted to support transit operations; however, when compared to its support, the number of actual riders is low and only accounts for 3% of the population. Their research also showed that support for public transit assists in stimulating the economy by, directly and indirectly, creating employment opportunities. Public transportation support is much more positive than private driving reforms such as increasing taxes on vehicles or gasoline and implementing highway tolls (Manville & Cummins, 2015). Research has found that a driving tax would increase ridership and reduce private car usage instead of increasing the financial support of public transportation. Manville and Cummins argue the most crucial aspect to consider is the conclusion that behavioral changes by car owners are necessary to materialize the benefits of implementing public transit systems that are so heavily supported by the votes.

The benefits of public transit, or the perception of those benefits, are also contributing factors. For example, non-rider voters' perception of public transit reducing traffic congestion contributes to higher support than supporting policies that directly affect car drivers, such as higher fuel taxes (Manville & Cummins, 2015). Pollution concerns also increase support for public transit, despite the lack of action that is taken to ensure positive effects towards environmental quality by less driving and more riding (Manville & Cummins, 2015).

Sustainability

Public transportation plays a vital role in using sustainable transportation. Those who use public transportation are doing their part in helping to reduce air pollution caused by traffic congestion by directly affecting the number of cars on the road (Irtema et al., 2018). Other research has shown that public transportation reduces pollution emission per passenger mile, reducing emission per capita vehicle travel (Litman, 2020).

Safety

Safety is another concern amongst many public transit riders. A 2018 study identified fear of crime as the highest factor affecting the use of public transportation at night in London (Kim, 2021). Kim says that the fear of crime possibly being committed on public transit is also found to be much higher than the actuality of crime being reported. Additionally, women are more likely to be afraid of public transit, specifically at night, according to a survey of 4,005 individuals, which identified 46% of women being affected by fear concerns compared to only 27% of men reporting the same issue (Kim, 2021).

Statistics show that "worldwide, there are estimated to be approximately one million road accident fatalities and ten million people injured annually, many with long-term disabilities" (Joewono & Kubota, 2006, p.86). In this instance, using public transportation might help decrease the number of accidents each year because there will be fewer cars on the road. Joewono and Kubota (2006) conducted a study to explore the perception of safety and security problems involved in the operation of public transportation. They defined security as "the actual degree of safety from crime or accidents and the feeling of security resulting from that and other psychological factors" (Joewono & Kubota, 2006). They go on to say that security could then be broken down into three categories: safety of crime (staff and police presence, lighting, visible monitoring, layout, and identified help points), the safety of accidents (presence/visibility of supports, avoidance/visibility of hazards, active safeguarding by staff), and perceptions of security (conspicuousness of safety measures, press relations). Although the authors discussed the classes of security on the bus itself, better lighting can deter potential offenders since it increases the likelihood of them being seen by someone who might be able to intervene while waiting for the bus to arrive (ASU Center for Problem-Oriented Policing, n.d.).

Comfort and weather

The lack of comfortability due to the constant acceleration and deceleration, not to mention uncomfortable seats, may also contribute to the perception non-riders have towards public transportation (Castellanos & Fruett, 2014). Extreme weather conditions such as monsoons and exposure to heat, particularly in the Phoenix-Metro Area, are other factors that contribute to the comfortability of passengers. During an average user experience on public transit, a rider would be subject to outdoor elements for upwards of 17 minutes, leading to more prolonged exposure to heat in warmer climates. Exposure to the elements, such as rain and high winds, may contribute to the loss of transit riders (Fraser & Chester, 2017). Furthermore, the location and the set-up of the transit stops offers little in the way of comfort or protection from these elements and can be used to further deter non-riders from using public transit (Fraser & Chester, 2017).

Figure 3 *Transit stops can contribute to ridership rates and may take a variety of forms, as shown in the various Phoenix and Tempe bus stops above*

Other studies have shown that the most critical factor on ridership is the weather (Shaaban & Siam, 2021). It was also determined that "weather plays a significant role in affecting people's behavior and mode choice, due to the scorching temperature during the summer and the moderate temperature during winter" (Shaaban & Siam, 2021, p.396). Although Shaaban and Siam (2021) discussed Qatar's weather, their findings are applicable to Arizona since it is also a hot climate region. Shaaban and Siam's study (2021) concluded that the highest ridership occurred during November (when the temperature dropped), and the lowest ridership occurred during the summer season. Unfortunately, both the heat and unreliability play a massive role in low ridership. As previously stated, people do not want to wait for any mode of public transportation, especially when they factor in the sometimes more than 100-degree weather in Arizona.

Public health

Recent health concerns also contributed to the concerns of safety. For example, the COVID-19 pandemic restrictions are now hurdles for students and workers trying to utilize public transport as their daily commuting resources (Fumagalli et al., 2021). In addition to COVID-19, other health concerns surrounding sickness and the spreading of germs are a deterrent to some people riding the bus, according to Fumagalli et al.

That being said, using public transit has been linked to several health benefits. For instance, as more riders use public transit, noise disturbance decreases due to reduced traffic (Irtema et al., 2018). Thus, the volume of traffic has a direct correlation on the lives of anyone living close enough to major roads to hear the constant buzz of commuters. That disturbance can be reduced when more people use public transit to limit the number of cars on the road and diminish the volume that is caused by heavy traffic. Additionally, by using public transit, passengers are more likely to live a less sedentary lifestyle due to the walking that is naturally included in using transit; either walking to and from stops to destinations or making the walk from one stop to the next. By walking to and from transit stops, most passengers reach the 22 minutes of daily moderate physical activity that the CDC recommends, increasing physical fitness among those who ride (Litman, 2020).

Litman (2020) writes that traffic accidents tend to decline because there are fewer cars on the road. In fact, “transit-oriented communities have only about a quarter the per capita traffic fatality rate as residents of sprawled, automobile-dependent communities” (Litman, 2020). Decreasing the number of traffic accidents can lead to a reduction in health care costs. Due to a large number of traffic accidents each year, diseases from sedentary living, and other health problems caused by inadequate exercise, it is estimated that the U.S. experiences 200,000 deaths annually (Litman, 2020). Consequently, this significantly impacts health care costs. Statistically, adults who reach the daily physical activity goals have annual medical expenditures that are 32% lower than those with a sedentary lifestyle. In addition to improving the physical health of passengers, public transportation can improve mental health by reducing the stress that amounts whilst driving in traffic, potential medical care costs by improving daily activity, and inspiring healthy diets to keep bodies fueled. According to Litman, those with lower incomes and physical disabilities rely on public transit to get to their doctors, grocery stores, etc., so having access to public transportation will increase their quality of life.

Unreliability and hot climates

When it comes to using public transportation, one of the essential qualities is reliability. More often than not, the transit users are trying to get to a specific place at a particular time. Although reliability is most commonly associated with travel time, passengers also factor the chance of mechanical problems, arrival punctuality, and the probability of finding a seat into reliability (Carrel et al., 2013). In other words, if the passengers are on a bus that breaks down, and they are constantly arriving at their destinations late, or if they are unable to find a seat, they will perceive the bus as being unreliable. This can deter both current and potential riders from using public transportation, and they will begin to seek other services, such as Lyft or Uber, that they deem to be more reliable (Carrel et al., 2013). In addition, Carrel et al. (2013) go on to mention that services that provided real-time information were viewed as more attractive and reliable modes of transportation than those that do not use real-time information services (Carrel et al., 2013).

Relevant publics

Understanding the city's demographics is essential in determining the best strategy to disseminate public transit messaging to encourage Peoria residents to use more public transportation.

According to the latest census data, as of April 2020, Peoria had 190,985 residents, a 24% increase from 154,065 people in 2010 (U.S. Census Bureau, 2021). The median age in Peoria is 39.8, with the median household income being $75,323. Statistics show that 92.6% of the population aged 25 and older have a high school diploma, and 32.8 % of those aged 25 and older have a bachelor's degree or higher. House owners occupied 74.2% of housing units in Peoria. Nearly 100% of the households have a computer, and 90% have broadband Internet subscriptions (DataUSA.io, n.d.).

These statistics define Peoria as a middle to upper-class community. Most households in Peoria own an average of two cars. In 2019, 79% of workers in Peoria drove alone to their office, 10.3% carpooled to work, and 7.54% worked from home. The average travel time to work for Peoria residents is 26.6 minutes. In 2019, 633 households used public transit to commute to work, increasing 27.8% from 457 households in 2013 (DataUSA.io, n.d.).

Keeping in mind the average household income and the number of cars each owns, residents might not see the necessity to ride public transit even when there is an available option. The relevant public, in this case, would be car owners. The most assured way to increase public transit usage is to change the habits of those who rely solely on their private vehicles. Switching car owners from driving everywhere to only driving when necessary, supplementing the rest of their transportation needs with public transit, there will be an increase in ridership across transportation services.

In the 2020 election, Peoria residents approved their 2040 General Plan, which includes a vision to provide a safe, connected, integrated, and efficient transportation system (City of Peoria, 2021). Currently, transit services are limited to the south of Bell Road, thus limiting a portion of the city. While it encompasses downtown Peoria areas, the current transit does not cover most of the city perimeter. The northern part of Bell Road, which makes up a significant portion of the city areas, is not covered by the existing public transit. However, this area is inhabited by residents with an income greater than $90,000. Census Tract 6135 reported a median income of $124,000. This characteristic would enable most residents to own their cars and not rely on public transit.

When analyzing travel patterns, there seem to be gender differences. Since more women are working than in previous decades, there is an increasing travel demand for women (Fu & Juan, 2017). However, studies have shown there are different mobility patterns between men and women (Fu & Juan, 2017). Women are more likely to use private cars while men are more likely to walk, use a bicycle, or ride public transportation (Paleti et al., 2013). Other studies have also determined that men tend to have more positive public transportation attitudes (Beirão & Cabral, 2008). Although the reasons for this are still unknown, women may be more likely to have negative attitudes towards public transit because they are more at risk of being potential victims of crime, especially at night.

Encouraging the middle to the upper-class community to use public transit requires thoughtful rhetoric to convince them to do so. Since they are separated in different parts of the city, this community needs to be convinced that better connectivity could conveniently transport them from point A to B. Given that this community is more wealthy, some considerations need to be addressed. Convenience aspects such as bus amenities, cleanliness, safety, and timeline reliability should be considered when creating the messaging strategies.

With the median income higher than the national standard, consumer buying power in Peoria can be a determinant variable in the public transit ridership enhancement program by linking the program with business promotions. Peoria brands the city as one of the best and most desirable locations in Arizona (City of Peoria, 2021). Combining the campaign with quality-of-life programs can encourage more residents to take public transit. For example, in partnership with the local businesses in Peoria, the city could give promotional perks such as discounts, giveaways, etc., for residents who came to their business using public transit. Considering most residents in Peoria are families, creating promotional perks that are family and kid-friendly can be beneficial.

SWOT analysis

SWOT Analysis	
Strengths	***Weaknesses***
Residents provided input in the development of the Transit Master Plan for a more efficient public transportation system. This plan highlights the public's willingness to enact sustainable measures regarding public community options. Further, it shows that Peoria residents are receptive to new modes of transportation so long as they can see the benefits in their individual lives.	The lack of public policies discouraging car owners from driving could be seen as a weakness since the effectiveness of public transit only applies when fewer cars are on the road. In addition, the stereotypes surrounding public transportation and those who use it are examples of other deterrents that keep people from wanting to switch up their routine to ride the bus.
Opportunities	***Threats***
An opportunity to reach a sector of non-riders who do not currently use public transit for commuting purposes can be found with Peoria on the Go, or POGO. In October 2021, the City of Peoria launched a new circulator route to connect the residents with destinations, referred to as “Peoria's Points of Pride.” This service expanded the original POGO route to include more destinations in anticipation of the updated service (City of Peoria, 2021). This opportunity allows specific destinations to be accessible during peak business hours and provides positive implications for public transit within the middle-class community.	A significant threat surrounding the success of this campaign is the lack of policy that encourages an actual materialization of these "master plans" into action. The research shows that support of public transit does not equate to additional ridership. Additionally, the influence of individuals who have negative connotations of public transit may adversely affect potential future public transit users.

Figure 4 *SWOT analysis by CMN 520 students*

Literature review

Integrated model of behavioral prediction

A critical factor in understanding how to approach creating a campaign for public transportation can be found in the behavioral analysis of current riders and non-riders. The Integrated Model of Behavioral Prediction explains why individuals act upon their intentions when they have the necessary skills to do so (Yzer, 2011). This model stipulates that if the attitude, perceived norm, and self-efficacy values coincide with the intention, the behavior will be executed barring any environmental restrictions (Yzer, 2011). By identifying the patterns regarding obstacles preventing individuals from achieving this intention of riding, the campaign message can be more accurately tailored to fit the required influence needed to bridge that gap. Many external factors, such as perceived safety concerns, climate concerns, etc., play into a person's attitude towards public transit. These attitudes can affect how they view public transit and how they choose to interact with it. Those with negative attitudes will avoid riding the bus regardless of their general know-how. On the other hand, those with positive attitudes will increase the likelihood that someone may choose to use public transit regardless of whether or not they have a complete understanding of how the bus system operates.

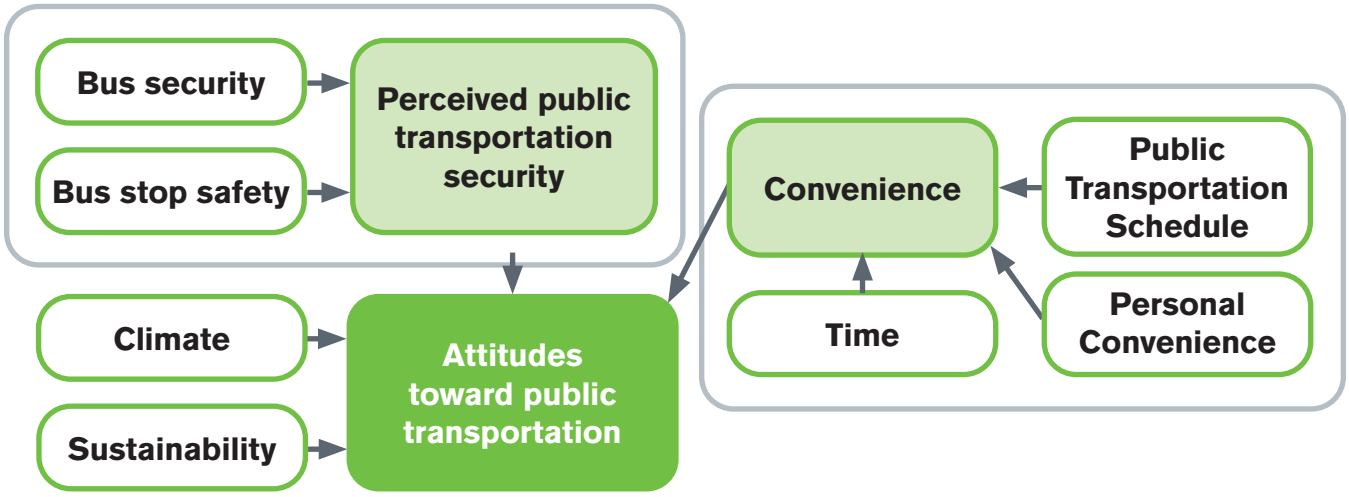

Figure 5 *Theoretical model developed by CMN 520 students*

The role of public transportation

Public transportation has majorly impacted the urbanization of poverty. In the United States, the poverty rate is about 20% in central cities and 7.5% in metropolitan areas (Glaeser et al., 2008). In their study, Glaeser et al. (2008) discovered that the urbanization of poverty mainly comes from access to public transportation in cities. Low-income persons use public transportation because cars are expensive (Glaeser et al., 2008). This makes those with lower incomes search for alternative modes of transportation. Another possible reason public transportation appeals to low-income persons is that it offers a time-intensive alternative (Glaeser et al., 2008). Research has also shown that much of the urban poor consists of minorities (Glaeser et al., 2008).

Case studies

The Washington Metropolitan Area Transit Authority (WMATA) released a series of music videos highlighting real-time ridership information as part of their "Doing Our Part" campaign. These videos showed expanded mobile pay options, enhanced safety measures and cleanings, and were broadcast on local TV and radio stations, and across social media. WMATA demonstrated that it was "doing its part" by increasing safety measures but encouraged riders to "do their part" by following mask requirements and getting vaccinated. The essence of the campaign is that WMATA is "doing their part" by increasing safety measures, but riders must also commit to "doing their part" by following mask requirements and getting vaccinated (Staff, 2021).

The Miami-Dade County Department of Transportation & Public Works created an all-inclusive system designed to use real-time passenger load information as part of their Better Bus Network to address which areas riders felt like they were not being serviced and left behind (Staff, 2021).

The New Orleans Regional Transit Authority (RTA) scheduled daily deep cleans of all of their vehicles and installed plexiglass barriers to assuage health and safety concerns of their riders (Staff, 2021).

The National Association for City Transportation Officials (NACTO) cited transit as the most efficient, affordable, and sustainable way of getting around cities. They also claimed that it led to a crucial change in elements of climate and equity strategies (Staff, 2021).

Research report

Students conducted primary research through an online survey involving select Peoria residents to delve deeper into the current trends and circumstances surrounding public transit in the City of Peoria. These research findings helped determine the best strategy and tactics to be employed in the proposed communication campaign. The research suggests that Peoria residents need more exposure to the quality and service of Peoria, which underlies the strategies and tactics proposed in the Ready to Ride Campaign.

To alleviate concerns of an ever-growing carbon footprint and help ease the daily stressor of commuting, the City of Peoria's Transit Division is attempting to increase ridership among its citizens by offering new programs such as Peoria-On-The-Go (POGO), Dial-A-Ride, and by expanding their fixed routes through Valley Metro.

Students conducted primary research to complement the secondary research with these motivations in mind. From this, students examined which factors contribute to citizens' attitudes towards public transit and how they choose their method of transportation. The data was received through this public survey and interpreted to better understand the lack of ridership within the City of Peoria.

Research questions

Primary research suggests Peoria residents are reluctant to use public transportation due to several factors that resulted in a lack of enthusiasm and low ridership. To further investigate the driving factors behind this lack of enthusiasm, the student team developed the following research questions to measure the frequency of public transportation usage, the reasoning behind using public transit, and the existing knowledge of general public transportation operations in the City of Peoria:

- **RQ1:** How often do the residents of the City of Peoria use public transportation?
- **RQ2:** What reasons do City of Peoria residents use/do not use public transportation?
- **RQ3:** How knowledgeable are City of Peoria residents about topics concerning public transportation?
- **RQ4:** Which media sources do residents of the City of Peoria use to find information regarding public transportation? (i.e., social media, website, etc.)

Methodology

The target population for the Omnibus survey was adult residents in the City of Peoria. The survey was virtually distributed to Peoria residents via Peoria media channels, Facebook, Peoria's website, and the NextDoor app. One hundred and twenty-seven individuals accessed the survey. Nine were removed due to incomplete responses, meaning most of the survey was left incomplete. The final sample was 119. The survey was open to employees, though they were not the primary focus of the research. The City of Peoria did provide an incentive for residents to participate; residents could enter a raffle for a $10 gift card to Black Rock Coffee Bar. The questionnaire was hosted on Qualtrics and distributed via anonymous links. The questionnaire did not collect personal information, such as name and address. The questionnaire was split into blocks, including recycling, transit, and media consumption. Respondents were randomly presented with two sections of questions from the general survey.

The virtual survey went live on October 1, 2021, and data was collected for two and a half weeks. Immediately following the data collection period, the campaign team received the survey data via an Excel spreadsheet.

The campaign team brainstormed questions that would provide essential information to guide the campaign. The team created seven questions: one-response multiple-choice, select-all-that-apply, open-ended, and Likert scale questions. The questionnaire was then sent to Project Cities and city contacts for final approval before distribution to the public. Please see **Appendix A** in the original student content at **links.asu.edu/PCPeoriaTransit-RecyclingMessaging21F** for the finalized survey questions and response options related to public transportation.

Findings

The survey was conducted to learn about the residents' opinions and experiences on Peoria's public transit and determine the best strategy to launch a public transit ridership enhancement campaign. Eighty respondents yielded the following answers:

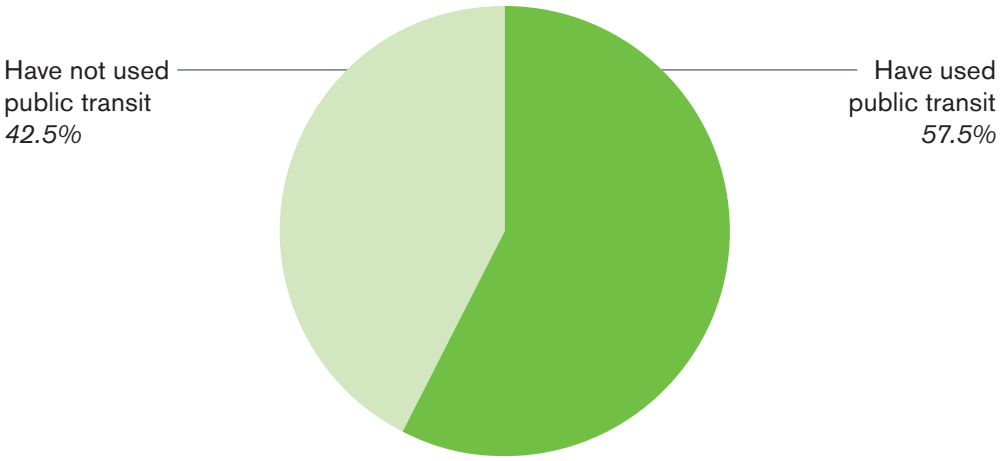

Figure 6 *Public transit usage in Peoria*

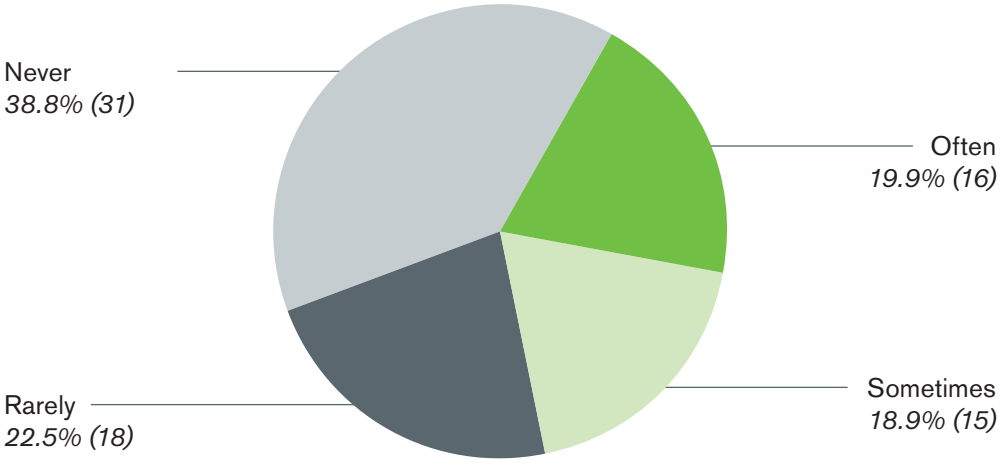

Figure 7 *Public transit usage frequency in Peoria*

Question one asked whether the respondent had ever used public transit in Peoria, such as Valley Metro, Peoria special bus, or POGO. Forty-six people (38.7%) answered yes, and 34 people (28.6%) said they never used Peoria public transportation (Figure 6).

Question two asked how often the respondent used Peoria public transportation during the past month. Thirty-one respondents answered never (26.1%); 18 respondents answered rarely (15.1%); 15 respondents answered sometimes (12.6%); 16 respondents answered often (13.4%) (Figure 7).

When asked about why respondents might use public transportation, only those who answered “Yes” to having used public transit in the last month were shown this question. When respondents were asked about their decision to use public transit, 36 chose environmental awareness. Twenty-three respondents opted for economic reasons; 23 chose it as more convenient than driving; four respondents answered they do not have a reliable vehicle, and three respondents said they want to avoid driving while intoxicated.

Question four asked which type of outings Peoria residents used public transportation and offered a “select all” option. Thirty-four respondents answered they use Peoria public transit for commuting to work and school, 26 people answered they use public transit to go shopping, 14 answered they use public transit when they go to events such as concerts or sporting events, 13 answered they use public transit when they go to bars or restaurants. Five respondents answered that they use public transit to run errands (Figure 8).

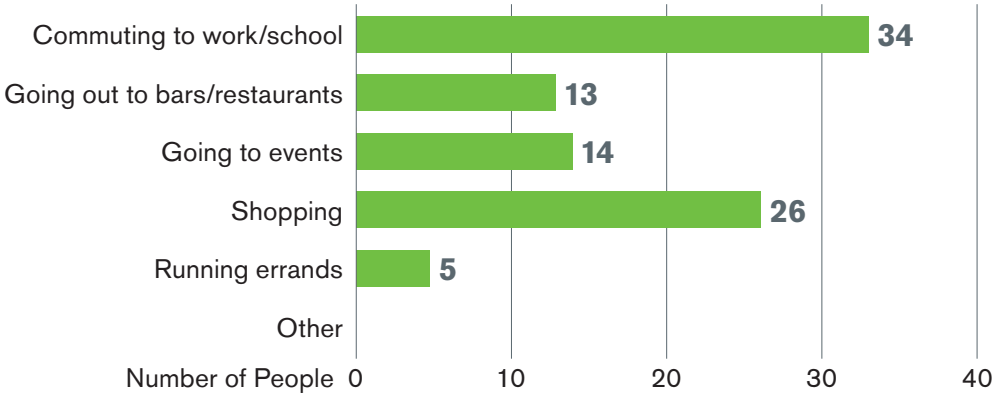

Figure 8 *When public transit is used in Peoria*

For respondents who answered “Never” to the transit use frequency question, 31% of respondents chose practicability reasons when asked about what discouraged them from using public transportation. Twenty-five percent said they had never considered using public transit; 12% admit they are not knowledgeable about using public transit. Eight percent answered that comfortability affects their decision not to use public transit, and another 8% were concerned about the risk of getting COVID-19 when using public transit. Six percent said they were worried about safety issues unrelated to COVID-19. Finally, 10% opted to choose “other” as an answer.

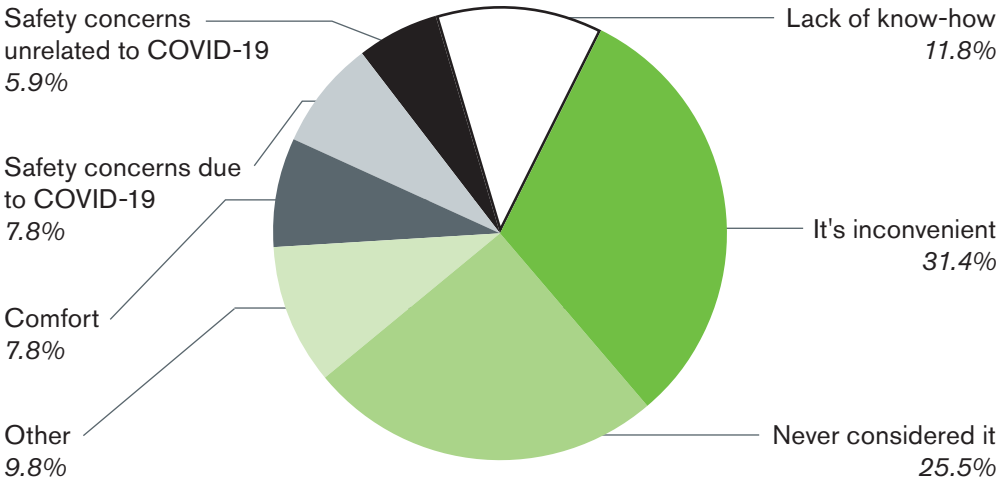

Figure 9 *Barriers to using public transit*

Peoria residents were surveyed to understand who they are and how they interact with public transit. Of the 115 participants, 57 identified as male, 57 identified as female, and one identified as other. Their ages ranged from 18-74. Students focused on age, gender, and income level to gain insight into who is using the public transit systems set up by the City of Peoria to quickly identify which population group(s) needs to be focused on in future marketing campaigns. From the findings, we can see that most ridership comes from males in the 25-44 age range. Peoria has a higher income level, so ridership is not explicitly related to need-based riders.

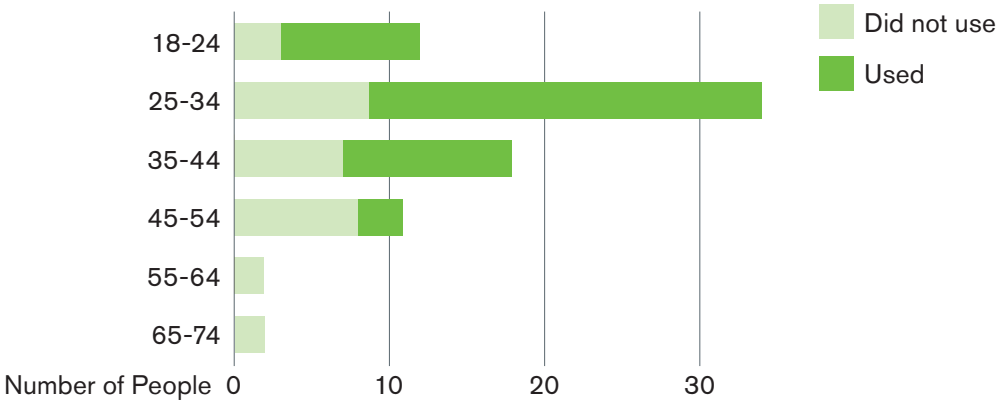

Figure 10 *Public transit usage in the last month, results by age*

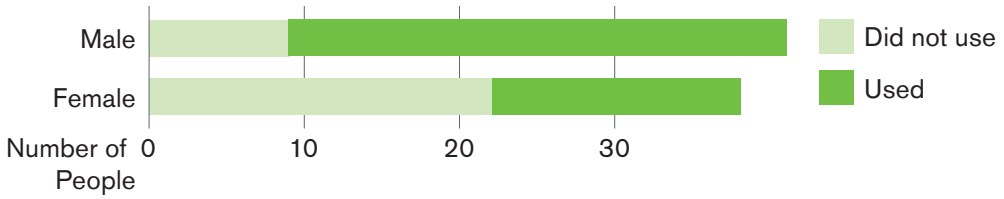

Figure 11 *Public transit usage in the last month, results by gender*

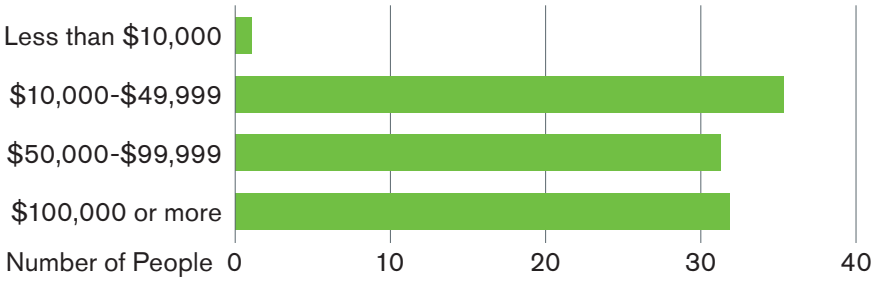

Figure 12 *Survey demographic results by income*

Participants in the survey notably considered themselves to be environmentally conscious. While the majority were concerned with environmental issues on a larger scale i.e., more than just within their community, a smaller portion of those concerns were enacted upon in terms of transportation.

When asked what discourages respondents from using public transportation, five participants stated reasons such as “It is inaccessible” and that they were “Not sure about cleanliness.” For the complete list of responses, see **Appendix B** in the original student content. On the other hand, when asked if anything would encourage the participants to use public transportation, 26 responses were recorded. Many participants expressed that they would use public transit if there were “A stop right by my house and many choices for where it would take me.” Several participants also stated reasons such as “If I did not have a car” or “If there was an event and parking would be an issue,” they might consider using a mode of public transportation offered by the City of Peoria. However, a few respondents believe that “There is nothing that would encourage me to use public transportation.” To see the complete list of responses, please see **Appendix C** in the original student content.

Editor's Note
Appendices are available in the original student content online at **links.asu.edu/PCPeoriaTransit-RecyclingMessaging21F**.

Interpretation and evaluation

The Peoria Transit Survey can provide substantial input in crafting the messaging strategy for a public transit ridership enhancement campaign. Answers from the survey may reflect Peoria residents' attitudes towards public transit usage that can be instrumental in creating specific messages for the target audience. The survey echoed that of previous research, showing that public opinion favors the support of public transit; however, most of those supporters do not use transit themselves(Manville & Cummins, 2015). The following section will outline the relationship between each finding and the potential campaign message.

Previous experience

More than half of the respondents said they had used Peoria public transportation before. Although this finding may indicate that most Peoria residents have taken public transportation, it would only be advantageous in creating effective messages when combined with other findings, such as what discourages residents from using public transit. While Peoria residents might be aware of the public transportation services offered, not all may be regular riders. Some may have used public transportation before, but only when other factors kept them from using their vehicles. Additionally, previous research has determined that men tend to have more positive attitudes surrounding public transportation (Beirão & Cabral, 2008), showing that women tend to have a more negative outlook which may prevent them from using public transit in Peoria.

Environmentally conscious

The environment is a significant factor for most riders who currently use public transit. Over 30% of respondents cited environmental friendliness as their reason for utilizing the Peoria public transportation system. Messages surrounding environmental impact should be considered going forward with future campaigns. Combining the pollution efforts of both environment and road congestion could be helpful when persuading non-riders to change their commuting habits.

Financial impact

Respondents also reported reasons and factors related to the financial impacts of public transit. About 25% of respondents identified the reason for their public transit use as cost-effectiveness. In addition to the actual method of transportation, the destinations most selected by the participants revolved around finances; either commuting to work (33%) or going to events, bars, restaurants, and shopping (combined 53%).

A more thorough examination of how these individuals contribute to the local economy could prove helpful when trying to determine messages of how public transit has a positive financial influence. Additionally, considering the higher income levels of Peoria, alternative modes of transportation could be cost-effective for lower-income households due to the cost of owning cars (Glaeser et al., 2008). The cost savings on gasoline and taxes may also be a consideration when targeting messages towards specific economic classes for public transit (Manville & Cummins, 2015). The financial impacts of riders and the local economy should be considered in the Transit Master Plan proposed by the City of Peoria.

Inconvenience

The survey also identified inconvenience as a critical factor in why residents do not use public transit. Of the respondents who selected "never" as the option for ever using public transit, the most selected reason for why was an inconvenience. This theme also pairs well with the knowledge scores, relating to the lower results for non-riders. Perhaps if campaigns were geared more towards informing the public how to use the transit system, in addition to the benefits environmentally and economically, a shift in attitude might be possible towards convenience. This factor may contribute to the difficulty of changing the behavioral changes of car owners, which might be swayed by financial incentives, or penalties, of using public transportation instead of cars, such as a gas tax (Manville & Cummins, 2015). Additionally, a future study regarding the specifics of the inconvenience, such as exposure to the outdoor elements (Fraser & Chester, 2017), could be beneficial in identifying how to persuade non-riders who are on the fence about public transit.

Safety

After conducting factor analysis, Joewono and Kubota (2006) found that the passengers are the most responsible party involved in safety and security. They argue that it is essential to inform, train, and educate the passengers about public transportation because they can influence the perceptions surrounding public transit. Joewono and Kubota (2006) also discovered that it was essential for a coordinating institution to improve passenger knowledge. Another factor that affected the public's perception of transit was the skill and knowledge of the driver to operate public transportation in safe and secure ways (Joewono & Kubota, 2006). The last factor that was revealed to be important was technology, meaning that the quality of buses and infrastructure needs to be improved (Joewono & Kubota, 2006).

Limitations

The data collected was limited due to the time constraints and narrow scope of the population measured. It should be noted that this survey also required participants to have access to the internet to find and complete the survey.

While this data helped inform the current campaign, a more detailed and specific qualitative survey should be conducted to extract concrete reasons why the public feels inconvenienced with public transportation. In addition, considering the number of people who want to use, and like the idea of, public transportation from this survey, it could be beneficial to explore the other factors that might contribute to that decision, outside of the time components.

Campaign plan

The Ready to Ride campaign highlights strategies and tactics projected to increase public transit ridership in Peoria through communication exposure using the existing and recommended resources. The campaign plan includes relevant information regarding the goals, target publics, messages, objectives, strategies, and tactics that will be helpful for the City of Peoria to increase ridership among its Valley Metro and Peoria On The Go (POGO) buses. The proposed campaign budget ranges from $16,352 - $170,352, which includes a $2,000 contingency. Ready to Ride is proposed to run in 2022 and be divided into four main phases each quarter.

Ready to Ride is a campaign created for the City of Peoria to increase ridership on POGO buses and fixed-route buses. In doing so, students hope to raise awareness of public transportation systems already put in place by the City of Peoria. The campaign plan includes pertinent information regarding the goals, target publics, messages, objectives, strategies, and tactics that the City of Peoria should consider implementing to increase ridership among their Valley Metro buses and POGO. Evaluation methods were also developed to determine the success of the campaign. In addition, a timeline is depicted below as a suggestion for implementing the campaign's tactics, and a budget is presented to break down the cost of each tactic.

Goal

Increase ridership among the City of Peoria's public transportation systems, specifically POGO and the fixed-route buses operated by Valley Metro.

Target publics	
Primary	***Secondary***
Middle-aged males Environmentally conscious individuals	Teenagers Elderly Women

Figure 13 *Campaign target publics*

Since middle-aged men and environmentally conscious people will be most affected by the campaign, they are isolated as the two primary target publics. As observed from the Omnibus survey, most ridership comes from males in the 25-44 age range. Over 30% of the respondents cited environmental friendliness as their reason for utilizing the City of Peoria's public transit system.

Teenagers, older adults, and females were selected as the secondary target public because there is potential to increase ridership among these audiences. The number of licensed 16-year-old drivers has significantly decreased from 46.2% in 1983 to 25.6% in 2018 (Buchholz & Richter, 2020). With fewer teenagers getting their licenses, there is an opportunity to message teenagers about riding the bus, so they do not have to rely on their parents to drive them places. On the flip side of teenagers trying to gain a sense of independence are the older adults who cannot drive themselves due to a decrease in cognitive functions and loss of vision. Targeted messaging for an older population could help them regain a sense of independence without relying on others.

Fewer women decide to use public transit due to issues of safety and comfort. If some messaging were targeting women and addressing their concerns, perhaps more women would use public transportation. Using the suggested updates in technology i.e., mobile apps and a user-friendly website, will help the city keep track of the demographics using their public transit systems so they can adjust messaging as needed, should their target audience ever change.

Messages

The Ready to Ride campaign includes vital messages that will communicate information about Peoria's public transportation system to the target audiences.

- **Message 1:** Peoria provides readily accessible and reliable public transportation.
- **Message 2:** Public transit is a fun, safe, and affordable way to arrive at destinations.
- **Message 3:** POGO offers an inexpensive alternative way to travel to all of Peoria's points of interest.
- **Message 4:** Compared to cars, public transit is the more sustainable and cost-effective mode of transportation.

Objectives

The following objectives will lead to the achievement of the campaign goal:

- **Objective 1:** To increase ridership on POGO by 50 first-time riders by July 1, 2022.
- **Objective 2:** To increase ridership on POGO by an additional 50 first-time riders by January 1, 2023.
- **Objective 3:** To increase ridership on Valley Metro buses by 25% by January 1, 2023.
- **Objective 4:** To increase website traffic by 10% by January 1, 2023.

Strategies and tactics

Website redesign

The City of Peoria will restructure its current website. Since most people get their information online, having a centralized location for all public transportation information is crucial in understanding public transit services and offerings (Peek et al., 2015). In addition, having an updated web page will make it easier for people to navigate and can help increase website traffic.

Tactic 1: Homepage design

On the homepage, there should be multiple clickable links of Where to Buy Tickets, Real-Time Schedule of Buses, Maps of Route Information, How to Ride the Bus, etc.

Tactic 2: Web page design

Once the homepage redirects the user to the information they want to know, a paragraph should be written to verbally explain the information along with any relevant graphics that will enhance the UI/UX aesthetic.

Tactic 3: Informational video

A short video ranging from 15 seconds-2 minutes will be created to explain the process of riding the bus (where to buy tickets, how to map routes, locate the proper bus schedule, etc.) so residents can easily follow along and feel confident when riding the bus.

Tactic 4: Mobile app

Create a mobile app compatible with Android and Apple devices to allow the riders to purchase tickets/passes before riding the bus. By having ticket-purchasing capabilities more easily accessible, residents may be more likely to not only purchase one-time tickets but access bus passes that are more cost-effective and in turn will save them money (Valley Metro, n.d.).

Partnering with local businesses

The City of Peoria will partner with local businesses to increase ridership on POGO and Valley Metro buses. Since businesses can be influential in recommending other businesses, it can be beneficial to the City of Peoria to enter a pseudo-partnership with some local businesses along the major routes to encourage patrons of those establishments to use the bus to get to their preferred vendors.

Tactic 1: Cross-promotion with local businesses

Email potential businesses along the various bus routes to create partnerships that allow for cross-promotion in venues and on buses. By doing so, the City of Peoria would expand its audience to include those who might not have ever thought about public transit.

Tactic 2: Advertising with local businesses

The City of Peoria should offer to hang posters/print advertisements either inside or outside of their Valley Metro buses, and in exchange, the businesses should hang posters recommending the buses within their establishment.

Tactic 3: Transit expansion

The City of Peoria should consider expanding its newer transportation system, POGO, to stop at the area's most popular restaurants and establishments. As it stands, POGO Destinations take Peoria residents to major locations, including Vistancia Safeway, Four Corners area (Lake Pleasant Parkway and Happy Valley Road), Sunrise Mountain Library, Arizona Broadway Theatre, Peoria Sports Complex, Old Town Peoria, Rio Vista Community Park, Peoria Pines Golf & Restaurant, Park West, Pioneer Community Park, Trails.

"Ready to Ride" community event

The City of Peoria will host a community event to introduce POGO to the public formally. The city will bring more awareness to this new mode of public transportation and get residents excited about the new and updated service.

Tactic 1: Local business participation

Local businesses that have agreed to partner with the city's Transit Division will be included in the event by having their booth/stand to promote their business. Partners will help advertise POGO by offering discounts at their place of business when patrons show proof of using POGO to get to the establishment.

Tactic 2: POGO bus

A POGO bus will be parked at the event for community members to explore. This will offer potential riders the opportunity to experience POGO firsthand.

Tactic 3: Local radio sponsorship

Have a local radio station co-sponsor the event. They will be listed as the City of Peoria's Public Transit official radio station in exchange for the station's live entertainment services. They will be played exclusively on all of Peoria's community-operated services.

Social media and engagement

The City of Peoria Public Transit section will create its social media. Today around seven-in-ten Americans use social media to connect, engage with news content, share information and entertain themselves (Pew Research Center, n.d.). Therefore, it would benefit the public transportation section to have their own social media rather than share it with the various sections within the City of Peoria.

Tactic 1: Transportation social media accounts

The public transportation section will create social media accounts on Twitter, Facebook, and Instagram.

Tactic 2: Maintain regular posting schedule

Create a social media presence on each social media platform and maintain a regular posting schedule. Potential posts could include advertising events (e.g., concerts, parades, bar crawls) and reminding the public to stay safe and responsible using POGO or the Valley Metro buses.

Tactic 3: Social media raffles

The City of Peoria can do a raffle on their social media accounts once a month. For instance, riders can post a picture of themselves at a Peoria bus stop or on the bus, or they can share their story of why they began using public transportation. Riders then can tag the public transportation system or use the selected hashtag for that month (i.e., #ReadyToRide) for a chance to win free bus passes.

Evaluation

The measurables for this campaign are primarily in regards to ridership. Therefore, the critical evaluations for all three objectives are the measures of riders for transit and POGO, during the campaign's beginning, midway, and endpoints. The transportation department will coordinate with Valley Metro to acquire these numbers to obtain rider reports and their reports on POGO numbers to compare those results with the most recent pre-COVID-19 reports available. This side-by-side comparison will give the City of Peoria the most accurate idea of how much ridership has increased in the years following the pandemic.

In addition to the increase of ridership for Objective 1, a similar survey will be conducted at the end of the campaign to examine if any new themes have emerged regarding the reasons for using or not using public transportation. A similar survey will be given to POGO riders to measure both Objectives 2 and 3. This survey will identify which aspects of the campaign were the most successful and improved areas. While the campaign aims to increase ridership, students also hope to increase the public's knowledge of the public transit services offered through the City of Peoria. This post-campaign survey will measure whether or not our campaign successfully spread that knowledge.

Timeline

2022

January

- Distribute press release to Peoria community announcing the new and improved website and app
- Order posters and flyers to be distributed to local businesses
- Start creating a "How To Ride" video
- Create social media posts that link to new website and encourage users to "Like" and "Follow" to stay up to date with the latest from Peoria Transit
- Create social media posts about resolutions one may have to encourage ridership: "It's not too late to start your New Year's Resolution of riding the bus and saving money!"
- Introduce monthly giveaway to win free passes using #ReadyToRide
- Email local businesses about partnerships (using Mailchimp or other trackable email sources)
- Continue posting at least 1x a week to each of Peoria Transit's social media pages to build a following
- Create posts that hint something new and exciting is headed to a phone near you
- Work with local businesses to hang up the posters and flyers in their establishments and cross-post about the partnership on all social media pages
- Announce the new mobile app — "Get bus tickets straight to your phone!"

Figure 14A *Campaign timeline*

February

- Release teaser clip of “How To Ride” video
- Order stickers with QR code that links to a website landing page with the completed video
- Create a social media post relating to the “How To Ride” video: “We love riding the bus so much, we made a video all about how to do it! Watch our video here: link."
- Place QR code stickers at bus stops (9 at each stop in a 3x3 grid for aesthetic appeal = 180 stickers used at stops) and in partnering businesses around town (the remaining 20 stickers)
- Promote the app on social media pages and encourage people to download it for easy access to all their public transportation needs
- Pick the winner of the free bus passes for February

March

- Create a social media post relating to Spring Break: “Spring Break is right around the corner. Take a break from driving and enjoy all your favorite local spots with POGO!”
- Start a social media campaign featuring ways riding the bus is beneficial for the environment
- Create a social media post related to St. Patrick’s Day: “We’re so lucky to have so many wonderful people in our community! What makes you feel lucky?”
- Check-in with partnered businesses to see if they have any events they would like to spread the word about. Then, emphasize riding the bus to them

April

- Evaluate Q1 ridership for both fixed-routes and POGO

May

- Make adjustments to posting schedule as dictated by findings from Q1 engagement
- Ensure app and website are bug-free and working properly

June

- Keep up social media presence (e.g., national days, holidays, cross-promotion of events with local businesses, staying cool this summer, etc.)

July

- Evaluate ridership growth from January until this point for both the fixed-routes and POGO
- Audit email open rates, video views, and click-through on social media pages

August

- Continue to post to social media and engage with the audience while also highlighting local businesses and the benefits of public transit

Figure 14B *Campaign timeline continued*

September

- Check-in with local businesses to see if there are any new ways they could be supported/promoted
- Evaluate whether any additional posters/materials may need to be replaced around city bus stops or inside businesses

October

- Create a social media post: "In honor of #MeanGirls day, here's a reminder that you CAN sit with us! #readytoride"

November

- Evaluate ridership growth from January until this point for both the fixed-routes and POGO

December

- Keep up social media presence (e.g., national days, holidays, cross-promotion of events with local businesses, etc.)

2023

January

- Evaluate the overall success of the Ready to Ride campaign (25% increase in ridership on fixed-routes and 100 new riders on POGO)

Figure 14C *Campaign timeline continued*

Budget

According to the approved FY21 Annual Program Budget, $5,275,433 has been allocated to transit in the "Special Revenues" section. While this may seem like a large amount of money, a portion of those funds may already be allocated to other public transit needs. Therefore, to have the most successful campaign, students propose a budget that ranges from $16,352 - $170,352, which includes a $2,000 contingency. The main focus of the strategies is to showcase how easy incorporating public transit into everyday life can be.

To accomplish this, a technology overhaul needs to be implemented that will bring the city's website up to date and become more user-friendly—resulting in more bus passes sold and increased ridership. The next step of the campaign plan includes creating or revamping the already existing mobile app. Having a one-touch access point for all of a rider's needs (passes, schedules, real-time updates, etc.) is crucial to creating opportunities for new first-time riders to find the buses they need and will help retain the riders the city already has.

Technology	Labor	Print & Media	Event	Contingency
$8,180-$155,180	$3,000-$5,000	$2,480-$7,480	$692	$2,000

Figure 15A *"Ready to Ride" campaign budget overview*

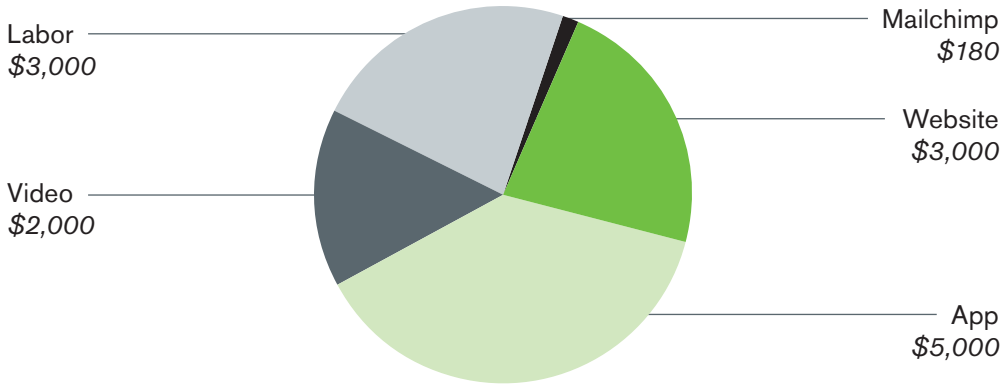

Figure 15B *"Ready to Ride" campaign technology budget*

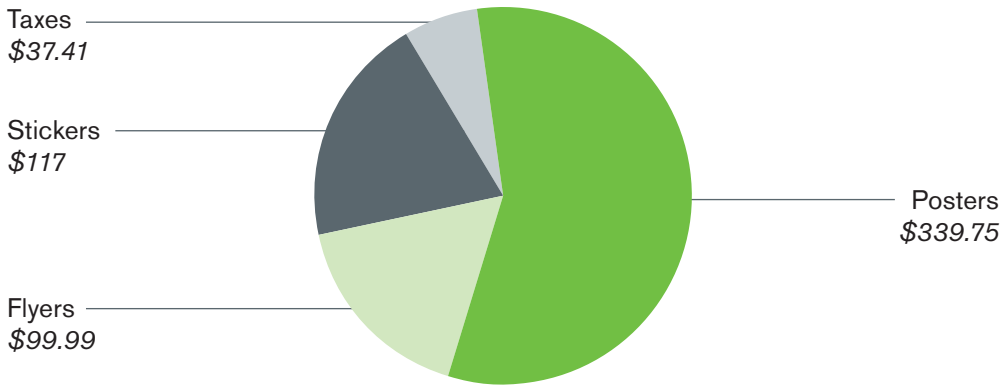

Figure 15C *"Ready to Ride" campaign print budget (excluding bulk discount quoted from printing company)*

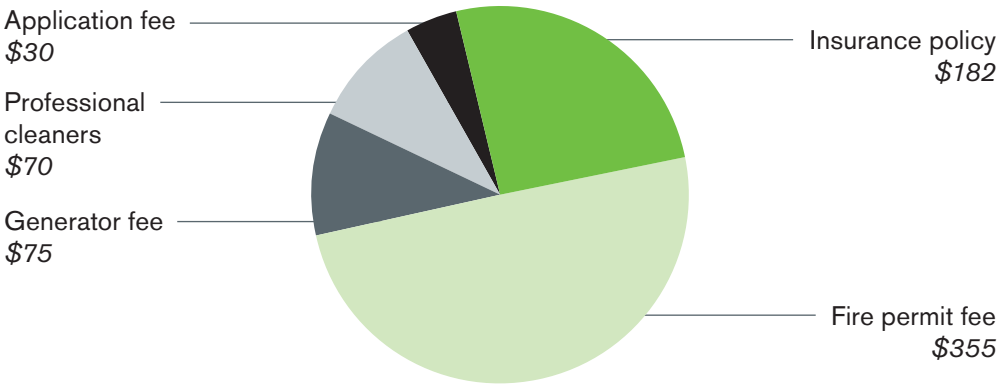

Figure 15D *"Ready to Ride" campaign event budget*

In-depth budget summary

For the potential $170,352 budget, students have assembled an itemized budget for each tactic. The City of Peoria can choose options based on what price it is willing to pay.

Strategy 1: Website redesign

The total cost of a website redesign will depend on the City of Peoria's option. Due to the complexity of the web design needed (building out landing pages, UI/UX design for usability, and building in a purchasing system and tracker), students recommend using professional services to maximize the webpage capabilities. The total cost of building a mobile app will depend on the City of Peoria's option. Due to the complexity of the app design needed (UI/UX design for usability, built-in purchasing system, and bus-tracker), students recommend using professional services to maximize the app capabilities.

Website and mobile app design price ranges	
Method used	***Approximate price range***
In-house website redesign	$0-$300
Freelance website redesign	$500-$5,000
Web design agency	$3,000-$100,000
Mobile app freelance design	$5,000 (basic app build)
Mobile app agency design	$55,000 (complex app build)

Figure 16 *Strategy 1 option price ranges*

Strategy 2: Partnering with local businesses

To get the most out of the partnerships with local businesses, students will hang up posters and flyers in various establishments along the route of 20 bus stops. Posters will highlight the POGO route and showcase the business that will be included as the “go-to” spots in Peoria. Likewise, the flyers will be hung in various businesses to promote ridership and citizen know-how.

Communication, design, and print collateral price ranges	
Promotional item/Method used	***Approximate price range***
Email communications (Mailchimp)	$14.99 per month (about $180 per year)
Posters (25) printed at 16"x20" or 18"x24"	$399.75
Flyers (250) printed at 8.5"x11	$99.99
Taxes and fees	$27.93
Bulk discount	-$184.99
Shipping	$0 for orders over $100
Total cost of printed materials	**$352.67 (when purchased through FedEx Print)**
Stickers (200) featuring a QR code that links to the "How To" video, printed at 3"x3"	$117
Taxes and fees	$9.48
Shipping	$0 for orders over $100
Total cost of stickers	**$126.48 (when purchased through Stickermule)**
In-house design (using City of Peoria marketing/creative department)	$0 (beyond usual payroll)
Freelance design (40 hours)	$3,000
Agency design (40 hours)	$5,000
Video creation (2-3 minute professionally produced video)	$2,000-$7,000

Figure 17 *Strategy 2 option price ranges*

Strategy 3: "Ready to Ride" community event

To showcase the POGO bus and its service, the City of Peoria will work with a local radio station to co-sponsor a free community event. The event will take place on a Saturday morning and run through the early afternoon. Local businesses featured along the POGO route will be invited to attend the event as vendors and will have the opportunity to promote their business. In addition, discounts and various offers will be given to residents who use POGO services to access those points of interest.

Community event cost price ranges	
Item	***Approximate price range***
Event permit and application fee	$30
Fire permit fee, includes permits for tents/ canopies ($80), carnival/fair/market ($200), and open flames/cooking ($75)	$355
Generator fee to power vendor booths	$75
Insurance policy, must include insurance for general commercial liability, auto liability, and liquor liability (if applicable), naming Peoria as additional insured	$182 (according to insureon.com)
Professional cleaners keep residents safe from COVID-19 and other health concerns by routinely cleaning the POGO bus and various touch points across the event	$45-$70 (for a three-hour event)

Figure 18 *Strategy 3 option price ranges*

Strategy 4: Social media and engagement

The City of Peoria's Transit Department needs to develop its online presence to encourage ridership. By creating their accounts (separate from the shared municipal social media pages), they will post more freely about the content that will inform and engage their audience.

Social media and engagement price ranges	
Promotional Item/Method used	***Approximate price range***
In-house design (using City of Peoria marketing/creative department)	$0
Freelance design (20 hours)	$1,500
Agency design (40 hours including posting and monitoring of social engagement)	$5,000
Monthly giveaways can act as an incentive for people to ride the bus and share the experience by posting photos/videos using Peoria transit, and users can be selected to win free bus passes	$0

Figure 19 *Strategy 4 option price ranges*

CONCLUSION

The campaign plan addresses the top concerns of Peoria citizens, both riders and non-riders alike, communicates the City of Peoria's opportunities and strengths, and creates awareness for the services offered to the community. Ready to Ride will help streamline the bus commuting process while also bringing awareness to the public about how easy it could be to add public transportation to their lives. It is a simple plan: all they have to do is get **ready to ride**.

Figure 20 *POGO bus logo*

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To access the original student reports, additional materials, and resources, visit:

links.asu.edu/PCPeoriaTransit-RecyclingMessaging21F

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PART 2:

It's Easy to Recycle Right: Communication Strategy & Proposal

REDUCING RECYCLING CONTAMINATION THROUGH EDUCATIONAL MESSAGING

CMN 520:
COMMUNICATION CAMPAIGNS

SCHOOL OF SOCIAL AND BEHAVIORAL SCIENCES

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INTRODUCTION

During the Fall 2021 partnership with the City of Peoria and Project Cities, students in Arizona State University's Communication Campaigns course researched Peoria, created and analyzed a survey, and developed a communication proposal to tackle two areas of opportunity for Peoria about its municipal recycling program. The research team's proposal is designed to meet two objectives:

- **Increase** the waste diverted through recycling in Peoria for the year 2023 to 30% or 5% more than the 2022 diversion rate, whichever is greater, and
- **Decrease** the contamination rate in the city of Peoria to 15% in 2023.

The relevant publics identified are Peoria residents who currently recycle frequently and those who currently recycle less often. The team also determined that Peoria's school children are an important public who should be considered in the campaign plan.

The team built a campaign based on background research and a literature review. The most salient findings were the positive correlation between self-efficacy and higher recycling rates, the importance of convenience in recycling patterns, the positive impact that education has when it targets multiple audiences, and the importance of using a variety of messaging channels and repetition of messaging.

RESEARCH METHODS

Primary research was conducted to answer two research questions. Determining what affects recycling behavior and attitudes gave the research team information about what Peoria residents are doing right and where they can improve. Knowing the media and sources that are most likely to be frequently watched and viewed as credible allowed the team to choose media sources and effective platforms that resonate with residents to promote the It Is Easy to #RecycleRightPeoria campaign. This report also includes a timeline for implementing each segment of the proposal, the overall budget with details for each strategy, and suggested methods to evaluate the campaign's success following implementation.

Situation analysis

To learn more about recycling habits in communities similar to Peoria, students examined several research articles that discuss education, contamination rates, and the correlation between self-efficacy and higher recycling rates. Research regarding different messaging channels and communication methods, including pilot campaigns for recycling, can help to inform and plan future campaign efforts.

Research report

To inform their communication strategies, students developed two research questions:

- **RQ1:** What are the factors that affect recycling behaviors and attitudes?
- **RQ2:** What types of media and sources are preferred by the residents of the City of Peoria to best promote positive recycling practices?

To answer these questions, students conducted an Omnibus survey on behalf of Peoria through Qualtrics. The survey was distributed to Peoria residents to gain insights into their recycling habits and their perceptions of recycling. Students analyzed the Omnibus survey results to gather key themes to inform their messaging.

Campaign plan

Informed by the extensive literature review and Omnibus survey, students developed four communication strategies to inform and guide Peoria leadership as they design effective recycling communications. Each strategy is accompanied by several tactics, which incrementally build out the overarching strategy and message through modular tasks. Additionally, students created a timeline and budget for the campaigns and an evaluation strategy.

FINDINGS & ANALYSIS

Situation analysis

The City of Peoria tasked students with developing a communication campaign to increase recycling in the City and reduce contamination of recyclables. In order to get to the root of the issues that Peoria faces, the team considered internal factors such as the history of the City and its demographics and external factors such as political and economic considerations, strengths, weaknesses, and opportunities for the City. A review of the relevant literature on municipal recycling concludes this section.

Internal factors

Brief history of the city and its waste management program

Peoria was incorporated in 1954 and adopted as a city in 1971; at the time, the newly designated City's population was a meager 4,792 residents (City of Peoria, n.d. c). Today, the population has burgeoned to 190,985 and is growing rapidly (U.S. Census, 2020 b; Davies, 9/1/2021). The landmass of the City is approximately 179 square miles (City of Peoria, n.d. a), with a population density of approximately 1,067 residents per square mile. The density is similar to that of Maricopa County, with 1,316 people per square mile (World Population Review, Maricopa County, 2021), but is less than one-third of the City of Phoenix's population density of 3,349 (World Population Review Phoenix, AZ, 2021).

The City of Peoria offers trash and recycling collection as a service through its water and solid waste fees. The charge per resident for one trash and one recycling bin is $16.21 per month, and additional trash bins are billed at $13.28 monthly (City of Peoria, 2020). Peoria does not have its own recycling facilities. Following the collection of recyclables from residents and business partners, the City's waste management trucks transfer the material to the Phoenix Materials Recovery Facility (MRF) (City of Peoria, n.d. d). The City recently invested $1M into the Phoenix MRF to improve the processing of recyclables (Davies, 9-16- 2021).

Relevant public demographics

The majority of Peoria's recycling customers are single-family residences; however, Peoria also services over 400 commercial customers, including multifamily housing and other businesses (A. Redd, personal communication, September 16, 2021). Peoria's median annual household income was $75,323, and the annual per capita income was $34,343 in 2019 (U.S. Census Bureau, 2020 e). Peoria's per capita income is significantly higher than the median and per capita incomes in both the City of Phoenix ($57,459 household, $29,343 per capita) and in Maricopa County ($64,468 household, $33,279 per capita) (U.S. Census Bureau, 2020 f; U.S. Census Bureau, 2020 a). Similarly, the 74.2% of Peoria residents who live in owner-occupied housing is higher than the 54.4% who do in Phoenix and the 62.2% who do in Maricopa County (U.S. Census Bureau, 2020 e; U.S. Census Bureau, 2020 f; U.S. Census Bureau, 2020 d).

Compared with the City of Phoenix and Maricopa County, Peoria's population is much more connected, with approximately 95% of households having a computer and 90% having a broadband connection (U.S. Census Bureau, 2020 d). Education attainment is also higher in Peoria than in the adjacent city and the county, with 92.6% of the adult population having graduated from high school and 32.8% with a bachelor's degree or higher (U.S. Census Bureau, 2020 d).

Though the City's population is somewhat diverse, it is less than the City of Phoenix and Maricopa County. Peoria's population is 20% Hispanic or Latino, 66% white alone, 4% Black or African American alone, 1% American Indian or Native Alaskan alone, 4% Asian alone, and 4% of two or more races (U.S. Census Bureau, 2020 b). This contrasts with Phoenix's racial demographic profile of 35% Hispanic or Latino, 49% white alone, 6% Black or African American alone, 2% American Indian or Native Alaskan alone, 4% Asian alone, and 4% of two or more races (U.S. Census, 2020 c) and Maricopa County's racial demographic profile of 31% Hispanic or Latino, 53% white alone, 6% Black or African American alone, 2% American Indian or Native Alaskan alone, 4% Asian alone, and 4% of two or more races (U.S. Census Bureau, 2020 a).

External factors: Relevant trends and issues

Several factors have changed the landscape of municipal recycling in recent years. Those that relate to politics and economics are the most

salient among external factors. Historically, the City made a profit from its recycling program. Still, in recent years, due to a decrease in the market value of post-consumer products in the global market and unfortunate contamination by unrecyclable material disposed of in recycling bins, the City was paying approximately $23,000 per month to process recyclables (J. Davies, personal communication, September 1, 2021). The situation has very recently reversed course again, and Peoria expected to make a profit on its recyclables with an anticipated net gain of $3K in October due to "a recovery in the commodities market of paper and cardboard" (J. Davies, personal communication, September 1, 2021). These increases in paper and cardboard recycling drive the increased profits worldwide that municipalities are seeing in recycling programs. Research and Markets (2021) reports, "the global paper recycling market is estimated to be $45.5 billion in 2020 [but will likely] reach $56.2 billion by 2025…"

Due to recent legislation in Arizona that prohibits municipalities from maintaining exclusive control of waste management for business customers in their respective boundaries, Peoria lost over $100,000 when apartments opted to use independent contractors over the City for waste management (J. Davies, personal communication, September 1, 2021). The sentiment among the City's Solid Waste Team was that their business rates are "very competitive" to keep the business they have, but they also pointed out that what truly differentiates the City's solid waste services from the independent competitors is their outstanding customer service (J. Davies, personal communication, September 1, 2021).

Research shows that **framing** matters when it comes to effective messaging about recycling, particularly when appealing to a politically diverse audience. Lybecker et al. (2013) researched the impacts of frames on conservative and liberal audiences. While "engaged" frames were effective in communicating with liberals, they repelled conservative audiences (Lybecker et al., 2013). "[D]uty-based citizens did not support...participatory, global, and environmental frames of recycling and instead preferred recycling frames that dealt with individual responsibility, saving landfill space, and efficiency" (Lybecker et al., 2013, p.317). On the other hand, when a frame emphasizing individual responsibility or civic duty was used, conservatives were more receptive to the message. Meanwhile, liberals also reacted positively to messages that emphasized duty.

Editor's Note
In the context of communication campaigns, framing refers to the rhetoric used to communicate information to the intended audience.

As a city that tends toward conservatism (Weigel, 2020; Haldiman, 2020), effective messages in Peoria will emphasize individual responsibility and civic duty.

While recycling is important on a national level, a brief in the National Conference of State Legislatures (NCSL) addresses the absence of a national mandate for municipal recycling, "Given the absence of a federal recycling law, state and local governments are responsible for their own requirements and have taken various actions to address recycling in their communities" (Schultz, 2020). This lack of a centralized recycling program opens the door for cities to innovate. Cities may benefit from exploring what has worked and what has not in different municipalities. On the other hand, the EPA does propose a National Recycling Goal of 50% of post-consumer waste to be properly diverted for recycling by 2030 (EPA, n.d.).

Current and past communication efforts

On February 3, 2022, Beckie Borquez, Environmental Coordinator for the City, released a video on the City of Peoria's official Facebook page. The 16-minute video, a production of **Sustainable U**, City of Peoria, details the benefits the City sees when Peoria residents "Recycle Right" (Borquez, 2021). These include reduced waste in landfills, using old material to produce new goods, reducing the City's "footprint," and job creation through waste processing and manufacturing. Ms. Borquez notes that the lifespan of a landfill is limited to 75-100 years. Such a short period necessitates recycling to prolong the functional use of each landfill and delay the need to find alternative trash disposal locations.

Editor's Note

The City of Peoria's Sustainable University, or Sustainable U, is a series of instructional workshops and courses designed to encourage residents to make small steps towards sustainable lifestyles. Topics range, including landscape water and design, recycling, and energy efficiency.

Peoria has used multiple campaigns to encourage recycling. The "Recycle Right" is the primary slogan used. Previous campaigns have appealed to elementary-aged children. For example, Javi the Javelina is an animated character that the City has employed to encourage proper recycling. The City is also wrapping recycling collection vehicles to promote recycling and reduce contamination (A. Redd, personal communication, September 16, 2021).

Figure 1 *Waste management vehicle featuring informational wrap design with Javi the Javelina*

SWOT analysis

SWOT analysis
Strengths
▪ Checking for contamination is a strength for the City of Peoria since it is operationally under the control of the city. Trash collectors check containers, tag, and do not collect the trash if there is any contamination.
▪ Peoria launched a **Blue Lid Pilot Program** to make it less complicated for residents to tell if the items that they dispose of are recyclable or not.
▪ An active presence on, and engagement with social media is a potential strength. As Karimkhani (2014) noted, the utilization of social media by a public organization can increase the degree of interaction and closeness between the City and its residents. Since social media is budget-friendly and does not require tiresome preparations to start operating, it can be one of Peoria's strengths.
▪ Information sessions on recycling at schools may be a strength for the City. Revealed by Makimura (2004), exposures to environmental issues and discussion on those problems at every early stage of life greatly impact their recycling behavior. Considering this, offering children opportunities in primary or middle schools to think and discuss recycling with their thoughts and words is expected to affect their parents and eventually increase the recycling rate and decrease the contamination rate.

Figure 2A *SWOT analysis by CMN 520 students*

Editor's Note

In collaboration with The Recycling Partnership, the City of Peoria launched the Blue Lid Pilot Program in May 2021. The pilot lasted six weeks and replaced the lids on recycling bins for 2,600 homes to include a blue lid with what can and cannot be recycled in the bin. At the conclusion of the pilot, the City measured how the lid impacted recycling behaviors.

SWOT analysis

Weaknesses

- One of the weaknesses that Peoria has is cost and labor problems. As Mr. Davies mentioned, charging a contamination fee would be problematic because it would take much time, and the city would need to pay their workers involved in the project regarding the time they spend checking each trash (9-1-2021). According to Davies, charging a contamination fee would be challenging given the City's current budget.
- While the City has been making an effort to boost recycling and encourage its residents to recycle properly, the residents might have difficulty accessing that information. For instance, Peoria provides many visual contents that introduce what is recyclable and what is not on its official website. While this will reach the majority of the population who have internet access, those who do not or simply do not know that the content is provided on the City's website may miss that messaging.
- Though the City has helpful and visually appealing content on its social media platforms, it might be different from what the residents consider eye-catching or aesthetically pleasing to get their attention.

Opportunities

- As the City has been successful with the Blue Lid Pilot Program, they could expand to other materials to reduce confusion of whether an item is or is not recyclable. This has a high chance for success with what the City has gained from the Blue Lid Pilot Program. They can specifically include information on the most confusing items that are not recyclable in Peoria. Perhaps those that are recyclable in other cities, but not Peoria.
- The degree of engagement of residents in recycling is partially under the control of the City; however, it can still be considered as an external factor. There will be a lot of places that the City can target and operate, which may be a great opportunity if conducted tactically.

Figure 2B *SWOT analysis by CMN 520 students, continued*

SWOT analysis

Threats

- The US was one of the leading countries that started working to reduce plastic bags use by charging for them and promoting the use of reusable items. Though these methods helped reduce the use of plastic bags, there is still some potential for further reduction. Charging for plastic bags would pose a challenge due to current Arizona legislation and the limited campaign timeline, especially given the current political concerns relating to municipal plastic bag bans or fees in the State. It could be possible and successful over a longer-term period, which can be an opportunity for recycling in Peoria, working as two of the recycling concepts, "reduce" and "reuse," meaning reducing the chance of producing trash by refusing plastic products and using non-disposable items.
- One of the possible threats that the city faces is confusion about whether the material is recyclable in Peoria. This is both under and out of the city's control. It depends on each resident's knowledge about recycling. However, the City can devote resources to make it easier for its residents to recognize if the item is recyclable or not by providing visual aids and entertainment content.
- While plastic charges could be considered as a weakness for the city, it may also be a threat. It can be a threat because some residents might be against or not even interested in the movement to charge for bags. Societal influence is a very tricky factor because it seems to be under the control of the City; however, that is not the case all the time. Grocery stores are still giving many plastic bags, and they often double bags for heavy items. People prioritize convenience over environmental concerns since there is little physical and direct benefit even if they try hard to be environmentally friendly.

Figure 2C *SWOT analysis by CMN 520 students, continued*

Literature review

Behavioral effects and factors

Researchers working to assess the behavioral effects and factors identified the predictive variables that help organizations increase recycling rates in their cities. One unique article by Tabernero et al. (2015) examined individual, collective, and organizational beliefs. The authors used different techniques throughout the article to examine how self-efficacy affected recycling within neighborhoods. They emphasize the importance of understanding the individual community member and the various organizations because each individual is a part of the whole. Similar ideas have been used by authors Rosenthal and Leung (2020), who found that two perspectives may draw someone's attention to recycling; value-related beliefs and information utility.

The authors also mention individuals who may want to recycle because they have a positive attitude toward it or are encouraged by a perceived social norm. After creating an online survey to gather information for their PRISM, the authors determined that behavioral intention and self-efficacy are closely related. The findings showed that individuals who already recycle but wanted to recycle more effectively already had high self-efficacy and were motivated to seek additional information. The individuals who had low self-efficacy about recycling due to insufficient information were also motivated to acquire more information if only to improve their self-efficacy.

Rosenthal and Linder (2021) also discuss how contamination levels can be affected based on the placement of the recycling bin. The authors found that in Singapore, citizens recycled, but many of the items found in the recycling bin were still dirty and considered contaminated, resulting in incineration. Upon completing six different tests where the authors moved around the recycling and trash bins, they determined that the most effective way to encourage individuals to recycle was to make it convenient. To reduce contamination, it was important for individuals to wash out their recyclables. Something as simple as placing the recycling bin away from the trash bin next to the sink increased recycling rates and reduced contamination rates. The information from these articles will be beneficial as students determine what factors most hinder Peoria residents from recycling and recycling correctly and discover their effective ways to encourage recycling throughout Peoria. These articles solidify that sufficient information will undoubtedly help even individuals with low self-efficacy.

Message channels and communication methods

Research indicates that there are multiple messaging channels and effective ways of spreading information about recycling. Nixon & Saphors (2009) conducted survey research to determine the best medium to spread information about recycling, which is more likely to recycle, and what motivated people to recycle. The data was collected from a national survey distributed throughout the United States. The survey revealed that easy access to recycling and information led to behavioral changes. The majority of people felt one of the best ways to get their information about recycling was face-to-face or via a friend or family member. This type of interpersonal communication proves to be an important factor in impacting recycling behavior. A typology done by Lee and Krieger (2020) analyzes recycling communication, especially regarding contamination and education, specifically the different channels and mediums of spreading information.

The typology focuses on recycling communication campaigns facilitated at the municipal level and local governments. The study found that there were primarily six different approaches. Lee and Krieger's (2020) single channel translational approach reflects the success of these interpersonal communication techniques.

The single-channel translational approach involved getting recycling information out via interpersonal communication, such as phone inquiries (Lee & Krieger 2020). This was an extremely effective method, but it is limited to specific contexts and requires additional personnel. Similar tactics using the specific message channel of SMS text messaging have a significant impact in engaging younger audiences in recycling communication campaigns (Buil et al., 2014). Text messages were targeted towards awareness and attitude changes about recycling and identified any common beliefs or misconceptions. The study done by Buil et al. (2014) shows that many participants did not have correct knowledge or awareness of proper recycling behavior, such as using correct bins. Many participants said that they learned something new and gained awareness. There was also an increase in participants willing to continue receiving information through this channel, increasing campaign and recycling participation. The study indicates that SMS messages may be an effective communication method for this target audience, and for a broader audience, interpersonal communication methods still work.

Nixon and Saphors (2009) discovered that tactics including print sources such as newspapers, mailings, posters, and other media are successful ways of providing information. This survey also found that Americans were more likely to recycle if it was convenient for them, an example being the curbside pickup. The **multichannel deficit approach** uses multiple channels such as broadcast, print, social media, etc., and seasonal campaigns (Lee & Krieger, 2020). This was useful for areas with greater populations as there were more access points to this information; however, overexposure and multiple different messages sometimes led to misunderstanding.

Editor's Note

There are two widely recognized communications approaches to recycling education messaging. The deficit approach emphasizes communication based on informing an audience. The multichannel deficit approach utilizes various marketing messaging to reach a broader audience. A translational approach emphasizes an individual approach, targeting messaging based on interpersonal communication.

The single-channel deficit-reduction approach, which uses one channel to display all information, is another method using similar tactics (Lee and Krieger 2020). While this was good for quick information dissemination, its lack of diverse messaging did not engage audiences. Audience deficit reduction segmented the audience based on certain preferences, such as bilingual advertising. While providing educational messages this way was useful, knowledge was not shown to be a strong predictor of behavioral changes.

A multichannel translation involves individual interactions, such as community outreach events and attending community organization meetings (Lee & Krieger 2020). This took some of the interpersonal communication techniques and applied them to a mass audience. The weakness found in this method was insufficiencies for long-lasting retention. The last method was the audience-centric translational approach. This method used active involvement of the audience in the recycling program, such as getting audiences to acknowledge their role in the recycling process and even involving them in some of the decision-making. While this method was very effective, it was sometimes difficult to implement.

To further involve residents in the recycling process, certain strategies such as personalized incentives and feedback were highly effective (Timlett & Williams 2008). These communication tools indicated changes in recycling behavior. These approaches aimed to increase participation in recycling and "reduce the inclusion of non-targeted materials," also known as contamination. The campaigns or projects that were a part of this study used one of the three techniques: doorstepping, incentives, and feedback. Sometimes a combination of these techniques was used for higher success. The study considers the best behavioral methods for the lowest budget as well. Doorstepping was shown to be a moderately effective communication method. Although it brought about some behavioral changes, the difference was not as significant as the other two techniques. Incentives were found to be a highly effective method for increasing recycling participation and reducing contamination. The method is taken well by the audience; however, it has limitations, such as the budget.

Nixon and Saphors (2009) survey also revealed that repercussions were a motivator, as well as a moral obligation. Feedback was also found to be a highly effective technique. It was also shown to be important for the longer-term success of recycling campaigns (Timlett & Williams 2008). The technique involved leaving a feedback card according to contaminants found in a recycling bin. A general feedback card was also used that showed similar results to the personalized card. This research indicates that more personalized and involved communication strategies show the highest rates of affecting behavioral change.

These recycling communication styles, strategies, and tactics were all effective in different ways, depending on what had already been done to promote recycling education, audience demographics, current recycling rates/contamination rates, and other unique factors. Not one method is indicated to be "right" or the best. Overall, a combination of these methods could be used for an effective campaign, depending on the audience the message is going to (Lee & Krieger, 2020). Many campaigns use one of these channels and methods or a combination of multiple to run a successful recycling campaign. These methods can be incorporated into campaigns to target long-term behavioral changes. With the City of Peoria targeting a diverse demographic, a combination of communication tactics and messaging channels can be considered during campaign implementation.

Pilot campaigns

To gain a better understanding of best practices when creating a campaign about recycling, students examined a number of pilot campaigns. These campaigns took place in different cities, on college campuses, and in office spaces. Each campaign faced a unique problem and focused on diverse audience groups that students found beneficial while searching for the best approach for Peoria.

The first campaign examined was "Recycling2go." Mee and Clews (2004) conducted a case study involving the residents in Rushcliffe Borough Council to explore the impact of different communication tools and how they impact recycling behavior, especially within corporate communications and the "Recycling2go" campaign. Promotional material included print, a campaign website, newsletters, and radio media. These were effective when paired with audience engagement. The campaign sought to gain audience engagement through a citizens panel where the audience could express their thoughts and ask questions. This engagement led to greater involvement in the campaign and recycling behaviors.

Data shows a link between regular communications over time and recycling behavior. This is especially in part because of the multichannel approach and audience involvement as a part of the campaign. Printed material was personalized to the residents, another aspect indicatory to behavioral change. Communication between those dissatisfied with the campaign and those in favor of the campaign also led to behavioral changes. This study provides multiple campaign tactics to target recycling behavior. Many of these can be applied to future campaign endeavors to increase effectiveness.

Another campaign conducted by Elaine J. Cole and Laura Fieselman (2013) focused on using community-based social marketing in a pilot study "foster behavioral change" to boost ecologically friendly behavior in a university department office. This campaign had three goals: paper-reduction increased commingled recycling and purchasing environmentally friendly products. In this two-semester-long pilot campaign, the authors worked on branding, held a kickoff event, encouraged training among faculty, staff, and the custodial team. The authors examined their effectiveness and looked at supply purchasing reports, conducted recycling and waste audits, and sent out a second survey to hear from faculty and staff. From the final survey, the authors discovered that they were able to positively change the behaviors of 74% of the office staff through their campaign. Although this article goes beyond just recycling, the campaign methods used had a positive impact at the university and are transferable tools when changing the behavior of Peoria's residents.

The final pilot recycling campaign conducted in 2009 by the University of South Carolina, Chase et al. (2009) found that certain campaign strategies and messaging had a positive impact on recycling behavior and indicated that people who interacted with the campaign had a greater awareness of recycling. Research before this campaign showed that people were heavily influenced by their perceived social norms and the rest of the community's recycling behavior. Media such as newspapers, television, etc., also impacted people's recycling awareness. The goal of the pilot campaign was to increase knowledge and awareness of recycling by also linking it to public health.

The campaign used different messaging strategies through a "campaign week" and media promotion. Materials such as recycling bins and reusable bags were given to residents, along with information on recycling.

The campaign received support from local businesses and local media such as the library and university radio to share their campaign. Their message design had an emphasis on "This is public health." Like in all of these pilot campaigns, many of these strategies used for information dissemination and audience engagement can be utilized in different settings and within other campaigns, such as the one with the City of Peoria.

Research report

The purpose of this research is to gauge the current level of commitment to recycling among Peoria residents, identify what factors influence their recycling behaviors and attitudes, and determine the media channels that are most likely to reach residents with messages about recycling. A survey was developed through a collaboration between the City of Peoria and Arizona State University Project Cities. The City of Peoria promoted the survey instrument to residents, and data were collected over a two-week period in October 2021. The data gleaned from the study informs the research team's efforts to identify strategies that promote positive recycling practices to decrease contamination of Peoria's recyclables with non-recyclable material and to increase the overall recycling rates in the city.

Research questions

To improve the recycling and contamination rates in Peoria, it is useful to understand the prevailing sentiment about recycling among residents and what messages would most effectively persuade residents to engage in improved recycling behaviors. To this end, students sought to establish what factors impact the current rate of recycling and patterns of recycling behavior. Thus, students posed the first research question:

- **RQ1:** What are the factors that affect recycling behaviors and attitudes?

In presenting messages to Peoria residents about recycling, it is important to use the communication channels frequently accessed by residents and those they are comfortable with and receptive to. Through the second research question, the team sought to determine ideal channels through which to communicate:

- **RQ2:** What types of media and sources are preferred by the residents of the City of Peoria to best promote positive recycling practices?

Methodology

Overview

To find answers to the research questions, students conducted a survey asking Peoria residents about their recycling habits, media consumption and preferences, and demographic information. The recycling sections of the questionnaire were structured with two main emphases: one was about the current state of Peoria's recycling, and the other was designed to assist the research team in determining actions that the City can take to build a better recycling mindset among residents. Survey items addressed respondents' frequency of recycling, factors that either motivate or discourage recycling, and demographic information. A section featured questions to test survey participants' familiarity with items that can and cannot be recycled in Peoria to assess what factors contribute to the challenge of recycling contamination that the city faces.

Population

The target population for the survey was all Peoria residents. The survey was broadly open to residents; however, due to the electronic nature of the survey hosting platform, responses were limited to participants with internet access who use the social media platforms used to promote the survey. Therefore, the sampling frame of the survey excluded those without connectivity and those who did not see the survey due to the media channels chosen for survey distribution.

Sample and data collection procedures

A convenience sampling technique was used to recruit participants. The questionnaire was distributed on the City's online media, including the official Facebook page, the City website, and Nextdoor (A. Almand, personal communication, October 21, 2021). The virtual questionnaire was hosted on Qualtrics with anonymized data provided to the City and research team through Project Cities. The City incentivized residents to participate in the survey by offering respondents the opportunity to enter a raffle for a chance to win a $10 gift card to Black Rock Coffee Bar.

By the time data were downloaded for this project, 127 residents participated in the survey; however, eight respondents did not answer most of the questions posed. Their remaining data were excluded from the analysis, leaving 119 responses in the final sample. To address the needs of the different research teams, each respondent was randomly assigned to two distinct blocks of questions rather than seeing the entire survey (A. Almand, personal communication, October 21, 2021).

For the present analysis, the recycling research team received data from 80 survey participants who were presented with questions related to the research questions, producing 76 high-quality responses.

Instrument

The questionnaire was composed of closed-ended questions including multiple choice, rating scale, matrix questions, and open-ended questions utilizing the contingency style (Babbie, 2013). Please see **Appendix A** for the full questionnaire and response options.

Findings

Students found that a significant majority of respondents recycle. Over 28% of respondents report they always recycle, and 73% do so more often than not. Only 16% answered that they rarely or never recycle (Figure 3).

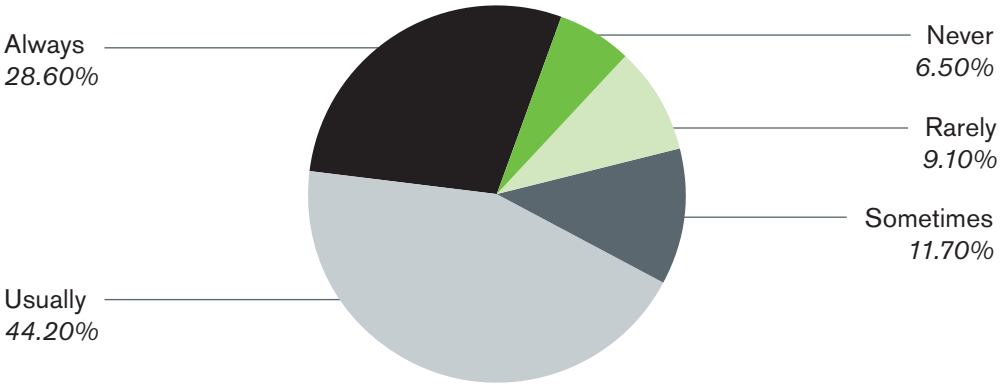

Figure 3 *Current recycling habits*
"How often do you recycle in your home?"

Most respondents cited environmental concern and civic responsibility among their top motivations for recycling; both reasons cited alone or in combination make up a majority of the responses. Very few respondents expressed concern about a citation as a motivation. Only one respondent elaborated on a unique concern that prevented them from recycling. The respondent, who lives in multi-family housing, finds that the community recycling bin is often filled with contaminated nonrecyclable post-consumer goods. The single substantive response to the question asking what would encourage recycling among respondents was vague—"better control of recycling." The majority of respondents did not offer a reason for what would encourage them to recycle.

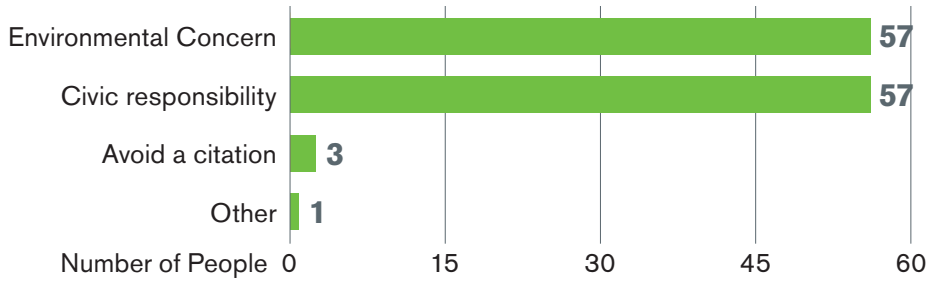

Figure 4 *Recycling motivations*
"What motivates you to recycle?"

The most significant impediments to recycling were lack of access to recycling and too little time. Among participants who rarely or never recycle, these were the most cited reasons, followed by a lack of knowledge of how to recycle properly and a lack of care about recycling (see Figure 5). Only one participant provided a qualitative response.

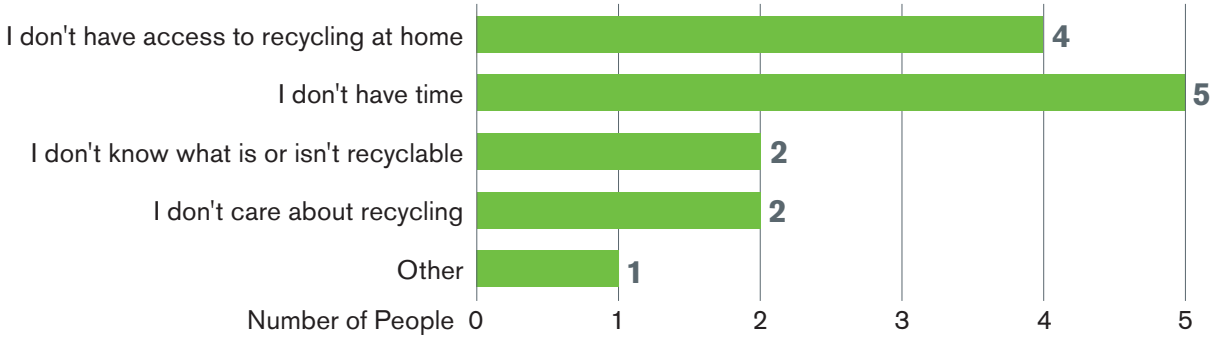

Figure 5 *Factors inhibiting recycling, taken from participants that answered they "rarely" or "never" recycled, options were not mutually exclusive*
"What discourages you from recycling?"

Nearly half of all survey participants (36) offered a substantive response relating to a particular message or source of information that resonated with them and encouraged them to recycle. When asked to share specific messages that had resonated with participants about recycling, multiple participants mentioned “helping” and “protecting” the environment. The phrase “keeping the planet beautiful” also came up. Health concerns were also listed by the respondents, such as pollution being a “harm to our health” and “clean cities”. Multiple participants also included the idea that environmental concern and protection will benefit future generations (“creating a better future”; “leaving the world in better condition”).

Some participants received messages that resonated with them from personal and childhood experiences ("As a child, I saw and learned about the importance of recycling, and it has stuck with me"). Ads and images regarding "protecting" the environment also resonated with certain participants ("Just seeing pictures of ocean wildlife swimming in garbage makes me want to recycle"). Furthermore, messages that clarify proper recycling practices have resonated with certain participants ("Wish-cycling" was a term I learned that helped me recognize I was recycling things I wasn't really sure about").

A majority of respondents have seen messages about recycling in Peoria on social media and the City's website, and significant numbers cited City publications and local news as additional sources of information on local municipal recycling (see Figure 6). Utilizing a qualitative response promptly, some residents cited the City's wrapped recycling trucks as a source of information on recycling in Peoria.

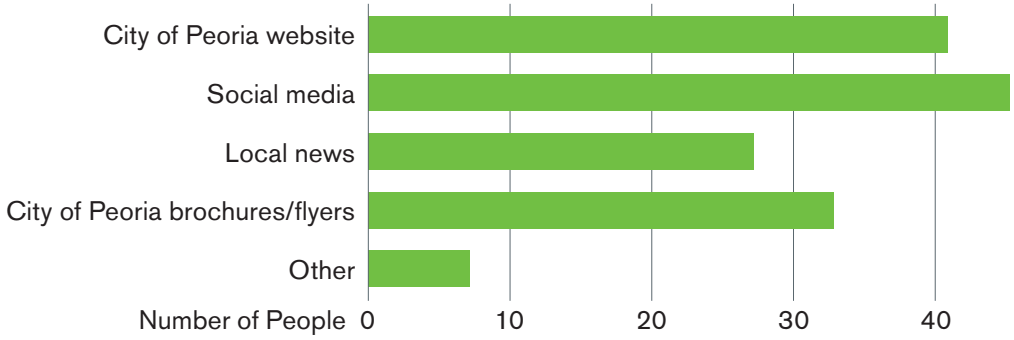

Figure 6 *Recycling messages in Peoria, options were not mutually exclusive "Where have you seen messages about recycling in your city?"*

Students assessed source favorability to better understand the sources through which Peoria residents get trusted information. The most trusted sources among survey participants are expert or academic sources (M = 3.66) and friends and family (M = 3.63). Religious or community leaders (M = 3.09) and news media (M = 2.94) were viewed neutrally by respondents. Government officials (M = 2.82) and celebrities and influencers (2.62) were perceived negatively by survey participants.

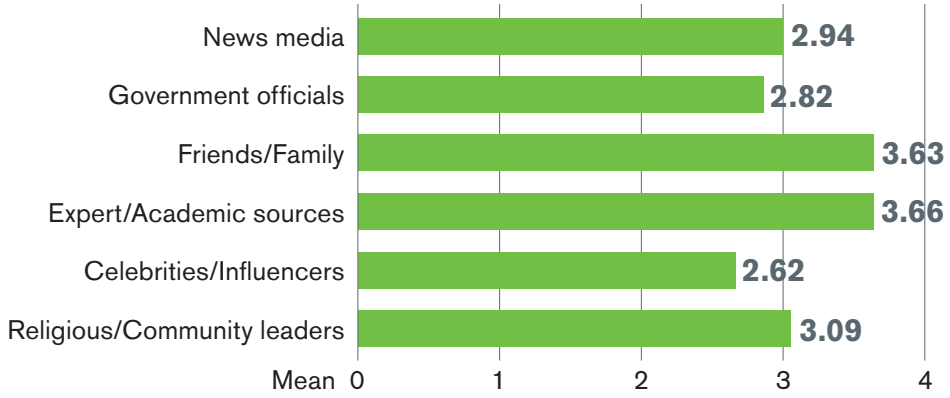

Figure 7 *Perception of trustworthy news sources*

To determine which media channels Peoria residents are like to frequently visit, students asked respondents how often they navigate to ten different online media outlets. The most commonly utilized sources are Facebook; on a one to four scale, with one being never and four being often, the average response was 3.21. Sources such as local newspapers (M = 2.34), and streaming services (M = 3.05), local radio (M = 2.82), cable television (M = 2.67), Instagram (M = 2.66), and local network television (M = 2.65) are also often visited by respondents. The outlets least likely to be visited by participants are Nextdoor (M = 2.08), Twitter (M = 2.22), TikTok (M = 2.39).

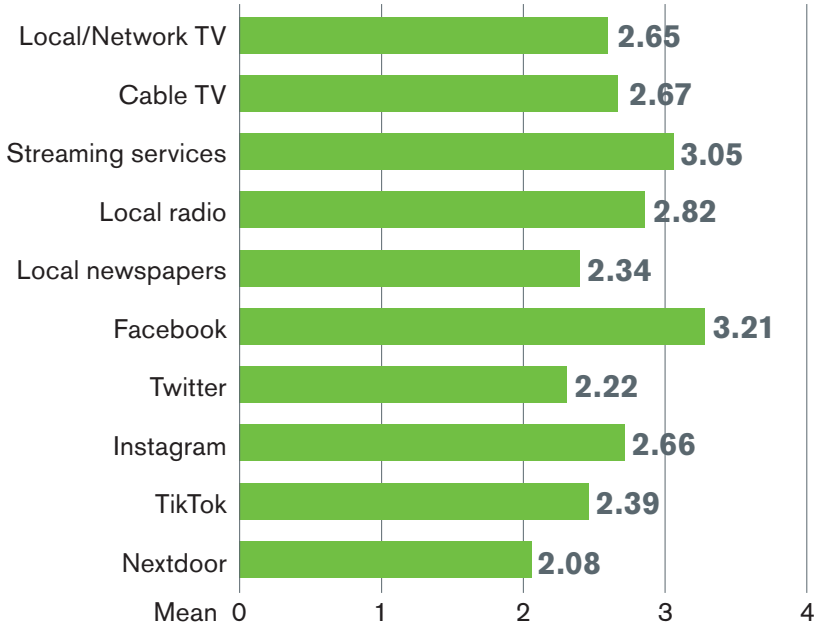

Figure 8 *Frequency of media use (in the past month)*

Based on the demographics of the survey participants, students determined that the age range of the participants varied, with the majority between the ages 25 and 34 (see Figure 9). The survey participants also ranged in educational background, but the majority responded that they have a four-year degree or higher (see Figure 10). The survey shows that 67.8% were employed full time, and 74.8% of the participants had children or young adults 19 years or younger living in the home (see Figures 11-12). This information reveals that residents may already be experiencing barriers such as time or convenience that either prevent them from recycling or make it inconvenient. By assessing the frequency of correct answers in a quiz on recycling, students determined that despite some expressions of concern regarding self-efficacy among respondents, most know what can or cannot be recycled in Peoria (see Figure 13).

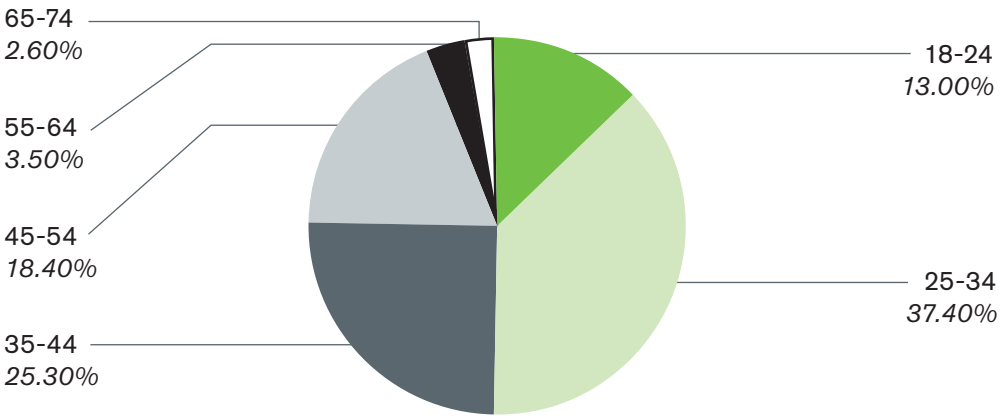

Figure 9 *Survey demographic results by age*

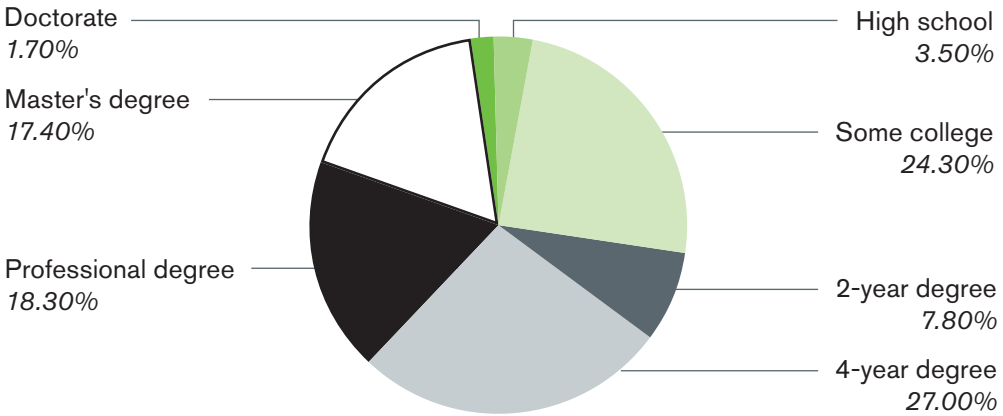

Figure 10 *Survey demographic results by education level*

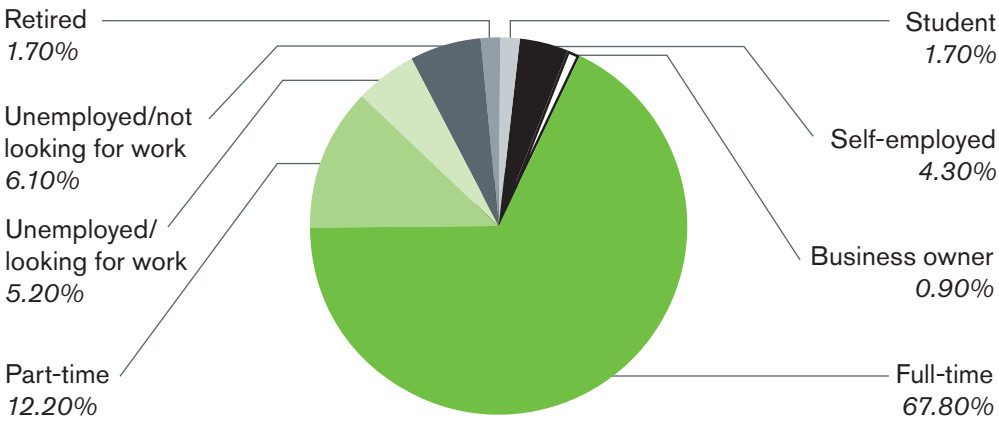

Figure 11 *Survey demographic results by employment status*

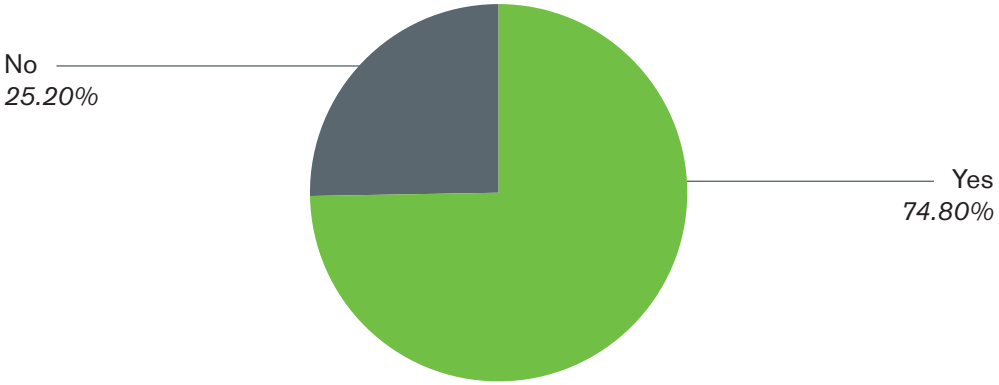

Figure 12 *Survey demographic results by children at home*
Reflects respondents that have one or more people living in their household who are 19 years or younger

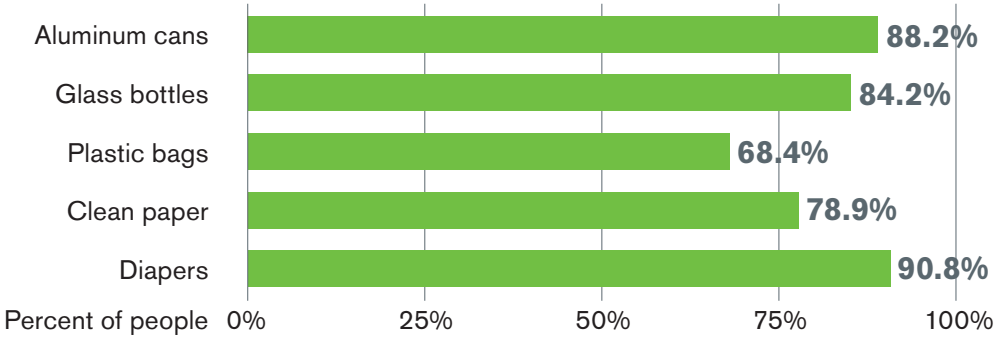

Figure 13 *Resident perceptions of what is recyclable*
"Which of the following can be recycled?"

Interpretation

After distributing a survey to the residents of Peoria, students were able to analyze the data to determine the best course of action for the proceeding. First, students examined the demographics of the participants. Students determined that the age range of the participants varied and that the participants ranged in educational background, but most responded that they have a four-year degree or higher. They also found that 67.8% of participants were employed full time, and 74.8% of the participants had children or young adults 19 years or younger living in the home. This information shows that residents may already be experiencing barriers such as time or convenience that either prevent them from recycling or make it inconvenient. A number of articles examined in the research have proved that making recycling convenient for residents increases recycling rates. Gaining a better understanding of Peoria residents' day to day lives informs what methods might contribute to a more seamless recycling experience.

Once students established the demographics, they took a closer look at the recycling habits of Peoria residents. Responses indicated that 18.5% of participants always recycled, 44.2% usually recycled, and the remaining 27.3 % of participants either sometimes, rarely, or never recycled. Based on participants' reasons for not recycling, potential explanations could be related to time constraints and living situations more common among different age groups. However, it is essential to keep in mind that while most of the participants did indicate that they usually or always recycle, students worked with a small sample of the population, and the findings may not accurately represent the behavior of all Peoria residents. With this in mind, the information can still be beneficial in determining the most effective way to encourage all Peoria residents to begin recycling if they do not already.

In addition to frequency, students examined the residents' motivations for recycling. Of 80 participants, 71.2% of participants indicated that they recycled because they had environmental concerns. Fifty-seven participants also indicated that they recycled because it was their civic duty. Very few residents were concerned about receiving a citation for not recycling the appropriate goods. While a few participants reported that they did not care about recycling or did not know what was recyclable, the most common barrier that emerges from this data is that recycling is not convenient for some Peoria residents. Studies have proven that, frequently, individuals will only recycle if it is convenient for them (Rosenthal Linder 2021).

One study by Sonny Rosenthal and Noah Linder (2021) proved that something as simple as the placement of the trash bin and recycling bin affects how individuals recycle. They noticed that placing the recycling bin next to a sink with brief instructions on recycling without causing contamination improved recycling habits and contamination levels.

Finally, students asked participants where they saw messages about recycling in Peoria. Forty- individuals found recycling information on the City of Peoria website. Forty-six individuals saw messages on social media about recycling in Peoria, 28 individuals found information on the local news, and 33 individuals found information in brochures or flyers they got from the city. Three individuals also indicated seeing information about recycling on the side of trucks. These numbers convey some common areas residents get their information regarding recycling. This is beneficial because finding ways to educate citizens while also making recycling convenient could make a massive difference in the number of people who recycle.

There have been several pilot campaigns performed at universities and communities that work to highlight the importance of recycling and educate individuals on how to recycle correctly. One pilot campaign done at the University of South Carolina proved that people are heavily influenced by social norms (Chase et al., 2009). Social norms are beliefs or attitudes that social groups might consider acceptable (Chase et al., 2009). The campaign spent a week distributing materials to educate individuals on recycling and emphasized that it was a public health campaign rather than something done to better the environment. From this perspective, individuals found it more important to recycle because it benefits the health of their community. Health concerns were one of the main reasons participants mentioned why they recycle. Furthermore, participants indicated messages clarifying what is and is not recyclable resonated with them. Presenting recycling from a new perspective could be a unique way to encourage community members to recycle correctly, improving contamination outcomes.

While the information gathered was beneficial, findings may be limited in a few areas, first, by language barriers. The survey was provided in English; however, 15% of the population of Peoria speak a language other than English at home (U.S. Census Bureau, 2020 d). Additionally, the sample attained a higher education degree than the average Peoria resident.

According to Census data, closer to 34% of Peoria residents hold any degree (U.S. Census Bureau, 2020 d). Another weakness of the study was the very small sample size of participants, approximately .04% of the population. A larger sample would increase the ability to make group comparisons and determine the most effective ways to improve recycling and contamination rates among specific groups of Peoria residents.

Despite these limitations, survey research was still the best method for gathering data about recycling in Peoria. Given time restraints, students understood that the survey participation level could be low. Still, survey research allowed students to distribute the survey to a larger group of people in a short amount of time. Despite only reaching a small percentage of the Peoria population, the questions were exhaustive, and the sample size still highlighted the biggest problems when it comes to recycling behaviors. Although this research does not look more closely at the age range of children living in the home, it leaves room for future research to be done on the impact children have on the recycling habits in their home, as well as how likely children are to recycle or encourage recycling when they have been taught about recycling's importance.

Unfortunately, social desirability effects are inevitable and would still influence the data had the students taken a different approach. Overall, given the timeline, the students believe that survey research was the best course of action and provided useful information that will allow for proactive next steps.

Campaign plan

Based on the primary research findings and survey data, students propose a plan for the campaign "It Is Easy to #RecycleRightPeoria," which includes educational, engaging, and accessible materials and activities for the residents in the city of Peoria. This campaign aims to increase the amount of residents recycling and decrease the amount of contamination found in the city's recyclables by the year 2023. The plan employs specific strategies to reach people who do recycle, do not recycle, as well as children and families to target all Peoria residents. These strategies include making recycling a family activity, increasing awareness and education about recycling, and motivating Peoria's residents to practice proper recycling habits. Different tactics will be used to show that recycling is easy. Overall using these messages through different messaging channels create a well-rounded and effective campaign.

Background

Goal

Increase proper recycling habits amongst Peoria citizens through decreasing contamination and increasing overall recycling rates.

Target publics

To address the two primary concerns the City of Peoria faces, students divide recycling behaviors into two groups and four total publics. The primary audience comprises all Peoria residents. Additionally, the City has recognized in previous campaigns that school children are an important audience. Effective communication with youth will not only increase their recycling frequency and accuracy, but will also have a positive impact on the recycling behaviors of the entire family. The research group recommends a comprehensive strategy to educate children and teens about the importance of recycling and its benefits. Students recommend a citywide strategy to increase recycling awareness and encourage better recycling habits.

Target publics	
Primary	***Secondary***
People who do not recycle People who do recycle, but may not do it correctly	School children

Figure 14 *Campaign target publics*

In addition to the youth and citywide audiences, the findings support separate strategic communication strategies aimed at frequent and infrequent recyclers. First-order recycling involves increasing recycling among those who currently recycle infrequently. This is the first step to recycling. To address frequent recyclers, students suggest an emphasis on improving their recycling behaviors to decrease contamination, which is described as second-order recycling. The citywide campaign will ensure all the Peoria population and its audience subsets receive information about how easy it is to recycle right.

Messages

Survey data showed that attitudes towards recycling were correlated with environmental concern, civic responsibility, and self-efficacy beliefs. Based on this information, the following message should be used: Recycling is even easier than you may think!

Objectives

Based on the goal of this campaign and problems identified in the previous research, students offer two measurable objectives: To increase the waste diverted through recycling in Peoria for the year 2023 to 30% or 5% more than the 2022 diversion rate, whichever is greater and to decrease the contamination rate in the city of Peoria to 15% in 2023.

Strategies and tactics

Make recycling an activity for the whole family

This strategy makes recycling an activity for the entire family. Although children were not the primary focus during data collection, 74% of participants have someone the age of 19 or younger living at home. Keeping these numbers in mind, students determined that it was also essential to educate kids and teens on the importance of developing proper recycling habits. Studies have revealed that children can also influence their parents' habits through intergenerational influence (Maddox et al., 2011). Intergenerational influence is explained as children sharing what they learned at school with their parents and implementing that learned behavior in the home. The study performed by Maddox et al. (2011) determined that intergenerational influence can positively impact recycling habits in the home. By redirecting some of the focus, Peoria can educate kids and teens and develop positive recycling habits for the future. Still, those children can be resources for parents who may not have the time or may be reluctant to begin recycling.

Tactic 1: Day at the ops

The first tactic is A Day at the Ops or a scheduled day each week where children and their parents can take a tour of the Municipal Operations Center. This proposal can be adjusted to instead or in addition include student organizations, Girl Scouts of the United States of America, Boy Scouts of America, or student field trip groups. This tactic aligns with Nixon and Saphors (2009) research, which found that the best messaging channel for informing individuals about recycling is face-to-face, followed by print sources.

While taking a tour of the Municipal Operations Center, students and their parents would have the opportunity to view the behind-the-scenes and learn how their goods are being recycled. This would be an excellent opportunity to teach both parents and children about recycling and contamination. Once the tour is complete, children would be sent home with a list of recycling "Do's and Don'ts," pencils, stickers, and other knick-knacks. This list of recycling "Do's and Don'ts" would include items that are recyclable in Peoria and have tips, like rinsing out your products before tossing them into the recycling bin.

Figure 15 *CMN 520 students touring Peoria's Municipal Operations Center during the Fall 2021 semester*

Tactic 2: Family educational packet

The second tactic is creating an educational packet for Peoria school children. Teachers would distribute the packets to their students and give a brief lesson about recycling. Talking points would be included for the teacher, while the children's packets would include a flyer, a game sheet, a magnet, an advertisement for A Day at the Ops, and an Eco Newspaper pencil. The flyer included in the packet will have a list of items that are and are not recyclable in Peoria. It will also include an excerpt about the importance of recycling and explain to parents and children the best practices to use when recycling to impact their community positively. The bottom half of the flyer will include an area for a parent's signature. The schools can decide if they would like to request a parent signature that will indicate that the student shared what they learned in school with their parents.

The game sheet is something the child can also take home with a parent. It will include pictures of items, and the participant must determine if the items are recyclable or not. The magnet will also include a list of recyclable items so that families have something to reference. The study performed by Nixon and Saphors (2009) found that Americans prefer to receive their information about recycling face-to-face, from a friend, or in mailers. While the focus is on children in this tactic, parents are looped in with the optional signature and game. Whether or not the child is enthusiastic about recycling, the parent will still receive information to make an informed decision regarding their family's participation and current recycling habits.

Tactic 3: After-school program partnerships

The final tactic is engaging with after-school programs. There are several programs throughout Peoria, but two would be the most beneficial. The first would be the Peoria Public Library. The library conducts reading time for children, and each summer, they offer a summer reading program. Throughout the summer, the children are encouraged to read twenty minutes a day. Their reading is tracked, and they are eligible to win a prize. Children get to win additional drawing entries should they attend free events throughout the summer. To get involved, students suggest donating children's books about recycling to the library. Next, during storytime, a city representative will have the opportunity to speak to the children and read books about recycling. There might also be an event for the summer reading program held at the Municipal Operations Center. Children could have the opportunity to watch what happens to recycled goods behind the scenes and see a sanitation truck.

In addition to collaborating with the library, students suggest connecting with the local Y, formerly known as the YMCA. Peoria's local Y offers a few different leadership programs for teens throughout the summer. Creating a leadership program for teens through The Y supervised by a Public Works liaison would make an incredible opportunity for teens. Not only will teens be immersing themselves in the world of recycling and informing their families through intergenerational influence (Maddox et al., 2011), but they will also be developing leadership skills. High school students are constantly searching for ways to stand out in their college applications, and getting involved with their community in such a way would make for a great application. This program would be especially beneficial for students who plan to stay local or are looking to attend ASU.

Collaborating with schools to create a school credit opportunity would allow the student to hold a position as an unpaid intern and allow them to work closely with the liaison to coordinate local events where families perform city clean-ups. This student can also coordinate for themselves and other students to take shifts reading books about recycling to children at the Peoria Library. Additionally, this student could be presented with the opportunity to run Peoria's social media pages to create content and engage with other community members to answer questions and promote events. This student would have the opportunity to delegate this task to other students who participate in The Y leadership program under the liaison's guidance.

Engage the community

The findings support using multiple discrete media and channels to increase the public's awareness of recycling (Lee & Kreiger 2020, Lybecker et al., 2013). Survey participants who recycled most often cited seeing messages from the City about recycling in an average of 2.1 distinct places. Those who sometimes recycle saw messages in an average of 1.8 places. Respondents who rarely recycle only saw Peoria messaging concerning recycling in 1.3 places, according to the survey data. Therefore, it is important to include a strategy that will target the general public in order to help get all Peoria residents on board.

Tactic 1: GAIN event

Editor's Note
Getting Arizona Involved in Neighborhoods, or G.A.I.N., is an annual community day that advances community partnerships to encourage community safety and civic engagement for safer communities.

Getting Arizona Involved in Neighborhoods (G.A.I.N.) is an annual community day out that emphasizes civic participation. The 2021 event was previously scheduled for October but was canceled due to COVID-19. In 2022, students suggest a partnership with the event to make the campaign visible to a citywide audience, with a message that emphasizes the individual duty and civic responsibility to recycle. Peoria Public Works and Communications employees, plus trained volunteers, will operate a tent at the 2022 GAIN event to promote the It Is Easy to #RecycleRightPeoria campaign utilizing recycling challenges and prizes. Materials will also be distributed at the tent, and the City may implement a raffle as well. Social media tools should be used to promote the GAIN event. Following the challenges, winners who #RecycleRight may be invited to be featured on the City's Facebook page.

Tactic 2: Rewards program

To promote recycling throughout Peoria, students recommend the city implement a community engagement strategy to encourage recycling, using a simple message of individual responsibility and civic duty while emphasizing "It Is Easy to #RecycleRightPeoria," a succinct phrase that addresses the concern of time that some reluctant recyclers cite as a barrier to recycling. This strategy will normalize recycling using strategies such as a rewards program for residents who have not had a citation over the course of a year and gentle disincentives, including an expanded monitoring program.

Tactic 3: Water bill information insert

To reach all Peoria residents with information about the "It Is Easy to #RecycleRightPeoria" campaign, students suggest including information about the campaign with a full-color page of recycling information in customers' water bills. The mailer will feature upcoming Public Works events, social media events and promotions, and the raffle for residents who #RecycleRight.

Increase awareness about recycling among infrequent Peoria recyclers

Students recommend this strategy to increase awareness of recycling to residents who are infrequent recyclers in order to increase recycling rates. Those who recycle "sometimes" or less accounted for 27% of the survey respondents. Among infrequent recyclers, there are areas of opportunity for strategic media communication to have an impact on the City's recycling rate. To target this audience, the emphasis will be on motivating infrequent recyclers by way of sharing general knowledge about the benefits of recycling to the City through familiar channels, appealing to civic responsibility, which was the most-cited justification for recycling among those who recycle "sometimes." This group might be better reached using messages that employ the peripheral route despite the relative weaknesses of that approach, such as a potentially shorter duration of attitude change (O'Keefe, 2012). This means more emphasis would be on the aesthetic presentation of a simple message and less on making a complex rational appeal to the audience by using different media channels.

As the Elaboration Likelihood Model (ELM) explains, those who are not interested in a particular topic are often inclined to be more stimulated by external cues and personal conditions. This means people are subconsciously forming decisions that do not require careful thought and consideration (Dillard, 2012). The model also notes that those concerned with a specific subject tend to rely on more logical and thoughtful consideration for their decision-making. Peoria can utilize social media to raise the degree of awareness among its residents. The degree of their elaboration is pivotal in this media strategy.

Tactic 1: Active use of Facebook

As revealed in the survey research, Facebook has the highest frequency to be used among popular social media. This is a budget-friendly tactic because almost all of the campaign will be implemented by City employees. To target the residents with less interest in recycling or who have a lower level of concern for recycling, engaging and entertaining content posted on Facebook will attract attention. The content should not be simply informative, such as an introductory video that visually explains recyclable and not. Rather, they should have more interactive and amusing content to catch and keep the viewers' attention. Instead of a simple introduction of recyclable materials, the video can feature how recycling workers spend their day and how they recycle using a first-person perspective. The video can capture some conversations and communications among workers and filming crews.

This participatory content will allow residents to virtually experience and enjoy recycling. Experiencing something virtually makes it memorable, and viewers are more motivated to act than they would by consuming messages through other media (Becker, 2018 & 2020). Live streaming can be a booster for residents to get involved once they have a chance to watch it in this fashion.

Tactic 2: Instagram operation

With the aim of approaching those who are relatively disinterested in recycling, Instagram is another tactic to bring about change. The survey results indicated that Instagram is the second-highest in popularity for social media resources among Peoria residents. Karimkhani (2014), noted that closeness and affinity are the key for relationship building and attention-catching between public organizations and users. Instagram offers functions that allow the user to better understand their impressions on followers. The amount of information that can be included into a post is limited, in turn, impressions are populated quickly.

With research data from Instagram Day Tokyo 2019, the world's biggest social media conference, Harvard Business Review (2019) analyzed that the first impression is established within 0.013 seconds, and the consistency and aesthetic of the content has an effect in a short time period. Based on the importance of affinity and aesthetics, students believe it's important to refresh any existing social media platforms and establish an "Insta-gramable" account. As previously mentioned, the city can upload recycling content using camera frameworks, color tones, view angles, caption structures, and scheduled posting. Students anticipate this would appeal to Instagram users who are not yet interested in recycling.

Tactic 3: Local newspaper release

Apart from social media tactics, local newspapers can be utilized as a messaging channel to approach another audience. As revealed in the Omnibus survey, throughout all the generations, newspapers have steady numbers in terms of the frequency to be used, which indicates that there are a lot of rooms and chances to reach residents with this approach. With the fundamentals of ELM applied, newspapers differ from social media, such as Facebook and Instagram, in terms of the type and extent of content. Paper press media is more informative rather than interactive and engaging. Therefore, it would be the most efficient approach to audiences who prefer more informational content over entertainment. It may also have a strong impact on those already interested in recycling because they may have more previous knowledge of recycling. Therefore, information-giving and logical materials are better suited to guide decision making.

Local newspapers have a narrow range of reach, but they also have an established and steady relationship with certain audiences and are commonly viewed by the residents of Peoria. The City of Peoria can work with local newspaper agencies doing regular communication campaigns on their presses. Measurements of the contamination rate should be taken, and the numbers announced daily in the newspaper. This tactic does not have to be limited to conventional, paper-based newspapers, but can be included on online versions to maximize opportunities. Daily columns on recycling tips and trivia can also be introduced. This can be both paid media and earned media. The City can approach local newspaper agencies with some financial agreements (paid media), while it also can collaborate with newspaper creators without any financial deals (earned media).

Share proper recycling methods to reduce contamination

This strategy will be used to accomplish the objective of decreasing contamination in the City of Peoria. Survey data indicated that participants were unclear of the objects that are and are not recyclable. For example, only 68.4% of participants knew that plastic bags cannot be recycled. By focusing on education about what is recyclable and what is not, contamination should decrease. Primary research regarding educational campaigns indicates that this is an effective method. For example, in Timlett and William's study (2008), they found that education and feedback effectively reduced contamination in recycling. This includes knowing what to recycle and getting educational feedback on what is in their recycling bin. Education also helps to target self-efficacy beliefs (Tabernero et al. 2015; Rosenthal & Wah Leung 2020; Rosenthal & Linder 2021), which correlates with decreasing contamination rates and increasing proper recycling habits. The tactics used should target these efficacy beliefs by promoting educational material in ways that engage the multiple target publics.

Tactic 1: Include feedback on citations and tags

One of the tactics to decrease contamination includes increasing the specific feedback provided to Peoria residents on their recycling bins. This tactic uses a single channel translational approach, which involves interpersonal and direct communication (Lee & Kreiger, 2020). This extremely effective method led to behavioral changes but required extra time and personnel. Peoria's existing Recycling Violation Notice program has been a success with low rates of recidivism (A. Redd, personal communication, September 16, 2021). Students recommend opening up an extra recycling inspector position to increase the ratio of inspectors to customers, allowing the City to provide more direct feedback to customers. Feedback included on the citation tags left on residents' recycling bins would be expanded to include helpful tips on successful recycling in addition to the comments about what non-recyclables were found in the bin. Because those who receive a violation are subject to a citation, the City may consider a second raffle for "most improved" recycler for those who erred but were later found to be exemplar recyclers.

Tactic 2: Include what is and what is not recyclable on lids

Similar to the Blue Lid Pilot Program, adding instructions on the lids of recycling bins of what is and is not recyclable would be an effective tactic. One challenge is not having easy access to this information. This way, the information would be easy to find and convenient for people to access, targeting self-efficacy beliefs (Tabernero et al., 2015; Rosenthal & Wah Leung, 2020; Rosenthal & Linder, 2021), as it is directly on their recycling bin. Furthermore, convenience and proximity to bins was shown to increase recycling (Rosenthal & Linder, 2021). Applying these findings to the "lid information" tactic, information about proper recycling habits will be very accessible. This should be done by providing stickers for recycling bins using material and adhesive for the sticker should be made for outdoor use. Information should include lists and pictures of what is and is not recyclable in the city of Peoria. They should also include information on materials that may need to be cleaned (i.e., glass jars) before being put into the recycling bin.

Figure 16 *Example of a recycling lid that includes information on accepted materials*

Tactic 3: #RecycleRightPeoria

Using the established tagline #RecycleRightPeoria a social media challenge will be done to engage people in learning about proper recycling and showcasing proper recycling. This audience-centric message channel was effective because it actively involved audiences in the recycling program (Lee & Kreiger 2020). Different parts of the challenge should be offered for people to engage in multiple ways.

The challenge should be presented with material about proper recycling, such as a list of non-recyclables. One prompt would be to "show us your recycling bin" for participants to show their proper recycling practices. Another question presented as "why do you recycle?" so that participants can talk about the reasons why they recycle and emphasize the reasons why proper recycling is important. People who post should use the #RecycleRightPeoria. A raffle should be held for each question posed and randomly drawn for those who participate, and prizes can include gift cards or other incentives. Social media workers should keep track of these challenges and repost/share those who participate on the city of Peoria's social media page.

Evaluation

Measure the increase in the ratio of recycling to trash

To measure the campaign's success of the recommended strategies and address objective one, the city of Peoria should take a measurement of the waste diverted through recycling and compare this to the goal of an increase of 5% from the previous year in 2023.

Measure contamination levels

To indicate the measure of the campaign's success and address objective two, the city of Peoria should also utilize Valley Benchmark Cities data to measure the contamination rate in the city of Peoria and compare it to the goal of a decrease to 15% in 2023.

Redistribute survey

Finally, to measure the impact in more detail of the campaign on Peoria residents, the survey should be redistributed and compared to the answers from the initial survey. This can help indicate how much of an impact the campaign had on certain demographics, as well as attitude and behaviors. Changes in the answers to how often people recycle can evaluate a change in the number of people recycling. Changes in open-ended questions (i.e. Where/What messaging have you seen about recycling in the city of Peoria?) further indicate changes in attitude and can specifically point to successful messaging and tactics that the campaign used.

2022 campaign timeline

2022

March

- Announce to Peoria residents that changes surrounding their recycling will take place throughout the year via peoriaaz.gov.
- Inform residents that a raffle will be held at the end of the year.
- Apply recycling instructions to bins of all Peoria residents.
- Create or revamp all social media (Facebook, Instagram, and Twitter).

April

- By the start of February, all social media should be up and running and there should be engagement with followers.
- Introduce the #RecycleRightPeoria and begin the challenge.
- Winner should be announced 1-2 weeks after the announcement of the challenge.
- Do Facebook Live tour of Municipal Operations Center, save the stories for social media.

May

- Begin advertising for A Day at Public Works!
- The supplies that will go in the packets for elementary students should be purchased.
- Establish a relationship with The Y. Begin organizing and collaborating to create a summer leadership program.

June

- Begin accepting applications for student interns.
- Information packets should be distributed to the elementary students.
- Begin accepting sign-ups for A Day at Public Works!
- Establish a relationship with the library. Make donations and secure reading slots.

July

- Complete hiring and onboarding process for student interns.
- Student leader should now be working with the liaison to complete a schedule for student reading at the library.
- Follow up with elementary schools about information packets.

Figure 17A *Student developed campaign timeline*

August

- Student interns should be completing rotations at the library and working with a community liaison to organize city clean up events.
- Begin collaborating with local newspapers to include information releases.
- Inform Peoria residents of information that will now be included with their water bills.
- Social media accounts should be maintained and active with a 5% increase in following.

September

- Begin hiring process for additional recycling inspector position.
- Students should be completing their final reading rotations at the library.
- Students will be returning to school. The liaison will conduct an exit interview with each of the students. Find out what the students liked and disliked about the summer program. Make note of any necessary changes.
- Secure tent at 2022 GAIN event to promote It Is Easy to #RecycleRightPeoria.

October

- Reading at the library should continue through an employee or volunteer.
- Begin onboarding process for new recycling inspector position.
- Social media accounts should still be maintained and active with a 5% increase in following.

November

- Participate in GAIN events (date is subject to change due to Covid-19).
- Reading at the library should continue through an employee or volunteer.

December

- Reading at the library should continue through an employee or volunteer.

2023

January-February

- Drawing will be held for households that went the year without receiving a recycling citation.
- Reading at the library should continue through an employee or volunteer.
- Social media accounts should still be maintained and active with a 5% increase in following.

March

- Evaluations should be completed to determine the success of the campaign.

Figure 17B *Student developed campaign timeline*

Budget

The four strategies total $358,847.17. The family and school strategy totals $63,307.14. The Citywide strategy is $46,742.00. The strategy targeting frequent recyclers costs $184,043.36. The final strategy for infrequent recyclers will be $13,548.52. In addition to the costs for the strategies, there are consulting fees of $4,400 and a 15% contingency fund for unanticipated expenses. The majority of the expenses will be printing and material costs. The largest costs will be on permanent outdoor bin stickers, which is conservatively calculated at $119,400. The next highest price expense is a full-time recycling inspector, based on a salary of $57,345.60, including taxes and benefits.

Campaign budget

Campaign type	*Projected subtotal*	*Percent of budget*
Family focus/school children strategy	$63,307.14	15.5%
Citywide strategy	$46,742.00	11.4%
Proper recycling to reduce contamination	$184,043.36	45.0%
Infrequent recyclers strategy	$57,345.60	14.0%
Profession fees for evaluation	$4,400.00	1.1%
Slush fund for contingencies	$53,375.71	13.0%
Projected total	**$409,213.81**	**100%**

Figure 18A *"It is Easy to #RecycleRightPeoria" campaign budget overview*

Further costs include printing of the flyers for inclusion in 60,000 customers' water bills. The additional in-house personnel for hourly employees are calculated based on an hourly wage of $27.57 plus a 35% markup for taxes and benefits to equal to $4,466.34 (City of Peoria, n.d. b). Costs for supplies to be distributed in schools are based on the student population of Peoria Unified School District, 37,842 (National Center for Education Statistics, 2021).

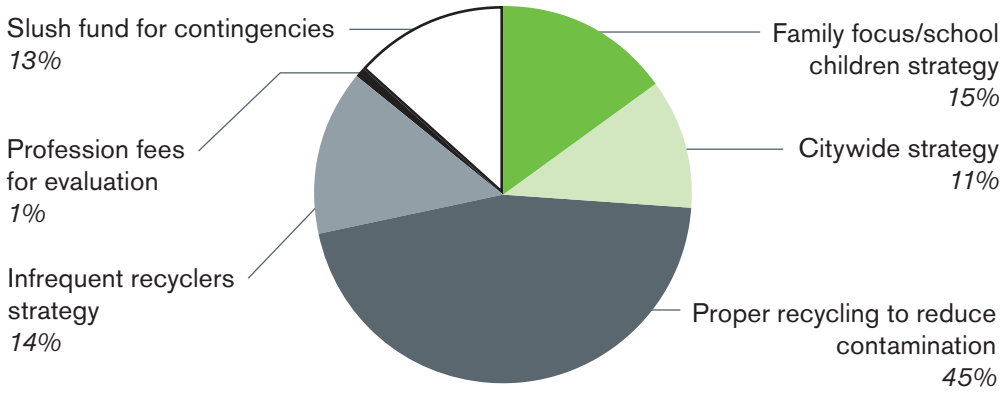

Figure 18B *"It is Easy to #RecycleRightPeoria" campaign budget overview*

Campaign budget breakdown by strategy				
Campaign type	***Quantity***	***Projected unit cost***	***Projected subtotal***	***Comments***
Family focus/school children strategy			**$63,307.14**	
Day at the Ops personnel	15	$297.76	$4,466.34	$27.57 hourly plus 35% for taxes
Refreshments	1	$400.00	$400.00	For staff and volunteers
Printing flyers	500	$0.50	$250.00	Flyers distributed at Day at the Ops
Eco newspaper pencils	38,342	$0.60	$23,005.20	Pencils for Day at the Ops and school
Campaign stickers	500	$0.35	$175.00	Stickers for day at the Ops
Other materials	500	$1.00	$500.00	Additional materials
Educational packet printing	37,842	$0.75	$28,381.50	Packets for all PUSD students
Press release	8	$37.22	$297.76	Four hours labor for drafting, etc.
Materials design	25	$45.00	$1,125.00	Hourly consulting fee of $45
Liaison personnel	120	$37.22	$4,466.34	Planning and communication with library
Books	8	$30.00	$240.00	Donation of books on recycling

Figure 19A *"It is Easy to #RecycleRightPeoria" campaign budget by strategy*

Campaign budget breakdown by strategy				
Campaign type	***Quantity***	***Projected cost per unit***	***Projected subtotal***	***Comments***
Citywide strategy			**$46,742.00**	
Water bill insert	60,000	$0.75	$45,000.00	Full-color insert in water bills
Peoria Times full page ad	1	$1,742.00	$1,742.00	One full-page ad to promote Peoria
Proper recycling to reduce contamination			**$184,043.36**	
Full-time staff position and tax	1	$57,345.60	$57,345.60	Recycling inspector
Half-page stickers for bins	60,000	$1.99	$119,400.00	Stickers for all residential bins
Social media ads	10	$500.00	$5,000.00	Social media ads
Raffle prizes	10	$50.00	$500.00	Prizes for social media ad raffle
Social media personnel	8	$37.22	$297.76	Coordination of social media ads
Media consultant and design	20	$75.00	$1,500.00	Design and copy for social media ads
Infrequent recyclers strategy			**$57,345.60**	
Facebook Live personnel	8	$37.22	$297.76	Live broadcast from Public Works
Videography	3	$120.00	$360.00	Videography for Facebook Live
Computer programming consult	3	$75.00	$225.00	Broadcast coordination for Facebook Live
Instagram personnel	8	$37.22	$297.76	Coordination for Instagram operation
Photography and design	40	$120.00	$4,800.00	Photography and design
Computer programming consult	4	$75.00	$300.00	Photo upload consultation
Newspaper ads	4	$1,742.00	$6,968.00	Four full-page ads in the Peoria Times
Print ad design	4	$75.00	$300.00	Photo upload consultation

Figure 19B *"It is Easy to #RecycleRightPeoria" campaign budget by strategy, continued*

Campaign budget breakdown by strategy				
Campaign type	***Quantity***	***Projected cost per unit***	***Projected subtotal***	***Comments***
Profession fees for evaluation			**$4,400.00**	
Evaluation for each strategy	4	$1,100.00	$4,400.00	Outside program evaluation consultant
Slush fund for contingencies			**$53,375.71**	
15% of subtotal slush fund	1	$53,375.71	$53,375.71	General fund for unanticipated needs
Projected total			**$409,213.81**	

Figure 19C *"It is Easy to #RecycleRightPeoria" campaign budget by strategy, continued*

CONCLUSION

The City of Peoria noticed their contamination levels were high and recycling rates were low. Through ASU's Project Cities program, students had the opportunity to collaborate with the city on a campaign plan that aims to decrease contamination levels and educate and inspire Peoria residents to recycle. After conducting a survey of Peoria residents and examining several studies with similar goals, students determined that the best course of action would be to use traditional media and social media to increase awareness among Peoria residents. Specific strategies include sharing proper recycling methods, providing incentives to those who do not or do not consistently recycle, and making recycling a fun family activity rather than a burden. Should the recommended tactics succeed, Peoria residents will have improved access to information about proper recycling, there will be repercussions for residents who violate contamination rules, and the youth will have the opportunity to develop and maintain proper recycling habits that will carry them forward in implementing sustainability efforts in their local community.

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