WORK SESSION AGENDA

CITY COUNCIL WORK SESSION
TUESDAY
APRIL 9, 2024

COUNCIL CHAMBERS
211 WEST ASPEN AVENUE
3:00 P.M.

All City Council Meetings are live streamed on the city's website (https://www.flagstaffaz.gov/1461/Streaming-City-Council-Meetings)

PUBLIC COMMENT

Verbal public comments not related to items appearing on the posted agenda may be provided during the "Open Call to the Public" at the beginning and end of the meeting and may only be provided in person.

Verbal public comments related to items appearing on the posted agenda may be given in person or online and will be taken at the time the item is discussed.

To provide online verbal comment on an item that appears on the posted agenda, use the link below.

ONLINE VERBAL PUBLIC COMMENT

Written comments may be submitted to publiccomment@flagstaffaz.gov. All comments submitted via email will be considered written comments and will be documented in the record as such.

---

1. Call to Order

NOTICE OF OPTION TO RECESS INTO EXECUTIVE SESSION

Pursuant to A.R.S. §38-431.02, notice is hereby given to the members of the City Council and to the general public that, at this work session, the City Council may vote to go into executive session, which will not be open to the public, for discussion and consultation with the City's attorneys for legal advice on any item listed on the following agenda, pursuant to A.R.S. §38-431.03(A)(3).

2. Roll Call

NOTE: One or more Councilmembers may be in attendance through other technological means.

MAYOR DAGGETT
VICE MAYOR ASLAN
COUNCILMEMBER HARRIS
COUNCILMEMBER HOUSE
COUNCILMEMBER MATTHEWS
COUNCILMEMBER MCCARTHY
COUNCILMEMBER SWEET

3. Pledge of Allegiance, Mission Statement, and Land Acknowledgement

MISSION STATEMENT

The mission of the City of Flagstaff is to protect and enhance the quality of life for all.

LAND ACKNOWLEDGEMENT

The Flagstaff City Council humbly acknowledges the ancestral homelands of this area's Indigenous nations and original stewards. These lands, still inhabited by Native descendants, border mountains sacred to Indigenous peoples. We honor them, their legacies, their traditions, and their continued contributions. We celebrate their past, present, and future generations who will forever know this place as home.

4. **Open Call to the Public**

Open Call to the Public enables the public to address the Council about an item that is not on the prepared agenda. Comments relating to items that are on the agenda will be taken at the time that the item is discussed. Open Call to the Public appears on the agenda twice, at the beginning and at the end. The total time allotted for the first Open Call to the Public is 30 minutes; any additional comments will be held until the second Open Call to the Public.

If you wish to address the Council in person at today's meeting, please complete a comment card and submit it to the recording clerk as soon as possible. Your name will be called when it is your turn to speak. You may address the Council up to three times throughout the meeting, including comments made during Open Call to the Public and Public Comment. Please limit your remarks to three minutes per item to allow everyone an opportunity to speak. At the discretion of the Chair, ten or more persons present at the meeting and wishing to speak may appoint a representative who may have no more than fifteen minutes to speak.

5. **Review of Draft Agenda for the April 16, 2024 City Council Meeting**

Citizens wishing to speak on agenda items not specifically called out by the City Council may submit a speaker card for their items of interest to the recording clerk.

6. **Proclamation:** Fair Housing Month

7. **Proclamation:** National Poetry Month

8. **City Manager Report**
   Information Only

9. **Presentation and discussion regarding the City of Flagstaff Community Development Block Grant Program Year 2024 Annual Action Plan and Staff recommendations for Program Year 2024 CDBG funding allocations**
   Obtain Council direction on the use of Community Development Block Grant (CDBG) funds for Program Year 2024 Annual Action Plan, required by the US Department of Housing and Urban Development (HUD). The 2024 Annual Action Plan (AAP) is due to be submitted to HUD on May 15, 2024, pending notification of the City's Entitlement Award amount, and is required in order for the City of Flagstaff to maintain its compliance with federal CDBG regulations.

   Staff will provide Council with a presentation regarding the 2024 CDBG proposals that were received through the Notice of Funding Available application process. Staff will review each proposal and provide funding recommendations for the 2024 CDBG entitlement and Annual Action Plan. Staff is seeking Council direction regarding CDBG allocations in anticipation of returning on April 16, 2024 for Council approval of a resolution authorizing submission of the AAP to HUD as part of the CDBG process.

10. **Resilience Hubs 101**
    This is an informational update for the City Council and Flagstaff community.

11. **Presentation on City of Flagstaff Fleet Electrification Assessment and Efforts**
    This is an informational presentation for the City Council and Flagstaff community.

12. **Parks, Recreation, Open Space, and Events (PROSE) projects and planning discussion**
    For information and discussion.

13. John Wesley Powell (JWP) Project Update

JWP Team will provide an update on the status of the JWP Project. The update will also include time to answer questions from Council.

14. Open Call to the Public

15. Informational Items To/From Mayor, Council, and City Manager; future agenda item requests

16. Adjournment

CERTIFICATE OF POSTING OF NOTICE

The undersigned hereby certifies that a copy of the foregoing notice was duly posted at Flagstaff City Hall on _____, at _____ a.m./p.m. in accordance with the statement filed by the City Council with the City Clerk.

Dated this _____ day of _____, 2024.

_____
Stacy Saltzburg, MMC, City Clerk

THE CITY OF FLAGSTAFF ENDEAVORS TO MAKE ALL PUBLIC MEETINGS ACCESSIBLE TO PERSONS WITH DISABILITIES. With 48-hour advance notice, reasonable accommodations will be made upon request for persons with disabilities or non-English speaking residents. Please call the City Clerk (928) 213-2076 or email at stacy.saltzburg@flagstaffaz.gov to request an accommodation to participate in this public meeting.

NOTICE TO PARENTS AND LEGAL GUARDIANS: Parents and legal guardians have the right to consent before the City of Flagstaff makes a video or voice recording of a minor child, pursuant to A.R.S. § 1-602(A)(9). The Flagstaff City Council meetings are live-streamed and recorded and may be viewed on the City of Flagstaff's website. If you permit your child to attend/participate in a televised Council meeting, a recording will be made. You may exercise your right not to consent by not allowing your child to attend/participate in the meeting.

CITY OF FLAGSTAFF

STAFF SUMMARY REPORT

To: The Honorable Mayor and Council

From: Stacy Saltzburg, City Clerk

Date: 04/04/2024

Meeting Date: 04/09/2024

TITLE:
City Manager Report

DESIRED OUTCOME:
Information Only

EXECUTIVE SUMMARY:
These reports will be included in the City Council packet for regularly scheduled Work Session meetings. The reports are intended to be informational, covering miscellaneous events and topics involving the City organization.

INFORMATION:

Attachments: City Manager Report
PROSE Monthly Report
Housing Section Newsletter

City Manager's Report

April 5, 2024

Council and Colleagues, greetings. These reports will be included in the City Council packet for Council Work Sessions. The reports are intended to be informational, covering miscellaneous events and topics involving the city organization. Appended to this report you will find the March update from PROSE, the monthly newsletter from Housing, and the monthly newsletter from Human Resources.

Fire

- Flagstaff Fire joined a few hundred students at San Francisco de Asis career day.
- The Department toured with Gore to create awareness about the storage of chemicals.
- The Department completed training on structural collapses, attic fires, search and rescue, EMS, mental health, wildland refresher, technical rescue, hazmat, and Leadership training.
- And a big congratulations to Engineer/Fire Inspector Kristina Barnett on achieving her Fire Inspector II certification and Chris Jack for his Certified Fire Marshal designation. Good work!
- The Department apparatus and CARE unit will be distributing leave-behind *Naloxone* where needed to provide a valuable life-saving resource. Naloxone is a life-saving medication that can reverse an overdose from opioids -- including heroin, fentanyl, and prescription opioid medications -- when given in time. It is easy to use and small to carry.
- The USFS published the 2,604-acre Wing East Integrated Resource Service Contract for the Upper Rio de Flag watershed. This project will include 911 acres to be thinned by March 31, 2025, and additional 781 acres by March 2026, 651 acres by March 2027 and 261 acres by March 2028. All the logs and biomass will be removed from the area. We appreciate the years of great work by the Coconino National Forest and Flagstaff Ranger District to preparing this area and getting the bid package advertised within a week of the budget approval. This is great work by all involved.
- The Wildland Fire Management Team is offering Firewise Assessments and Fuels Reduction Treatments (see below).

Human Resources

- HR has published their first newsletter this week for all employees! It is attached for your reading enjoyment … a great new tool to share current information with employees about HR topics such as recruitment, benefits, classification & compensation, training and more. It also recognizes those employees who have recently joined the organization and promoted. Thanks to HR for keeping everyone informed and up to date on what's happening in the organization. And a special thanks for doing this during a period of significant shortages in staffing.
- This is huge: HR and Lancaster Leadership have brought Diversity, Equity, Inclusion (DEI) training to the organization. The training began with the extended leadership last week and will continue with an online training that will be available to all employees.

Public Works

- Shout out to Fleet Services for fixing the PROSE light duty tractor used to remove snow from Heritage Square! Repairing on site allowed them to finish some work prior to the more detailed repair work. The Fleet team also responded out to the Airport to get their snow removal equipment operational. It is estimated Fleet repaired 40+ plows, graders, and front-end loaders to keep up with the snowstorms. Thanks for your support, Fleet Services!
- This is very cool. Facilities worked with City Library staff to hang 45 hand-made quilts in the Downtown Library to support the event organized by the Coconino Quilters' Guild. This artwork comes from all over the state and gives our residents a great opportunity to enjoy the beautiful work.
- And congratulations to the City of Flagstaff Solid Waste Section's Award of Excellence from Circular Arizona (formerly Arizona Recycling Coalition) for its recent and ongoing recycling efforts!

- Related, a total of 480 tons of scrap metal were transported and recycled and diverted from the landfill!
- If you have not seen it personally, and if you are not entirely sickened by the sight of snow, here is a picture from this past snow season of the downtown snow operations occurring off-hours. With the sunrise lighting up the sky and lights from the equipment down below, the image is almost majestic … almost.

- Work at the Murdoch Center is underway with installing new fire panel, smoke detectors, fire pull stations and flashers throughout the building, new hardware on the kitchen door, new air filters and are working on replacing the water fountains.

- Solid Waste staff toured the Restoration Soils compost facility along with Sustainability to work toward a grant to support large scale efforts to increase organic waste diversion and associated infrastructure.
- A hearty congratulations to Bob Stone on his promotion to Mechanic Lead Worker and Dustin Evans on his promotion to Fleet Supervisor!
- Public Works has been planning the work on the City Hall North stairs and word has it there has been some coordination with Economic Vitality to provide some decorative handrailing. Can't wait to see it! Can't wait to ditch the orange cones!
- Reminder the boiler at the Downtown Library is being replaced and there will be a temporary library set up at City Hall from April 22-30.
- The Signs and Marking crew have been busy with new sign installation, sign repairs, and maintenance. And they do this … while smiling the whole time. Very nice.

- Related, the streetlight crew has been working to replace the old fixtures with new dark sky compliant LED lights and have completed a total of 20 replacements in just one week.
- Did you know that street sweepers run 24 hours a day when it's not snowing!
- This just in … construction on the landfill road has begun. Spring is here!

- Multiple facilities were vandalized with graffiti so Facilities removed what they could and recovered the remaining portion with paint. Thanks to the team for keeping our facilities looking and operating great!

Police Department

- PD toured the City of Scottsdale Police Department's Public Information Office.
- The spring session of the Citizens Police Academy began with 14 community members attending. Excellent!
- Several staff members met virtually with City of Tempe to discuss security at open venue special events such a parade and New Year's Eve events.
- Congratulations to John Carter, Bryon McDermott, and Tanner Lutz on their graduation from the High Country Training Academy! We provided an update on this graduation recently … it was well attended.

- Thanks to Sgt Rintala for his presentation to Kinsey Elementary school!
- The CARE Unit has been providing in-service training to Patrol about the variety of service they can provide.
- Chief Musselman and Deputy Chief Seay met with the Flagstaff Medical Center Chief Operating Officer, Mr. Canfield, to work on related issues.
- Welcome to Dave Holland and Andrew Barnes who were sworn in as lateral officers!

- And this … this you have got to read:
  While Officer Austin Rogers was in Phoenix attending drivers training, he arrived at a vehicle collision before any other emergency responders arrived. When he arrived, he noticed a young child that had been ejected from the vehicle and who was precariously impaled upon top of fence overhanging an approximate 100-foot drop to the I-10 freeway below. Without hesitation, Officer Rogers acted quickly to climb the chain link fence and free the child from the top of the overhang. After lowering the boy to a nearby Phoenix Police Officer, Officer Rogers observed that the driver of the at-fault vehicle was attempting to leave the scene, so he detained him for the Phoenix Police Department. Unbelievable.
  Officer Roger's courageous actions so impressed the responding Phoenix Officer that she wrote a commendation for Officer Rogers to Chief Musselman. A sincere thank you to Officer Rogers for his life saving efforts, and congratulations to him for his receiving the Medal of Valor for these efforts!
- Chief Criminal Deputy County Attorney, Mr. Shea, recognized the investigative work that our detectives performed to solve a homicide, and further recognized the police presence at the Courthouse to ensure the safety of all during the hearing. In his recognition, he described the work of the Flagstaff PD as "incredible and invaluable". Thanks to the team for their efforts!

Water Services

- Some great opportunities coming up over the next few weeks to learn more about conservation opportunities and the water rate study. Please join City staff at any of the following locations:
  - April 10th at the Joe C. Montoya Recreation Center
  - April 13th tour the Rio de Flag plant
  - April 17th at the Hal Jensen Recreation Center
  - April 20th join us at the Earth Day event between 11 am – 2 pm at Bushmaster Park

Recent Meetings & Events

- Many of us attended the luncheon and award ceremony by United Way of Northern Arizona (UWNA), where the City was recognized for some fundraising achievements, and where our own Chief Musselman and his spouse, Kim Musselman, were recognized for their co-chairing duties for this past year's campaign. It was a wonderful event and well attended.

- The CJCC meeting was held last week at the Leaf Facility. The agenda included many topics and notably the Flagstaff PD updates involving arrest records over the past few years. Stay tuned for a presentation on this, as the data reveals some downward trajectories in arrest records across the board. Very positive news.

- The Leadership Team held an all-day retreat, which was partially facilitated by Julie Lancaster, on April 4th. It was an excellent retreat with many positive outcomes.

- On Sunday, April 14th at 3:30pm in the Council Chambers, there will be a celebration of life for Paul Babbitt, former Mayor of the City of Flagstaff. This from Bob Holmes:

  Paul was a giant in northern Arizona serving both as Mayor of Flagstaff and as the Board Chair of Coconino County. He has been in failing health recently and has been under hospice care at his home. He leaves a long legacy and well-led life of 82 years.

With that, Council, this report is concluded. Again, some updates are attached for your review, and the HR Newsletter is pasted on the following pages. Thank you.

Human Resources/Risk Management
Monthly Newsletter, Vol. 1
April 2024

Update from HR/RM Leadership

Welcome to the first newsletter from the Human Resources/Risk Management Team! We hope you find it packed full of all the things you've always wanted to know! Is there something you would like to know more about? Please share with us by emailing human.resources@flagstaffaz.gov.

The HR/Risk Management team held a retreat in February. Julie Lancaster led the team through an exercise to prioritize our major projects for this year.

We are working on a number of Handbook changes including updates related to retiree insurance, employee wellness, and definitions in the EAC ordinance. These will be going to Council for review and approval.

Contents

HR and IT are working on automating several processes in OnBase in order to increase efficiency. This will include requests for acting pay and temporary promotions, workiversaries, vacation rollover requests, and processing awards (such as 7K, WOW, and QSIs). We will communicate to the organization as these items are completed and ready for use.

Welcome to Team Flagstaff!

Morgan Brown – Police Emergency Communications Specialist, Police Department
Jarad Granger – Animal Control Officer, Police Department
Chris Hilton – Police Officer Recruit, Police Department
J Ashton Likes – Recreation Assistan, PROSE
Christina Meeks – Recreation Assistant, PROSE
Breanna Pignato – Recreation Assistant, PROSE
Nathan Rumbley – Police Officer Recruit, Police Department
Ryland Sexton – Equipment Operator I, Public Works
Richard Swartz – Police Records Technician, Police Department

CONGRATULATIONS to the following employees who were recently PROMOTED!

Kaleb Baughn – Police Officer Recruit, Police Department
Dustin Evans – Public Works Supervisor, Public Works
Marty Gidley – Streets Operations Technician III, Public Works

Michaelson Johnson – Streets Operations Technician III, Public Works
Joseph Nagle – Streets Operations Technician III, Public Works
Robert Stone – Mechanic Leadworker, Public Works
Lee Williams – Water Services Section Director, Water Services

Employee Spotlight

Kim Bottorff, HR Analyst - Recruitment

What made you want to join Team Flagstaff?
Work life balance.

Who is your hero?
My mom.

If you could live anywhere, where would it be?
Home is where the heart is and mine is here in Arizona.

If you could switch jobs with anyone else for a day, who would it be and why?
I would be an Activities Director again at a senior home. It was the best job I ever had, and I made a lot of people very happy.

If you could have any superpower, what would it be and why?
Super speed because it would help me accomplish all things on my personal and professional "To Do" lists.

What's your go-to snack or drink?
Sandwiches and Coffee.

If you could bring any fictional character to life, who would it be and why?
Santa Clause because I think the world could really use him right now to provide good cheer, love, connection, good will towards men/women, etc.

What's the most unusual talent or skill you have that your coworkers might not know about?
I don't have one that's unusual, but most people don't know that I can sing.

If you could choose a theme song to play every time you walked into the office, what would it be?
Eye of the tiger.

What do you do for fun?
Spending time outside.

Benefits

Benefit Term of the Month: Deductible
The amount you pay for covered health care services before your insurance plan starts to pay. With a $2,000 deductible, for example, you pay the first $2,000 of covered services yourself. After you pay your deductible, you usually pay only a copayment or coinsurance for covered services. Your insurance company pays the rest.

New Wellness Portal
NAPEBT will be launching a new Wellness program portal through Vera on April

15th. Further details on how to create an account and complete activities will be released on this date. While the timeframe to complete activities for the wellness year is significantly reduced, the activities have been simplified and will take less time to complete. Check-ups and appointments with medical, dental and eye care providers in this current fiscal year can be attested to and used to complete activity levels as well as physical activities. The Wellness program year will still end on May 15th.

Classification and Compensation

Are you considering a promotion or have questions about your current position duties? All City of Flagstaff job descriptions are available to you on the City's website under the Human Resources and Risk Management tab.

Recruitment

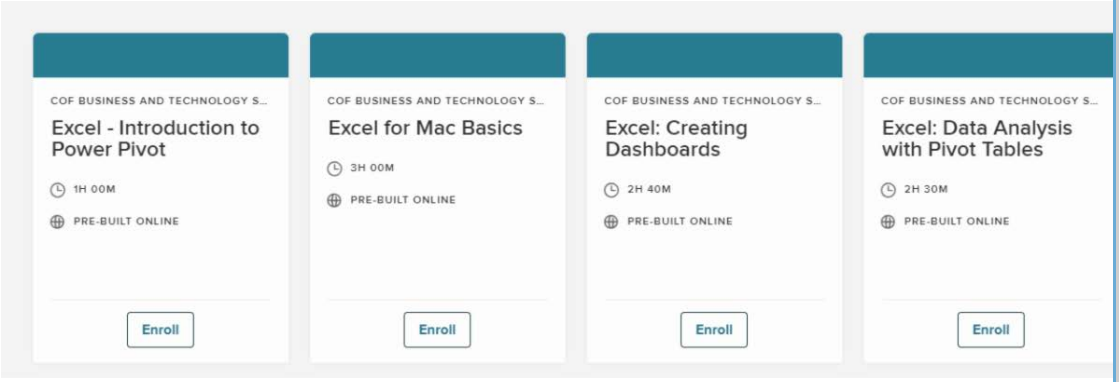
Monthly Recruitment Tip:
When entering a Requisition in NEOGOV, be sure to add your Section Director and Division Director as approvers and save the approval groups before submitting the requisition. This will help ensure your position is posted in a timely manner.

Monthly Job Highlight:
Project Manager - Capital Improvements
Know someone who may be a good fit? Encourage them to apply and you may be

eligible to earn an incentive through the City's **employee referral program**!

Recruitment News:
HR, IT, and NEOGOV are working together to implement the NEOGOV OnBoard platform. This platform will allow us to centralize our onboarding process and paperwork in one location. This tool will also serve as an information resource for employees to refer back to throughout their career. Our first step is creating new employee forms (such as tax forms, federal employment verification documents, payroll forms, etc.). We currently have 71 open requisitions, meaning there are 71 recruitments at some point in the process. There are 38 open jobs, meaning we are accepting applications for 38 different positions at this time. So far in 2024 we have processed 51 new hires, promotions, transfers and reassignments.

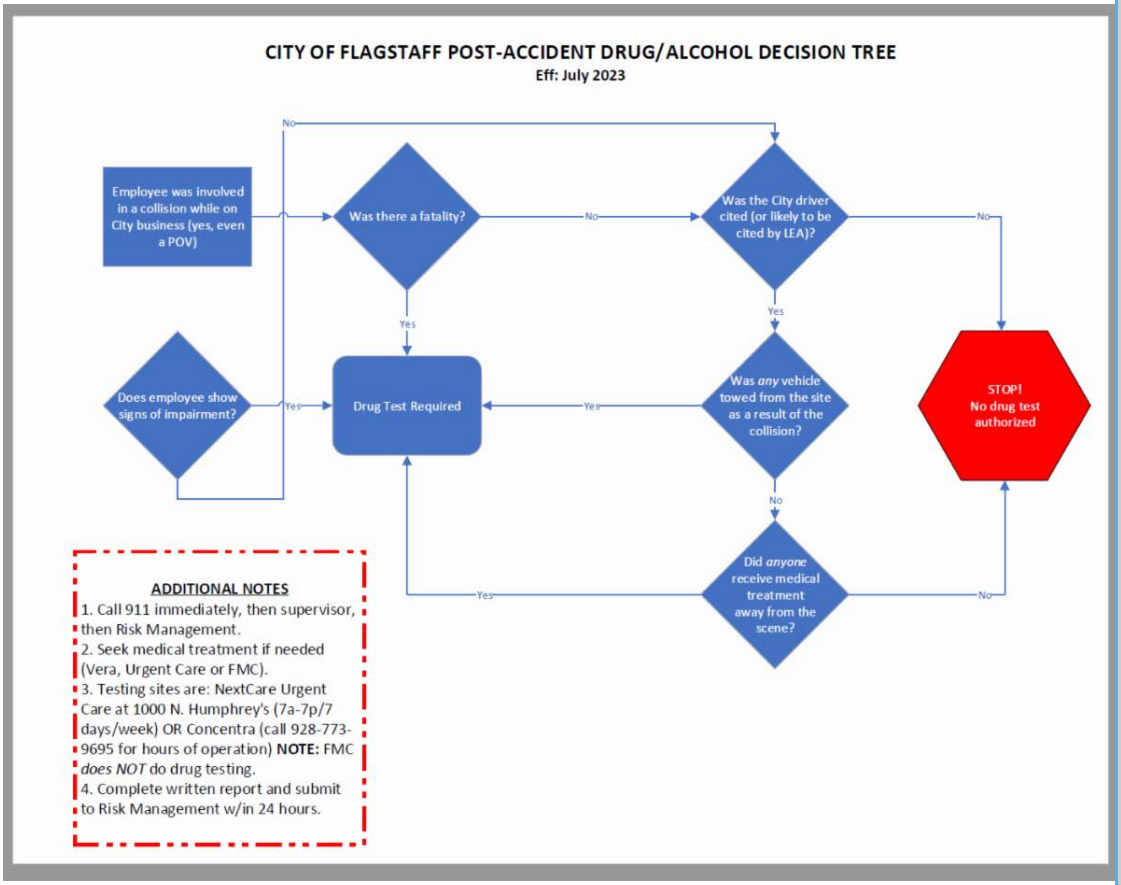
Training and Development Tip:
Help enhance your employees' career development by staying on top of courses that can help them advance in their current positions etc. (i.e. Do they pull and create a lot of reports? Do they need more training on Excel?) Point them in the direction of **NEOGOV LEARN** for training.



Compliance Tip:

Ensure you are following City of Flagstaff policies and procedures and know where to find resources when you have a question about something specific. These can be found under the Human Resources tab under Handbook, Policies and Directives.

View the City of Flagstaff Post-Accident Drug/Alcohol Decision Tree **here!**



Employee Relations Tip:
Please check your NEOGOV dashboard for overdue tasks related to performance evaluations and complete the tasks. All FY24 evaluations need to be completed prior to June 7th to process merit increases and prepare the system for the FY25 performance evaluations. If you see duplicate evaluations, please contact Alan at [Alan.Keay@flagstaffaz.gov.](mailto:Alan.Keay@flagstaffaz.gov)

Risk Management

Training

UPCOMING TRAINING APRIL 2024

4 – Machine Guarding (ADOSH WEBINAR)

9 – Ergonomics (ADOSH WEBINAR)

9 – Proper Body Mechanics (IN PERSON)

17 – Monthly Safety Committee Meeting (TEAMS)

17 – Cranes and Derricks (ADOSH WEBINAR)

18 – Electrical Standards (ADOSH WEBINAR)

26 – Ergonomics (IN PERSON)

To register for an ADOSH Webinar:
https://ezregister.com/promoters/1607/

APRIL IS NATIONAL DISTRACTED DRIVING MONTH!

In a 2022 survey, approximately 3 out of 5 drivers admitted they've engaged in unsafe driving behaviors in the U.S.; couple that with an average of 9 deaths per day as a result of collisions, and we have a real problem! The AAA Foundation for Traffic Safety surveyed almost 2,500 licensed drivers about their driving behaviors and attitudes. It used the findings to classify six types of drivers, with 41.2% qualifying as "safe" – meaning they "rarely engaged in any risky driving behavior." The other categories are as follows: 1) individuals who said they engaged in speeding on a regular basis 2) individuals who admitted to being distracted and aggressive while driving 3) individuals who drove distracted and finally 4) individuals who admitted to driving while impaired. Additionally, 27% said they've sent a text or email while driving, while 59% indicated they had used hands-free technology while behind the wheel. "Despite acknowledging the dangers, some drivers continue to engage in potentially deadly behaviors, particularly speeding," David Yang, executive director of the AAA Foundation for Traffic Safety, said in a press release. "Understanding the different types of risky driving behaviors and the characteristics of drivers who engage in them is crucial for developing targeted interventions to achieve safe mobility." An important thing to understand is, there is no such thing as multi-tasking. Multi-tasking is the process of switching back and forth between more than one task, which means when you're switching from one to the other, your full attention is not on the other. When driving, this means you can actually hamper your effectiveness by reducing your comprehension, attention, and overall performance.

And for more information on roadway safety, please visit the National Safety Council at: https://www.nsc.org/road In a 2022 survey, approximately 3 out of 5 drivers admitted they've engaged in unsafe driving behaviors in the U.S.; couple that with an average of 9 deaths per day as a result of collisions, and we have a real problem! The AAA Foundation for Traffic Safety surveyed almost 2,500 licensed drivers about their driving behaviors and attitudes. It used the findings to classify six types of drivers, with 41.2% qualifying as "safe" – meaning they "rarely engaged in any risky driving behavior." The other categories are as follows: 1) individuals who said they engaged in speeding on a regular basis 2) individuals who admitted to being distracted and aggressive while driving 3) individuals who drove distracted and finally 4) individuals who admitted to driving while impaired. Additionally, 27% said they've sent a text or email while driving, while 59% indicated they had used hands-free technology while behind the wheel. "Despite acknowledging the dangers, some drivers continue to engage in potentially deadly behaviors, particularly speeding," David Yang, executive director of the AAA Foundation for Traffic Safety, said in a press release. "Understanding the different types of risky driving behaviors and the characteristics of drivers who engage in them is crucial for developing targeted interventions to achieve safe mobility." An important thing to understand is, there is no such thing as multi-tasking. Multi-tasking is the process of switching back and forth between more than one task, which means when you're switching from one to the other, your full attention is not on the other. When driving, this means you can actually hamper your effectiveness by reducing your comprehension, attention, and overall performance.

It's contest time! Take the "Just Drive" Pledge to show your commitment to making sure everyone stays safe on the road at: **https://www.nsc.org/faforms/ddam-pledge** and you'll be entered into a drawing for an interesting and fun prize!

And for more information on roadway safety, please visit the National Safety Council at: **https://www.nsc.org/road**

Pay attention to the data...

City of Flagstaff Claims Data
January 1, 2023 – January 31, 2024
Prepared by: Maria Robinson, Risk Management Director

Average # of Employees	1,215
# Employee Incidents	182
# OSHA Recordables	38
# Claims w/ Lost Time	10
# Days Lost	142
# Claims w/ Restricted Duty	18
# Restricted Days	1,511
2023 DART (Days Away and Restricted Time) Rate	3.47
2023 TRIR (Total Recordable Incident Rate)	3.84
# of Repeat Claimants	73
Highest # Previous Claims	7
Total Cost of Claims (Treatment)	$383,455.22
Most Expensive Claim	$93,394.59
Least Expensive Claim (outside of $0)	$8.39
Average Cost (for Paid Claims)	$6,847.41
Youngest (Age)	19.83 years old
Oldest (Age)	77.33 years old
Average Age	39.25 years old
Earliest Date of Hire	July 1, 1992
Most Recent Date of Hire	November 27, 2023
Average Years Employed	7.08
Top 5 Departments	Police (63), Fire (36), Parks & Recreation (20), Water Services (16), Fleet (9)
Top 5 Body Parts	"Multiple" (20), Hand (15), Finger (15), Shoulder (14), Back (13)
Top 5 Injury Categories	Strain (34), Struck/Striking (14), Slip and Fall on Ice (8), Cut/Puncture/Scrape (7), Miscellaneous (7)
Total Paid in Lost Wages	$30,596.25
# Auto Collisions	153
# Preventable Auto Collisions	85
Top 5 Causes	Struck Fixed Object – While Moving (41), Backing (17), Rear-ended/Failed to Stop (10), Snow Plow Struck (4), Slid on Snow (3), Turning (3)
# Auto Collisions by Division	PW Solid Waste (46), PW Streets (38), Police (35), Fire (9), Water Services (6), Airport (3), Parks & Recreation (6), Code Enforcement (1), Comm Dev (1), PW Fleet (1), Housing (1), Management Services (1), Other (1)
$ Paid to date for Preventable Collisions	$93,943.44

[redacted]

Not sure who to contact in Human Resources and Risk Management? Check out

our page on the City's website **Human Resources & Risk Management | City of Flagstaff Official Website (az.gov)**

211 W Aspen Avenue Flagstaff, AZ 86001 | Phone: 928-213-2090
Human.Resources@flagstaffaz.gov

PROSE

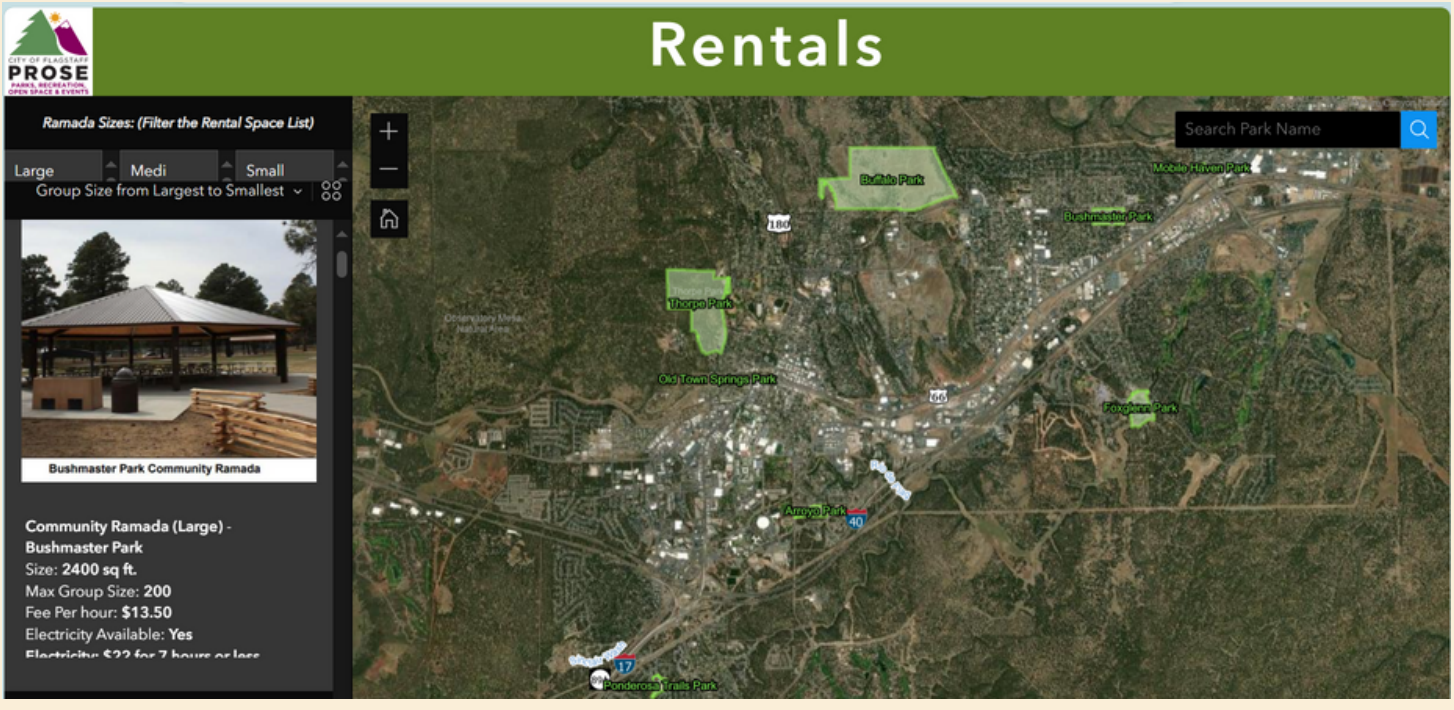
PARKS, RECREATION, OPEN SPACE, AND EVENTS

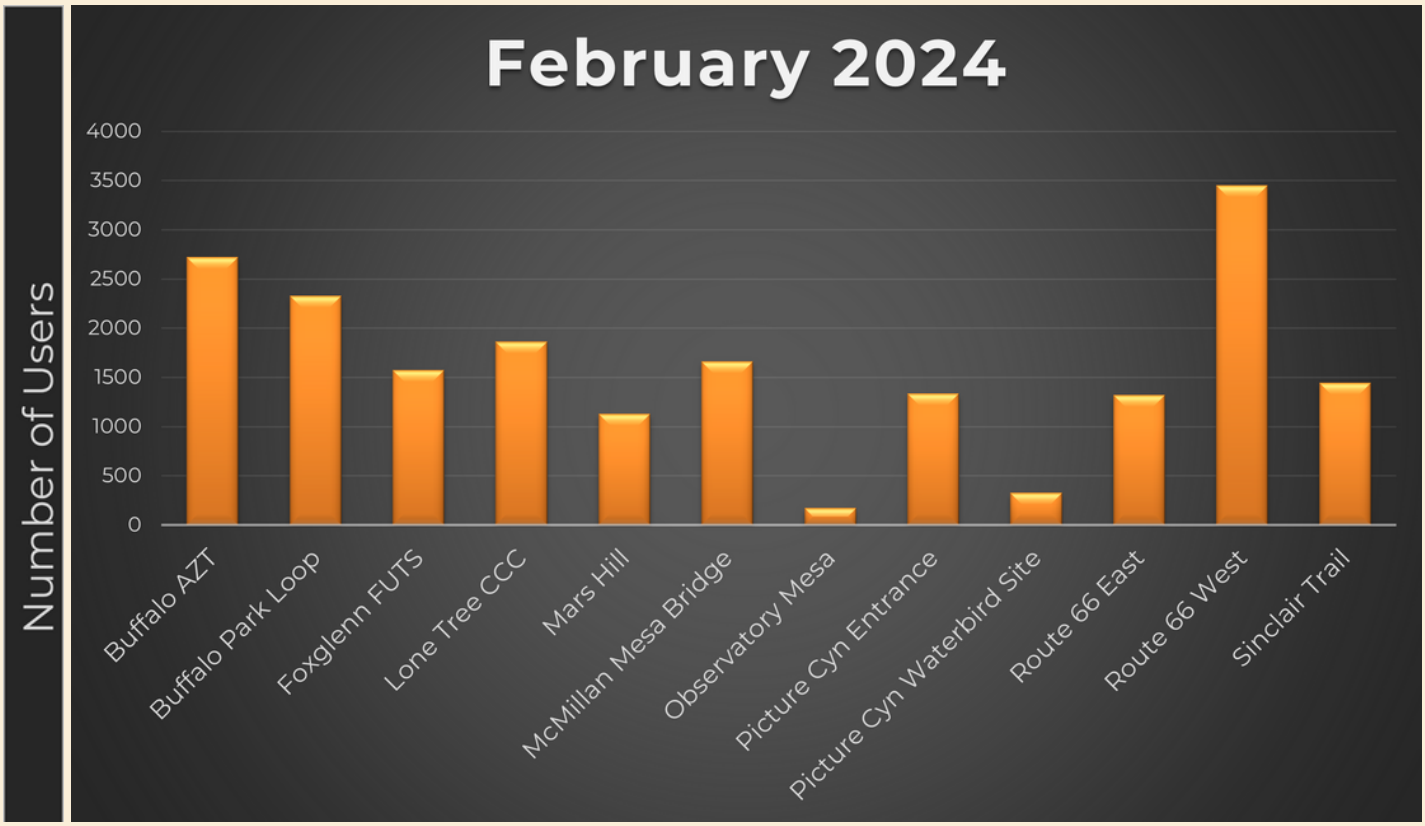
March 2024

It's ramada season! Our Events and Marketing team worked along side IT to implement an online reservation system including mapping through ArcGIS.

The switch to online reservations is years in the making and is finally able to be successful due to software updates.

Above: rentable ramada
Below: ArcGIS ramada map





Above: Trail Count graph

The Parks Section has been working on annual ballfield maintenance in preparation for April 1st, when fields are officially open to allocated user groups. Parks staff are committed to ensuring all fields are safe and playable. The ABI field groomer has been working overtime the past few weeks as all fields are groomed and leveled. And who knows who we have trained on the equipment....

Right: Staff participate in ABI field groomer training

McMillan Mesa Park

The Parks Section has been busy wrapping up construction projects as the transition into spring duties is right around the corner. Staff recently completed the McMillan Mesa Park basketball backstop project. This is a great improvement to the park while creating a safety buffer which prohibits wayward shots from being chased into the adjoining street. Kudos to the parks staff for completing this amazing improvement project.

Above: Parks staff stand in front of the new backstop at McMillan Mesa Park

Piatigorsky Foundation Concert was held on March 15th. Though the weather was snowy, the recreation center still had approximately 20 people in attendance which the performers, Katsuya Yuasa (Clarinet) and Mary Au (Piano) were happy with as they were able to engage personally with the audience.

Above: Piatigorsky Foundation Concert at Joe C. Montoya Community and Senior Center

Hal Jensen Recreation Center kept the youth busy over spring break. Several youth attended a field trip to McMillan Mesa natural area for a hike and went bowling. Other activities included a variety of sports, wind chime making, tie-dye, and even a cooking class!

Above: Hal Jensen Spring Break participant
Left: Rockwall climbers

The Aquaplex extended the rockwall and pool hours throughout the week of spring break. There was an increase in attendance and revenue during spring break week with 2,800 pass visits and more than $7,000 in revenue.

As part of our Recreational Trails Program grant from Arizona State Parks, Open Space staff is reaching out to Navajo, Hopi, Yavapai-Apache, White Mountain Apache and Zuni Tribes to enlist their participation in developing an interpretive sign for the Pit House Overlook at Picture Canyon Natural and Cultural Preserve. Staff made a presentation to the City of Flagstaff's Indigenous Commission on this topic, and several participants joined this effort.

Right: Pit House Overlook at Picture Canyon Natural and Cultural Preserve

Open Space has been hosting an afterschool program at Killip Elementary School. EARTH Club is an opportunity for the students of Killip to gain a fuller appreciation for the world at large, whether creating new tools from recycled materials, looking up close at ordinary objects, or marveling at nature's creations. Recently community guests have included the NAU Entomology Club and the NAU Fire Ecology Learning Lab.

Left: Students participate in EARTH Club

Victory for our marketing team! Our social media following continues to increase with 65 new Facebook followers and 40 new Instagram followers for the month of March.

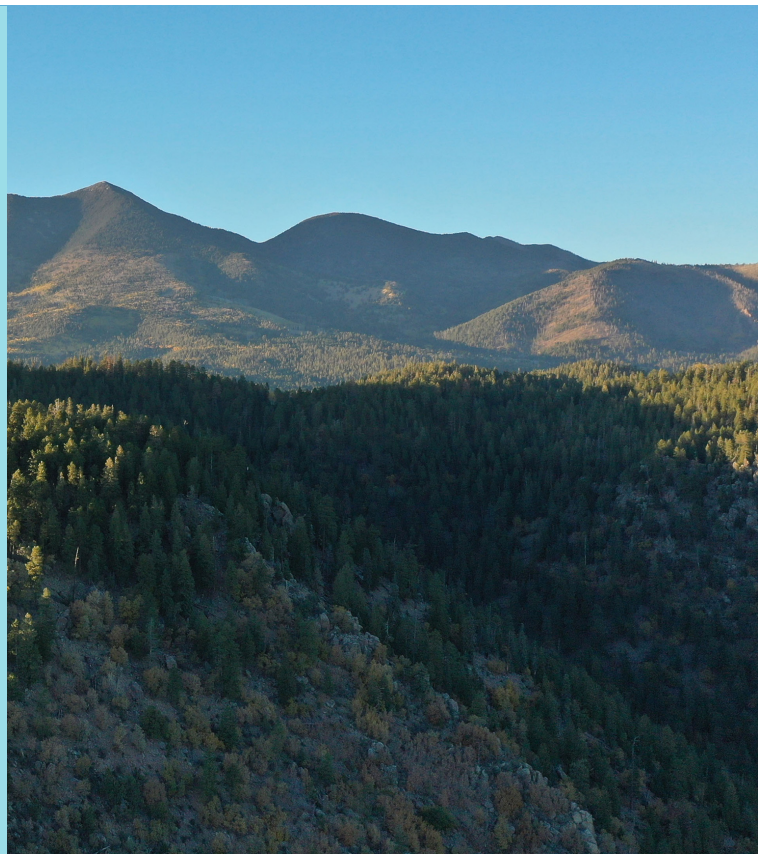
Graph above shows new follows per day for PROSE social media.

flagstaff.az.gov/prose

The Call for Musicians proved to be successful. With over 50 applicants our selection process for Concerts in the Park will be competitive. Stay tuned for a lineup of musicians!

HOUSING SECTION NEWSLETTER

City of Flagstaff



APRIL 2024

RENTAL INCENTIVE BOND PROGRAM AWARDS

The City of Flagstaff published a NOFA for $5 million in Rental Incentive Bond Program (RIBP) funds on February 2nd. A Ranking Committee comprised of two Housing Commissioners and a selection of internal City staff evaluated the two received eligible applications. The Committee recommended that both applications receive the full funding amount requested.

Foundation for Senior Living, a non-profit Low Income Housing Tax Credit developer, submitted two funding applications for a two-phased redevelopment of an entire downtown block located at 320 N. Humphreys Street. Each phase is considered a separate project with separate financing efforts currently underway. San Francisco Square (Phase 1) requested $1,680,000 and Aspen Lofts (Phase 2) requested $1,650,000.

On March 19th, staff brought the funding recommendations to Council for their consideration and approval. Council approved both award amounts, totaling $3,330,000. Funding will be provided as two 50-year forgivable loans, which will be drafted and brought to Council for their approval at a future meeting. These forgivable loans will assist in the creation of 139 new 100% affordable Low Income Housing Tax Credit units in downtown Flagstaff. The San Francisco Square Apartments will serve seniors earning up to 80% of the Area Median Income (AMI) and consists of 60 one-bedroom and 10 two-bedroom units. The Aspen Lofts Apartments will serve individuals and families up to 60% AMI and consists of 37 one-bedroom, 19 two-bedroom and 13 three-bedroom units.

Per the adopted RIBP, the remaining $1,667,000 in Program funds will be made available for a subsequent NOFA process. Dates for the next round have not been determined.

HOMESHARING RESOURCES ON CITY WEBPAGE

Per a request from City Council and a strategy on the 10-Year Housing Plan (Protect 3.4), staff conducted extensive research and analysis of potential homesharing programs to supplement the existing housing models already in our community. It was determined the strategy would be best completed through the launch of a new webpage on the City's website highlighting homesharing resources.

LASS-CAP UPDATE

City staff have been very busy reviewing draft deliverables from the consultant team for the Land Availability & Suitability Study and Code Analysis Project (LASS-CAP). In February, DOWL provided the draft LASS, which identifies roughly 50 opportunity sites for new housing development and identifies infrastructure needs associated with each site. In March, Cascadia Partners provided staff with a draft Code Diagnosis, which identifies various city codes and how they present barriers to achieving the City's housing and carbon neutrality goals. The next step of the CAP is the Code Update Concept process, which will identify changes to the code that would result in greater and lower cost housing production and more sustainable construction and development patterns.

Two separate Steering Committee meetings were held in March to review both deliverables with key city departments and gather insights and feedback. Staff also shared highlights from both documents with the Housing Commission at their March 28th meeting. The consultant team will present findings from these documents to Council on April 16th before beginning the next phases of the project.

HOUSING COMMISSION UPDATE

During the Housing Commission's regular monthly meeting on February 22nd, the Commission voted on two commissioners who will attend Regional Plan update meetings as individuals with Housing Commission experience. Additionally, the commission received three presentations from the following local professionals to create a common foundational knowledge base regarding home buying and home buying elements that will inform coming discussions regarding the programming of $7 million in bond funding designated for homebuyer assistance:

- Karen Flores, local lender and Housing Commissioner
- Gary Nelson, local broker and member of the Northern Arizona Association of Realtors
- Devonna McLaughlin, representative of a local housing agency and Housing Commissioner

Lastly, commissioners bid farewell to Commissioner Sean Slawson, who had to resign from his position due to relocation outside of City limits. Commissioner Slawson expressed his gratitude to his fellow commissioners and to staff for the opportunity to serve on the commission.

At the March regular Housing Commission meeting, the commission made a recommendation for Council to approve Community Development Block Grant (CDBG) funds, received a LASS+CAP update to discuss the draft land inventory and code diagnosis reports, and welcomed Mr. Kevin Bond as the new Housing Commissioner in the Builder seat following City Council appointment on March 5th. Commissioner Bond brings a wealth of experience to the commission, which is evident from his bio:

I am a Phoenix native. Grew up in Laveen, AZ. Graduated from Carl Hayden High School in 1990. Graduated NAU with a Construction Management Degree in 1995. Worked in the family construction business in Phoenix after college in residential construction. We came back to Flagstaff in 2003 to raise our family. My wife of 24 years, Melissa is currently the 4th grade teacher at Mountain School. We have 2 girls; (1) is a sophomore at U of A / (1) in the 4th grade at Mountain School. I am an owner and voting shareholder here at Loven and been employed with them for over 11 years. I have been in the construction industry most of my life with several notable projects in N. AZ. We are big local youth volleyball and soccer fans. Our kids have participated in travel clubs i.e., Flagstaff Soccer Club and Ascent Volleyball Club throughout the years as well as school sports. We have lived in the Foxwood neighborhood for 20 years. Generally, our family likes the outdoors, traveling, hiking, biking, fishing, skiing, cooking, BBQing, family gatherings, and camping.

NEW QUESTION ON THE BOARDS AND COMMISSIONS APPLICATION

In response to a request from Councilmember Khara House to enhance the representation of individuals who have experienced homelessness in the Housing Commission, Housing staff collaborated with the City Clerk's office to add a question on the Boards and Commissions application for Housing Commission applicants. The optional question below will be added to the application:

- If applying to the Housing Commission, do you have direct or indirect personal experience with homelessness?

ARIZONA HOUSING COALITION AWARD

In February, Housing staff attended the annual Arizona Housing Coalition Conference to show support for organizational partner Habitat for Humanity of Northern Arizona, who received the Innovations in Housing for Arizona award. The City of Flagstaff and Habitat have collaborated on two homes being built and sold on a city-owned lot in the Southside neighborhood to pilot Habitat for Humanity's Starter Home Program. Habitat sells the homes for $100,000 and provides a 0% interest loan, with a $1,000 down payment coming from the buyer. Each mortgage payment will be placed in an equity savings account and will be paid back to the owner upon sale. Additionally, Habitat has plans to construct more Starter Home units in the Timber Sky neighborhood. For more information on the Starter Home Program, visit Habitat for Humanity's website.

CITY OF FLAGSTAFF COMMUNITY GARDEN PLOT APPLICATIONS NOW OPEN

With spring just around the corner, the Flagstaff Sustainability Office is thrilled to announce the opening of community garden plot applications. Garden spaces are an excellent way to connect with fellow community members, boost mental and physical health, learn about Flagstaff food systems, and grow delicious, healthy food.

This season, plots at the Bonito, Historic Southside, and Hal Jensen Community Gardens will be available to rent. Returning gardeners will have priority until April 1st to secure their plots from the previous season. The remaining available plots will be offered to new gardeners on a first-come, first-served basis. New gardeners who do not have access to growing space at home or those who qualify for SNAP benefits will be given priority through the application process.

Community Garden registration fees are $65 annually per plot to cover water expenses, infrastructure improvements, and provide resources to gardeners throughout the season. Full ($65) or half ($32.50) scholarships are available to those who express need through the online plot application.

The plot application is available on the City of Flagstaff Community Gardens page. Email gardens@flagstaffaz.gov with any questions.

FAIR HOUSING TRAINING

Join the City of Flagstaff, Southwest Fair Housing Council & DNA People's Legal Services on April 4th at 9am at City Hall and learn more about the protections provided by the Fair Housing Act and the principles of the Arizona Residential Landlord Tenant Act. This training is for everyone including residents (renters and buyers), property managers, landlords, real estate agents, lenders & social service organizations. Know your rights and learn how to recognize housing discrimination! Learn more at https://www.flagstaff.az.gov/629/Fair-Housing

JOJO'S PLACE RIBBON CUTTING CELEBRATION

Housing staff attended a ribbon cutting for the opening of JoJo's Place on Wednesday, January 31st. JoJo's will make available 44 new studio apartments to households experiencing homelessness. Housing Solutions of Northern Arizona has worked diligently since 2022 to layer multiple funding sources and community partners to purchase an old Route 66 motel and renovate the rooms and office spaces to accommodate residents and staff.

Working to create housing opportunities for all Flagstaff residents!

City of Flagstaff Housing Section | 211 W Aspen Ave, Flagstaff, AZ
(928)213-2750 | Marissa.Molloy@FlagstaffAZ.gov

Sign up for the Housing Section Mailing List

CITY OF FLAGSTAFF

STAFF SUMMARY REPORT

To: The Honorable Mayor and Council

From: Kristine Pavlik, Housing and Grants Administrator

Date: 03/27/2024

Meeting Date: 04/09/2024

TITLE:

Presentation and discussion regarding the City of Flagstaff Community Development Block Grant Program Year 2024 Annual Action Plan and Staff recommendations for Program Year 2024 CDBG funding allocations

DESIRED OUTCOME:

Obtain Council direction on the use of Community Development Block Grant (CDBG) funds for Program Year 2024 Annual Action Plan, required by the US Department of Housing and Urban Development (HUD). The 2024 Annual Action Plan (AAP) is due to be submitted to HUD on May 15, 2024, pending notification of the City's Entitlement Award amount, and is required in order for the City of Flagstaff to maintain its compliance with federal CDBG regulations.

Staff will provide Council with a presentation regarding the 2024 CDBG proposals that were received through the Notice of Funding Available application process. Staff will review each proposal and provide funding recommendations for the 2024 CDBG entitlement and Annual Action Plan. Staff is seeking Council direction regarding CDBG allocations in anticipation of returning on April 16, 2024 for Council approval of a resolution authorizing submission of the AAP to HUD as part of the CDBG process.

EXECUTIVE SUMMARY:

The City of Flagstaff receives an annual allocation of Community Development Block Grant (CDBG) funds from the U.S. Department of Housing and Urban Development (HUD) on a "Program Year" basis (July 1 -- June 30). The purpose of the CDBG program is to develop viable urban communities through the provision of decent affordable housing, a suitable living environment, and economic opportunity, principally for low and moderate-income persons. In Flagstaff, for 2023, low and moderate-income (80% of the Area Median Income or below) is defined as a 4-member household earning under $72,700.

In order to receive CDBG funding, the City must complete and submit to HUD an Annual Action Plan describing how the anticipated CDBG allocation will address Flagstaff's community needs identified in the 2021-2025 Consolidated Plan, and how funding will be distributed within Flagstaff city limits. The Annual Action Plan is due to HUD on or before May 15, 2024.

The CDBG entitlement amount for Program Year 2024 is unknown at this time, awaiting notice from HUD, however staff is estimating an allocation of around $535,000. In addition to the funding allocated by HUD, the City of Flagstaff is able to include program income and prior year de-obligated funds from prior years to increase funding available for allocation. These additional funds equal $187,313.00. Therefore, an estimated grand total of $722,313.00 is available for CDBG eligible projects for the 2024 Program Year, through the City of Flagstaff Annual Action Plan.

INFORMATION:

Please review the April 16, 2024 Staff Summary in Attachments for additional information.

Attachments: CDBG Council Presentation
Summary of 2024 CDBG Proposals
April 16 Staff Summary

City of Flagstaff
Community Development Block Grant
Program Year 2024

April 9, 2024

Kristine Pavlik, Housing & Grants Administrator

Purpose & Agenda

Presentation and discussion regarding the City of Flagstaff Community Development Block Grant Program Year 2024 Funding Recommendations and Annual Action Plan

- Brief CDBG Recap
- 2024 Annual Action Plan Process
- Proposals Received
- Allocation Recommendations

CDBG Overview

What is the Community Development Block Grant?

- Federal grant program administered by HUD
- Created in 1974 to provide funding for housing & community development activities
- Serves primarily low to moderate income households

Why does the City of Flagstaff receive CDBG $$$?

- Metropolitan city with a population of 50,000+
- Entitlement Community
- Annual Allocation based on a formula set by HUD

CDBG Overview

CDBG Primary Objective

The development of viable urban communities through the provision of the following, principally for low- and moderate-income persons:

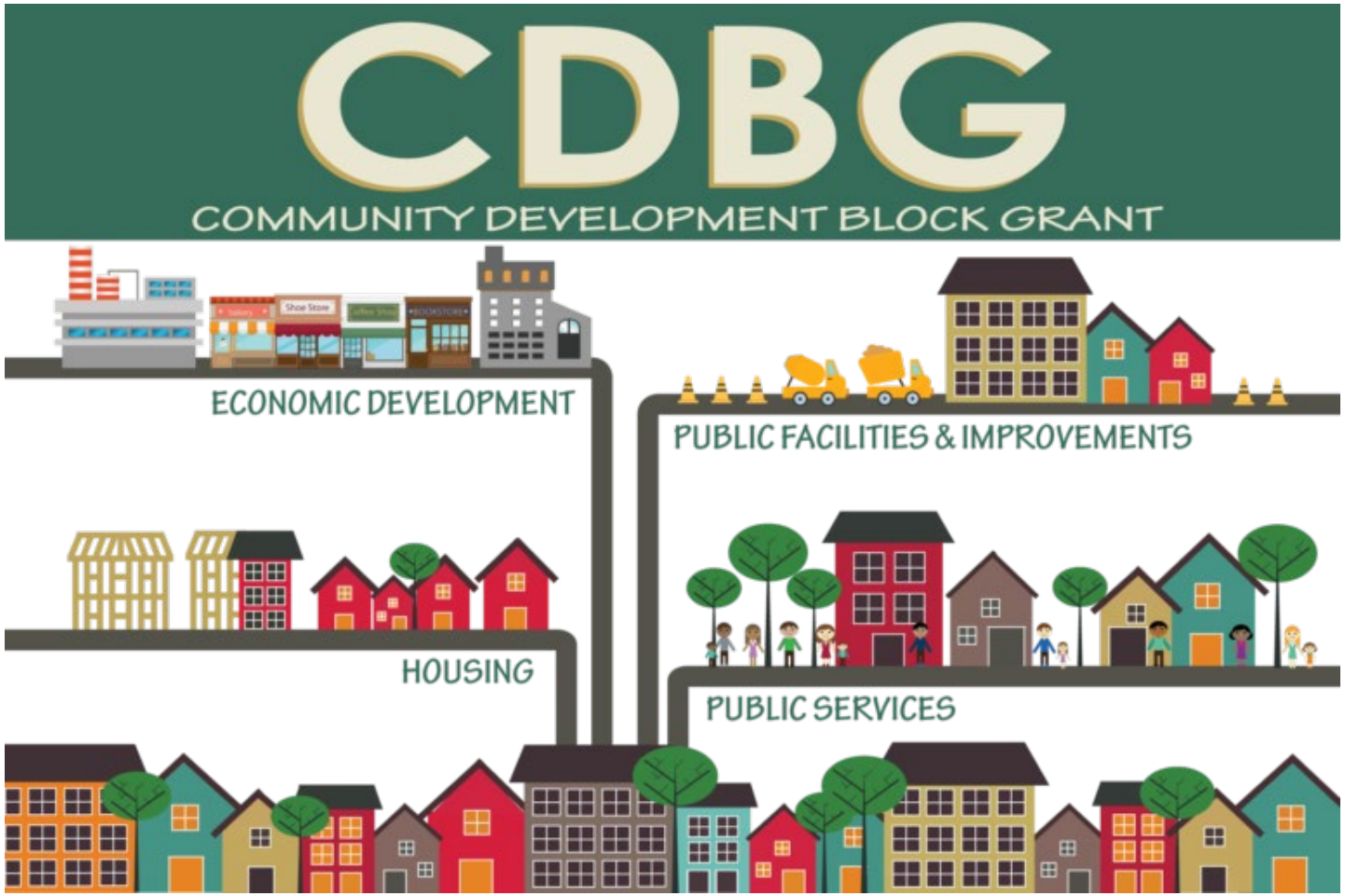
- Decent Housing
- A suitable living environment
- Economic opportunity

How can the City spend CDBG dollars?

As the City Council determines based on:

- Priorities and needs identified in the Consolidated Plan
- The Primary Objective
- One or more of the National Objectives

CDBG Overview



National Objectives

To be eligible, an activity must qualify as one of the following:

- Limited Clientele
- Housing Activity
- Area Benefit
- Job Creation or Retention Activities (Economic Development)

CDBG Overview

Criteria for use of CDBG Funds

- At least **70%** of the CDBG funds **must** benefit low to moderate income persons over the program year (July 1 to June 30)

- Historically, Flagstaff serves **100%** low to moderate income persons with CDBG funding

CDBG Overview

How does the City access the funds?

- **Annual Action Plan - "What are we are going to do?"**

  Outlines yearly funding allocations – Due every May

- **Consolidated Annual Performance Evaluation Report (CAPER) - "What did we do?"**

  Summary of outcomes for prior year allocations - Due every September

- **Consolidated Plan – "How should we choose what to do?"**

  Assessment of housing & community development needs – Due every 5 years

- **Analysis of Impediments to Fair Housing choice - "City of Flagstaff Fair Housing Plan"**

  Analysis and City goals for Fair Housing – Due every 5 years

- **Substantial Amendments to Annual Action Plan – "What do we need to change?"**

  To accommodate changes and additional funding, as needed only

CDBG Overview

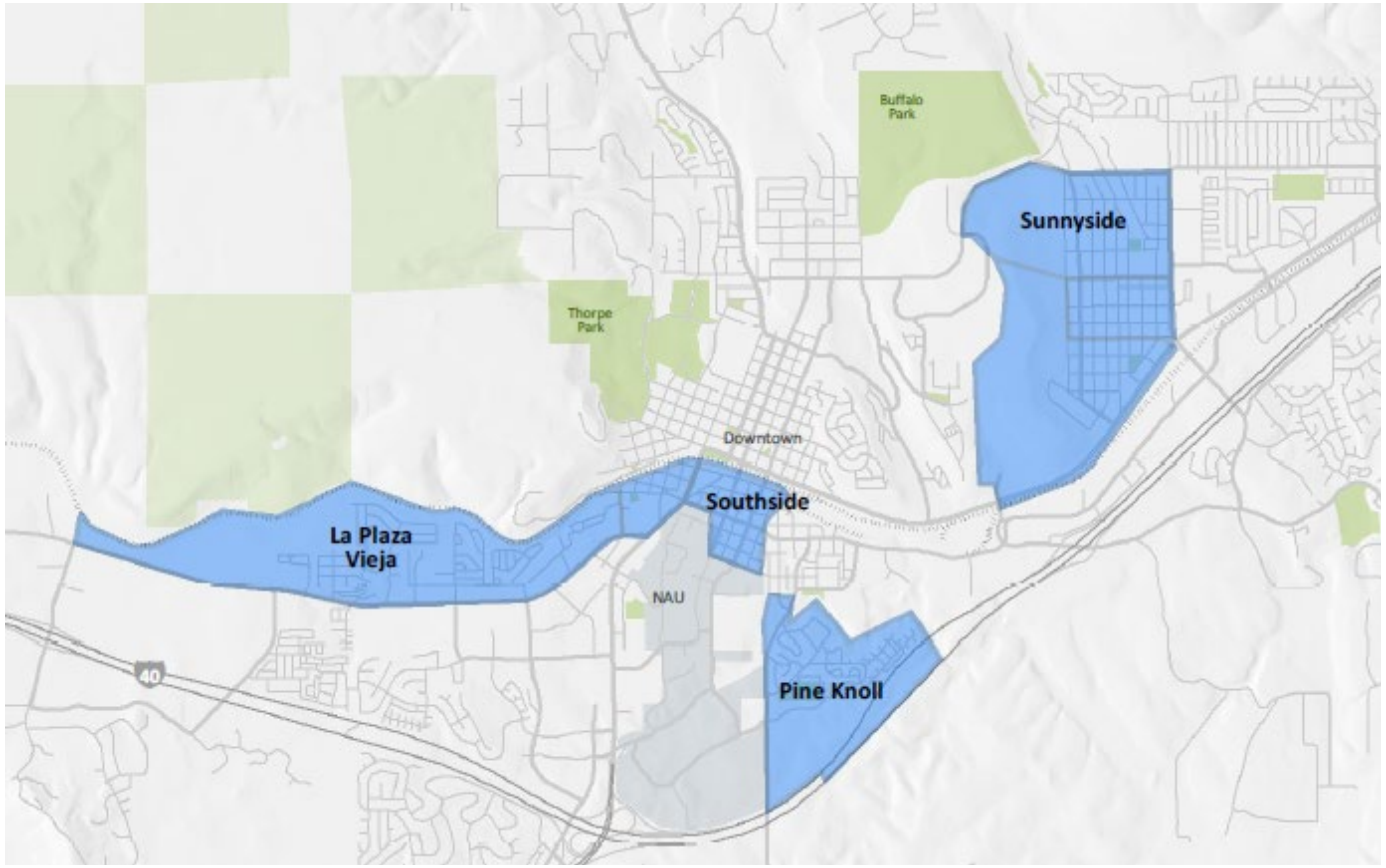
In the 2021-2025 Consolidated Plan, the City has designated the following target areas for CDBG projects. These target areas encompass many of the areas of low-income and minority concentration:

La Plaza Vieja
Census Tract 11.02, Block Groups 1 & 3

Sunnyside
Census Tract 3, Block Groups 2, 3, & 4

Southside
Census Tract 8, Block Group 1

Pine Knoll
Census Tract 8, Block Group 2



Council / Staff Responsibilities

Council CDBG Priorities

(established Jan 2023)

- Provide affordable housing (rental and ownership)
- Address Homelessness
- Support Neighborhood Revitalization
- Workforce Development

City Staff Responsibilities

- Conduct proposal process
- Determine activity eligibility
- Assess activity viability
- Conduct agency risk assessment
- Provide recommendations to the City Council

Risk Assessments

Housing Staff Considers

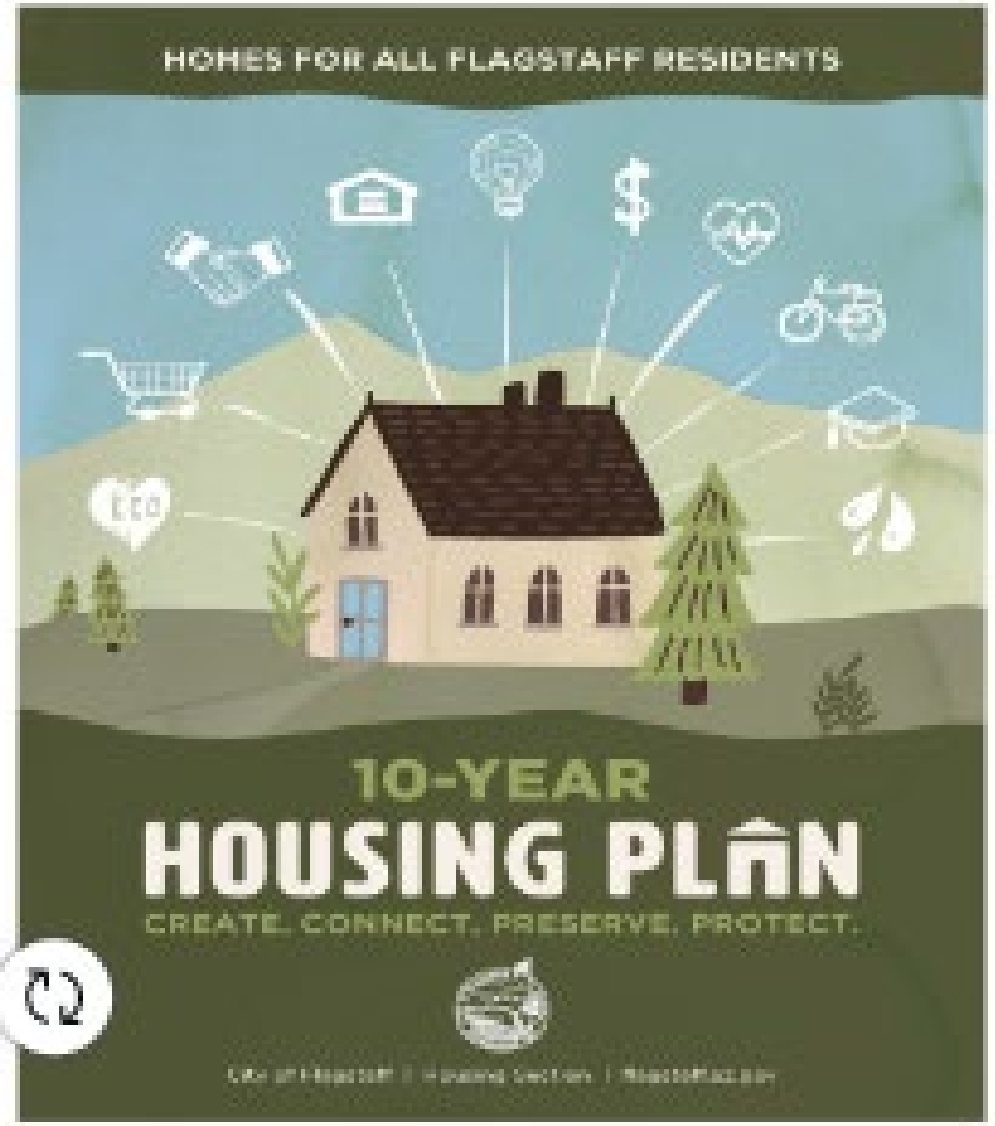
- Objectives & Council's Priorities
- Number Served & Area Benefit
- Community Need & Collaboration
- Budget, Leverage & Cost Effectiveness
- Organizational /Federal Grant Experience
- Financial Capacity & Rate of Expenditure
- Budget Analysis & Sufficient Leverage
- Duplication of Benefits/Supplanting

The City of Flagstaff is the Responsible Entity to the HUD!

10-Year Housing Plan

- Impact at least 6,000 low-to-moderate income Flagstaff residents through a combination of unit creation or subsidy provision.

- Create or preserve 7,976 housing units by 2031 with a minimum of 10% of them being affordable. This will increase the overall supply of market rate, workforce and affordable housing occupied by local residents.



5-year Consolidated Plan Goals

Identified High Priority Needs and Activity Goals Established

- **Support neighborhood revitalization and public facilities and infrastructure improvements especially in established target areas including:**
  1. Neighborhood revitalization including Neighborhood Facility and Infrastructure Improvements (3,000 people)
  2. Public Facilities Improvements (100 people)
  3. Acquisition for Affordable Housing Benefit (100 people)
- **Support public services and economic opportunities for low-and moderate-income persons including:**
  1. Services to Meet Basic Needs (300 people)
  2. Workforce Development (15 people)
  3. Housing Stabilization Services (50 households)

5-year Consolidated Plan Goals

Identified High Priority Needs and Activity Goals Established

- **Support services and projects addressing homelessness including:**
  1. Service and Facility Operating Support (1,500 people)
  2. Increase Shelter Beds/Units (15 beds/units)

- **Support the development, accessibility, and preservation of decent affordable housing including:**
  1. Rehabilitation of owner and/or renter households/units (20 units)
  2. Development of owner and/or renter affordable housing units (3 units)
  3. Housing Assistance for owner and/or renter households (50 households)

CDBG 2024 Annual Action Plan

- **1st Public Meeting**
  January 18, 2024
- **2nd Public Meeting & CDBG NOFA Release**
  January 24, 2024
- **3rd Public Meeting (Review of Proposals)**
  February 29, 2024
- **Ranking Committee**
  March 20, 2024
- **Housing Commission**
  March 28, 2024
- **City Council Meetings**
  April 9 & April 16, 2024

CDBG Funding Available

Estimated **Entitlement Allocation**	**$535,000.00**
Program Income	*$142,000.00*
Reallocated Funds	*$45,313.00*
Estimated **Total Available PY 2024**	**$722,313.00**
Administration and Indirect (20%)	*$126,062.00*
Public Services (15%)	*$94,546.95*

CDBG Proposals Received

Agency	Project/Program	Beneficiaries	Requested Funds
Housing/Public Facility Improvements			
Community Action Teams of Flagstaff	Acquisition of Real Property for a Homeless Resource Center in Sunnyside	500 Individuals Experiencing Homelessness	**$200,000.00**
Public Services			
Coconino County Health and Human Services	Senior Nutrition Program Meals on Wheels	25 Elderly Individuals	**$44,200.00**
Community Action Teams of Flagstaff	Mobile Resource and Outreach Bus	500 Individuals Experiencing Homelessness	**$50,000.00**
Boys and Girls Club of Flagstaff	Childcare and School Break Camps	75 LMI Youth – ages 6-18	**$75,000.00**
~~**Pearl Transit Corp.**~~	~~Oral Health Outreach and Services~~	~~2,600 Homeless and LMI Individuals~~	~~**$60,000.00**~~

Total Funding Requested $429,200.00

Coconino County Health and Human Services

- **Project:** Operational Assistance for Senior Nutrition Program/ Meals on Wheels
- **Beneficiaries:** 120-150 elderly individuals daily
- **Amount Requested:** $44,200.00
- **Project Description:** Coconino County Health and Human Service's Senior Nutrition Program provides **nutritious meals to 120 to 155 seniors each day.**
- **Additional Info:** CDBG funds will cover the **salaries of a part-time driver and a part-time nutritional aid**. Due to the expiration of ARPA funding, 32% of seniors receiving home delivered meals will lose services placing them in jeopardy of malnutrition, isolation, and housing instability.

Community Assistance Teams (CATS)

- **Project:** Operational Assistance for Mobile Resource and Outreach Bus
- **Beneficiaries:** 500 individuals experiencing homelessness, annually
- **Amount Requested:** $50,000.00
- **Project Description:** CATS of Flagstaff operates an outreach bus **providing free showers and services to people experiencing homelessness**. Individuals served can acquire clean clothing, hygiene supplies, food, first aid, PPE and referrals to local agencies.
- **Additional Info:** CDBG funds will be used to **support payroll, program supplies and bus maintenance expenses** incurred throughout the program year.

Boys and Girls Club of Flagstaff

- **Project:** Operational Assistance for Childcare and School Break Camps
- **Beneficiaries:** 75 youth from Low and Moderate-Income Households
- **Amount Requested:** $75,000.00
- **Project Description:** BGCF will provide a year-round Fee Waiver Program, aimed at providing **comprehensive access to Club programming for youth from low and moderate-income households** in the Flagstaff community.
- **Additional Info:** CDBG funds will be used to cover **childcare and summer camp fees** for eligible households. These funds will support general operating costs, including program supplies and materials as well as direct staffing costs.

Community Assistance Teams (CATS)

- **Project:** Property Acquisition for Homeless Resource and Day Center
- **Beneficiaries:** 500 individuals
- **Amount Requested:** $200,000.00
- **Project Description:** CATS of Flagstaff will **acquire an existing building for a homeless resource and day center**, located at 2109 E Cedar Ave. The resource and day center will offer clothing, food, supplies, mailbox service, personal lockers, a day room, and facilities for showers and laundry. Office space will be provided to other agencies for direct client services.
- **Additional Info:** CDBG funds will be used for a **downpayment for acquisition of the property** through a seller-carried loan. CDBG funds will be a silent second loan, repayable if the property is sold or no longer used for a CDBG eligible program.

Staff Request for Funding

- **Project:** Safety Improvements at **The Lantern / Flagstaff Shelter Services**
- **Beneficiaries:** 400 individuals experiencing homelessness, annually and the creation of 103 shelter beds/units
- **Amount Requested:** $200,000 - $300,000
- **Project Description:** FSS acquired a 103-room motel to be used for non-congregate, emergency shelter. The agency intended to request CDBG funds for renovations at The Lantern in PY 2025. After the PY 2024 proposal deadline, **urgent and crucial safety-improvements** were identified.
- **Additional Info:** CDBG funds will primarily be used for the **installation of an interior fire sprinkler system** in compliance with City Code. Other updates include **ADA compliance and other safety requirements**.

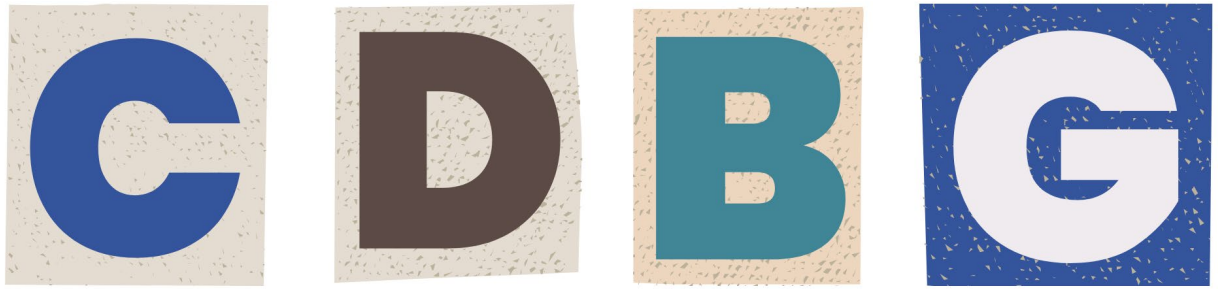
Ranking Committee & Staff Recommendations

Organization	Project/Program	Average Score	Funding Requested	Recommendation
Housing/ Public Facility Improvements				
Community Action Teams of Flagstaff	Acquisition of Real Property for a Homeless Resource Center in Sunnyside	111.6	$200,000.00	$200,000.00
Flagstaff Shelter Services	Safety Improvements at The Lantern	N/A	N/A	$302,113.00
			Total	**$502,050.40**
Public Services (15% Maximum)				
Coconino County Health and Human Services	Senior Nutrition Program Meals on Wheels	125.6	$44,200.00	$44,200.00
Community Action Teams of Flagstaff	Mobile Resource and Outreach Bus	125.5	$50,000.00	$50,000.00
Boys and Girls Club of Flagstaff	Childcare and School Break Camps	107.9	$75,000.00	$0.00
			Total	**$94,200.00**
Administration and Indirect (20% Maximum)				
City of Flagstaff	Admin/Indirect	N/A	N/A	**$126,000.00**
			Total	**$722,313.00**

Next Steps and Questions

Seeking Council Direction for PY 2024 CDBG Allocations

- April 16, 2024 - Resolution for Council Consideration authorizing submission of the PY 2024 Annual Action Plan
- May 15, 2024 – Annual Action Plan due to HUD



Kristine Pavlik

Housing &
Grants Administrator

City of Flagstaff

Kristine.Pavlik@flagstaffaz.gov

(928) 213-2749

TEAM FLAGSTAFF
WE MAKE THE CITY BETTER

Summary of CDBG Program Year 2024 Proposals and Recommended Funding Allocations

Public Service Activities

Organization: Coconino County Health and Human Services
Project: Operational Assistance for the Senior Nutrition Program/ Meals on Wheels
Beneficiaries: 120-150 elderly individuals daily
Amount Requested: $44,200.00
Recommend Funding: $44,200.00
Project Description: Coconino County Health and Human Service's Senior Nutrition Program provides nutritious meals to 120 to 155 seniors each day. Cooks prepare meals at the Joe C. Montoya Community and Senior Center. Between 40-75 meals are served at the center as a Senior Congregate Meal and 80 Home Delivered meals are packaged and delivered to home-bound, food-insecure elderly individuals in neighborhoods throughout Flagstaff.
Additional Info: CDBG funds will cover the salaries of a part-time driver and a part-time nutritional aid. Due to the expiration of ARPA funding, without CDBG support 32% of seniors receiving home delivered meals will lose services placing them in jeopardy of malnutrition, isolation, and housing instability.

Organization: Community Assistance Teams of Flagstaff
Project: Operational Assistance for the Mobile Shower and Outreach Bus
Beneficiaries: 500 individuals experiencing homelessness, annually
Amount Requested: $50,000.00
Recommend Funding: $50,000.00
Project Description: Community Assistance Teams of Flagstaff operates a mobile showers and outreach bus providing free showers to people experiencing homelessness. Individuals in needs can acquire clean clothing, hygiene supplies, food, first aid, PPE and referrals to local agencies. The bus is parked in different locations around Flagstaff, primarily in Sunnyside and Southside.
Additional Info: CDBG funds will be used to support payroll, program supplies and bus maintenance expenses incurred throughout the program year.

Organization: Boys and Girls Club of Flagstaff
Project: Operational Assistance for Childcare and School Break Camps
Beneficiaries: 75 youth from Low and Moderate-Income Households
Amount Requested: $75,000.00
Recommend Funding: $0
Project Description: Boys and Girls Club of Flagstaff will provide a year-round Fee Waiver Program, aimed at providing comprehensive access to Club programming for youth from low and moderate-income households in the Flagstaff community. This will remove financial barriers, ensuring all children have equitable opportunities to engage in educational, recreation, and developmental activities that contribute to their overall wellbeing.
Additional Info: CDBG funds will be used to cover childcare and summer camp fees for eligible households. These funds will support general operating costs, including program supplies and materials as well as direct staffing costs.

Housing Activities

Organization: Community Assistance Teams of Flagstaff
Project: Property Acquisition for Homeless Resource and Day Center
Beneficiaries: 500 individuals
Amount Requested: $200,000.00
Recommend Funding: $200,000.00
Project Description: Community Assistance Teams of Flagstaff will develop a homeless resource and day center to be located at 2109 E Cedar. Ave. The resource and day center will offer clothing, food, supplies, mailbox service, personal lockers, a day room, and facilities for showers and laundry. Office space will be provided to other agencies for direct client services.
Additional Info: CDBG funds will be used for a downpayment for acquisition of the property through a seller-carried loan. CDBG funds will be a silent second loan, repayable if the property is sold or no longer used for a CDBG eligible program.

Organization: Staff Request on behalf of Flagstaff Shelter Services
Project: Safety Improvements at The Lantern
Beneficiaries: 400 individuals experiencing homelessness, annually and the creation of 103 shelter beds/units
Amount Requested: $200,000 - $300,000
Recommend Funding: $302,113.00
Project Description: Flagstaff Shelter Services acquired a 103-room motel to be used for non-congregate, emergency shelter. The agency intended to request CDBG funds for renovations at The Lantern in PY 2025. After the PY 2024 proposal deadline, urgent and crucial safety-improvements were identified. To not delay occupancy, multiple costly and labor-intensive improvement must be made as soon as possible.
Additional Info: CDBG funds will primarily be used for the installation of an interior fire sprinkler system in compliance with City code. Other updates include ADA compliance and other safety requirements.

. 0.

CITY OF FLAGSTAFF
STAFF SUMMARY REPORT

To: The Honorable Mayor and Council

From: Kristine Pavlik, Housing and Grants Administrator

Date: 03/27/2024

Meeting Date: 04/16/2024

TITLE:
Consideration and Adoption of Resolution No. 2024-XX: A resolution approving the City of Flagstaff's 2024 Annual Action Plan and authorizing its submission to the U.S. Department of Housing and Urban Development (HUD)

STAFF RECOMMENDED ACTION:

1) Read Resolution No. 2024-XX by title only
2) City Clerk reads Resolution No. 2024-XX (if approved above)
3) Adopt Resolution No. 2024-XX

Executive Summary:
This staff summary is for the approval of the City of Flagstaff's 2024 Annual Action Plan (AAP) that is a required submission to the U.S. Department of Housing and Urban Development (HUD) as part of the Community Development Block Grant (CDBG) program. This document identifies how the anticipated 2024 CDBG allocation will address Flagstaff's community needs identified in the 2021-2025 Consolidated Plan and how funding will be distributed within Flagstaff city limits.

The Annual Action Plan is due to HUD on May 15, 2024. Timely submission of the Annual Action Plan will enable the City to continue its annual allocation of CDBG funding.

Financial Impact:
Approval of the above resolution is critical to the City of Flagstaff receiving its annual CDBG entitlement allocation. The CDBG entitlement amount for Program Year 2024 is unknown at this time, awaiting notice from HUD, however, staff is estimating an allocation of around $535,000. In addition to the funding allocated by HUD, the City of Flagstaff is able to include program income and de-obligated funds from prior years to increase the amount available for allocation. These additional funds equal $187,313.00. Therefore, an estimated grand total of $722,313.00 is available for CDBG-eligible projects for the 2024 Program Year, through the City of Flagstaff Annual Action Plan. The proposed allocation takes into consideration administrative costs and the City's financial impacts by including the indirect rate of 10%.

Policy Impact:
The Flagstaff City Council's CDBG Priorities (established January 2023):

- Provide affordable housing (rental and ownership)
- Address homelessness
- Support neighborhood revitalization
- Workforce development (including job training and lifespan education)

Connection to PBB, Carbon Neutrality Plan, 10-Year Housing Plan & Regional Plan:
Priority Based Budgeting

- **High Performing Governance**

- Encourage public trust through transparency, accessibility & use of the City's public participation policy
- Implement innovative local government programs, new ideas & best practices; be recognized as a model for others to follow

- **Safe & Healthy Community**
  - Support social services, community partners & housing opportunities
  - Provide alternative responses, resources & programs, inclusive of mental health & other services

- **Inclusive & Engaged Community**
  - Foster community pride & civic engagement by increasing opportunities for public involvement, in line with best practices & legal requirements
  - Advance social equity & social justice in Flagstaff by supporting social services
  - Facilitate & foster diversity & inclusivity, including support of anti-racist policies & practices
  - Enhance community involvement, education & regional partnerships to strengthen the level of public trust
  - Ensure city facilities, services, & programs are accessible for all residents & representative of Flagstaff's diverse community

- **Sustainable, Innovative Infrastructure**
  - Support the community's social infrastructure needs; assist those partner organizations that provide services the City does not

- **Robust Resilient Economy**
  - Support & strengthen a more robust, diverse, & sustainable economy in ways that reflect community values & provides for affordable housing opportunities
  - Enhance understanding between the development community, the City & Flagstaff residents
  - Enhance the community's workforce development programs & improve partnerships with higher education institutions & the private & public sectors

- **Livable Community**
  - Support regional partners which provide equitable & inclusive educational opportunities for Flagstaff residents of all ages
  - Actively support attainable & affordable housing through City projects & opportunities with developers

- **Environmental Stewardship**
  - Implement, maintain & further the Climate Action & Adaptation Plan (CAAP) with awareness of social inequities

Regional Plan

- **Goal NH.1. Foster and maintain healthy and diverse urban, suburban, and rural neighborhoods in the Flagstaff region.**
  - Policy NH.1.1. Preserve and enhance existing neighborhoods.

- **Goal NH.3. Make available a variety of housing types at different price points, to provide housing opportunities for all economic sectors.**
  - Policy NH.3.1. Provide a variety of housing types throughout the City and region, including purchase and rental options, to expand the choices available to meet the financial and lifestyle needs of our diverse population.
  - Policy NH.3.3. Increase the availability of affordable housing for very low-income persons, through innovative and effective funding mechanisms

- **Goal NH.4. All housing is safe and sanitary.**
  - Policy NH.4.1. Expand the availability of affordable housing throughout the region by preserving existing housing, including housing for very low-income persons. Policy NH.4.2. Reduce substandard housing units by conserving and rehabilitating existing housing stock to minimize impacts on existing residents.

- Policy NH.4.3. Address accessibility issues and other housing barriers to persons with disabilities or special needs.
- Policy NH.4.4. Encourage green practices in housing construction and rehabilitation that support durable, healthy, and energy efficient homes.
- Policy NH.4.5. Renovate the existing housing stock to conserve energy and reduce utility and maintenance costs for owners and occupants.
- Policy NH.4.6. Consider and integrate public transportation, when possible, in planning housing developments, to help reduce a household's transportation costs and minimize impact on the community's roads and transportation system.
- Policy NH.4.7. Enforce compliance with fair housing laws.

- **Goal NH.5. Eliminate homelessness.**
  - Policy NH.5.1. Provide adequate resources for families with children experiencing homelessness.
  - Policy NH.5.2. Provide adequate resources for individuals experiencing homelessness.
  - Policy NH.5.3. Support and expand programs that prevent homelessness.
  - Policy NH.5.4. Make transitional housing resources available to populations experiencing homelessness

Carbon Neutrality Plan

- **Community resilience**
  - CR-1: Ensure all mitigation actions improve Flagstaff's ability to adapt to the future.
  - CR-2: Strengthen existing community systems to create resilience to both short-term shocks and long-term change.

- **Equitable systems**
  - ES-2: Proactively engage community members on an ongoing basis
  - ES-4: Actively seek to recognize past harms, repair trust, and build deeper relationships with community members.

10 Year Housing Plan

- **Connect people to equitable housing solutions.**
  - Connect 1: Reduce homelessness in the Flagstaff community and seek creative solutions to foster housing permanency for all.
    - Connect 1.3 Continue to support and develop Coordinated Entry as a meaningful process that provides linkages to healthcare, behavioral health, and housing
  - Connect 2: Implement a framework for centering equity in proposed and existing housing practices, policies, and programs.
    - Connect 2.1 Evaluate housing policies and strategies in City of Flagstaff planning documents through an equity lens.
    - Connect 2.2 Encourage community organizations such as local Continuum of Care to continue to integrate equity into programs and policies.
  - Connect 3: Integrate healthcare into housing programs, and housing into healthcare programs, as appropriate.
    - Connect 3.1 Raise awareness of housing security as a social determinate of health
    - Connect 3.2 Encourage neighborhoods, housing types and building practices that increase health.
    - Connect 3.3 Work in partnership with the community to develop and promote community health measurement data collection into housing services when viable

- **Preserve affordable housing**
  - Preserve 1: Encourage the adaptive reuse of buildings.
    - Preserve 2.2 Acquire and rehabilitate already built properties for affordable housing projects when financially feasible.

- **Protect people from housing discrimination and remove housing barriers.**
  - Protect 1: Continue Flagstaff's commitment to further Federal and Arizona Fair Housing laws in all housing-related services and programs, valuing the efforts of those who seek to reduce barriers to

equitable housing opportunities, and providing Fair Housing education and resources to the community.

Has There Been Previous Council Decision on This:
Staff received Council direction on Council CDBG priorities during the January 23, 2023 Council meeting which are identified in Policy Impact above and Background/History below.

Housing Staff presented an overview of CDBG applications received and the ranking committee and staff recommendations for CDBG funding allocations to the Housing Commission on March 28, 2024. The Housing Commission unanimously passed a motion to forward these recommendations to City Council with a recommendation for approval. Along with this recommendation, the Housing Commission also wanted to acknowledge that the location of the proposed Resource Center is located in a neighborhood with an existing concentration of social services.

Housing Staff presented these recommendations to City Council during the April 9, 2024, City Council work session.

Options and Alternatives:

1. Approve Resolution No. 2024-XX and authorize the submission of the Annual Action Plan to HUD by May 15, 2024.
2. Modify Resolution No. 2024-XX and authorize the submission to HUD.
3. Not approve Resolution No. 2024-XX and risk losing the 2024 and future CDBG allocations

Background and History:
In order to receive CDBG funding, the City must complete and submit to the HUD the required 2024 Annual Action Plan by May 15, 2024. This plan describes how CDBG entitlement funds will be used in the coming Program Year and how the annual entitlement will be allocated to meet community needs identified in the 2021-2025 Consolidated Plan.

Through the 2024 CDBG process, the City of Flagstaff Housing Section received 5 external proposals in response to the Notice of Funding Available (NOFA) released on January 24, 2024. Housing Staff has also identified an urgent need project and has submitted an internal request on behalf of a partner agency.

Housing staff are responsible for determining whether a proposed activity is eligible and conducting a risk assessment of the project as well as the applying agency. Federal funds require administrative knowledge and capacity to ensure compliant and timely expenditure of funds. Additionally, a Ranking Committee comprised of three community representatives and two City staff met to review the external proposals and rank them by consensus. Rankings primarily serve as a risk and benefit assessment and are the guiding input for staff recommendations brought to the Housing Commission and forwarded to City Council.

Below is a list of the proposals, in ranking order. The proposals are divided between Housing and Public Service categories as HUD requires two separate funding limits and different criteria. Housing Staff has included an internal request for an urgent need project, on behalf of a partner agency. This need was identified after the deadline for proposal submission. The project and agency have been determined low risk, and the unmet need is in line with City Council priorities. Because of this, the internal request is not ranked (NR) competitively with the other proposals.

Housing Activities	Proposed Project	Requested Funding	Ranking
Community Assistance Teams (CATS) of Flagstaff	Resource and Day Center - Property Acquisition	$200,000.00	111.6
Staff Request on behalf of Flagstaff Shelter Services	Safety Improvements at The Lantern	$302,113.00	NR

Public Service Activities	Proposed Program	Requested Funding	Ranking
Coconino County Health and Human Services	Senior Nutrition Program	$44,200.00	125.6
Community Assistance Teams (CATS) of Flagstaff	Mobile Shower and Outreach Bus	$50,000.00	125.5
Boys and Girls Club of Flagstaff	Childcare and School Break Camps	$75,000.00	107.9
Pearl Transit Corp. (Did not meet the threshold for ranking)	Oral Health Outreach and Services	$60,000.00	NR

Key Considerations:
To receive continued CDBG funding, the City must complete an AAP that describes how CDBG funds will be used in the coming year and how the activities will accomplish the goals outlined in the 2021-2025 Consolidated Plan. The creation of the Consolidated Plan is an extensive process involving public and stakeholder input (gathered through surveys, public meetings, and a 45-day public comment period), community needs assessments, and a housing market analysis. The data outlined in the Con Plan helps determine the relative priority of activities and the populations that will be served in the coming years with federal funds.

HUD allows two priority designations – high and low. Assignment of priority does not reflect a lack of need for any particular population or activity; it merely identifies those conditions that are most likely to be addressed with limited CDBG funding.

- High (H) priority activities are likely to be funded with CDBG resources during the next five years.
- Low (L) priority activities may be funded as opportunities arise.

Special Populations are certain clientele that are presumed by HUD to be low/moderate income and are defined as senior citizens, severely disabled adults, persons living with AIDS, battered spouses, abused children, the homeless, illiterate adults, or migrant farm workers. (HUD Terminology)

The table attached summarizes the 5-Year Consolidated Plan Goals, outlining associated CDBG activities, the priority level, and 5-year numeric goals for each. Activities that will be targeted to special populations are also indicated.

The table is designed to meet HUD requirements.

5-Year Consolidated Plan Goals			
Activities	**Special Population**	**Priority Level**	**5-Year Goal**
Neighborhood Revitalization, Public Facilities & Infrastructure			
Neighborhood Facility and Infrastructure Improvements		High	3,000 Indiviudals
Public Facilities	X	High	100 Individuals
Acquisition for Affordable Housing Development		Low	3 Units
Public Services & Economic Opportunities			

5-Year Consolidated Plan Goals			
Services to Meet Basic Needs	X	High	300 Individuals
Workforce Development	X	Low	15 Individuals
Housing Stabilization		High	50 Individuals
Addressing Homelessness			
Service and Facility Operating Support	X	High	1,500 Individuals
Increase Shelter Beds/Units		High	15 Beds/Units
Providing Decent Affordable Housing			
Housing Rehabilitation	X	High	20 Units
Housing Development		High	3 Units
Housing Assistance		High	50 Households

Community Benefits and Considerations:
The CDBG entitlement amount for Program Year 2024 is unknown at this time, awaiting notice from HUD, however, staff is estimating an allocation of around $535,000. In addition to the funding allocated by HUD, the City of Flagstaff is able to include program income and de-obligated funds from prior years to increase funding available for allocation. These additional funds equal $187,313.00. Therefore, an estimated grand total of $722,313.00 is available for CDBG-eligible projects for the 2024 Program Year, through the City of Flagstaff Annual Action Plan. The proposed allocation takes into consideration administrative costs and the City's financial impacts by including an indirect rate of 10%

2024 CDBG Funding Recommendations
Funding recommendations are made after an extensive risk assessment and based on the eligibility of the project, adherence to CDBG regulations, and alignment with Council CDBG priorities and goals within the Consolidated Plan. A Ranking Committee comprised of community members (including members of the Housing Commission) and staff reviews and ranks all proposals to inform staff recommendations.

Below is the CDBG estimated funding available and associated recommendations for the 2024 Annual Action Plan:

2024 ***Estimated*** Funding Available	
Estimated PY 2024 Entitlement Allocation	**$535,000.00**
Program Income (PI)	$142,000.00
De-obligated funds from Prior Program Years	$45,313.00
Total Estimated Funding Available for Allocation	**$722,313.00**

Planning and Administration Funding Recommendation
Federal CDBG regulations do not allow more than 20% of funds to be spent on Planning and Administration activities; allowable administrative funding for Program Year 2024 equals $126,062.60. To ensure compliance with HUD funding caps, the recommended allocation is rounded down to $126,000.00.

Below are the 2024 funding recommendations for the Administration category:

Administration and Indirect (20% Maximum)	
Grant Compliance and Administration	$66,375.00
City of Flagstaff Indirect - 10%	$59,625.00

Total Administration and Indirect	**$126,000.00***

**Rounded down to ensure compliance with 20% Administrative Cap*

Public Service Funding Recommendation

Federal CDBG regulations do not allow more than 15% of funds to be spent on Public Service Activities: $94,546.95 for Program Year 2024. Staff recommends funding the highest ranking applications in full and leaving a small amount of unallocated funds as a contingency.

Below are the funding recommendations for the Public Service Category:

Public Service Activities (15% Max)	Proposed Program	Requested Funding	Staff Recommendation	Ranking
Coconino County Health and Human Services	Senior Nutrition Program	$44,200.00	$44,200.00	125.6
Community Assistance Teams (CATS) of Flagstaff	Mobile Shower and Outreach Bus	$50,000.00	$50,000.00	125.5
Boys and Girls Club of Flagstaff	Childcare and School Break Camps	$75,000.00	$0	107.19
Total Public Service Allocation			**$94,200.00***	

**Rounded down to ensure compliance with 15% Public Services Cap*

Housing Activity Funding Recommendation

After the above-recommended allocations, there is $502,113.00 in CDBG funding available for Housing Activities. Staff recommends fully funding the only Housing application received, Community Assistance Teams of Flagstaff, and allocating the remaining funding to an internal Staff request made on behalf of Flagstaff Shelter Services for needs identified after the proposal deadline.

The below chart compares each project's intended impact and the number of beneficiaries, with the goals outlined in the 2021-2025 Consolidated Plan to demonstrate the Community Benefit of the CDBG funding recommendations.

Below are the funding recommendations for the Housing Category:

Housing Activities	Proposed Project	Requested Funding	Staff Recommendation	Ranking
Community Assistance Teams (CATS) of Flagstaff	Resource and Day Center - Property Acquisition	$200,000.00	$200,000.00	111.6
Staff Request on behalf of Flagstaff Shelter Services	Safety Improvements at The Lantern	Not Applicable	$302,113.00	Not Ranked
Total Housing Activity Allocation			**$502,113.00**	

.

The chart below details the 2024 CDBG funding and allocation recommendations:

2024 CDBG Funding Allocation Recommendations				
Proposed Project/Program	**Recommended Funding**	**Beneficiaries**	**Con Plan Activity**	**Con Plan 5-Year Goal**
Community Assistance Teams of Flagstaff - Property Acquisition	$200,000.00	500 Individuals	Neighborhood Facility Improvements Public Facility Improvements	3,000 Individuals in a Target Neighborhood 100 individuals
Flagstaff Shelter Services - Safety Improvements at The Lantern	$302,113.00	103 Shelter Beds/Units 400 Individuals	Increase Shelter Beds Public Facility Improvements	15 Shelter Beds/Units 100 Individuals
Coconino County Health and Human Services - Senior Nutrition Program	$44,200.00	120 Individuals	Services to Meet Basic Needs	300 Individuals
Community Assistance Teams of Flagstaff - Mobile Shower and Outreach Bus	$50,000.00	500 Individuals	Service and Facility Operating Support	1,500 Individuals
Total Housing and Public Services Activities				**$596,313.00**
Total Administration and Indirect				**$126,000.00**
Total *Estimated* 2024 CDBG Allocation				**$722,313.00**
Total Individuals Proposed to be Served in Program Year 2024			103 Shelter Beds/Units 1020 individuals (approx. 392 households)	

Community Involvement:
Public participation requirements for the Annual Action Plan offer extensive community involvement and collaboration, ranging from public meetings and public comment periods to a ranking committee and Housing Commission recommendations, these requirements are outlined in the Council-adopted CDBG Citizen Participation Plan.

In preparing the Annual Action Plan, the City encouraged public input by contacting public and private agencies that provide housing or human services, neighborhood organizations, and citizens. The City held three meetings to solicit public input on the past year's project performance and recommendations for new project allocations for the upcoming program year. Public meetings included:

1. Discussion of the amount of CDBG funds expected to be available including program income and prior year's funds not yet allocated to project use;
2. The full range of HUD activities that may be undertaken with the funding being discussed;
3. The amount of resources that will be directed to low and moderate-income households; and
4. The uses of funds in the prior years

Public Participation

Public Meeting: Community Input on use of CDBG funding in target neighborhoods and Citywide - January 18, 2024

- Display advertisement (January 9, 2024 – AZ Daily Sun)

1. Discussed the purpose and content of the Consolidated/Annual Action Plan
2. Received public comments regarding community needs and priorities
3. Discussion of the type and amount of Federal funds anticipated to be available and eligible activities
4. Discussion with City of Flagstaff Capital Improvement, Planning, and PROSE departments, as applicable, regarding upcoming City projects in target areas.

Public Meeting: Presentation regarding Program Year 2024 Annual Action Plan and Notice of Funding Available - January 24, 2024

- Display advertisement (January 9, 11, and 16, 2024 – AZ Daily Sun)
- Meeting to discuss the CDBG proposal process and the Annual Action Plan

1. Discussed the purpose and content of the Consolidated Plan/Annual Action Plan
2. Received public comments regarding community needs and priorities
3. Discussion of the type and amount of Federal funds anticipated to be available and eligible activities
4. Discussion of the City's CDBG open proposal process and accessibility of NOFA

Public Meeting: Public Comment on PY 2024 Annual Action Plan and Proposals Received - February 29, 2024

- Display advertisement (February 6 and 13, 2024 – AZ Daily Sun)
- Meeting to review the submitted proposals and allow public comment in preparation of funding recommendations and Annual Action Plan

1. Presentation by City staff of activities proposed to be undertaken and funded
2. Open discussion of the proposed activities
3. Discussion of estimate of the low-income benefit related to proposed activities
4. Discussion of displacement issues and City anti-displacement policy
5. Presentation by staff of draft Annual Action Plan

Open Grant Process:

- NOFA (Notice of Funding Available) Released - January 24, 2024
- Proposals due to the City of Flagstaff on February 26, 2024
- Proposal Ranking Committee with Citizen Participation and Staff on March 20, 2024

Public Comment Period for Draft documents posted on City of Flagstaff Housing Section Website: Annual Action Plan - March 5 – April 5, 2024

- Display advertisement (January 9, 11, and 16, 2024 – AZ Daily Sun)
- Display advertisement (February 6 and 13, 2024 – AZ Daily Sun)

Public Meeting: Presentation to City of Flagstaff Housing Commission - March 28, 2024

- Presentation by City staff of the Annual Action Plan and recommendations for funding
- Open public hearing regarding activities proposed to be undertaken
- Recommendation for approval to City Council

Public Meeting: City Council Work Session City Council Work Session – April 9, 2024

- Presentation and discussion with City Council regarding the 2024 Annual Action Plan
- Request for City Council input and direction
- Comments may be submitted by mail or email, or citizens may provide public comment at the meeting

Public Meeting: City Council Meeting – May 2, 2023

- Consideration and Approval of Resolution No. 2024-XX and authorizing the submission of the Annual Action Plan to HUD.

With efforts to attract a diverse group of social service agencies, emails were distributed to all members of Coconino County's Continuum of Care (approx. 300 members). Additionally, agencies that had previously requested information and/or had been involved in the CDBG proposal process in prior years received personal invitations. The proposal format was provided at the January 24, 2024, public meeting and placed on the City website with a submission deadline of February 26, 2024. Advertisements were also placed in the Arizona Daily Sun, the City of Flagstaff Housing Section Newsletter, mailing list, and webpage as well as on Instagram and Facebook.

Attachments: CDBG Council Presentation
Summary of 2024 CDBG Proposals
Resolution No. 2024-XX

CITY OF FLAGSTAFF

STAFF SUMMARY REPORT

To: The Honorable Mayor and Council

From: Jenna Ortega, Sustainability Coordinator

Co-Submitter: Jenny Niemann, Climate Section Director

Date: 03/22/2024

Meeting Date: 04/09/2024

TITLE:
Resilience Hubs 101

DESIRED OUTCOME:
This is an informational update for the City Council and Flagstaff community.

Executive Summary:
The Flagstaff Regional Resilience Project (FRRP) will receive $1 million in grant funding from the Environmental Protection Agency (EPA) in the fourth quarter of this fiscal year. The federal funding will facilitate the establishment and support of three resilience hub pilots in Flagstaff.

Staff will provide an informational presentation on resilience hubs, highlighting their defining concepts, operational modes, and foundational elements. Additionally, we will present an overview of the Flagstaff Regional Resilience Project, outlining its objectives and how it will serve the community.

The purpose of this update is to provide the City Council and the Flagstaff community with a comprehensive understanding of Resilience Hubs and the goals of the Flagstaff Regional Resilience Project in preparation for the City Council's consideration and acceptance of the EPA grant award to fund the Flagstaff Regional Resilience Project.

The EPA award agreement will be presented to the Council in May.

Information:
Staff will provide information on the following topics:

- Resilience Hubs
  - Definition and concept
  - Operating modes
  - Foundational elements
- Flagstaff Regional Resilience Project
  - EPA Environmental Justice Government-to-Government Grant
  - Partners
  - Goals
  - Activities
  - Resilience Hubs in Flagstaff
  - Budget
  - Timeline
  - Next steps

Attachments: Resilience Hubs

The Flagstaff Regional Resilience Project

A Community-led Hub & Spoke Model

Overview

1. What are Resilience Hubs?

2. EPA Grant

3. Flagstaff Regional Resilience Project

4. Hubs in Flagstaff

5. Next Steps

What is a Resilience Hub?

- A trusted space for community engagement, support, emergency management, climate action, and social equity.

- An effective hub creates opportunities for communities to become more self-sufficient, socially connected, and successful.

Operating Modes of Hubs

Resilience hubs serve communities in three operating modes:

Everyday

99% of hub operations - An opportunity to help the community thrive.

Disruption

Emergency and disaster response.

Recovery

Continued effort to heal communities post-disruption.

The Foundations of an Effective Hub

Operations

Personnel and processes in place to operate smoothly in all three operating modes.

Power

Reliable backup facility power during hazard events.

Communications

Solid communication networks and infrastructure that serve emergency response and recovery efforts.

Services & Programs

Build relationships, promote preparedness, and improve health and wellness.

Building and Landscapes

A strong, resilient facility that can operate in all conditions.

Flagstaff Regional Resilience Project

- Environmental Protection Agency (EPA) Grant
- Partners, goals, and activities
- Hubs in Flagstaff
- Next steps

The Environmental Justice Government-to-Government Grant

EJG2G Goals:

- Achieve measurable and meaningful environmental and public health results
- Build robust partnerships within disproportionately impacted communities;
- Pilot model activities which can be expanded or replicated in other areas
- Strengthen the implementation of meaningful approaches to environmental justice.

The Flagstaff Regional Resilience Project

3
Resilience Hubs

13
Partners

108
Workshops

36
Health Care Days

Project Partners

Funded

1. Southside Community Association
2. Sunnyside Neighborhood Association
3. Community Assistance Teams of Flagstaff

CBOs

- Friends of Flagstaff's Future
- Indigenous Circle of Flagstaff
- Native Americans for Community Action
- Terra BIRDS,
- Willow Bend Environmental Education Center

Business

- Superyard Farms

Academic

- Coconino Community College
- Flagstaff Unified School District
- Northern Arizona University

Government

- Coconino County

Goals

- Increase capacity, inclusion, and access to services and resources
- Uplift the strengths of our community
- Meet community-identified needs
- Emergency preparedness, response, and recovery resources
- Access to health care, social and behavioral services, and economic opportunities
- Air quality data and access to clean air spaces
- Zero- and low-emissions technology through solar and energy efficiency upgrades
- Access to education and training opportunities

Activities

- Community engagement
- Day-to-day services
- Community-led programming
- Resilience Workshops
- Monthly Health Care Days
- Climate Resilient Gardening
- Website and Calendar of Events
- Air Quality Monitoring
- Emergency Preparedness Materials
- Evacuation kits & DIY HEPA filters
- Resilience Mapping

Southside Hub

Activities

- Hire a Hub Coordinator
- Door-to-door support programs
- 3 resilience workshops and 1 healthcare event / month
- Community garden
- Building upgrades, equipment installation, and outdoor green infrastructure
- A safe community space available to the community

Sunnyside Hub

Activities

- Hire a Hub Coordinator
- Community space dedicated to actively promoting cultural awareness
- Micro business mentoring resources
- Access to a commercial kitchen for food production
- 3 resilience workshops and 1 healthcare event / month
- Generator sufficient to supply backup power
- Portable HEPA filters to filter indoor air in times of need

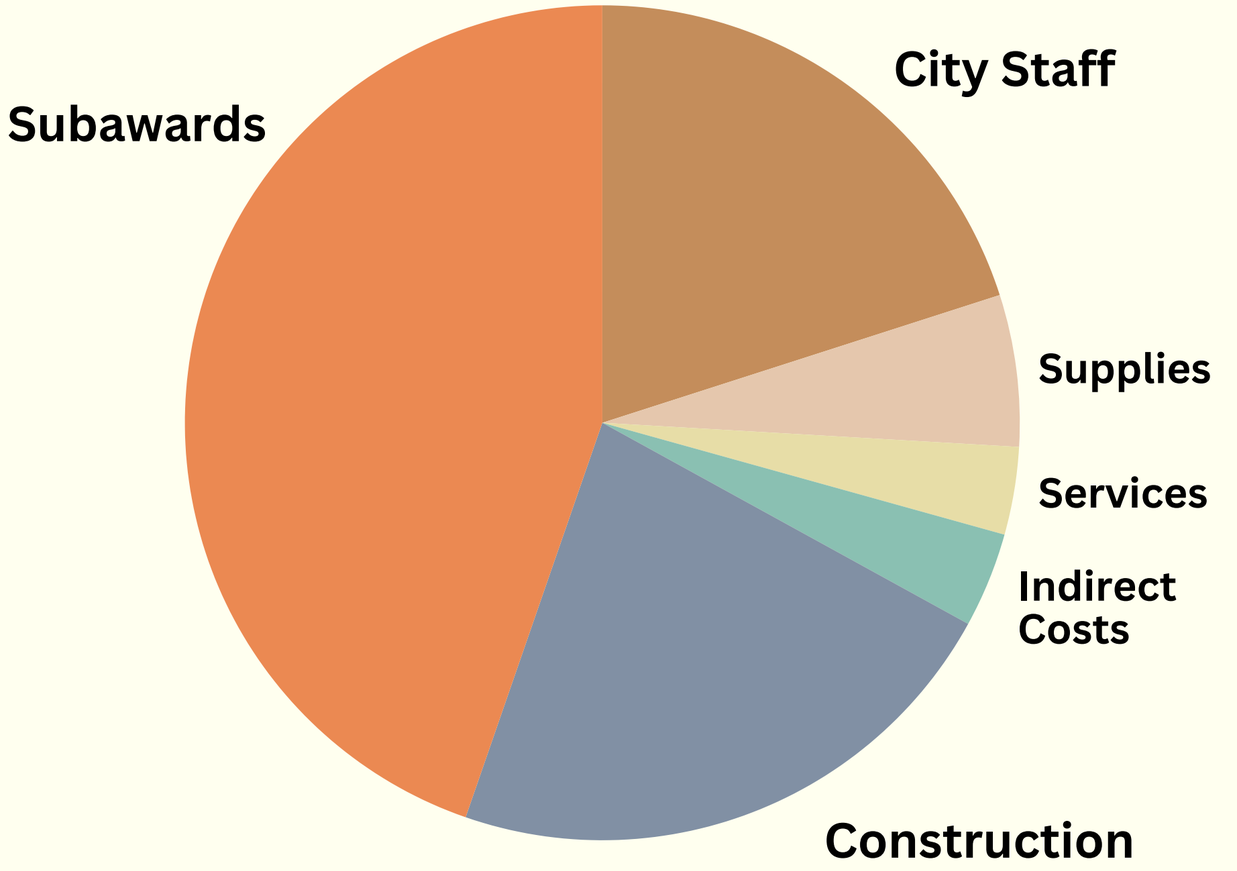
Mobile Hub

Activities

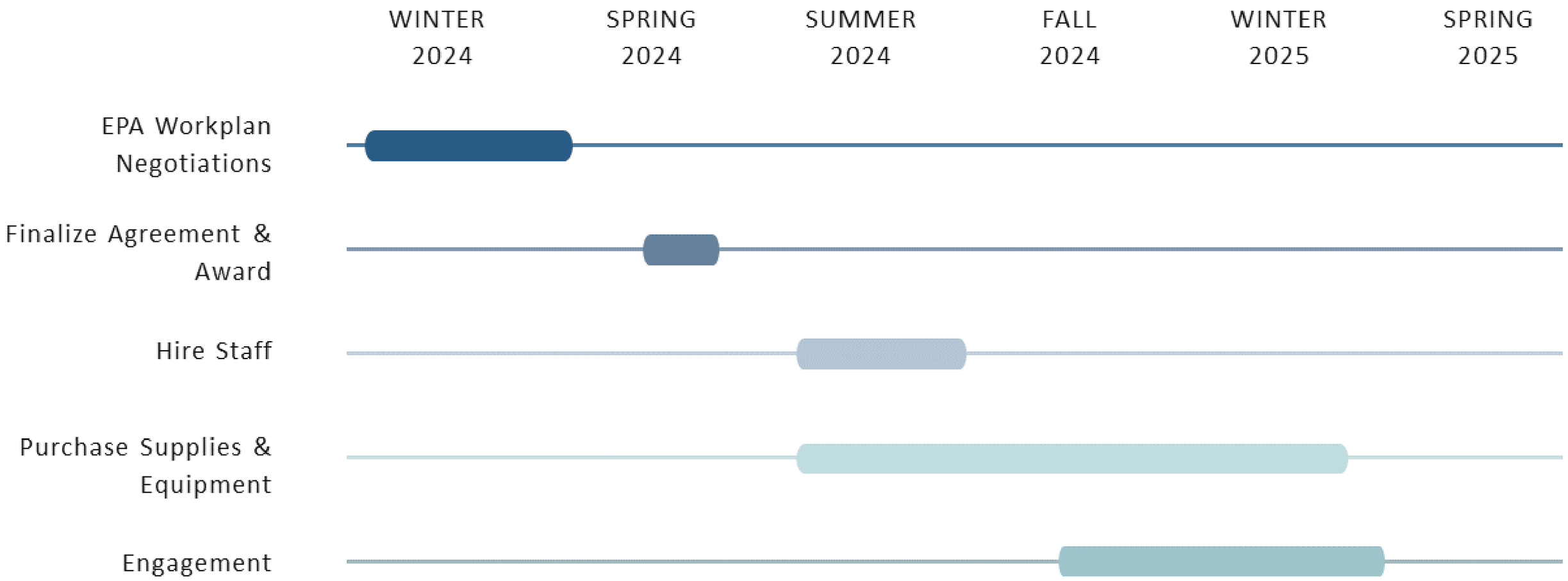
- Fund an Assistant Project Manager
- Operate a mobile resilience hub to serve Flagstaff's unsheltered relatives
- Provide basic hygiene services & supplies, clothing, first aid, supplementary food
- Ensure the hub is a safe space available to the community during mobile bus operating hours and disruption events as needed

Budget

Staff/Project Manager	$200,491
Supplies	$58,725
Services	$33,967
Construction	$223,095
Subawards	$446,904
Indirect Costs	$36,818
Total	**$1,000,000**



Timeline


WINTER 2024
SPRING 2024
SUMMER 2024
FALL 2024
WINTER 2025
SPRING 2025
EPA Workplan Negotiations
Finalize Agreement & Award
Hire Staff
Purchase Supplies & Equipment
Engagement

Next Steps

- EPA review
- Grant agreement to City Council for approval in May
- Ongoing meetings with partners
- Kick-off meeting of all partners
- Hiring and recruitment
- Launching advisory group
- Planning and scheduling events and workshops
- Community engagement plan
- Purchasing supplies and equipment

Questions?

CITY OF FLAGSTAFF

STAFF SUMMARY REPORT

To: The Honorable Mayor and Council

From: Denae Presler, Climate Analyst

Co-Submitter: Jennifer Brown, Facilities and Fleet Section Director

Date: 04/01/2024

Meeting Date: 04/09/2024

TITLE:
Presentation on City of Flagstaff Fleet Electrification Assessment and Efforts

DESIRED OUTCOME:
This is an informational presentation for the City Council and Flagstaff community.

Executive Summary:
Consultants will provide an overview of the results from the recently completed City of Flagstaff Fleet Electrification Assessment. The assessment identifies opportunities to integrate electric vehicles (EVs) into the municipal fleet, considers future charging infrastructure needs, and calculates potential costs, savings, and greenhouse gas emissions reductions from fleet electrification. Staff will discuss how this assessment fits into other current fleet electrification efforts, including the status of the City's EV fleet, overarching policy and approach, and upcoming EV procurement and charging infrastructure projects.

The assessment was provided by Arizona Public Service (APS) through the APS Fleet Advisory Services Program, at no charge to the City of Flagstaff. APS hired DNV as the consultant to conduct the assessment. The scope included an analysis of 361 City vehicles and a charging infrastructure build-out strategy for four City facilities: City Hall, the Police Department's Law Enforcement Administrative Facility (LEAF), the Core Services campus, and Thorpe Park. Over a 10-month period, City staff from Fleet Services, Sustainability, Procurement, Finance, Police, and other Divisions provided information on vehicle fleet makeup, operations, and existing charging infrastructure and worked with consultants and APS representatives to review and refine assumptions and analytics.

Results of the consultants report indicate significant opportunities to integrate EVs into the municipal fleet, with the potential to save $860,000 per year in total cost of ownership (i.e., vehicle cost, fuel costs, and maintenance costs combined). City staff has not been able to independently verify the model or calculations at this time. However, there are significant barriers to implementing fleet-wide electrification, such as market availability of EVs and suitability for City operations (particularly for medium- and heavy-duty vehicles), and financial feasibility of deploying the necessary charging infrastructure. The City will continue its EV-first approach to transition the municipal fleet to electric vehicles and reduce the City's contribution to climate change where opportunities exist to confidently meet operational needs and remain fiscally responsible.

Information:
Staff and consultants will provide information on the following topics:

Fleet Electrification Assessment, presented by DNV:

- Opportunities to integrate electric vehicles into the City's fleet
- Potential cost savings associated with fleet electrification
- Charging infrastructure considerations
- Recommendations, considerations, and challenges to fleet electrification

Fleet Electrification Efforts, presented by City staff:

- Elements of Strategic Fleet Electrification
- Fleet market availability and suitability
- Electric fleet status, policy, and approach
- Planned electric vehicle procurement
- Planned charging infrastructure projects

Attachments: Presentation
Report
EV Policy

WHEN TRUST MATTERS

Fleet Electrification Assessment
City of Flagstaff

City Council – Presentation of Results
APS Funded Study

Lara Krecic
Susan Regan
Walter Schaefer
Andrey Gribovich

09 April 2024

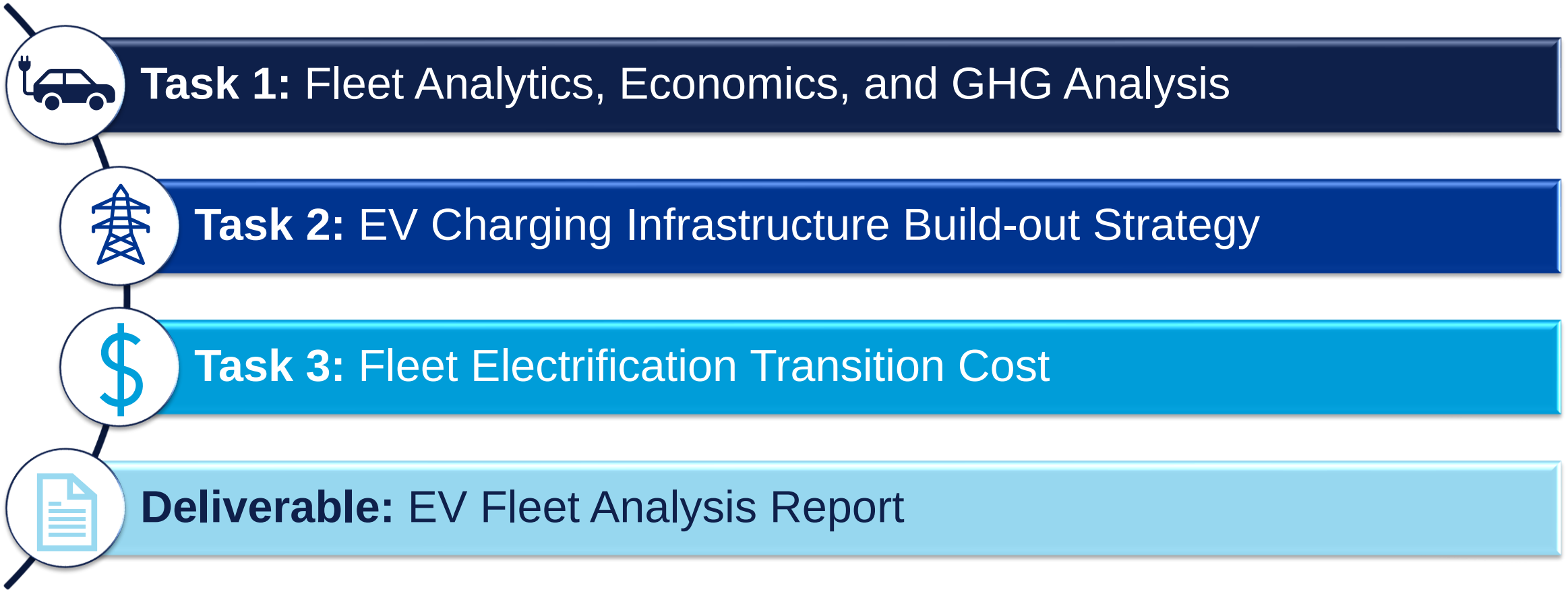
Agenda

- Study overview
- Flagstaff fleet electrification opportunities
- Potential cost savings from electrification
- Charging infrastructure considerations
- Recommendations, considerations, and challenges to fleet electrification

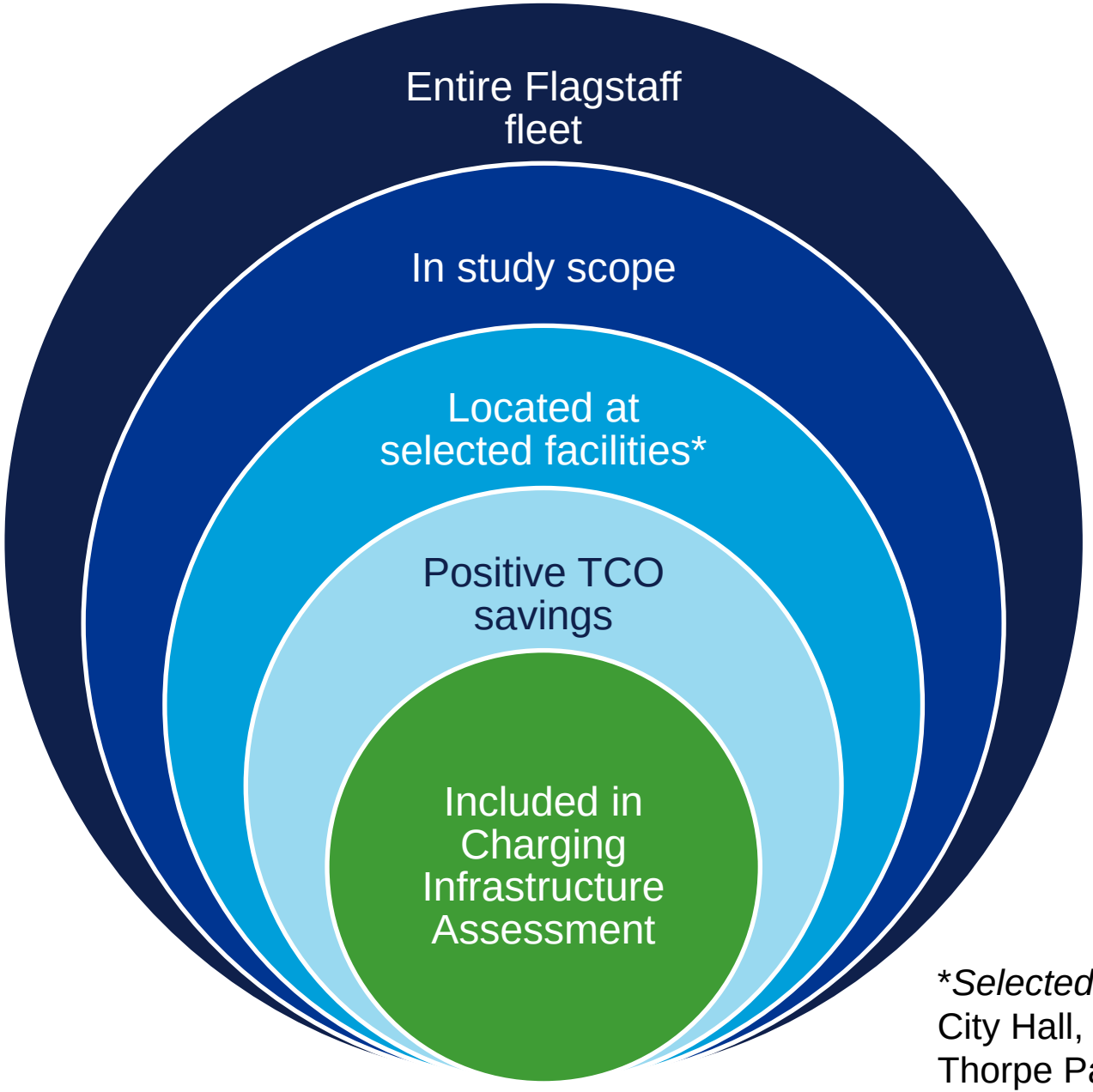
Glossary

- **LDV** – light-duty vehicle (up to 10,000 lbs gross vehicle weight)
- **MDV** – medium-duty vehicle (between 10,000 and 26,000 lbs gross vehicle weight)
- **HDV** – heavy-duty vehicle (above 26,000 lbs gross vehicle weight)
- **MHDV** – medium- and heavy-duty vehicles
- **TCO** – Total cost of ownership; the estimated total cost to own and operate a vehicle over the “effective useful life” of the vehicle
- **GHG** – greenhouse gas

Fleet Electrification Assessment Scope



Fleet Electrification Analysis Approach



**Selected facilities include:*
City Hall, Police Dept., Thorpe Park, Public Works

Flagstaff's Selected Facilities

- City Hall
- Police Department
- Public Works
- Thorpe Park

High-level Fleet Summary

Vehicle class	Vehicle type	Total vehicles	Percent of vehicles in class
Light-duty (LDV)	SUV/Hatchback	100	54%
	Pickup truck	68	37%
	Sedan	9	5%
	Van	7	4%
Light-duty Subtotal		**184**	**100%**
Medium-duty (MDV)	Incomplete vehicle	38	50%
	Pickup truck	33	43%
	Truck	5	7%
Medium-duty Subtotal		**76**	**100%**
Heavy-duty (HDV)	Truck	85	84%
	Fire vehicle	13	13%
	Incomplete vehicle	2	2%
	Bus	1	1%
Heavy-duty Subtotal		**101**	**100%**
Total		**361**	

Fleet at a glance:

By class:

- 51% LDV, 21% MDV, 28% HDV

By vehicle type:

- 28% pickup truck
- 28% SUV/hatchback
- 25% truck

By department:

- Police (18%)
- Administrative (17%)
- Streets (16%)

Total Cost of Ownership (TCO) Analysis Overview

What is included in the analysis?

Vehicle acquisition costs

- Upfront purchase cost (MSRP)
- Applicable incentives, tax credits, etc.
- Depreciation and residual value

Fuel costs

- Average daily miles driven
- Fuel economy (mpg, kWh per mile)
- Fuel costs (gasoline, diesel, electricity)

Maintenance costs

- Average daily miles driven
- Per-mile maintenance costs for EVs and internal combustion engine vehicles

DNV

Fleetwide Total Cost of Ownership Savings Summary

	Light-duty (non-patrol)	Light-duty (police patrol)	Medium- and heavy-duty	Total
Vehicles assessed	143	41	177	361
Vehicles achieving positive TCO savings	120	41	151	312
Percent of vehicles with positive savings	84%	100%	85%	86%
Average annual TCO savings (per-vehicle)	$1,946	$2,435	$3,490	$2,758
Total annual TCO savings	$233,533	$99,847	$527,005	$860,385
Total lifetime TCO savings[a]	$3,269,457	$698,928	$7,378,070	$11,346,455
Total energy required (annual kWh)	709,383	160,704	1,460,484	2,330,571
Lifetime GHG emissions reduction (metric tons)	8,360	1,324	31,080	40,764

[a] Note that the vehicle life for non-patrol vehicles (all classes) was modeled at 14 years vs. 7 years for patrol vehicles. This impacts the lifetime TCO savings calculation.

Fleetwide electrification can result in over $860,000 per year in total cost of ownership savings

This equates to over $11.3M over the life of the vehicles

Summary: Recommended Infrastructure

City Hall

5x dual-port Level 2 chargers

Police Department

6x dual-port Level 2 chargers

2x 150 kW fast chargers

Thorpe Park

1x dual-port Level 2 charger

1x 100 kW fast charger

Public Works

10x 100 kW fast chargers

Vehicles included in infrastructure scenarios	99
Recommended EV chargers	Level 2: 12 (24 ports) Fast charger: 13 (13 ports)
Annual vehicle TCO savings	$241,131
Lifetime vehicle TCO savings	$3,307,646
Lifetime charging infrastructure cost	$2,192,818
All-in TCO savings	**$1,114,828**

Fleet Electrification:
Recommendations, Considerations, and Challenges

Recommendations

- **Continue** with electrification efforts, including EV First policy and strategic infrastructure deployment
- **Engage** with key stakeholders, including APS and partners/manufacturers
- **Track and evaluate** EV and charger usage to inform a data-driven fleet transition
- Where possible, **charge off-peak** (9 a.m.–3 p.m.) to reduce costs and maximize emissions benefits

Considerations

- **Proceed intentionally** with pilot deployments and performance evaluation plans (esp. for large/specialized EVs)
- **Explore** charging infrastructure leasing options, which may open access to additional incentives
- **Study options** for charging take-home vehicles
- **Engage** with internal and external stakeholders around electrifying police vehicles, including collecting user feedback

Challenges

- **Acquisition of medium- and heavy-duty vehicles** – this market is nascent and evolving rapidly, requiring solid vendor relationships to understand specifications, pricing, and availability
- **Infrastructure deployment** – this process takes time and involves several stakeholders, including APS and solution providers
- **Studying vehicle performance** and **maintaining strong internal communication**

Strategic Fleet Electrification

Fleet Assessment

Streamlined Procurement

Charging Infrastructure

Updated Policies

Market Availability & Suitability

Delivery Time

- **Availability** has **varied** in FY24, with **lead time 6-12 months** once ordered
- Have been **successful** in **procuring EVs "on the lot"**
- Timeline has been **similar for gas and diesel vehicles**

EV Costs

- **Pricing fluctuated** greatly in FY24
- **Special funding** approved in FY23 has **helped cover price differences** between EV and gas/diesel
- City is **pursuing federal tax credits** for EVs purchased

EV Suitability

- **Fleet works directly with divisions** to identify if there are EV options that meet operational needs
- **Medium/Heavy-duty EVs are not currently compatible** with operations and infrastructure & **cost ~2x as much upfront**

Overarching Fleet Status & Policies

Integrating EVs into the City Fleet

- 11 EVs currently in the City Fleet
- 5 additional EV pickups are on order for FY24

Streamlining Policies

- Updating and streamlining existing fleet policies and forms
- Establishing guidelines for integrating EV technologies into existing system

Advancing Sustainability

- EV-First Policy ensures fleet maximizes fuel efficiency and emission reductions
- Aim to align operations with sustainable practices while maintaining a high level of service to the community

Transitioning to EVs: A Phased Approach

The City's Approach:

Phased replacement of conventional gas and diesel vehicles with EVs when available to ensure operations and maintain same level of service.

Advantages of this approach:

1. **Market Evolution:** Allows for smoother transition rather than abrupt disruption
2. **Infrastructure Development:** Enables gradual expansion and optimization of EV charging infrastructure
3. **Consumer Adoption:** Minimizes resistance from consumers, promotes acceptance of EVs
4. **Fiscal Responsibility:** Spreads the costs out over time and reduces risks

Streamlining EV Procurement

Staff is preparing a solicitation specifically for EVs that will:

- Streamline the procurement process for EVs
- Plan ahead in coordination with Fleet Advisory Committee's replacement decisions
- Enable the City to order multiple EVs at once

Level 2 Existing Charging Stations

Location	Users	# of Charging Ports
City Hall	Fleet, Public, Staff	4
Visitor's Center	Fleet, Public, Staff	4
Aquaplex	Fleet, Public, Staff	4
Airport	Fleet, Public, Staff	6
Fleet Services	Fleet	2
Police Department	Fleet	4
East Side Utility Shop	Fleet	2
Rio de Flag	Fleet	1
Downtown Library	Fleet	1

TOTAL: 28 existing ports

Level 2 Planned Charging Stations

Location	Users	# of Charging Ports
Core Services – *coming May 2024*	Fleet, Visitors	12
East Side Utility Shop – *coming summer 2024*	Fleet	2
Thorpe Park (Shop) – *coming summer 2024*	Fleet	2

TOTAL: 16 planned ports

28 existing charging ports

+16 planned charging ports

44 total charging ports

Fleet Electrification Assessment & Efforts

City Staff:

Jennifer Brown

Nathan Naliborski

Patrick Brown

Danae Presler

Consultants:

Walter Schaefer

Andrey Gribovich

Lara Krecic

Susan Regan

TEAM FLAGSTAFF

WE MAKE THE CITY BETTER

Thank You!

Questions?

Appendix Slides

Detail: Recommended Infrastructure Cost Breakdown (one-time and recurring/annual)

	Level 2	DCFC	Total
Charger quantity	12 (24 ports)	13 (13 ports)	25 (37 ports)
Equipment costs (one-time)	$60,000	$987,269	$1,047,269
Installation costs (one-time)	$72,000	$819,113	$891,113
Maintenance costs (lifetime)	$66,836	$145,600	$212,436
Networking fees (lifetime)	$20,160	$21,840	$42,000
Maintenance costs (annual)	$4,774	$10,400	$15,174
Networking fees (annual)	$1,440	$1,560	$3,000
Year 1 cost	**$138,214**	**$1,818,342**	**$1,956,556**
Recurring annual cost	**$6,214**	**$11,960**	**$18,174**
Total lifetime cost	**$218,996**	**$1,973,822**	**$2,192,818**

Detailed Recommendations (originally presented December 2023)

Given the strong potential for TCO savings, continue Flagstaff's "EV First" vehicle procurement policy

Pursue strategic deployment and integrated planning of EV charging infrastructure across the selected properties, including EV Ready installation to lower overall installation costs

Engage with APS to map out existing electric capacity, identify potential future constraints, and identify efficiencies arising through coordinated long-term infrastructure planning

Build strong, long-term partnerships across the value chain to collect critical data, ensure diverse perspectives are taken into account, and streamline electrification efforts

Track and evaluate EV and charger usage to assess EV fleet vehicle performance and optimize future electrification efforts; this will be aided by the deployment of a robust vehicle telematics platform

Leverage managed charging functionality to minimize on-peak charging (3-8 p.m., M-F) and charge off-peak when possible, using a combination of charging schedules, user access controls, and staff training

Considerations (originally presented December 2023)

Consider the development of a policy around charging for take-home vehicles; we anticipate that this will be more of an administrative than a technical challenge

- In the near-term we expect that admin/detective take-home vehicles will charge at the Police Department

Initiate a stakeholder process to develop next steps regarding patrol fleet electrification and address current concerns by collecting necessary data and user feedback

- While patrol vehicles do show positive TCO savings, this fleet's mission critical status and well-documented concerns from department staff suggest that additional planning and data collection are necessary to guide electrification efforts

Consider pilot EV deployments, particularly for MHDVs; this approach will allow the City to collect critical performance data before committing to larger investments

Consider the costs and benefits of non-ownership (leasing) arrangements for EV charging infrastructure; note that the cost-benefit equation may change over time as the fleet scales and gains experience

Where possible, consider the potential to charge from 9 a.m. – 3 p.m. to align with APS's lowest rates; this is likely achievable at PD for take-home vehicles, potentially also City Hall

APS FLEET ADVISORY SERVICES PROGRAM

City of Flagstaff

Arizona Public Service (APS)

Fleet Electrification Assessment Report

Date: March 12, 2024

Table of contents

List of figures

List of tables

1 EXECUTIVE SUMMARY

Arizona Public Service (APS) is working with qualified commercial customers to support their transportation electrification and decarbonization goals. As part of APS's vision to create a sustainable energy future for Arizona while serving its customers with clean, reliable, and affordable energy, the APS Fleet Advisory Services Program (the Program) is providing customers with no-cost assessments of the costs and benefits of converting their existing fossil fuel-powered fleets to all-electric fleets. In addition to supporting commercial customers with important aspects of fleet electrification planning, the Program serves as a tool to further enable APS and its customers to work collaboratively towards the successful integration of more EVs on the grid.

This assessment is built upon analysis conducted by DNV using their EV Fleet Analytics tool and related fleet market research. DNV is an independent third-party energy program implementer that APS has partnered with to provide fleet data analytics, market intelligence, and customized support for fleet electrification. The study uses customer-specific fleet data, including information on existing vehicles and current mileage requirements, to identify potential electric vehicle (EV) replacements for existing internal combustion engine (ICE) vehicles and estimate the total cost of ownership (TCO) savings and greenhouse gas (GHG) emissions reductions of transitioning to EVs. The study also provides customers with an EV Charging Infrastructure Buildout Strategy that includes estimates of the quantity and types of chargers required and the total installation cost.

The summary of activities included in this assessment is listed below:

- Data review that includes an evaluation of current fleet, vehicle operations, processes, and infrastructure.
- EV fleet analytics:
  - Summary of potential EV replacement options for existing ICE vehicles.
  - TCO comparison for EV and ICE fleet (capex,[1] maintenance, and fuel costs).
  - Assessment of GHG emissions reduction potential.
- EV charging infrastructure buildout strategy:
  - Evaluation of fleet charging needs based on identified near-term EV replacement potential.
  - Quantity and type of chargers recommended for selected facilities.
  - Infrastructure buildout costs (including electric service requirements and associated costs if applicable).
  - Estimated charging costs.
- Fleet electrification transition costs.
- Overall TCO (integrating vehicle and infrastructure analysis results).
- Summary of recommendations regarding vehicle electrification and infrastructure installation.

This report presents the fleet advisory study results for the City of Flagstaff's fleet. For brevity, we will refer to the City of Flagstaff as "Flagstaff" or the "City" throughout this report.

1.1 Recommendations for the City of Flagstaff

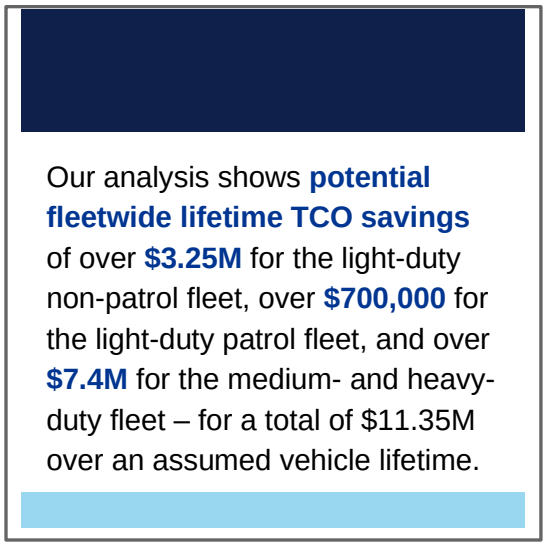
Through the analysis and research conducted for this study, DNV developed the following recommendations and considerations, classified as "fleetwide" and "targeted." For this report, "recommendations" are activities that the City should

[1] Capital expenditures, also known as vehicle purchase cost or upfront cost.

pursue in the near-term (or continue doing, in some cases), whereas “considerations” are items to keep in mind and/or discuss internally; considerations do not require near-term action.

1.1.1 Fleetwide Recommendations

The fleetwide recommendations are summarized below.



- **Continue with plans to electrify City fleet** and build upon the steps taken so far given the clear potential for long-term, fleetwide TCO savings from electrification. Our analysis shows potential fleetwide lifetime TCO savings of over $3.25M for the light-duty non-patrol fleet, over $700,000 for the light-duty patrol fleet, and over $7.4M for the medium- and heavy-duty fleet (for a total of $11.35M over an assumed vehicle lifetime). Further, the potential fleetwide GHG emissions reduction is approximately 40,764 metric tons.
- **Pursue the strategic and integrated deployment of EV charging infrastructure** across City facilities, including considerations for EV Ready deployments to bring down the total installed infrastructure cost.
- **Prioritize electrifying vehicles with positive TCO savings** and install the recommended charging infrastructure in advance of vehicle acquisitions to ensure EVs have a place to charge once they join the fleet.
- When installing EV charging infrastructure at the selected facilities, **document lessons learned and best practices** to support long-term infrastructure deployment.
- **Seek to build strong partnerships** with APS, automakers, EV charging providers, internal stakeholders, and other municipalities pursuing electrification. These relationships will help the City collect critical data to support decision-making, ensure diverse perspectives are taken into account, and streamline electrification efforts. Key points:
  - When planning future infrastructure projects in particular, **engage with APS** early and often to gain a full understanding of available electric capacity, potential constraints, potential efficiencies, and opportunities to align future infrastructure planning with APS grid planning and expansion efforts.
  - Flagstaff should **engage with vehicle manufacturers in advance of planning to procure medium- and heavy-duty vehicles (MHDVs)** in order to collect up-to-date pricing and specification data, understand vehicle delivery timelines, and establish manufacturer relationships.
- **Track and evaluate EV and charger usage** to assess EV fleet vehicle performance and optimize future electrification efforts. This data can inform cost-effective future planning that takes into account EV usage, fleet performance, and associated infrastructure needs to balance overall cost with fleet operational performance and reliability. We recommend:
  - Implementing a vehicle telematics platform to support vehicle performance analysis. Note that a vehicle telematics platform should be deployed to both new EVs and existing ICEs and can provide Flagstaff with better data to inform future decision-making.
  - Collecting and analyzing charging data (available via a networking subscription) to understand charging behavior, charger performance, and any impacts on fleet operations; this data can also be leveraged to inform future infrastructure buildouts.

- **Leverage managed charging functionality** offered through networked chargers to maximize both energy cost savings and GHG emissions reductions. We recommend that the City enroll in APS's Level 2 EV charging rate rider to take advantage of lower energy costs when solar power is plentiful (9 a.m.–3 p.m.) and limit charging during APS's non-residential on-peak period (3 p.m.–8 p.m.), when energy is more expensive.

1.1.2 Targeted facility-level recommendations

The targeted, facility-specific recommendations are summarized below.

- City Hall:
  - Pursue electrification of 26 Administrative vehicles that demonstrate positive TCO savings.[2]
  - To charge these vehicles, install five dual-port (10 total ports) 40-A Level 2 chargers dedicated to City fleet only, with EV Ready infrastructure for a further five dual-port chargers (20 total ports including EV Ready work).[3]
- Police Department:
  - Pursue electrification of 10 administrative/detective vehicles that demonstrate positive TCO savings.[4]
  - To charge the administrative/detective vehicles, install six dual-port 40-A Level 2 chargers (12 total ports).
  - Initiate an internal stakeholder process to develop next steps regarding patrol fleet electrification, with the intent of collecting additional data and feedback to address current concerns regarding electrification of patrol vehicles.
    - When the City has enough information to move forward, we recommend that it begin its patrol fleet electrification efforts with up to four patrol vehicles and two 150 kW direct-current fast chargers (DCFC), plus EV Ready infrastructure for two more 150 kW DCFC fast chargers.
    - This project will likely require a capacity upgrade from APS and permission from Coconino County Sheriff's Department, so the City should engage with APS and the County early in the planning process.
- Thorpe Park:
  - Pursue electrification of 13 Parks department vehicles that demonstrate positive TCO savings.[5]
  - To charge these vehicles, install one dual-port 40-A Level 2 charger and one 100 kW DCFC fast charger.
- Public Works:
  - Pursue electrification of 46 vehicles that reside at the Public Works facility and demonstrate positive TCO savings.[6]
  - To charge these vehicles, install 10 DCFC fast chargers, each with a 100 kW power rating.
  - Consistent with our fleetwide recommendation to engage early with both MHDV manufacturers and APS, the City should develop a thoughtful and detailed electrification plan for Public Works that seeks to minimize the logistical challenges of a fleet transition while maximizing learnings that can be applied to streamline electrification efforts within the broader fleet. This process should involve careful consideration of the vehicle types to electrify first (from within the pool of vehicles that show positive TCO savings), the pace of electrification, and the broader consideration of current and future available electrical capacity.

[2] The ages of the vehicles included in the City Hall electrification analysis ranged from 15 to 30 years.
[3] Note: all chargers recommended in this study are for fleet-dedicated usage (that is, they would not be publicly accessible).
[4] The ages of the vehicles included in the Police Department electrification analysis ranged from 13 to 18 years, with an average age of 15.6 years.
[5] The ages of the vehicles included in the Thorpe Park electrification analysis ranged from 18 to 27 years.
[6] The ages of the vehicles included in the Public Works electrification analysis ranged from 15 to 36 years.

1.2 Considerations for the City of Flagstaff

The considerations developed through this study are summarized below.

- Develop a policy around charging for take-home vehicles; we anticipate that this will be more of an administrative than a technical challenge.
- Consider pilot EV deployments, particularly for MHDVs; this approach will allow the City to collect critical performance data before committing to larger investments.
- Consider the costs and benefits of non-ownership (leasing) arrangements for EV charging infrastructure; note that the cost-benefit equation may change over time as the fleet scales and gains experience. Non-ownership and/or leasing arrangements may reduce the total installed cost of infrastructure by opening access to EV charging infrastructure tax credits.
- Consider the potential to charge vehicles from 9 a.m.–3 p.m. (all days of the week) to align with APS's lowest rates; this will depend on the extent to which vehicles are parked during this time across the City's facilities.
- As the electric fleet grows, maintenance needs will evolve, as will the skills required from Fleet Services staff. Flagstaff should continue providing education and training opportunities for staff to learn how to maintain EVs across all vehicle classes, working in conjunction with vehicle manufacturers and dealerships to ensure the training is current and aligns with Flagstaff's safety processes.
- EV maintenance, while broadly understood to be less expensive and less demanding than ICE vehicle maintenance, involves working with potentially unfamiliar and/or hazardous vehicle systems, including power electronics and batteries. Flagstaff should consider updates to its existing maintenance processes as well as the acquisition of appropriate safety equipment and tools. Beyond measures to improve safety through proper vehicle maintenance, the City should also be mindful of overall best practices surrounding fire mitigation and safety when responding to collisions involving EVs (both for fleet-owned EVs as well as for privately-owned EVs operating in Flagstaff).

2 FLAGSTAFF FLEET OVERVIEW

Flagstaff's fleet consists of several hundred vehicles spread across more than 30 City departments and a wide range of use cases. These vehicles – which are used for people, equipment, and materials transport around town; out-of-town travel; police patrol work; trash collection; and more – serve critical municipal functions and are domiciled across a number of facilities, including City Hall, the Police Department, Public Works, and Thorpe Park. Certain vehicles, such as garbage trucks and police patrol cars, serve dedicated functions and are typically domiciled at a single site when not in use, whereas others serve in more flexible roles. A subset of vehicles is also designated "take-home" vehicles; these vehicles are domiciled at the home of the City employee to which they are assigned.

In line with its Carbon Neutrality Plan and broader climate-related goals, Flagstaff is actively seeking opportunities to electrify its municipal fleet and develop the necessary charging infrastructure for reliable operation of an electric vehicle (EV) fleet. Discussions with the Fleet Manager and City Climate Analyst indicated that the city has an "EV First" policy, which prioritizes the purchase of EVs, then plug-in hybrids, and then conventional hybrids over internal combustion engine (ICE) vehicles and requires individuals who request a non-EV to justify why an ICE vehicle is necessary. The City has a robust process for handling and reviewing requests for new vehicles; this process is designed to proactively control costs as well as to align overall fleet size with the needs of individual departments.

Flagstaff procures gas and diesel fuel at market rates and conducts routine vehicle maintenance and repairs itself, though non-city technicians are used occasionally for maintenance and repair work. There are several EVs present in Flagstaff's fleet today, including three Chevy Bolts and four Ford F-150 Lightning pickup trucks; additional EVs are on order or pending receipt. Flagstaff has also installed fleet-dedicated EV charging to support these existing EVs, including two charge ports[7] at Public Works and four at the Police Station. The City also installed 18 EV charge ports across multiple city-owned locations through its participation in APS's Take Charge AZ program in recent years; however, these chargers are publicly available and were not designed to support dedicated fleet EV charging. As a result, the City is focusing on installing dedicated Level 2[8] and DCFC[9] fast charging infrastructure that will meet current and future charging needs.

DNV's fleet electrification assessment leveraged data on 361 vehicles[10] across 34 departments, which DNV consolidated into 10 department categories to streamline the presentation of results. For example, the Administrative category in Table 2-1 is comprised of 17 small departments, 15 of which have fewer than 10 vehicles each.

Table 2-1. Fleet breakdown by department

Fleet Department	Total Vehicles	Percent of Fleet
Administrative	62	17%
Airport	8	2%
Fire	29	8%
Fleet Services	12	3%
Police	64	18%
Street Maintenance	59	16%
Water Management/Utilities	46	13%

[7] A charge "port" is synonymous with a "plug." Ports are connected to EV "chargers," which can contain one port ("single-port") or two ports ("dual-port"); chargers with more than two ports are relatively rare.

[8] Level 2 charging uses a 240 V single-phase or 208 V three-phase AC electrical service and typically has a power rating between 6 kW and 19.2 kW. Level 2 charging stations deliver charging speeds faster than Level 1 chargers (which use a standard 120-V wall socket and charge at less than 1.8 kW) but slower than direct-current fast charging (DCFC), defined below. Level 2 charging can recharge most EVs overnight.

[9] DCFC is the fastest type of commercially available EV charging. It typically features charging speeds of 50 kW to 350 kW and can restore approximately 80% of an EV's charge in 15-45 minutes; higher power levels result in lower charging times.

[10] During initial data review, DNV removed the following vehicles from the analysis: motorcycles (7), trailers (8), existing EVs (6), vehicles that were missing make/model data (14), ineligible police vehicles (29), and high-mileage fire vehicles (12).

Fleet Department	Total Vehicles	Percent of Fleet
No dept. provided	8	2%
Solid Waste	44	12%
Parks and Recreation	29	8%
Total	**361**	**100%**

Table 2-2 summarizes this fleet breakdown by vehicle class and type.

Table 2-2. Fleet breakdown by vehicle class and type

Vehicle Class	Vehicle Type	Total Vehicles	Percent of Vehicles in Class
Light-duty	SUV/Hatchback	100	54%
	Pickup truck	68	37%
	Sedan	9	5%
	Van	7	4%
	Incomplete vehicle	0	0%
Light-duty subtotal		**184**	**100%**
Medium-duty	Incomplete vehicle	38	50%
	Pickup truck	33	43%
	Truck	5	7%
Medium-duty subtotal		**76**	**100%**
Heavy-duty	Truck	85	84%
	Fire vehicle	13	13%
	Incomplete vehicle	2	2%
	Bus	1	1%
Heavy-duty subtotal		**101**	**100%**
Total		**361**	

The majority (184, or 51%) of Flagstaff's vehicles are light-duty, with 101 heavy-duty (28%) and 76 medium-duty (21%). The most common vehicle type in the fleet is pickup trucks (101, 28%), with 68 light-duty pickups – predominantly Ford F-150s – and 33 medium-duty (these are heavier work trucks, like the Ford F-250 and F-350, which are classified as medium-duty in this analysis). SUVs and hatchbacks (100, 28%) are the next most common. Trucks (90, 25%) are the third most prevalent vehicle type and are dominated by heavy-duty vehicles that include garbage trucks, dump trucks, and firefighting vehicles as well as box and flatbed trucks.

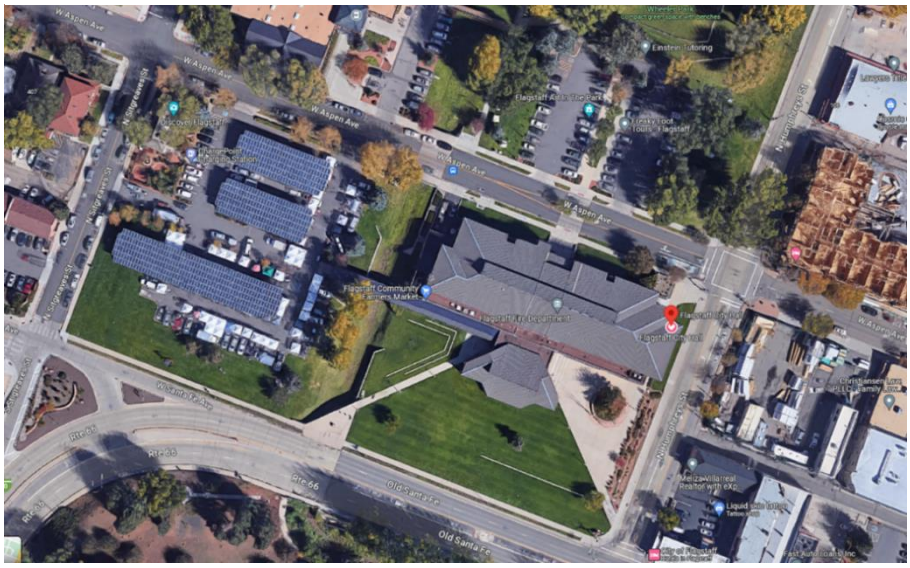
The "incomplete vehicle" category (40, 11%) is comprised of primarily medium-duty vehicles whose final configuration could not be ascertained. Based on the available make/model information, many of these vehicles are likely heavy pickup/work trucks, such as the Ford F-350 and F-450. However, because we could not determine whether these vehicles had been upfitted for an alternative use, we classified them as "incomplete," which is consistent with how they were identified based on their vehicle identification number (VIN).

3 SELECTED FLEET FACILITY OVERVIEW

Flagstaff selected four facilities for inclusion in this study that are described below.

3.1 Flagstaff City Hall

Figure 3-1. City Hall



Flagstaff City Hall is located at 211 W. Aspen Ave. and contains offices for multiple City departments, including administrative functions as well as traffic and fire department offices. The facility has 110-120 parking spaces, two publicly available dual-port Level 2 EV chargers (four total ports), and three solar carparks providing on-site renewable generation. Vehicles from Flagstaff's Administrative departments (62 vehicles included in this analysis) regularly park at City Hall, and it is likely that vehicles from other departments park on-site when visiting City Hall on official business. A subset of these 62 Administrative department vehicles form the basis of this facility's charging infrastructure scenario, described in greater detail in Section 6.2.

3.2 Flagstaff Police Department

Figure 3-2. Flagstaff Police Department

Flagstaff's Police Department is located at 911 E. Sawmill Rd. and is co-located with the Coconino County Sheriff Department, which is owned by Coconino County. The City has an arrangement with the County through which the City is able to direct the installation of EV charging infrastructure if it covers the costs. The facility contains offices for Police Department staff, including administrative, detective, and patrol functions. The facility has over 300 non-public parking spaces on the west and south sides of the property (left and bottom, respectively, in Figure 3-2), several solar carparks, and four non-networked Level 2 EV charge ports. The 64 police vehicles included in this analysis – including vehicles used by administrative staff and detectives as well as patrol cars – regularly park at the Police Department, with administrative and detective vehicles being "take-homes" and patrol cars operating daily with minimal downtime between shifts. A subset of these 64 vehicles form the basis of this facility's charging infrastructure scenario, described in greater detail in Section 6.3.

3.3 Parks and Recreation (Thorpe Park)

Thorpe Park is located at 600 N. Thorpe Rd. The park is home to the Thorpe Park Sports and Recreation Complex, athletic fields, tennis courts, and a parks maintenance facility with parking for fleet vehicles (this parking is unmarked and an exact number of spaces was not tallied). The 29 Parks and Recreation vehicles included in this analysis regularly park at Thorpe Park; a subset of these vehicles form the basis of this facility's charging infrastructure scenario, described in greater detail in Section 6.4.

Figure 3-3. Thorpe Park Fleet Facility

3.4 Public Works

Figure 3-4. Public Works Department Facility

The Flagstaff Public Works Department facility is located at 3200 W. Rte. 66. This facility houses several buildings, including (counterclockwise from top right in Figure 3-4): the Wash Rack, Fleet Services (Building #2, purple roof), Solid Waste (Building #3, grey roof), Streets (Building #5, pink roof), and Administrative staff (Building #6, white roof, bottom left).

Parking is located throughout the facility, with department-specific areas corresponding to each building. Vehicles from Flagstaff's Fleet Services, Solid Waste, and Streets departments (93 vehicles) regularly park at Public Works; a subset of these vehicles form the basis of this facility's charging infrastructure scenario, which is described further in Section 6.5.

4 ASSESSMENT METHODOLOGY

DNV worked with APS to develop this assessment of fleet electrification potential, costs, and benefits for the City of Flagstaff.

4.1 Study Scope

The scope of this study includes Flagstaff's on-road fleet vehicles (with the exception of motorcycles). Construction or miscellaneous equipment – including air compressors, generators, forklifts, and trailers – was excluded from the analysis during initial data review. Additionally, some specialized or high-mileage vehicles were excluded from the analysis based on discussions with Flagstaff team members: excluded vehicles in this category include the Police Department's bomb truck and special weapons and tactic (SWAT) vehicle as well as Fire Department vehicles that are occasionally called to travel out of state to assist in fighting wildfires. Finally, vehicles that did not contain any make/model information were also excluded since a suitable replacement EV could not be accurately identified.

4.2 Overview

Assessment performed and report prepared for:

Company/Organization: City of Flagstaff (Flagstaff)

Primary Contact: Danae Presler, Climate Analyst: City of Flagstaff Sustainability Office

Telephone: (928) 213-2141

Email: danae.presler@flagstaffaz.gov

As part of the assessment, DNV:

- Reviewed data provided by Flagstaff, including vehicle rosters, telematics[11] data, mileage logs, and maintenance and fuel cost records.
- Interviewed several Flagstaff employees to collect qualitative data describing the fleet's facilities, operations, vehicle purchase processes, and electrification efforts to-date.
- Deployed its EV Fleet Analytics tool to identify EV replacements and compare the costs and GHG emissions of ICE and EV fleets.
- Assessed charging infrastructure needs (types and quantities), charging energy requirements, and associated charging infrastructure equipment, installation, and operating costs (using data provided by APS where available).
- Synthesized the analysis results across the above activities to develop the findings, recommendations, and other considerations contained in this report.

Based on these activities, DNV has developed recommendations and other considerations that will help the Flagstaff team understand the costs and benefits of converting to an all-electric fleet and effectively plan for their continued electrification efforts.

[11] "Telematics" refers to any system of granular, remote data collection for a commercial fleet. Telematics systems typically collect high-resolution trip data and can include trip start and stop time and location; trip-level mileage, speed, fuel consumption, and fuel economy; and additional information used to manage and optimize fleet operations. Telematics data provides a more granular and accurate dataset than mileage logs, which may be updated less frequently and are more prone to data entry error. More information on fleet telematics can be found here: https://www.eroad.com/fleet-telematics-explained/

4.3 Detailed methodology and study approach

DNV's fleet assessment process consists of multiple steps and leverages a combination of analytical tools and market research[12] to provide robust, accurate, and customized insights to participating customers. The assessment contained the following steps:

- **Kickoff meeting:** This meeting, held between APS, Flagstaff, and DNV, marked the official start of the study. During this meeting, we introduced key members of the study team, reviewed the study scope and approach, shared data requirements, and discussed next steps. The kickoff was held in June 2023.
- **Data review:** Following initial receipt of Flagstaff's fleet data, DNV reviewed the data for completeness and worked with the Flagstaff team to identify and remove out-of-scope equipment, fill data gaps, and develop reasonable assumptions where needed. This activity extended from early August to early October 2023 and concluded once DNV had a suitable dataset with which to continue to the analysis.
- **Vehicle Analytics:** DNV loaded Flagstaff's fleet data into its EV Fleet Analytics tool. This tool leverages a data-driven approach to identify suitable EV replacements, quantify the total cost of ownership (TCO) of EVs and ICE vehicles, and estimate the GHG emissions of the existing and replacement vehicles.
  - **Replacement vehicle identification:** The tool uses information on the existing fleet – including vehicle type (e.g., sedan, SUV), peak daily mileage, and special requirements (e.g., all-wheel drive, local maintenance support) – to identify suitable EV replacements from within DNV's EV specifications database that match the existing vehicle type and provide sufficient range to meet existing mileage needs.
  - **Calculating TCO:** Once suitable replacement EVs have been identified, the tool integrates data on vehicle purchase costs, available EV tax credits, fuel costs, fuel economy, and maintenance costs to estimate and compare the TCO of ICE vehicles and EVs. Data on vehicle costs and other performance specifications is compiled from multiple sources to streamline the analysis.[13]
  - **Calculating GHG emissions:** The tool leverages the fuel economy and mileage data along with GHG intensity factors for gasoline, diesel, and APS grid power to estimate and compare the GHG emissions reductions of ICEs and EVs.
- **Charging Infrastructure Analysis:** Next, DNV assessed the charging infrastructure needs of Flagstaff's selected facilities and estimated the associated equipment, installation, and operating costs. This analysis was focused on the charging infrastructure needs of a subset of vehicles identified as primarily needing to refuel at one of the selected facilities. This narrowing of focus aligned with the scope of the Program-funded study and with the reality that Flagstaff will pursue a phased transition to EVs rather than transitioning all vehicles at once. As such, the infrastructure analysis is focused on near-term infrastructure needs, though it also includes recommendations and considerations for the long-term.
  - **Developing charging infrastructure scenarios.** For each of the selected facilities, DNV defined a set of vehicles for which to calculate the charging energy needs, forming the basis of the near-term charging needs assessment and cost analysis.
  - **Estimating charging infrastructure needs.** This analysis built upon outputs from the Vehicle Analytics task to determine the type of charger (Level 2 vs. DCFC and associated power level) required to serve the selected EVs.

[12] Note that the costs included in this report (including for vehicles, charging infrastructure, charger maintenance, etc.) are estimates. They are not firm quotes and are subject to change in response to a number of market and other factors.

[13] Note that while DNV's analysis (including the associated data deliverable) refers to specific make/models, these are intended to be "representative replacement options" rather than strict recommendations of a specific vehicle. The City is free to choose other models with similar price/performance that will meet Flagstaff's needs.

– **Estimating charging infrastructure capex[14] and opex.[15]** Following the above analysis, DNV applied representative per-charger cost factors to estimate the all-in cost of charger acquisition, installation, and operation.

- **Fleet Electrification Transition Cost Analysis:** Finally, DNV synthesized the analysis findings from the Vehicle Analytics and Charging Infrastructure Analysis to develop a holistic fleet electrification cost summary for Flagstaff's fleet. This activity also included a summary of recommendations and considerations regarding vehicle electrification and infrastructure installation.

4.3.1 Summary of data sources

This study drew upon multiple datasets from disparate sources, each of which is described briefly below.

City of Flagstaff

Flagstaff provided the following data to support this assessment:

- Four selected fleet facilities:
  - Flagstaff City Hall – 211 W. Aspen Ave.
  - Flagstaff Police Department – 911 E. Sawmill Rd.
  - Parks and Recreation Department – 600 N. Thorpe Rd.
  - Public Works Yard – 3200 W. Rte. 66
- Active vehicle roster across all departments
- Vehicle mileage data (combination of telematics and non-telematics/mileage logs)
- Vehicle maintenance data
- Vehicle dwell time estimates (based on vehicle activity logs from telematics data)
- Additional qualitative data collected via conversations with the Flagstaff team and staff from various City departments, including extensive discussions with the City Fleet Manager as well as interviews with the Police and Management Services Departments

APS

APS provided the following data to support this assessment:

- Summary of Arizona-specific average EV charger equipment, installation, and networking costs from the Take Charge AZ program
- Historical energy consumption data for the selected facilities
- APS commercial utility rates (accessed via web), including energy and demand charges
- Facility-level electric capacity data, including transformer sizes

DNV

DNV integrated data from the following sources to complete the study:

- EV Fleet Analytics Tool:
  - ICE and EV specifications, including vehicle type and class, vehicle make/model, fuel economy (miles per gallon and miles per kWh), GHG intensity (per mile), range, and battery size provided by the US EPA

[14] Capital expenditures, also known as vehicle purchase cost or upfront cost.
[15] Operational expenditures, consisting of energy costs (kWh, kW), charger maintenance costs, and networking fees.

  - ICE and EV price data (manufacturer suggested retail price, or MSRP) for 2023 vehicles, sourced from Wards Automotive data
  - EV price and additional specification data, sourced from evadoption.com data

- Additional market and pricing data sourced from previous studies and/or web research.

4.3.2 Summary of key assumptions

Several assumptions were developed to facilitate this study. We summarize the key assumptions here, with additional assumptions included in Appendix A Additional Assumptions Used in the Analysis.

4.3.2.1 Vehicle analytics

- Based on conversations with the Flagstaff team regarding its vehicle acquisition policy, we assumed all acquisitions would be outright purchases of new vehicles (i.e., there is no leasing, no investigation of used vehicles, and no consideration for financing costs in this analysis).
- DNV modeled a 14-year non-patrol vehicle life and a 7-year patrol vehicle life to estimate lifetime TCO savings and GHG emissions reductions. These inputs were based on the provided data describing the age of the City's fleet vehicles; they differ slightly from the City's vehicle replacement policy (15 years for non-patrol and 6 years for patrol).[16]
- In estimating vehicle TCO comparisons, we assumed that Flagstaff would be choosing between a new ICE and a new EV. For example, for an existing Ford F-150, our analysis modeled the cost comparison between a new Ford F-150 (gasoline) and a new Ford F-150 Lightning (electric). In the vast majority of cases, we assumed a like-for-like vehicle type replacement (i.e., pickup for pickup, sedan for sedan).
- All EVs were assumed to be eligible for federal tax credits ($7,500 per vehicle for vehicles under 14,000-lb gross vehicle weight rating (GVWR) and $40,000 per vehicle for vehicles over 14,000 lb GVWR). The information available from the Internal Revenue Service (IRS) at the time of this study's completion suggests that Flagstaff, as a tax-exempt organization, would be able to claim the credit.[17] We encourage Flagstaff to follow updates to the Commercial Clean Vehicle Tax Credit as they continue to pursue fleet electrification.[18]
- We assumed that Flagstaff will be able to take advantage of Federal tax credits when available for all vehicles to reduce the upfront cost of purchased EVs. We acknowledge that the list of qualified manufacturers may change over time at the IRS's discretion.[19]
- There was no consideration of plug-in hybrid EVs (PHEVs) in this analysis. PHEVs present a significantly lower adoption barrier than all-electric EVs due to their ability to run on gasoline and their potential to be recharged using a Level 1 (wall socket) charger. Additionally, the modeling of PHEV usage, TCO savings, and emissions impacts requires more assumptions regarding driver charging and driving behavior.

4.3.2.2 Charging infrastructure buildout strategy

- We assumed no EV charger incentives or rebates would be available to offset upfront equipment and/or installation costs. This assumption reflects the recent closure of APS's Take Charge AZ program, the lack of incentives/rebates at the state-level, and IRS language suggesting tax-exempt organizations do not qualify for the federal government's Alternative Fuel Vehicle Refueling Property Credit.[20] This is a conservative assumption; it is possible that incentives

[16] There is a 2-3% positive impact on TCO savings for a 15-year vs. a 14-year vehicle life. This small discrepancy does not change the overall analysis results or findings contained within this study.

[17] Note that DNV and APS do not provide tax advisory guidance or support. The City should engage with internal and/or external tax advisors to fully understand tax credit eligibility, opportunities, and risks.

[18] https://www.irs.gov/credits-deductions/commercial-clean-vehicle-credit

[19] https://www.irs.gov/credits-deductions/manufacturers-for-qualified-commercial-clean-vehicle-credit

[20] https://www.irs.gov/credits-deductions/alternative-fuel-vehicle-refueling-property-credit

and/or rebates will become available in the future or that Flagstaff could pursue a non-purchase arrangement (e.g., leasing from an organization with tax liability) to gain access to such incentives.

- We developed per-charger cost estimates for charger equipment, installation, maintenance, and networking fees; these costs were then scaled by the number of recommended chargers. These cost factors pulled from a number of data sources, including APS's Take Charge AZ program, the California Electric Vehicle Infrastructure Project (CALeVIP) program, and web research.
- We integrated historical energy consumption data with the facility-level electric capacity data provided by APS to estimate available capacity to support new EV charging load. This analysis involved reasonable assumptions regarding the contributions to peak load of on-site renewable generation, power factor, and potential future increases to historical peak demand.

5 FLEETWIDE VEHICLE ANALYSIS

This section outlines the results of the Vehicle Analytics task. It begins by providing a high-level overview of the daily peak and average mileage estimates by vehicle type and department, followed by a fleetwide summary of total cost of ownership (TCO) savings and GHG emissions reductions.

The TCO cost savings and GHG emissions reductions results presented in this section are for all fleet vehicles that achieved positive TCO savings across the light-, medium-, and heavy-duty classes. In Section 6 – Charging Infrastructure Buildout Strategy – we present targeted charging infrastructure buildout scenarios for each of the four selected facilities, built around a smaller number of vehicles to be electrified, along with recommendations for each scenario.

5.1 Fleet mileage summary

To help identify suitable EV replacements for Flagstaff's existing fleet vehicles, we developed estimates of each vehicle's peak daily mileage requirement based on available mileage data from telematics and mileage logs as well as discussions with Flagstaff team members. The "peak daily mileage" represents the maximum mileage that would be required on 95% of travel days; it also guides the determination of the minimum EV range that would be suitable to meet Flagstaff's needs. This method was selected to meet Flagstaff's current operational requirements and to maximize the amount of charging that can be conducted on-site at Flagstaff facilities (thus minimizing the need for a "top up" at a public charging station). While this is a robust approach for selecting EVs, we encourage Flagstaff to evaluate mileage requirements when selecting EVs in the future and, where appropriate, to account for anticipated long-distance travel needs (e.g., traveling by car to a conference in Albuquerque).

RECOMMENDATION:
EVALUATE MILEAGE REQUIREMENTS WHEN SELECTING EVS IN THE FUTURE TO MAKE DATA-DRIVEN ELECTRIFICATION DECISIONS BASED ON REAL-WORLD NEEDS.

The average daily mileage was used to estimate the costs of vehicle operation. Maintenance costs were calculated using per-mile cost estimates, and fueling costs were calculated using average mileage, fuel economy (miles per gallon or miles per kWh), and average fuel costs for gasoline, diesel, and electricity.

5.1.1 Light-duty vehicles

Table 5-1 below, summarizes the **peak** daily mileage data summary for Flagstaff's light-duty vehicles; note that the values shown are averages from vehicles in the same department and of the same vehicle type.[21]

Table 5-1. Peak daily mileage by department and vehicle type – light-duty

Fleet department	Pickup truck	SUV/Hatchback	Sedan	Van
Administrative	147	156	138	107
Airport		150		
Fire		154		100

[21] Empty cells represent departments that do not have any vehicles of a given type.

Fleet department	Pickup truck	SUV/Hatchback	Sedan	Van
Fleet Services	150	150	160	
Parks and Recreation	94			150
Police	150	153	150	105
Solid Waste	150		150	
Street Maintenance	112	128		
Water Management/Utilities	137	150	150	

Table 5-2, below, summarizes the **average** daily mileage data for Flagstaff's light-duty vehicles; note that the values shown are averages from vehicles in the same department and of the same vehicle type.[22]

Table 5-2. Average daily mileage by department and vehicle type – light-duty

Fleet department	Pickup truck	SUV/Hatchback	Sedan	Van
Administrative	45	48	42	18
Airport		40		
Fire		50		60
Fleet Services	25	50	41	
Parks and Recreation	38			21
Police	21	35	21	26
Solid Waste	50		50	
Street Maintenance	44	46		
Water Management/Utilities	50	50	50	

5.1.2 Medium- and heavy-duty vehicles

Table 5-3, on the next page, summarizes the average daily mileage data summary for Flagstaff's medium- and heavy-duty vehicles (MHDVs); note that the values shown are averages from vehicles in the same department and of the same vehicle type. A peak mileage assessment was also completed for the MHDVs, which found that range was rarely a limiting factor for the vehicles in Flagstaff's fleet. Special attention was paid to the City's garbage trucks, which run long routes on a regular basis. Note, also, that 36 vehicles were excluded from the MHDV average daily mileage assessment due to limited mileage data, other missing data, or limited electrification potential. A majority of the city's MHDV fire vehicles were excluded due to a combination of missing mileage data and electrification potential, given the mission critical nature of this segment of the fleet as well as limited availability and high cost of electric fire vehicles.

[22] Empty cells represent departments that do not have any vehicles of a given type.

Table 5-3. Average daily mileage by department and vehicle type – medium- and heavy-duty

Fleet department	Bus	Fire vehicle*	Incomplete vehicle	Pickup truck	Truck	Van
Administrative	6		25	25		
Airport				25	25	
Fire			25	25	25	25
Fleet Services			22	25	35	
Parks and Recreation			28	35		25
Police			25	25	25	
Solid Waste		59*	34	25	77	
Street Maintenance			34	43	72	
Water Management/Utilities			33	25	25	

* The one "fire vehicle" included in Table 5-3 is part of the Solid Waste department; this vehicle was classified as a fire vehicle based on its VIN.

5.2 Fleetwide TCO savings summary

Using its EV Fleet Analytics Tool, the provided vehicle data, and the daily peak and average mileage data described above, DNV assessed the total cost of ownership (TCO) for Flagstaff's existing ICE fleet and the identified EV replacements and subtracted the EV TCO from the ICE TCO to determine the resulting savings, if any. Table 5-4 below, summarizes this comparison from a fleetwide perspective across all three classes.

Table 5-4. Fleetwide TCO savings summary[23]

	Light-duty (non-patrol)*	Light-duty (police patrol)*	Medium- and Heavy-Duty*
Vehicles assessed	143	41	177
Vehicles achieving positive TCO savings	120	41	151
Percent of vehicles with positive savings	84%	100%	85%
Average annual TCO savings (per-vehicle)	$1,946	$2,435	$3,490
Total annual TCO savings	$233,533	$99,847	$527,005
Total lifetime TCO savings	$3,269,457	$698,928	$7,378,070
Total energy required (annual kWh)	709,383	160,704	1,460,484

* The average vehicle life for non-patrol vehicles is 14 years (based on provided data). For this study, we reduced the average vehicle life for patrol vehicles to seven years, which is slightly higher than the average age suggested by Flagstaff's current patrol fleet but in line with broader market research.

Due to the unique operational challenges of a police patrol fleet and an acute vehicle shortage identified via interviews with Police Department staff, we analyzed the patrol fleet separately from the rest of Flagstaff's municipal fleet. Note that we provide additional context regarding these operational challenges in Section 6.3.

5.2.1 Light-duty non-patrol fleet

Within Flagstaff's non-patrol light-duty vehicle (LDV) fleet, 84% of the 143 vehicles demonstrate positive TCO savings based on the combination of upfront vehicle cost, maintenance costs, and fueling costs. The average per-vehicle annual savings is

[23] Note that all TCO savings values are in current (2023) dollars.

$1,946, which equates to $233,533 in annual savings if all 120 vehicles were electrified at once. Over an average 14-year vehicle life, Flagstaff could achieve over $3.25M in TCO savings by electrifying its non-patrol light-duty fleet, a significant cost savings opportunity.

Among the 120 vehicles with positive TCO savings, the average EV premium – that is, the ratio between the EV and ICE upfront costs – was 16% and the average daily mileage was 43.7 miles. This combination of factors worked together to result in positive annual and lifetime TCO savings, as lower EV maintenance and fueling costs, accrued over the vehicle's life, more than offset the added upfront cost of an EV. We recommend that Flagstaff prioritize electrifying this pool of vehicles over time and will provide more targeted recommendations in subsequent sections.

OPPORTUNITY:
FLAGSTAFF COULD ACHIEVE OVER $3.25M IN OPERATING COST SAVINGS BY ELECTRIFYING ITS NON-PATROL LIGHT-DUTY FLEET

A total of 23 vehicles did not show positive TCO savings through this analysis. This is a result of a combination of a high EV premium and relatively low mileage, which reduced the potential for these vehicles to make up the added upfront cost through lower operating costs. These vehicles showed an average EV premium of 51% and average daily mileage of between 20 and 25 miles. This result does not mean that these 23 vehicles cannot be electrified. In fact, there are many EVs that would be suitable matches based on vehicle type and electric range; however, we recommend that Flagstaff wait to electrify these low-priority vehicles until those with positive TCO savings have been electrified.

5.2.2 Patrol fleet

Flagstaff's patrol fleet currently consists of 41 vehicles, predominantly Ford Explorer SUVs that have been upfitted with emergency lights and auxiliary equipment. Due to the uniformity of this departmental fleet, our analysis found that 100% of these vehicles demonstrate positive TCO savings, with an average per-vehicle annual savings of $2,435. These savings equate to $99,847 in annual savings if all 41 vehicles were electrified at once and a lifetime savings of nearly $700,000 over an average 7-year modeled vehicle life. These savings are about 25% higher than the non-patrol fleet on a per-vehicle basis, which is primarily driven by two factors:

- **EV Premium.** The upfront cost of an EV patrol car is only 3.6% higher than a hybrid Ford Explorer after federal tax credits, as compared to an average premium of nearly 16% for the non-patrol fleet after tax credits.[24] As a result, EV patrol cars are very competitive on upfront cost compared to the baseline ICE vehicle Flagstaff currently uses in its fleet.[25]
- **Operational intensity.** Unlike the majority of the non-patrol vehicles, which were assumed to operate five days per week, the patrol vehicles were assumed to operate seven days per week, resulting in maintenance and fuel cost savings accruing more rapidly for patrol vehicles. This assumption reflects the fact that these are high-usage vehicles that are in constant rotation and "required to be operational 24/7," per our interview with Police Department staff.

[24] DNV considered both the Tesla Model Y Long-range (330 miles EPA-rated) and the Ford Mustang Mach-E CA Route 1 Long-range (312 miles EPA-rated) as representative patrol EV candidates; both options have been deployed by police departments in the U.S.

[25] DNV assumed that the costs to upfit an ICE patrol car vs. an EV patrol car would roughly cancel out. To account for miscellaneous costs and a "learning curve" penalty for upfitters, we added a 20% cost multiplier to EV patrol cars in our analysis.

RECOMMENDATION:
CONTINUE IMPLEMENTATION OF "EV FIRST" VEHICLE PROCUREMENT POLICY AND PURSUE THE STRATEGIC DEPLOYMENT OF EV CHARGING INFRASTRUCTURE ACROSS THE SELECTED SITES.

Even with the modeled positive savings shown above, there may be other barriers to electrification that the Police Department will need to work to overcome. These barriers and considerations are discussed in greater detail in Section 6.3.1.

5.2.3 Medium- and heavy-duty fleet

The majority of Flagstaff's medium- and heavy-duty vehicle (MHDV) fleet (85%) demonstrates positive TCO savings based on the combination of upfront vehicle cost, maintenance costs, and fueling costs. The average per-vehicle annual savings of $3,490 equates to $527,005 in annual savings if all 151 vehicles were electrified at once. Over an average 14-year vehicle life, Flagstaff could achieve over $7.4M in operating cost savings by electrifying these vehicles, or more than twice the potential TCO savings of the non-patrol light-duty fleet.

Operating cost savings drive these significant cost savings. This effect is amplified for MHDVs relative to LDVs due to the low fuel economy of heavier ICE vehicles and the greater efficiency of EVs. Further, our analysis found that MHDV EVs cost 39% less to maintain per year on average, which has a greater impact than for LDVs due to the more intense maintenance requirements of MHDVs. It's worth noting that the post-tax credit EV premium for MHDVs in our analysis averaged approximately 55%.

While the estimated per-vehicle cost savings for MHDVs are notably higher than for LDVs on average, we must note that the medium- and heavy-duty EV landscape is still nascent and evolving. Certain vehicle types – including garbage trucks and Class 4-6 straight trucks[26] – have several models on offer from established automakers, whereas the heavy pickup truck space (F-250 and larger) features several new market entrants as well as providers that offer electrified options built upon the frames of familiar ICE models. Given the fluid state of the MHDV space, we recommend that Flagstaff begin to engage with vehicle manufacturers in advance of planning to procure MHDVs in order to collect up-to-date pricing and specification data, understand vehicle delivery timelines, and establish manufacturer relationships.

RECOMMENDATION:
BEGIN ENGAGING WITH MANUFACTURERS IN ADVANCE OF PROCURING MHDVS TO BUILD RELATIONSHIPS AND COLLECT PRICING AND PERFORMANCE DATA.

5.2.4 Fleetwide TCO savings takeaways

Across all vehicle classes (light-, medium, and heavy-duty), it is clear that there is significant potential for the City of Flagstaff to achieve TCO savings through the electrification of its fleet vehicles. Due to the fleet's relatively low average daily mileage requirements, there are few instances in which a vehicle cannot be electrified because an EV with sufficient range could not be identified. There are, indeed, some vehicles that do not achieve positive TCO savings due to a combination of a high EV premium and relatively low mileage, which hinders the ability to accrue operating cost savings over the life of the vehicle. However, the majority of vehicles do achieve positive TCO

[26] Straight trucks do not have a trailer hitch – they include box trucks and flatbed trucks.

savings. As such, we recommend that the City continue on the path it has been on through the implementation of its "EV First" vehicle procurement policy and pursue the strategic deployment of EV charging infrastructure across its properties (including EV Ready considerations where appropriate). More detail on the charging infrastructure buildout strategy for the four selected fleet facilities for this study is provided in Section 6.

5.3 Fleetwide GHG emissions reduction summary

DNV's EV Fleet Analytics Tool also quantified the GHG emissions reductions that can be achieved by electrifying Flagstaff's fleet. Table 5-5, below, summarizes the results from a fleetwide perspective.

Table 5-5. Fleet GHG emission reduction summary

	Light-duty (non-police patrol)*	Light-duty (police patrol)*	Medium- and Heavy-Duty*
Total annual emissions reduction (metric tons)	597	189	2,220
Total lifetime emissions reduction (metric tons)	8,360	1,324	31,080
Lifetime emissions reduction equivalency	1,860 gasoline-powered passenger vehicles driven for one year 940,700 gallons of gasoline consumed	295 gasoline-powered passenger vehicles driven for one year 148,982 gallons of gasoline consumed	6,916 gasoline-powered passenger vehicles driven for one year 3,497,243 gallons of gasoline consumed

* The average vehicle life for non-patrol vehicles is 14 years (based on provided data). For this study, we reduced the average vehicle life for patrol vehicles to seven years, which is slightly higher than the average age suggested by Flagstaff's current patrol fleet but in line with broader market research.

Across all classes, Flagstaff's projected lifetime GHG emissions reduction from electrifying the 312 vehicles with positive TCO savings is 40,764 metric tons, or the equivalent of the CO_2 sequestration potential of nearly 9,071 gasoline-powered passenger vehicles driven for one year.[27] There are several points worth noting about these results:

- The GHG emissions reductions presented in Table 5-5 account for Flagstaff's participation in APS's Green Power Partners (GPP) Program Green Connect option, which allows Flagstaff to claim the use of 100% renewable energy for their electricity consumption (Flagstaff pays a per-kWh adder as part of the program). That is, these results assume the electricity used for EV charging has a GHG intensity of 0 kg of CO_2 per kWh.
- The emissions reduction potential shown above is higher than if Flagstaff were not part of GPP, in which case a GHG intensity of 0.372 kg of CO_2 per kWh would have been used.[28]

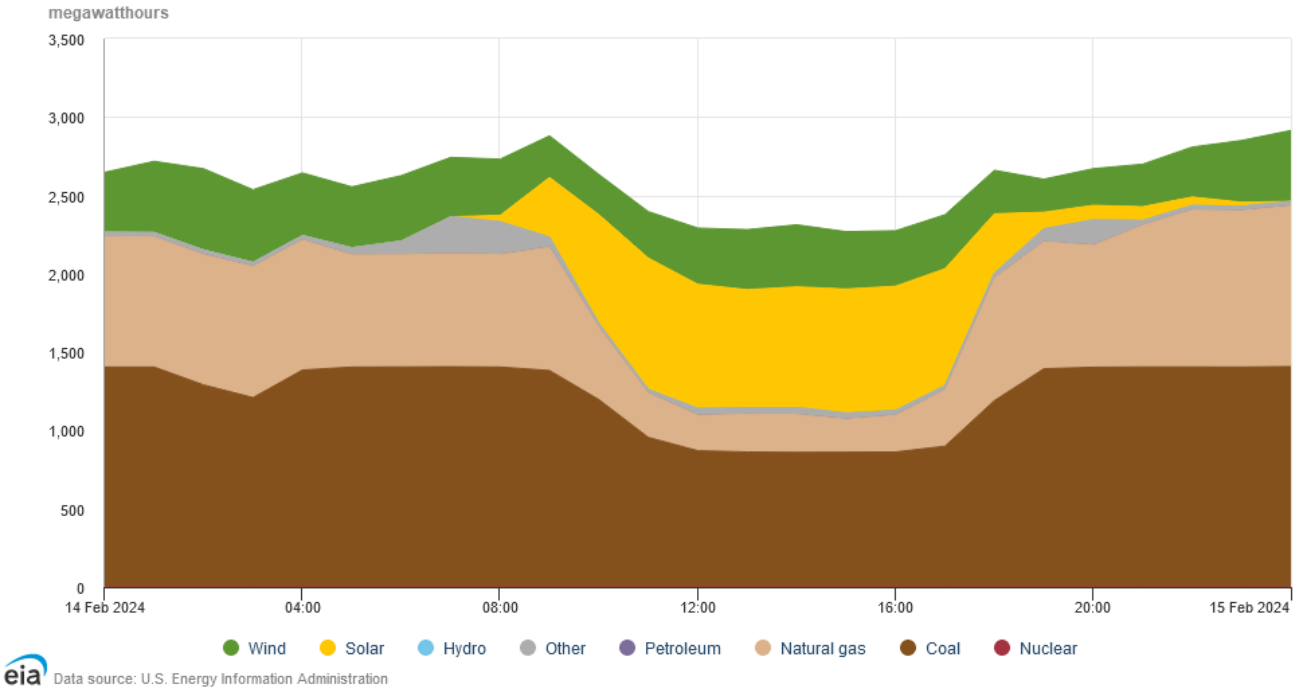
5.3.1 Managed charging and GHG emissions reductions

It is critical to note that a static GHG intensity factor, while valuable for this analysis, does not tell the full story of the grid's carbon intensity. The carbon intensity of grid power varies throughout the day as well as seasonally in response to changing demand patterns, the evolving mix of power generation, and other factors. This means that it is possible to align EV charging with certain times of the day to consume renewable power in real-time. In Arizona, the largest concentration of carbon-free renewable power is generated during the day from solar power, as shown in Figure 5-1.

[27] These equivalencies were determined using the EPA's Greenhouse Gas Equivalencies Calculator, available here: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

[28] This intensity comes from the EPA's eGRID dataset for the Arizona-New Mexico region, available here: https://www.epa.gov/egrid/summary-data

Figure 5-1. Electricity generation (MWh) by fuel source, 2/14/24 - 2/14/24[29]



These same seasonal and intraday variations within the electric grid also affect the price of the power that APS procures on behalf of its customers. To reflect these changing prices (which often, but not always, coincide with higher renewable power generation and thus lower emissions) and to incentivize EV charging off-peak, APS offers a rate rider for separately metered or submetered Level 2 EV charging (Rate Rider GS-EV) that is structured as follows:

[29] Accessed on 2/22/24 via the EIA's Hourly Electric Grid Monitor: https://www.eia.gov/electricity/gridmonitor/dashboard/electric_overview/balancing_authority/AZPS

- **Off-peak kWh Credit.** For Level 2 charging conducted between 9 a.m. and 3 p.m., Monday to Sunday, customers receive a credit proportional to the amount of energy charged during this period.
  - For the Time-of-Use (TOU)[30] Extra Small and TOU Small rate plans, the credit is $0.04223 per kWh.
  - For the TOU Medium and TOU Large rate plans, the credit is $0.01766 per kWh.
- **On-peak kWh Premium.** For Level 2 charging conducted between 3 p.m. and 8 p.m., Monday to Friday, customers pay a premium proportional to the amount of energy charged during this period.
  - For the TOU Extra Small and TOU Small rate plans, the premium is $0.04223 per kWh.
  - For the TOU Medium and TOU Large rate plans, the premium is $0.01766 per kWh.

The selected facilities are currently on a mix of APS's Extra Small, Small, and Medium rate plans; none are currently on a TOU rate. It is likely that several facilities will be pushed into larger rate-plan classes as EVs are adopted due to the resulting increase in both electricity consumption (kWh) and demand (kW) from EV charging.

Per APS, the rate rider requires a separate meter or submeter to accurately quantify the time of day when charging occurs. Additional detail on these two options is provided below:

- **Submetering:** this option would require Flagstaff to switch its facility's rate to TOU, which could have an impact on the overall energy costs for the City (and may require additional efforts to manage overall energy consumption and cost) depending on when each facility consumes electricity. The benefit to submetering is that Flagstaff would not need to open a new account/service with APS to serve EV charging.
- **Separate metering:** this option would require Flagstaff to open a dedicated electrical service for EV charging but would allow the City's facilities to remain on their current utility rates. Per APS, the amount of time needed to set up a new service will depend on site conditions, the location of the incoming electric service, and the location of the chargers relative to existing on-site electrical equipment.

RECOMMENDATION:
ENROLL IN APS'S EV RATE RIDER AND REDUCE CHARGING COSTS BY MINIMIZING ON-PEAK CHARGING AND INCREASING OFF-PEAK CHARGING.

We recommend that Flagstaff do the following to minimize energy costs and maximize GHG emissions reductions:

- Enroll in APS's Level 2 EV charging rate rider – and determine whether separate metering or submetering is preferred – to take advantage of potential lower costs for charging during the off-peak period.
  - Note that if the City pursues submetering and moves its facilities to TOU rates, it is possible that energy costs will increase depending on when energy is consumed at individual facilities. It may also be possible for the City to lower overall energy costs compared to a non-TOU case; however, this analysis is outside the scope of this study.

[30] TOU utility rates charge different prices for energy consumed or produced at different times. They provide a price signal to customers to help align energy consumption with periods of lower wholesale energy costs or lower grid carbon-intensity.

- Minimize EV charging from 3 p.m. to 8 p.m., Monday-Friday. This can be facilitated through a combination of charging schedules, user access controls, and staff training.
- Increase EV charging during the 9 a.m. to 3 p.m. window where possible. Given the fact that many vehicles are in use during this time, this may require setting charging schedules to maximize weekend charging, when vehicles are less likely to be in use.

5.4 High-level implementation checklist

Table 5-6, below, contains an overview of the ordered steps that Flagstaff should follow as it continues along its electrification journey. Several of these steps will be familiar to Flagstaff, given that the City has already adopted several EVs and deployed early Level 2 charging infrastructure.

Table 5-6. High-level EV and charging infrastructure implementation checklist

Category	Checklist
Vehicle Planning	• Review list of recommended EV replacements at each selected facility. • Refine and prioritize as needed based on combination of vehicle age, total mileage, projected TCO savings, current vehicle wear and tear, budget availability, and other factors. • Initiate discussions with manufacturers/dealers to refine pricing and delivery time estimates.
Charging Infrastructure Planning	• Review infrastructure recommendations and determine appropriate number and types of chargers to deploy for each facility (in tandem with the above EV adoption planning). • Reach out to qualified EV charging vendors and contractors for price quotes and installation timelines. • Consider viability of pursuing alternative infrastructure ownership and/or leasing arrangements that may reduce total installed costs by opening access to EV charging infrastructure tax credits.
Utility Engagement	• Work with APS to verify available site electrical capacity, particularly to inform long-term plans and EV Ready installation planning.
Infrastructure Installation	• Purchase and install EV charging infrastructure at selected facilities.
Vehicle Acquisition	• Purchase EVs. • Schedule acquisitions to align with or slightly follow infrastructure installation.
Vehicle Operation and Evaluation	• Operate EVs and evaluate their performance. This may include analysis of vehicle telematics and/or charger utilization data to understand usage patterns, charging behavior, EV performance, and achieved cost savings. • Incorporate learnings into future planning.

Addressing Long-term Considerations	• Assess the need for – and, if needed, develop – a charging infrastructure policy for take-home vehicles.
	• Initiate a robust process involving the appropriate stakeholders to develop next steps regarding patrol fleet electrification. Steps to this process may include:
	  • Work with APS to assess the additional capacity required to support multiple DCFC charge ports, including potential capacity expansion costs.
	  • Initiate conversations with automakers and police vehicle upfitters to begin collecting the data needed to inform budget development and vehicle capability assessment.
	  • Collect input from additional stakeholders to understand potential fleet readiness perception concerns; stakeholders may include police offers.
	  • Develop a robust plan for collecting the vehicle performance data needed to inform decisions regarding ongoing electrification. Include both EV charging infrastructure and vehicle considerations in future planning.

6 CHARGING INFRASTRUCTURE BUILDOUT STRATEGY

This section outlines the results of the EV Charging Infrastructure Buildout Strategy task. It begins with results at the facility level and closes with an overview of the findings for all four in-scope facilities. The results briefly restate the facility description, summarize the vehicles included in the targeted infrastructure buildout scenario, and then highlight the recommended charger deployment approach. We then summarize the costs of the proposed scenario and close by identifying any electric capacity constraints, if applicable.

6.1 Approach

As shown in Section 5, a significant portion of Flagstaff's fleet demonstrates positive TCO savings and thus represents an electrification opportunity. The number of vehicles with electrification potential is much higher than could be reasonably electrified in the near-term, due to the high upfront cost of vehicle acquisition, the need to plan charging infrastructure ahead of vehicle deployments, potential limited EV availability, and operational challenges. To address this challenge and provide actionable insights, DNV developed one charging infrastructure buildout scenario per selected fleet facility. This approach was designed to allow Flagstaff to focus its efforts on a manageable number of vehicles, resulting in infrastructure buildout recommendations that are more targeted and can be addressed in the near-term while providing a basis for longer-term planning.

To develop each scenario, DNV completed the following steps:

- Built upon the results of the Vehicle Analytics task described in Section 5 and mapped the vehicles with electrification potential to one of the selected facilities, with assistance from the Flagstaff team.
- Identified a subset of vehicles likely to park at the facility, which was used to determine the required number and type of EV chargers; we assumed that the oldest vehicles would be replaced first.
- Worked with Flagstaff and APS to compile historical energy consumption and electrical equipment sizing for each facility.
- Integrated charger equipment, installation, maintenance, and networking cost data.
- Analyzed the total infrastructure buildout costs.

The following subsections provide additional detail on EV-related concepts that factored into our analysis.

6.1.1 EV-ready infrastructure planning

For some of the selected facilities, DNV included a recommendation for the development of "EV Ready" infrastructure. EV readiness is generally defined as the practice of building parking spaces that "include electrical infrastructure at the time of construction that enables future EV charging."[31] In this study, we included the following under EV Ready development (also referred to as "futureproofing"):

- Digging/trenching to extend electrical infrastructure to additional parking spaces in the future.
- Running electrical conduit to accommodate additional EV charging infrastructure.
- Installation of additional electrical equipment, including panels, to serve future charging needs.

Planning EV Ready, or future-proofed, charging infrastructure can result in significant installation cost savings. For example, if a project only needed 50 ft of trenching to support an initial charger buildout but expected to need 50 ft more in the future, it would be more cost-effective to dig 100 ft during a single project than digging 50 ft per project across two projects. While it can be difficult to look too far into the future when planning fleet electrification efforts, our recommendations are designed to

[31] https://www.cleanenergy.org/blog/ev-readiness-and-why-we-need-it-now/

accommodate both first and second “waves” of electrification, looking beyond the initial set of recommended EVs. To calculate future-proofed installation costs, we added an assumed 20% economy of scale cost savings factor to our standard per-charger installation cost estimate and multiplied this estimate by the number of recommended EV Ready chargers.

6.1.2 Networked EV chargers

Note that all recommendations are for *networked chargers.* Networked EV chargers offer wireless connectivity through Wi-Fi, cellular, or other connections and provide the following functionality:

- Store and transmit charger usage data, including plug-in/plug-out time, energy consumption, energy costs, charging session duration, and more.
- Ability to schedule charging (e.g., to begin at 10 p.m. even if the vehicle is plugged in at 5 p.m.).
- Ability to set prices and/or control charger access to specified sets of users (e.g., from a single department).

EV charging vendors typically charge a networking fee for access to this functionality; for this study we assumed a fee of $120 per year per charger. These fees and the available functionality will differ across different charging hardware and software providers. Many EV charging vendors offer the ability to manage EV charging through advanced scheduling that is easily programmed via a web-based dashboard, which then communicates over-the-air with the charger.

6.1.3 EV charger maintenance

As with any piece of equipment, EV chargers require regular maintenance to ensure they operate reliably and safely over their useful life. Many EV charging vendors offer proactive maintenance packages. When installing EV charging infrastructure, it is critical to establish responsibility for maintenance costs and determine the responsible party for repairs, whether Flagstaff, the charging network/vendor, or the installer. The Department of Energy further recommends that “charger maintenance contracts should include a response time, time for a given repair, and an overall uptime requirement” (also known as a service-level agreement or SLA) to ensure charger reliability and to provide clarity on expected performance and anticipated costs.

Proactive charger maintenance can include the following activities:

- Regularly cleaning and inspecting the charger itself, charging cables and, if applicable, interactive screens.
- Repairing damaged charging cables.
- Cleaning ventilation grates.
- Ensuring software and firmware are up to date.

For this analysis, we assumed an annual per-charger maintenance cost of $398 for Level 2 chargers and $800 for DCFC.

6.1.4 Cost of energy for EV charging

To estimate the cost of charging the recommended replacement vehicles, DNV reviewed APS’s rate tariff and analyzed increased electricity consumption from EV charging. There are multiple variables that impact the cost of electricity, including the following:

- Pace of EV replacements in Flagstaff’s fleet.
- Timing of EV charging compared to when a facility’s demand currently peaks.
- Magnitude of EV charging peak load, which may increase as more EVs join the fleet but can be managed through smart scheduling and other strategies.
- Cost of energy, including the potential for facilities to change rate-plan classes as their overall energy consumption increases as well as the ability for Flagstaff to take advantage of time-of-use charging rates that incentivize or disincentivize charging during specific periods of the day.

To account for uncertainty in the variables listed above, DNV utilized an all-in per-kWh cost of $0.15/kWh when analyzing the cost to charge EVs in our analysis. This figure is based on the General Service Medium rate plan published by APS and accounts for the adder Flagstaff pays under the GPP Connect program, as well as an adder to account for uncertain demand charge impacts. Although this does not provide a specific breakdown between the cost of energy and demand, it is intended to provide a conservatively high cost of "fueling" the proposed EV fleet.

The following sections outline the results for each fleet facility.

6.2 City Hall

Flagstaff City Hall is located at 211 W Aspen Ave and contains offices for multiple City departments, including administrative functions as well as traffic and fire department offices. The facility has 110-120 parking spaces, two publicly available dual-port Level 2 EV chargers, and three solar carparks providing on-site renewable generation.

A total of 62 vehicles from Flagstaff's Administrative departments were assumed to regularly park at City Hall; 26 of these vehicles were included in this scenario due to their above-average age and annual mileage (i.e., we assumed that these vehicles would be prioritized for replacement based on wear and tear). The total acquisition cost for these 26 vehicles is estimated to be $1.42M while producing an annualized cost savings of approximately $49,000.

Based on discussions with City staff, which indicated that a large one-time charger deployment would prove challenging for a number of reasons,[32] we modeled a scenario involving five dual-port Level 2 chargers (10 total ports) with EV Ready futureproofing for an additional 10 ports.[33] The following tables present the analysis results for this scenario.

Table 6-1. City Hall charging infrastructure buildout – charger recommendation

	Level 2	DCFC
Vehicles modeled in scenario	26	
Number of chargers	5	0
Charger type	40A L2	n/a
Port configuration	Dual-port	n/a
Total ports	10	n/a
Per-unit charger power (kW)	9.6	n/a
Total nameplate power (kW)	96	n/a
Amps per unit (breaker rating)	50	n/a
Total amps (before EV Ready)	500	n/a
Additional chargers modeled for EV Ready installation	*5*	*n/a*
Total amps (including EV Ready)	*1,000*	*n/a*

[32] The Flagstaff team indicated that converting more than 10 parking spots to EV charging in an initial buildout would be difficult. Additionally, Flagstaff City Hall hosts a farmer's market on weekends, during which cars must be removed.

[33] All recommended dual-port chargers were assumed to support simultaneous charging, or the ability to charge two EVs at the same time at a single charger. A dual-port 40 A charger would be able to deliver 40 A to each port.

Table 6-2 shows that the recommended five dual-port 40-A Level 2 chargers would support simultaneous charging at 9.6 kW per port for 10 EVs, for a total connected charging load of 96 kW. Serving this load would require 500 A of capacity. Further, the additional five dual-port chargers recommended for EV Ready installation would, when installed and energized, draw up to an additional 96 kW and require an additional 500 A of capacity. No DCFC chargers are recommended for City Hall due to the low daily charging energy requirements of the vehicles parking at this facility.

Table 6-2. City Hall charging infrastructure buildout – cost summary

	Level 2	DCFC	Total
Equipment costs (one-time)	$25,000	n/a	$25,000
Installation costs (one-time)	$30,000	n/a	$30,000
Maintenance costs (lifetime)*	$27,846	n/a	$27,846
Networking fees (lifetime)*	$8,400	n/a	$8,400
Maintenance costs (annual)	$1,989	n/a	$1,989
Networking fees (annual)	$600	n/a	$600
Year 1 cost	**$57,589**	**n/a**	**$57,589**
Recurring annual cost	**$2,589**	**n/a**	**$2,589**
Total lifetime cost*	**$91,246**	**n/a**	**$91,246**
Future-proofing installation cost (one-time)	*$24,000*	n/a	*$24,000*
Total lifetime cost with future-proofing	***$115,246***	*n/a*	***$115,246***

*Note that the average life of an EV charger was modeled at 14 years.

Table 6-3 shows that the recommended infrastructure would cost $25,000 for the chargers themselves and $30,000 for installation. Ongoing costs for proactive charger maintenance and networking fees add $2,589 per year and a total of $36,246 over the modeled 14-year life of the chargers.

There is also a one-time cost of $24,000 for the additional planning/design, trenching, conduit, and electrical equipment needed to support the recommended five EV Ready dual-port chargers. To reach our estimate of $24,000, we assumed an initial $30,000 installation cost and applied the aforementioned 20% savings factor to account for economies of scale in planning/design, trenching, and conduit, as well as the charger installation labor that would not be required.

Table 6-3. City Hall charging infrastructure buildout – electric capacity assessment

	Level 2	DCFC
Existing spare electrical capacity (kW)	435	
Recommended new charging load (kW)	96	n/a
Future-proofed chargers load addition (kW)	96	n/a
Remaining electrical capacity (after recommended chargers installed)	339	n/a
Remaining electrical capacity (after EV Ready chargers energized)	243	n/a

Table 6-3 shows that Flagstaff's City Hall currently has approximately 435 kW of spare electric capacity after accounting for existing grid infrastructure and current electricity demand. The recommended charging infrastructure would add up to 192 kW of new load to the site (including the EV Ready ports), leaving approximately 243 kW of spare capacity that could be used for additional future EV charging without needing to pursue a capacity upgrade with APS.

It is worth noting that in this scenario, we have recommended a total number of charge ports (10 at first and 20 over time) that is less than the total number of vehicles we recommended be prioritized for electrification at City Hall (26). Our analysis indicates that the average daily charging requirement, based on daily mileage requirements and EV efficiencies, will be 27 kWh, meaning that the majority of EVs will not need to recharge every day/night. Further, the average recharge time will be around three hours, which will make it possible to recharge at least two EVs per port during a single eight-hour workday when EVs are parked at City Hall during working hours. These statistics suggest that an EV-to-charger ratio of greater than one is acceptable; that is, the City does not need to install a dedicated charger for every EV it acquires.

The appropriate long-term ratio of EVs to chargers is difficult to determine until Flagstaff has acquired more EVs, gained experience incorporating them into fleet operations at scale, and documented any challenges that arise. In the early days of the fleetwide transition, a lower EV-to-charger ratio is sensible to prioritize reliability; over time, however, the City may gain confidence in its ability to charge EVs less often (for example, every second or third night instead of nightly) without impacting fleet readiness, in which case it may be possible to reduce future EV charging infrastructure costs as the fleet continues electrifying. We recommend that Flagstaff implement a system for tracking charger and EV usage (with the support of networked charging data and a robust vehicle telematics system) to develop an optimal charging strategy as the number of EVs in the fleet grows. Implementing this data-driven approach will help the City proactively identify any issues with charger availability and, over time, determine an appropriate EV-to-charger ratio that balances overall infrastructure costs with fleet readiness and reliability.

RECOMMENDATION:
IMPLEMENT A SYSTEM FOR TRACKING EV USAGE AND CHARGING BEHAVIOR USING NETWORKED CHARGING DATA AND TELEMATICS TO CREATE AN OPTIMAL CHARGING STRATEGY AS THE EV FLEET GROWS.

6.3 Police Department

Flagstaff's Police Department is located at 911 E Sawmill Rd and is co-located with the Coconino County Sheriff Department, which is owned by Coconino County. The facility contains offices for Police Department staff, including administrative, detective, and patrol functions; it has over 300 non-public parking spaces, several solar carparks, and four non-networked Level 2 EV charge ports.

A total of 22 vehicles belonging to administrative staff and detectives, plus 41 patrol vehicles, regularly park at the Police Department; of these, 10 administrative/detective vehicles were included in this scenario, along with four patrol vehicles. The total acquisition cost for these 14 vehicles is estimated to be $650,000 while producing an annualized cost savings of approximately $26,000. Based on discussions with City staff, we modeled a scenario involving the following charging infrastructure:

- **Level 2:** Six dual-port Level 2 chargers (12 total ports)

- **DCFC:** Two single-port 150 kW DC fast chargers for rapid refueling of patrol vehicles with EV Ready futureproofing for an additional two DCFC ports.

The tables below present the analysis results for this scenario.

Table 6-4. Police Department charging infrastructure buildout – charger recommendation

	Level 2	DCFC
Vehicles modeled in scenario	14	
Number of chargers	6	2
Charger type	40A L2	150 kW DCFC
Port configuration	Dual-port	Single-port
Total ports	12	2
Per-unit charger power (kW)	9.6	150
Total nameplate power (kW)	115	300
Amps per unit (breaker rating)	50	264
Total amps (before EV Ready)	600	528
Additional chargers modeled for future-proofing installation	*0*	*2*
Total amps (including EV Ready)	*0*	*1,055*

Table 6-5. Police Department charging infrastructure buildout – cost summary

	Level 2	DCFC	Total
Equipment costs (one-time)	$30,000	$211,558	$241,558
Installation costs (one-time)	$36,000	$175,524	$211,524
Maintenance costs (lifetime)	$33,415	$22,400	$55,815
Networking fees (lifetime)	$10,080	$3,360	$13,440
Maintenance costs (annual)	$2,387	$1,600	$3,987
Networking fees (annual)	$720	$240	$960
Year 1 Cost	**$69,107**	**$388,922**	**$458,029**
Recurring Annual Cost	**$3,107**	**$1,840**	**$4,947**
Total lifetime cost	**$109,495**	**$412,842**	**$522,337**
Future-proofing installation cost (one-time)	*$0*	$140,419	*$140,419*
Total lifetime cost with future-proofing	***$109,495***	*$553,261*	***$662,757***

Table 6-6. Police Department charging infrastructure buildout – electric capacity assessment

	Level 2	DCFC
Existing spare electrical capacity (kW)	205	Insufficient existing capacity for DCFC installation
Recommended new charging load (kW)	115	300
Future-proofed chargers load addition (kW)	0	300
Remaining electrical capacity (after recommended chargers installed)	90	Insufficient existing capacity for DCFC installation
Remaining electrical capacity (after EV Ready chargers energized)	90	Insufficient existing capacity for DCFC installation

Note the following points of consideration regarding this scenario:

- The recommended Level 2 chargers would primarily be used by the administrative/detective vehicles, which have a relatively low daily mileage requirement and are unlikely to require frequent fast charging; the Level 2 chargers could also be used by the patrol vehicles.
- While any fleet vehicle could use the fast chargers, they are primarily intended to provide rapid recharging for patrol vehicles, which often have unpredictable (and potentially high) mileage needs as well as short shift breaks.
- Despite the noted challenges with electrifying patrol vehicles (see Section 6.3.1) and the uncertainty associated with when the City might acquire one, we included a future-proofed DCFC build-out for this scenario to capture efficiencies associated with such a large infrastructure project.
- There is significant uncertainty in the true amount of available electrical capacity due to the extensive on-site solar. Based on our analysis of the available data, there is insufficient capacity to support the installation of DCFC chargers here without a capacity upgrade provided by APS. There appears to be capacity available for at least 12 40 A Level 2 charge ports.
  - As capacity is built out to support DCFC chargers, the City should consider treating the Police Department as a fast-charging “hub” that can be used by other departments when patrol cars are not charging; this will extend the value of the DCFC investment and reduce the need to install potentially duplicative infrastructure at other facilities.

6.3.1 Police Department considerations

Stemming from our interview with Police Department staff, a number of unique operational considerations for Police vehicles were identified and discussed. We summarize these considerations below, along with implications for fleet electrification and infrastructure deployment as well as strategies Flagstaff can take to navigate and mitigate these concerns.

6.3.1.1 Patrol Vehicles

A number of challenges have been identified by Police Department staff, including the following:

- **Mission critical operations.** Flagstaff’s patrol fleet provides a critical municipal function. The department recognizes that electrification efforts must take into account the ability of patrol EVs to respond to emergency situations and perform effectively given the unique demands of patrol work as well as Flagstaff’s climate.
- **Range, downtime, and charging.** The 41-vehicle patrol fleet currently operates under a “Hot Cars” structure in which the vehicles often run 24/7, with limited if any downtime between shifts; this is the result of a vehicle limitation that the department plans to address over time. This is a challenging operational mode for ICE vehicles and would pose additional challenges for EVs due to the lack of sufficient time to charge between shifts.

- **Upfront vehicle cost and upfitting complexity.** Flagstaff identified concerns about the upfront EV cost premium as well as potential costs and complexity associated with upfitting EVs with the necessary communications systems, lighting, sirens, and additional auxiliary systems.
- **Public and officer perception.** Department staff indicated that "some members of the public and law enforcement officers themselves may have reservations or concerns about the adoption of EVs for police work, potentially impacting morale and community perception."

These challenges stem from well-founded concerns regarding how the department's readiness may be impacted or perceived to be impacted. DNV's near-term recommendations address these concerns in the following ways:

- A measured introduction of EVs into the patrol fleet will allow the department to collect data and gain real-world experience before considering additional steps. This approach is prudent and will inform effective long-term planning while also allowing the City to address the concerns of officers and the public.
- The installation of DCFC infrastructure will address concerns around short shift breaks and EV range, since DCFC charging can charge a vehicle from 10% to 80% state of charge in 30-45 minutes.

RECOMMENDATION:
INITIATE A ROBUST INTERNAL STAKEHOLDER PROCESS TO IDENTIFY THE DATA, FEEDBACK, AND INFORMATION NEEDED TO INFORM NEXT STEPS FOR PATROL FLEET ELECTRIFICATION.

We further note that a number of cities around the country have begun adopting EVs and have documented both strong performance and realized operating cost savings, indicating that these concerns can be addressed and that EVs can perform well in a patrol context. That being said, given the concerns raised by Police Department staff, Flagstaff should initiate an internal stakeholder process to identify the data, feedback, and other information needed to develop next steps regarding patrol fleet electrification.

6.3.1.2 Take-home vehicles

We learned through this study that a large number of administrative and detective vehicles are taken home by their drivers. We did not address considerations around take-home charging in this study due to scope limitations. We do note, however, that the admin/detective vehicles recommended for replacement would be able to charge at the Police Department during the day, thus mitigating the near-term concern about providing at-home charging for City employees. Longer term, the City should evaluate the potential fleetwide need for at-home EV charging and develop a policy to guide the deployment and management of this infrastructure if installed at employee's homes in future. Several considerations for this policy are outlined below:

- Who pays for EV charging, and what are the payment options in this scenario? If employees pay, would the City reimburse them for this expense, and if so, how?
- Which party would be responsible for charger maintenance?
- What happens when a City employee with a home charger ends their employment with Flagstaff?

6.4 Thorpe Park

Thorpe Park is located in northwest Flagstaff; it encompasses a number of address locations and APS accounts. This analysis was specifically focused on the park's maintenance shed located at 600 N Thorpe Rd. This maintenance shed is located toward the northern end of the sports and recreation complex with entry from the public parking area.

The team identified 28 vehicles that belong to the Parks department that may visit this site on a regular basis and may sometimes be parked here overnight. Of these, 22 are medium- or heavy-duty. DNV identified 13 vehicles as prime targets for electrification – three light-duty pickup trucks and 10 medium-duty. Each of these vehicles demonstrates positive TCO savings and is nearing the end of its useful life. The total acquisition cost for these 13 vehicles is estimated to be $1.45M while producing an annualized cost savings of approximately $26,000.

Based on the available electric service capacity and nature of the Parks Department vehicle usage, the team modeled a limited infrastructure scenario primarily designed as a top-off station rather than one that can serve all 13 vehicles simultaneously. The proposed charging infrastructure for Thorpe Park includes:

- **Level 2.** One dual-port Level 2 charger (2 total ports), primarily for overnight charging.
- **DCFC.** One single-port 100 kW DC fast charger for rapid refueling of vehicles that stop here to complete needed work.

The tables below outline the proposed charging infrastructure, site electrical load impacts, and associated infrastructure buildout costs for the proposed EV replacement scenario.

Table 6-7. Thorpe Park charging infrastructure buildout – charger recommendation

	Level 2	DCFC
Vehicles modeled in scenario	13	
Number of chargers	1	1
Charger type	40A L2	100 kW DCFC
Port configuration	Dual-port	Single-port
Total ports	2	1
Per-unit charger power (kW)	9.6	100
Total nameplate power (kW)	19	100
Amps per unit (breaker rating)	50	176
Total amps (before EV Ready)	100	176
Additional chargers modeled for future-proofing installation	*0*	*0*
Total amps (including EV Ready)	*100*	*176*

Table 6-8. Thorpe Park charging infrastructure buildout – cost summary

	Level 2	DCFC	Total
Equipment costs (one-time)	$5,000	$70,519	$75,519
Installation costs (one-time)	$6,000	$58,508	$64,508
Maintenance costs (lifetime)	$5,569	$11,200	$16,769
Networking fees (lifetime)	$1,680	$1,680	$3,360
Maintenance costs (annual)	$398	$800	$1,198
Networking fees (annual)	$120	$120	$240
Year 1 cost	**$11,518**	**$129,947**	**$141,465**
Recurring annual cost	**$518**	**$920**	**$1,438**
Total lifetime cost	**$18,249**	**$141,907**	**$160,157**
Future-proofing installation cost (one-time)	*$0*	$0	$0
Total lifetime cost with future-proofing	***$18,249***	*$141,907*	*$160,157*

Table 6-9. Thorpe Park charging infrastructure buildout – electric capacity assessment

	Level 2	DCFC
Existing spare electrical capacity (kW)	505	
Recommended new charging load (kW)	19	100
Future-proofed chargers load addition (kW)	0	0
Remaining electrical capacity (after 1x dual-port Level 2 charger)	486	
Remaining electrical capacity (after 1x single-port DCFC charger)	386	

6.5 Public Works

The Flagstaff Public Works facility is located on the western edge of the city at 3200 W. Rte. 66. The facility is made up of five buildings, including an administrative building, facilities garage, and solid waste department. The vehicles parked at this facility are diverse, ranging from passenger cars to specialized, heavy-duty trucks. Although the facility is served by two sizeable electric services, the electric capacity required to electrify the full fleet of 107 vehicles that were identified as being domiciled here would require considerable increases in electric line capacity. As such, DNV recommends that Flagstaff follow the near-term recommendations outlined in this section while also beginning discussions with APS to ensure that this facility is included in planned grid buildouts for APS as the City's electrification efforts scale up.

RECOMMENDATION:
ENGAGE WITH APS TO ENSURE THE PUBLIC WORKS FACILITY IS INCLUDED IN ELECTRIC GRID PLANNING.

For the near-term, our analysis showed 46 vehicles nearing the end of their useful life that demonstrate positive TCO savings. Of these vehicles, 40 are medium- or heavy-duty. The total acquisition cost for these 46 vehicles is estimated to be $14.3M while producing an annualized cost savings of approximately $140,000 compared to equivalent ICE replacements.

Based on the high available electrical service capacity and number of vehicles domiciled at Public Works, this facility is a strong candidate for further electrification. DNV modeled charging infrastructure to support the recommended initial uptake of EVs, but we note that this leaves available service capacity for future EV charger buildout to support broader electrification of the vehicles here. The proposed charging infrastructure for the Public Works facility includes:

- **Level 2.** No additional Level 2 chargers (there are two ports already installed here for fleet and employee use, and the City is in the process of installing 12 more ports)
- **DCFC.** Ten single-port 100 kW DCFC.

The team's assessment has determined that no additional Level 2 chargers are required for near-term fleet electrification needs, but Flagstaff may opt to install additional units to support employee charging needs. DNV recommends that Flagstaff focus its resources on electrifying medium/heavy-duty vehicles at this facility, which would require the installation of DCFC infrastructure.

The tables below outline the proposed charging infrastructure, site electrical load impacts, and associated infrastructure buildout costs for the proposed EV replacement scenario.

Table 6-10. Public Works charging infrastructure buildout – charger recommendation

	Level 2	DCFC
Vehicles modeled in scenario	46	
Number of chargers	0	10
Charger type	n/a	100 kW DCFC
Port configuration	n/a	Single-port
Total ports	n/a	10
Per-unit charger power (kW)	n/a	100
Total nameplate power (kW)	n/a	1,000
Amps per unit (breaker rating)	n/a	176
Total amps	n/a	1,758
Additional chargers modeled for future-proofing installation	*n/a*	*0*
Total amps (including EV Ready)	*n/a*	*1,758*

Table 6-11. Public Works charging infrastructure buildout – cost summary

	Level 2	DCFC	Total
Equipment costs (one-time)	n/a	$705,192	$705,192
Installation costs (one-time)	n/a	$585,081	$585,081
Maintenance costs (lifetime)	n/a	$112,000	$112,000
Networking fees (lifetime)	n/a	$16,800	$16,800
Maintenance costs (annual)	n/a	$8,000	$8,000
Networking fees (annual)	n/a	$1,200	$1,200
Year 1 cost	**n/a**	**$1,299,473**	**$1,299,473**
Recurring annual cost	**n/a**	**$9,200**	**$9,200**
Total lifetime cost	**n/a**	**$1,419,073**	**$1,419,073**
Future-proofing installation cost (one-time)	*n/a*	*0*	*0*
Total lifetime cost with future-proofing	*n/a*	*1,419,073*	*1,419,073*

Table 6-12. Public Works charging infrastructure buildout – electric capacity assessment

Public Works	Level 2	DCFC
Existing spare electrical capacity (kW)	2,536	
Recommended new charging load (kW)	0	1,000
Future-proofed chargers load addition (kW)	0	0
Remaining electrical capacity (after 10x DCFC chargers)	0	1,536

6.5.1 Public Works facility considerations

The Public Works facility is large and houses multiple departments' fleets. DNV recommends that as part of its fleet electrification efforts, Flagstaff should develop a thoughtful and detailed electrification plan that seeks to minimize the logistical challenges of a fleet transition while maximizing learnings that can be applied to other vehicles and facilities in Flagstaff's fleet. This planning process should be informed by the analysis summarized in this study and focus on the vehicles that demonstrate positive TCO savings at this facility. Flagstaff should consider the following:

- Focus on electrifying a single vehicle type at a time (e.g., work trucks, garbage trucks). This will streamline the vehicle acquisition process and allow the affected department to gain experience operating and charging the new EVs while allowing time for performance analysis and documentation of learnings. Focusing on a single vehicle type at a time may also aid the process of drivers acclimating to and receiving any necessary training to operate the new vehicles.
- Within the above framework, consider piloting one or two vehicles of the selected vehicle type for a period of 6-12 months to collect the necessary performance data and staff feedback prior to placing a larger order. This measured approach will also allow time for charging infrastructure to be deployed in advance of vehicle procurement.
- Consistent with our fleetwide recommendation to implement a vehicle telematics platform, tracking and evaluating EV and charger usage from early deployments will provide valuable data to help inform longer-term planning.

RECOMMENDATION:
DEVELOP A THOUGHTFUL ELECTRIFICATION PLAN THAT SEEKS TO MINIMIZE THE LOGISTICAL CHALLENGES OF A FLEET TRANSITION WHILE MAXIMIZING LEARNINGS THAT CAN BE APPLIED ELSEWHERE

The effort to electrify the Public Works fleet is expected to span a number of years due to the high cost of specialized MHDV EV options as well as the age of the existing fleet. A number of Public Works vehicles were purchased in the last five years and should not be replaced immediately, but instead phased out once they reach the end of their useful life.

The Public Works facility has a large incoming electric service, with approximately 1.5 MW (1,500 kW) of available capacity remaining after the recommended installation of 10 single-port 100 kW DCFC. This remaining available capacity will allow the City to install additional chargers – both DCFC and Level 2 – at Public Works, and we recommend that the City further expand the charging infrastructure at this facility over time. However, we did not recommend a specific number of additional chargers (or EV Ready infrastructure development) due to uncertainty in the following areas:

- **Types of vehicles that will be electrified first.** Given the diversity of vehicles domiciled at Public Works and DNV's recommendation that Flagstaff engage early with manufacturers of MHDVs, we cannot determine which vehicles will be using the recommended initial wave of charging infrastructure. While the 10 recommended DCFC chargers will support charging across diverse vehicle types and classes – from high-mileage garbage trucks to lower-mileage work trucks – the direction that Flagstaff takes beyond this initial wave will depend on the vehicle types being electrified, their specific operations and mileage requirements, and other factors.
- **Pace of electrification.** Given our recommendation that the City focus on a single vehicle type and deploy EVs in a pilot capacity during early electrification efforts, we anticipate that 10 DCFC chargers will provide sufficient charging

capacity for the foreseeable future. As electrification planning evolves, the City should take a longer-term view and consider the potential for Public Works to serve as a fast-charging “hub” across the City’s fleet to increase utilization.

- **Potential feeder-level capacity constraints upstream of this facility.** While the facility has available capacity today, it is likely that a larger grid-level project would be needed to provide the significant additional capacity that will be required to electrify the 100+ vehicles at this facility. As such, DNV recommends engaging with APS to identify potential future capacity availability and/or constraints relative to the City’s longer-term electrification plans at this site, working in tandem to ensure that APS is aware of the City’s plans while also ensuring that the City’s plans take into account the capacity APS is able to provide.

7 TOTAL COST OF OWNERSHIP ANALYSIS RESULTS

This section outlines the results of the Total Cost of Ownership Analysis task for each facility. It begins with a summary of the TCO results at the facility level, across both recommended EV replacements and the recommended infrastructure, and concludes with a discussion on managed charging for Flagstaff's fleet. The TCO savings are calculated by subtracting the estimated lifetime cost of the recommended charging infrastructure from the estimated lifetime TCO savings of the recommended vehicles.

7.1 City Hall

The TCO savings from electrifying the 26 Administrative vehicles that park at City Hall, including the cost of the recommended charging infrastructure, is summarized in Table 7-1.

Table 7-1. City Hall all-in total cost of ownership summary

City Hall	
Vehicles	26
Chargers	Level 2: 5 dual-port 40-amp
Annual vehicle TCO savings	$48,997
Lifetime vehicle TCO savings	$685,953
Lifetime charging infrastructure cost	$91,246
All-in TCO savings	$594,707

7.2 Police Department

The TCO savings from electrifying the 10 take-home administrative/detective vehicles and four patrol vehicles at the Police Department, including the cost of the recommended charging infrastructure, is summarized in Table 7-2.

Table 7-2. Police Department all-in total cost of ownership summary

Police Department	
Vehicles	14
Chargers	Level 2: 6 dual-port 40-amp DCFC: 2 single-port 150 kW
Annual vehicle TCO savings	$25,731
Lifetime vehicle TCO savings	$292,047
Lifetime charging infrastructure cost	$522,337
All-in TCO savings	-$230,290

While the all-in TCO savings are negative for this facility, this is a result of our recommendation to install two 150 kW DCFC ports to serve four patrol cars – with EV Ready infrastructure for two more. These combined four charge ports represent an investment in Flagstaff's future electrification plans and were recommended for near-term action because of the potentially long planning and installation timeline for DC fast charging infrastructure. While this would incur a significant upfront cost, this infrastructure would be able to charge many more than four patrol cars in the future as well as vehicles from other departments that need to top-up throughout the day.

7.3 Thorpe Park

The TCO savings from electrifying the 13 Parks vehicles, including the cost of the recommended charging infrastructure, is summarized in Table 7-3.

Table 7-3. Thorpe Park all-in total cost of ownership summary

Thorpe Park	
Vehicles	13
Chargers	Level 2: 1 dual-port 40-amp DCFC: 1 single-port 100 kW
Annual vehicle TCO savings	$25,545
Lifetime vehicle TCO savings	$357,629
Lifetime charging infrastructure cost	$160,157
All-in TCO savings	$197,472

7.4 Public Works

The TCO savings from electrifying the 46 Public Works-domiciled vehicles, including the cost of the recommended charging infrastructure, is summarized in Table 7-4.

Table 7-4. Public Works all-in total cost of ownership summary

Public Works	
Vehicles	46
Chargers	Level 2: n/a DCFC: 10 single-port 100 kW
Annual vehicle TCO savings	$140,858
Lifetime vehicle TCO savings	$1,972,017
Lifetime charging infrastructure cost	$1,419,073
All-in TCO savings	$552,943

7.5 Takeaways

As this section shows, three of the selected facilities – City Hall, Thorpe Park, and Public Works – show positive TCO savings over the life of the recommended EVs and associated charging infrastructure as compared to a business-as-usual continuation of ICE procurements. The facility that does not show positive TCO savings – the Police Department – is a unique case because of its need for a front-loaded DCFC buildout to ensure patrol fleet readiness and the small number of patrol cars recommended for electrification at this time. We anticipate that as the City electrifies the Police fleet over time DCFC charging infrastructure development will be right-sized to balance upfront costs against the need for rapid charging and high fleet readiness. Further, we recommend that the City consider treating the Police Department as a fast-charging "hub" that can be used by other departments when patrol cars are not charging; this will extend the value of the DCFC investment and reduce the need to install potentially duplicative infrastructure at other facilities.

7.6 Managed charging

Managed charging is defined as any effort to influence or regulate the timing and/or quantity of EV charging. The objective of managed charging is typically to minimize or control the costs of EV charging; this can be achieved, for example, by capping EV charging demand or by shifting EV charging from a more expensive time of day to a less expensive one. Managed charging for fleet EVs can be undertaken by individual organizations using several different technologies designed to give

fleet operators control over the timing and volume of charging. Managed charging is further augmented with staff training (and associated organizational policies) that teaches employees both the importance of managed charging and how to use the available tools to ensure it is consistently and properly implemented.

Given Flagstaff's interest in deploying networked EV chargers and the fact that many providers of networked chargers also provide managed charging tools, we recommend that Flagstaff start its managed charging journey using these available tools. When paired with proper staff education, training, and an oversight plan, these tools can be effective in controlling when EVs charge to avoid on-peak periods (which, for APS, may impact the price of energy) while ensuring that EVs are fully charged by the time they need to be. As the electric fleet grows and the City gains experience integrating EVs into existing operations, the City may want to consider investigating other third-party managed charging solutions as well, which will differ in price and available functionality.

RECOMMENDATION:
USE MANAGED CHARGING TOOLS AVAILABLE THROUGH NETWORKED CHARGERS, PLUS STAFF EDUCATION, TO AVOID ON-PEAK PERIODS AND REDUCE DEMAND IMPACTS.

The following basic aspects of managed charging are likely to be available as part of networking plans offered by EV charging providers (and may be further supported by options available in the vehicle itself):

- Scheduled charging – the ability to, for example, program a car that is plugged in at 5 p.m. to delay charging until the off-peak period or later (after 8 p.m. for APS).
  - Note that some vehicles may offer the option to program a "departure time" and will support managed charging while ensuring the vehicle has the desired charge by the specified time.
- Controlling charger power levels to output less than nameplate power to minimize demand impacts.
- Pricing control – the ability to set customizable prices based on multiple factors, including driver type and time of day.
  - Flagstaff has also expressed interest in having the ability to allocate charging fees to the appropriate department when sharing infrastructure; available pricing control tools will likely provide this functionality.

More advanced managed charging functionality – while not yet recommended for Flagstaff – may include the following:

- Smart charging optimization that can automatically optimize charging across multiple vehicles according to a pre-set objective. Objectives might include:
  - Prioritizing preferred vehicles (e.g., patrol vehicles) when multiple EVs are plugged in simultaneously at a bank of chargers.
  - Charging vehicles with the lowest state of charge first.
  - Ensuring all vehicles reach the necessary state of charge prior to a programmed departure time while not exceeding a pre-set demand limit for the facility.
- Charging optimization to minimize costs or take advantage of renewable energy production

DNV recommends that Flagstaff review the above capabilities of smart charging and the needs of its facilities depending on which vehicle/department combinations are selected for replacement. The need for and value of managed charging will depend on the facility and vehicles being electrified and the typical dwell time of the vehicles (that is, how long and when they are parked). For instance, managed charging may be advisable at the Public Works facility if refuse trucks are targeted for replacement as the first cohort of vehicles, as they are primarily in the field during the day and would be plugged in upon their return in the afternoon or evening (potentially during APS's on-peak period). In this scenario, Flagstaff might opt for a simple managed charging solution that delays the actual charging time until after 8 p.m., the end of the APS "on-peak premium" rate period, to manage charging costs. Further staggering of overnight charging schedules – to avoid multiple trucks all drawing power simultaneously – could help manage demand charges as well. City Hall and the Police Department, on the other hand, may be able to support charging during APS's 9 a.m. to 3 p.m. off-peak period, in which case it would be beneficial to provide education and other communications to City employees encouraging them to charge during these hours at these facilities.

The above examples are intended to illustrate how managed charging can be used differently depending on the City's objectives as well as the facility, vehicles, and use case in question. Due to uncertainty regarding the order in which Flagstaff will be able to electrify vehicles and deploy charging infrastructure, DNV cannot provide exact recommendations on when and how managed charging should be implemented across Flagstaff's facilities. Instead, we encourage the City to take advantage of the basic tools available from many charging providers, collect data to document the experience during early electrification phases, and reassess whether a more advanced solution is appropriate over time.

APPENDIX A. ADDITIONAL ASSUMPTIONS USED IN THE ANALYSIS

This Appendix summarizes additional assumptions that were used to complete this analysis.

- Maintenance cost factors ($/mile) were developed by vehicle type. This data was sourced from AAA for light-duty vehicles[34] (LDV) and from multiple data sources for medium- and heavy-duty vehicles[35] (MHDV).
- Gas and diesel prices were based on historical data from the Energy Information Administration (EIA) and regional AAA data paired with a near-term forecast of gas prices by 2030. These costs account for price increases through 2030 only (after which forecasts are rarely available) and are thus likely on the low side of estimates over a 14-year vehicle life. Gas was assumed to cost $4.69/gal and diesel was assumed to cost $4.99/gal.
- A price of $0.15/kWh was used for the cost of EV charging, based on APS's Business rates. We assumed that the level of charging would be consistent throughout the year, which justified the use of a simple average between APS's winter and summer electric rates (which are each in effect for half of the year). This estimate also encompasses some escalation moving out to 2030 and beyond based on the life of these vehicles.
- We assumed an electric grid GHG emissions intensity factor of 0 kg CO_2 per kWh because the City of Flagstaff participates in APS's Green Power Partners Program Connect option, which provides APS customers the opportunity to claim the use of 100% renewable energy for their electricity consumption. We provide further discussion on the topic of emissions intensity factors in Section 5.3.
- We assumed any necessary vehicle upfit costs would cancel out for an ICE and EV – i.e., we assumed that the estimated cost to upfit, for example, a police detective vehicle with the necessary lights and auxiliary equipment would be roughly equal for EVs and ICEs.
- We used the same annual depreciation rates for EVs and ICEs because while there is fairly well-established research regarding ICE depreciation rates, the body of research for EVs is limited at this time.
- We assumed that any end-of-life disposal costs for EVs (including battery recycling) would be offset by the potential value of selling or repurposing used batteries for use in second life battery applications.[36]

Charging Infrastructure Buildout Strategy:

- The effective useful life of EV chargers was modeled as 14 years to align with the average life of vehicles in Flagstaff's fleet.

[34] Light-duty vehicles, or LDVs, are classified by the federal Highway Administration as having a gross vehicle weight rating (GVWR) of less than 10,000 lb. LDVs include sedans, SUVs, crossovers/hatchbacks, and most pickup trucks; the vast majority of personal vehicles fall into this category.

[35] Medium- and heavy-duty vehicles, or MHDVs, are classified as having a gross vehicle weight rating (GVWR) of more than 10,000 lb. MHDVs include a wide range of vehicles, from heavy pickup trucks and cargo/shuttle vans to delivery and flatbed trucks. Heavy and specialized vehicles, including garbage trucks, school and transit buses, and Class 8 tractors are also in this category.

[36] Second life battery applications involve the reuse of used EV batteries in a stationary application – these stationary batteries can then be used to provide resiliency, minimize energy costs, and/or increase the consumption of variable renewable power at Flagstaff's municipal properties.

About DNV

DNV is a global quality assurance and risk management company. Driven by our purpose of safeguarding life, property and the environment, we enable our customers to advance the safety and sustainability of their business. We provide classification, technical assurance, software and independent expert advisory services to the maritime, oil & gas, power and renewables industries. We also provide certification, supply chain and data management services to customers across a wide range of industries. Operating in more than 100 countries, our experts are dedicated to helping customers make the world safer, smarter and greener.

City of Flagstaff Fleet Electrification Policy

And supporting guidance

The City of Flagstaff will transition our fleet to electric vehicles (EVs) through a strategic and supportive **EV-first approach**.

This document outlines policy and expectations for City of Flagstaff fleet vehicle purchases and provides guidance for researching, monitoring, and ultimately choosing electric vehicles. Sections include:

1. Goals, policies and strategies
2. Benefits of electrification
3. Vehicle replacement evaluation steps
4. Considerations when purchasing electric vehicles

Goals, Policies and Strategies

Electrification goals

The City of Flagstaff will capitalize on the sustainability, financial and leadership benefits of electric vehicles (EVs) through an EV-first approach for vehicle replacements.

Policies by vehicle type

Sedans and SUVs	Starting in 2022, all new sedans and SUVs purchased by the City of Flagstaff will be EVs.*
Other light-duty vehicles	When replacing pick-up trucks and other light-duty vehicles, the City will consider EVs as the first option, followed by plug-in hybrid and hybrid options.
Medium-duty and heavy-duty vehicles	The City will monitor, test, evaluate, and, where feasible, acquire EVs for medium-duty and heavy-duty fleet vehicles and equipment categories.

Electrification strategies

1. The City will strengthen its efforts to right-size the fleet and to extend the life of fleet vehicles, prior to purchasing new electric vehicles.
2. EVs will predominantly be brought into the City fleet when existing vehicles reach their end of useful life.
3. The City will strategically prioritize Sedans, SUVs, and vehicles that drive a high number of miles annually, as the first candidates for transitioning to electric vehicles.
4. The City will monitor changes in technology and vehicle availability over time, allowing it to take advantage of the rapidly-advancing EV market.
5. The City will demonstrate regional leadership by educating, encouraging, and helping to facilitate partnerships with regional institutions and businesses.

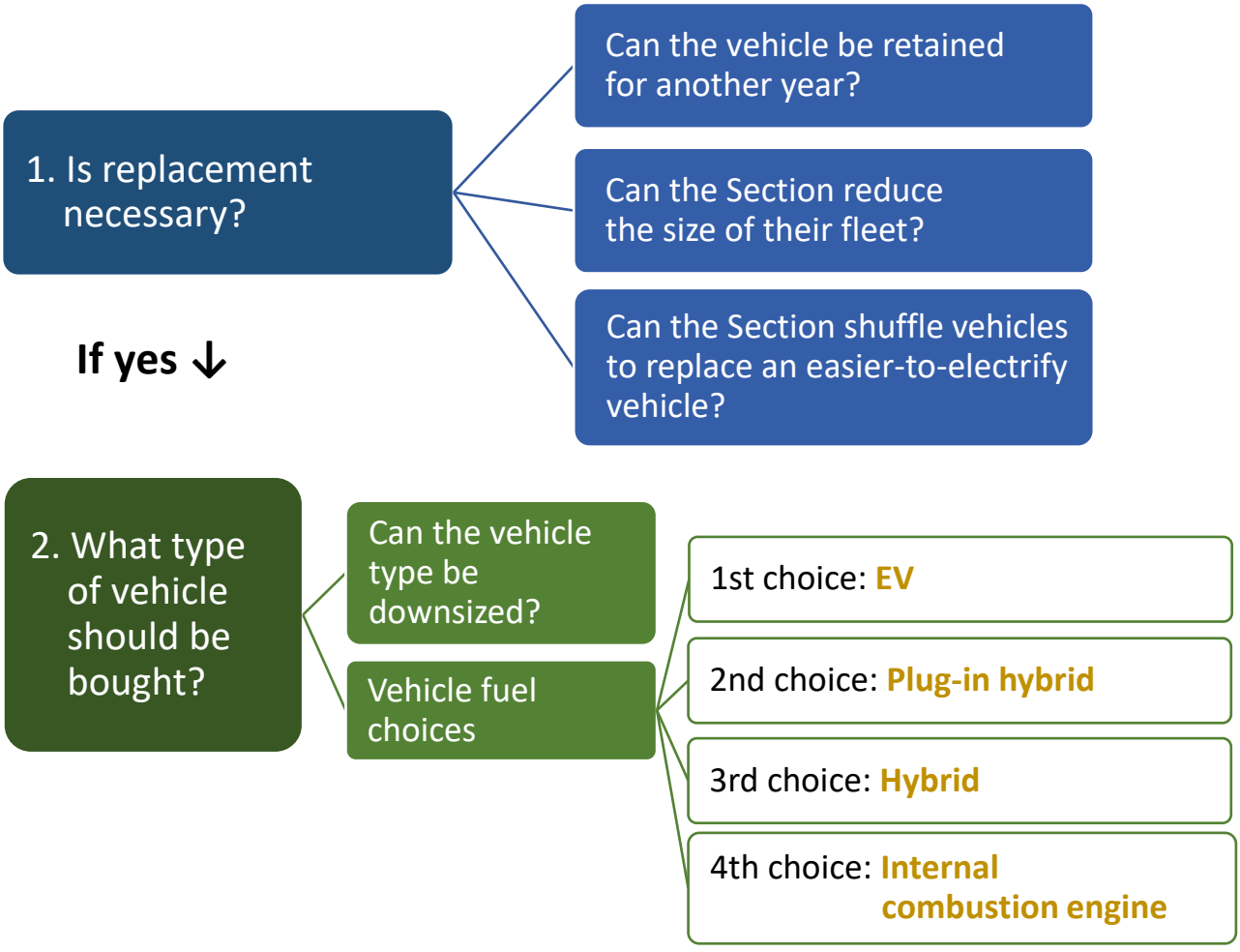
*Exceptions to this policy will be made on a case-by-case basis. The Division Director will need to submit a written justification for the exception request to the Fleet Services team and the City Manager's Office

Benefits of Electrification

The City is transitioning to electric vehicles to take advantage of the many benefits of electrification.

- **Economic**: Fueling an EV costs around 1/3 of the price of fueling a traditional vehicle. EVs are simpler, more energy-efficient machines, requiring minimal maintenance and reduced downtime.
- **Health**: EVs contribute to cleaner air quality in Flagstaff, as they do not release tailpipe emissions into the air. EVs in Flagstaff are powered by electricity that is over 1/3 clean, meaning that portion of our electricity produces zero emissions.
- **Leadership**: EV adoption positions the City to be an early-adopter in Northern Arizona, demonstrating the benefits of EVs to residents, businesses and regional institutions.
- **Alignment**: The Flagstaff Carbon Neutrality Plan, adopted in June 2021, sets goals for the City's transition to EVs. The City's leadership in electrification can help catalyze the EV transition throughout the community, another Carbon Neutrality Plan goal.
- **Operator benefits**: Electric motors provide increased torque, smooth acceleration, and an extremely quiet running car.
- **Environment and Alignment**: EVs produce significantly lower greenhouse gas (GHG) emissions than internal combustion engines (ICEs). GHG emissions are the primary contributor to climate change, which is a global emergency. The Flagstaff Carbon Neutrality Plan, adopted in June 2021, sets aggressive goals for reducing greenhouse gas emissions caused by the City of Flagstaff, and establishes goals for the City's transition to EVs. The City's leadership in electrification can catalyze the EV transition throughout the Flagstaff community, supporting another Carbon Neutrality Plan goal.

Vehicle replacement evaluation steps



Vehicle purchasing considerations

The City of Flagstaff fleet will transition to electric motors through a deliberate progression where electric vehicles replace retiring fleet vehicles or are purchased for new fleet needs. To ensure this transition attains maximum benefits for the City, the following factors should be weighed during each vehicle retirement/purchase.

- Timeline: **The transition to EVs will be a multi-year process requiring sustained commitment.**
    - Electric vehicles will be purchased for new fleet needs or upon a fleet vehicle retirement. This means that the fleet will be electrified *slowly*: because the City does not upgrade vehicles prior to their retirement, it takes many years for the composition of the City's fleet to change.
- Vehicle retention: **Retaining vehicles for longer time periods is often the most sustainable option.**
    - Is a new vehicle truly required? If the vehicle is operationally and financially acceptable, it is sometimes more sustainable to retain a vehicle, and either continue its current use or repurpose the vehicle.
        - The manufacturing of new vehicles consumes significant resources and creates significant environmental impact. The City will not retire vehicles early solely to purchase EVs: vehicle retirements are based on financial and operational considerations, and are carefully planned by the Fleet Committee and staff leads to balance vehicle life, financial considerations, and operational needs.
    - The EV market is evolving rapidly, and more and more affordable and versatile EVs are becoming available each year. Sometimes waiting one year can translate to a greater selection of EVs that may meet a section's operational needs, and a better long-term investment for the City.
- Vehicle availability: **Limited EV availability calls for staff creativity and flexibility, and may open up opportunities for fleet rightsizing and efficiencies.**
    - While the options grow each year, EVs are currently only available in select models and vehicle types. An EV version will not be available for every internal combustion engine (ICE) vehicle model currently driven: City staff will need to look beyond the vehicles they currently utilize when a replacement is needed.
    - Currently, EVs are more likely to be offered for sedan and small SUV models. Staff are encouraged to consider downsizing their requested vehicle type to allow for the use of an EV, while also accruing other benefits to the City due to lower fuel use and a lower purchase price.
    - Sometimes, available EVs will not meet the operational needs of the section; neither will plug-in hybrid nor hybrid options, and a conventional vehicle will need to be purchased. This is expected for medium- and heavy-duty vehicles over the next few years.
    - Fleet and Sustainability staff are able to support staff in reviewing and selecting available EV, plug-in hybrid, or hybrid models.
- Operational needs: **While some City fleet needs are well-suited for EVs, other City operations are not appropriate for EVs at this time.**
    - We anticipate that medium-and heavy-duty vehicles will not have appropriate EV options in the next two years. Trucks and other light-duty vehicles also currently have limited options, though the next two to three years will see significant expansions in options. EV appropriateness will be evaluated on a vehicle-by-vehicle basis.
    - City staff will continue to monitor the evolving EV landscape and will investigate new EV offerings for trucks, medium- and heavy-duty equipment. We do anticipate that

eventually most fleet vehicles will be electric, as the market transitions over the coming decades.

- Exceptions to the EV policy: **Sections are strongly encouraged to work through anticipated obstacles from replacing fleet with an EV sedan or SUV with Fleet Services and Sustainability staff.**
    - If a section would like to purchase a sedan or an SUV that is non-electric, the Division director must submit a memo to the Fleet Committee and City Manager's Office explaining why the Division operations are incompatible with an electric vehicle.
- Return on investment: **While EVs may have a higher purchase price than conventional ICE vehicles, they offer operational savings through lower fuel and maintenance costs.**
    - EVs are usually a higher price when compared to the same ICE model, though EV options may provide cost-savings if the vehicle is appropriate for downsizing. For example, replacing an ICE Ford Explorer (full-size SUV) with a Toyota Rav-4 Plug-in hybrid (small SUV) will achieve savings both in up-front purchase price and fueling costs.
    - Additional costs may be incurred through the installation of charging infrastructure at a City facility. Fleet Services will help the Section plan for this investment, and may be able to assist with funding.
    - Fueling a vehicle with electricity is cost-effective and energy-efficient: powering an EV with electricity is like buying gas for around $1.10 per gallon.[1]
    - Electric vehicles require significantly less maintenance, due to fewer parts and a less complex mechanical set-up. Oil changes are not necessary.
- Charging infrastructure: **The City will add charging infrastructure at City Facilities strategically, first on an as-needed basis, upon the procurement of an EV, and then methodically ensuring all City facilities eventually have charging infrastructure.**
    - Currently, five City facilities have EV charging infrastructure:
        - City Hall
        - Water Services – East Commerce Shop
        - Main library (garage – employee use only)
        - Core Services
        - Aquaplex
    - Staff are currently working to develop charging infrastructure at the airport. Other locations are also being considered for APS-funded charging stations.
    - As new EVs are purchased, Fleet Services and Sustainability will work with the Section to install EV charging infrastructure at the appropriate City of Flagstaff facility.
- Charging operations: **EVs require different fueling practices that may require operational adjustments.**
    - It takes longer to fuel an EV than a conventional vehicle. However, fueling can be done at the workplace, rather than at one of the City's fueling stations or a gas station, and is a passive activity – the presence of a City employee is not required beyond the initial plug-in. In this way, its possible that EVs will provide operational efficiencies.
    - Most new sedan and SUV EVs now offer driving ranges of between 150 and 250 miles. As new vehicle types and models become electric, they may offer lower ranges. Plug-in hybrids offer between 20 and 40 miles per charge, allowing most daily miles to be driven on the electric battery.
    - Due to the range of EV batteries and the small geographic size of Flagstaff, most daily City operations will not approach the limits of the EV battery. Most daily EV usage does not

[1] https://www.energy.gov/articles/egallon-how-much-cheaper-it-drive-electricity

approach the limits of the battery, and therefore daily charging is simply a 'top off.' Some EV users charge just once a week.
    - For most sections, EV charging will not require major changes to operations: EVs will be able to meet daily operational needs without a charge during the day. Charging can be done in the evening, after work hours, by simply plugging in the vehicle.
    - Some section operations will present barriers to EV usage due to high mileage days, low range available for the vehicle type, or other obstacles. Potential operational barriers can be identified prior to purchase, and we will support staff in creating a plan to make acceptable changes to operations.
- Take-home vehicles: The City is exploring options for using EVs as take-home vehicles.
    - Eventually, The City will electrify the entire fleet, including take-home vehicles. Take-home vehicles present challenges with charging/fueling that ICE vehicles do not. City Fleet and Sustainability staff are working to develop solutions based on national best practices.
    - Staff receive take-home vehicles because it optimizes operations for the City. Staff will endeavor to maintain take-home vehicle arrangements, and will work to avoid changing a take-home vehicle arrangement due to electrification needs.
    - Considerations include the potential charging equipment, charging operations, reimbursements for electricity use, and more. Dialogue on this topic is ongoing and will include feedback from Risk, HR, and other sections.
    - This program will likely start with a pilot launch to test take-home vehicle charging, using one or two vehicles and City staff who volunteer to help us lead and learn. Take home vehicles will be considered for electrification on a case by case basis.
- Fleet rightsizing: EV procurement will support the City's ongoing efforts to optimize the size of the City fleet.
    - The Fleet Management Committee analyses fleet utilization each year, and identifies potential reductions to the number of vehicles required to complete the city's duties. Optimization can be achieved by eliminating or reassigning unused or under-utilized equipment and by promoting the use of pool vehicles and shared vehicle use across sections.
    - The City encourages the selection of vehicles of a smaller class size whenever possible to achieve increased miles per gallon, lower emissions (regardless of fuel type), and lower costs. Fleet or Sustainability staff will work City sections to evaluate if a proposed vehicle could be downsized and still fulfill its required functions.

Support for City staff

Fleet Services, Sustainability and Procurement staff will work to support other sections in EV purchases:

1. Vehicle availability research
    - A supporting document to this policy provides introductory information on electrification and electric vehicles.
2. Vehicle selection support
    - Financial analysis for cost-savings from reduced fuel costs
3. Charging planning:
    - Evaluating optimal charging locations
    - Developing EV charging infrastructure at City facilities
    - Evaluating and assisting with operational changes needed to ensure efficient charging
4. Updated vehicle replacement/procurement forms for the Fleet Management Committee

CITY OF FLAGSTAFF

STAFF SUMMARY REPORT

To: The Honorable Mayor and Council

From: Rebecca Sayers, Parks, Recreation, Open Space, and Events Director

Date: 03/26/2024

Meeting Date: 04/09/2024

TITLE:

Parks, Recreation, Open Space, and Events (PROSE) projects and planning discussion

DESIRED OUTCOME:

For information and discussion.

Executive Summary:

Staff will update the City Council on PROSE current and future projects and planning to include how projects are prioritized with the Parks and Recreation Commission. Staff will also address two of Council's Future Agenda Item Requests (FAIRs) including "Discussion about a pond next to Ponderosa Trails neighborhood between Pulliam and I 17" and "Discussion about developing court amenities for city parks, specifically basketball and Bankshot."

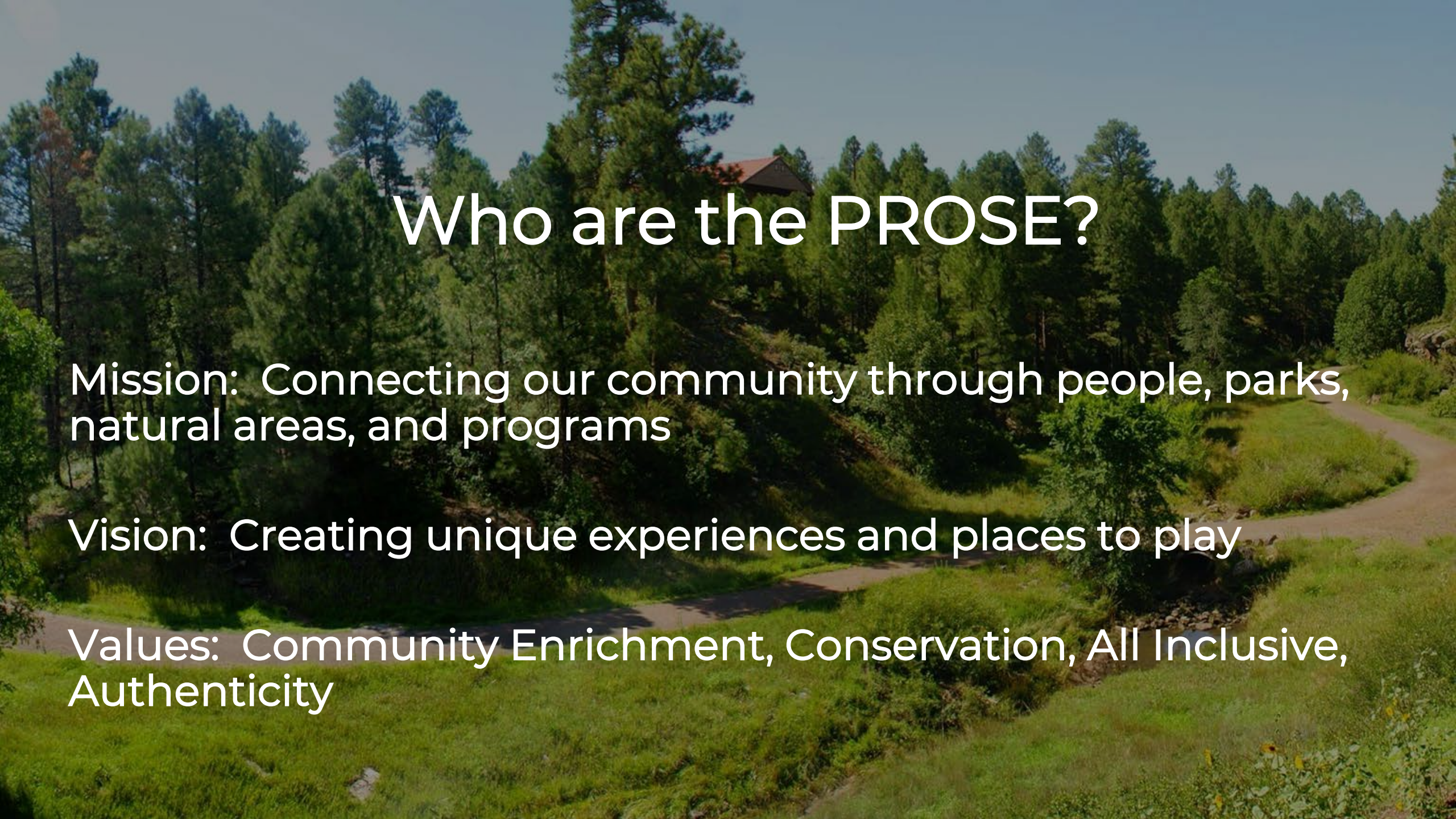
Information:

This item is informational and for discussion only. PROSE staff will go through a presentation, to be provided at a later date, about the various sections of the Division, how they are funded, how they plan and prioritize, how we engage commissions and the community for feedback, and updates on current and future projects.

Attachments: Presentation

CITY OF FLAGSTAFF

PROSE



Who are the PROSE?

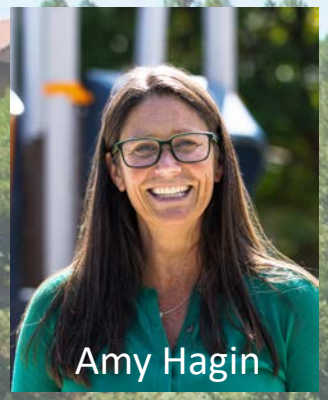
Mission: Connecting our community through people, parks, natural areas, and programs

Vision: Creating unique experiences and places to play

Values: Community Enrichment, Conservation, All Inclusive, Authenticity

PROSE Leadership Team


Rebecca Sayers


Amy Hagin

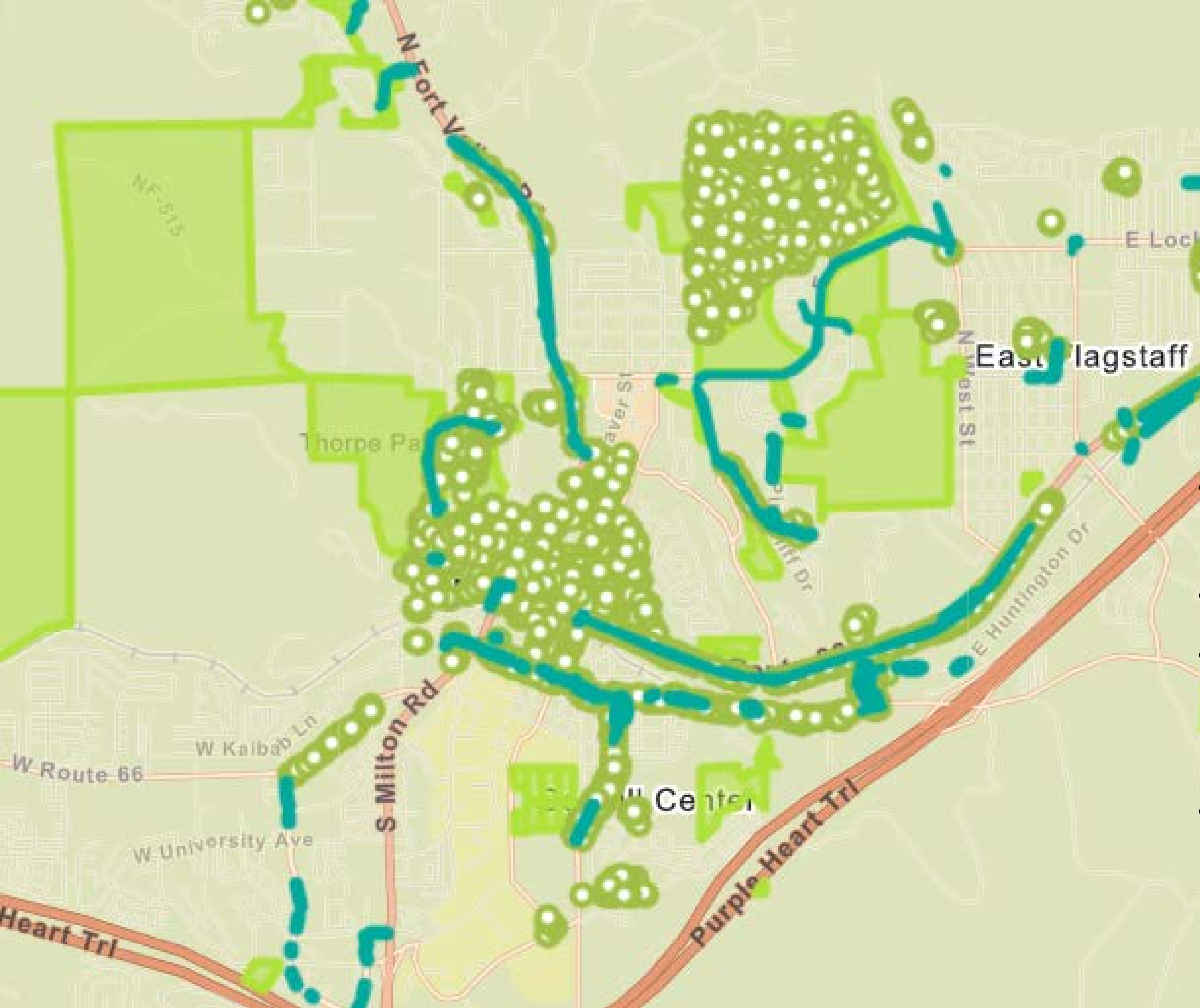

Gino Leoni, Parks


Tyrone Johnson, Recreation


Robert Wallace, Open Space

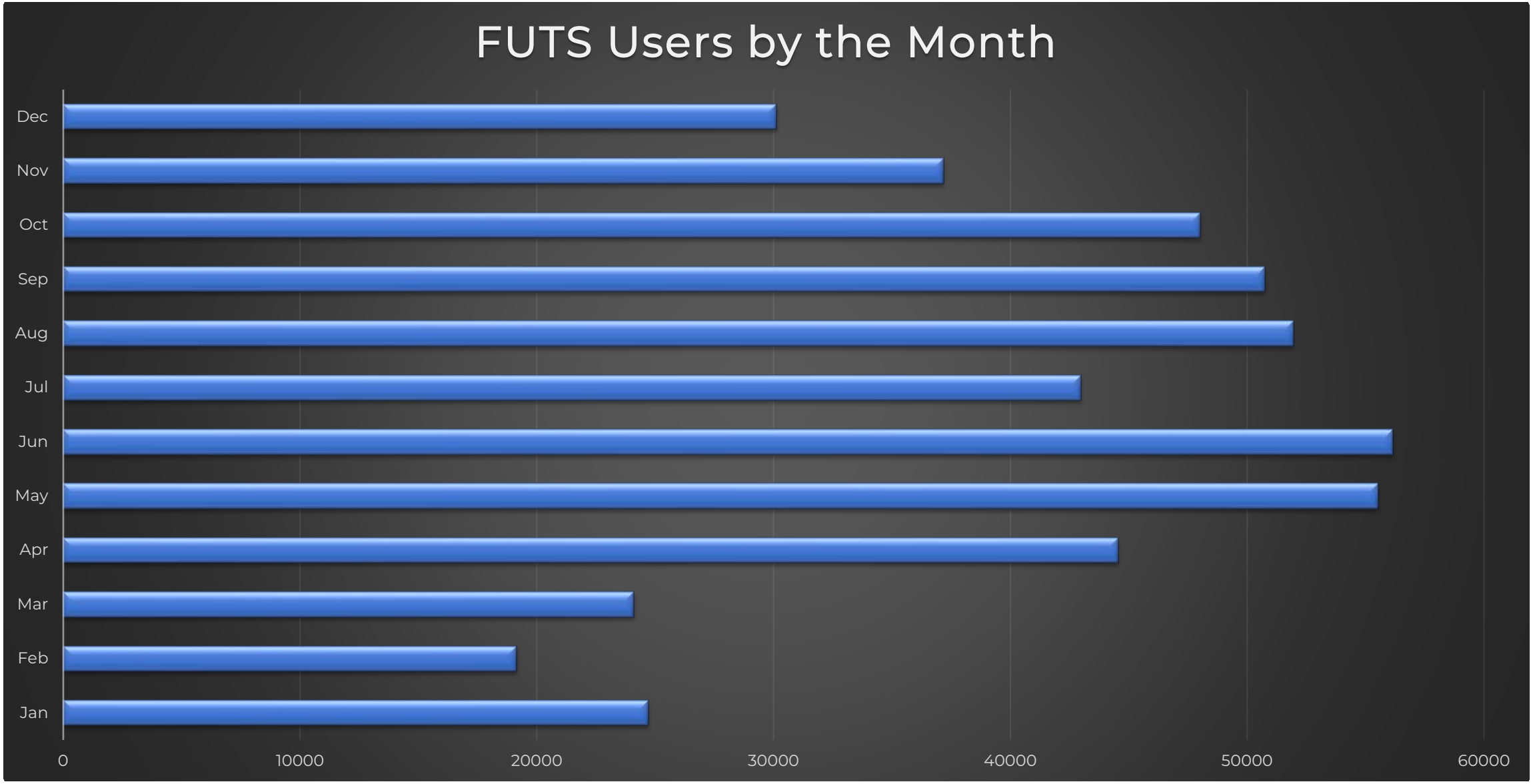

Haley Reynolds, Events and Marketing

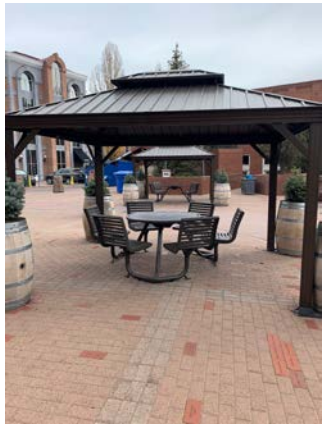
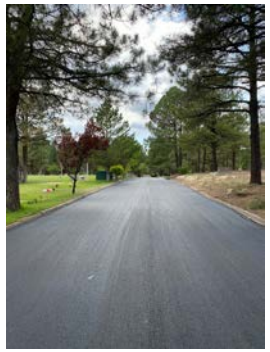
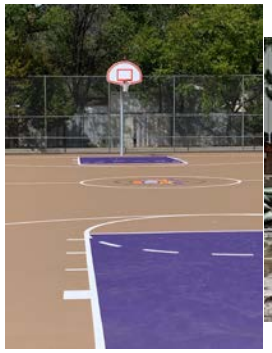
Parks



Parks

- 700-acres/24 parks of developed land
- 58.5 miles of FUTS
- Miles of beautified streetscape and street trees
- A Cemetery, 36-acres in size inclusive of services


FUTS Users by the Month
Dec
Nov
Oct
Sep
Aug
Jul
Jun
May
Apr
Mar
Feb
Jan
0
10000
20000
30000
40000
50000
60000




How does Parks operate:

- Daily maintenance
- 7 Days a Week/365 Days a Year
- Refuse and litter control
- Custodial and facility maintenance
- Inspections
- Emergency and Snow Operations
- Can do attitude
- Communication and collaboration
- Heart, soul and fun!

Recreation


FLAGSTAFF AQUAPLEX
PROSE
CITY OF FLAGSTAFF
PROSE
PARKS, RECREATION, OPEN SPACE & EVENTS

Recreation

Manage & Program 4 Centers

Flagstaff Aquaplex (aquatics & fitness)

Hal Jensen Recreation Center (youth)

Jay Lively Activity Center (ice rink)

Joe C. Montoya Community & Senior Center (elders and community)

Provide a safe-haven for health and wellness

How does Recreation operate:

- Daily maintenance
- Daily programming
- Solving customer needs
- Custodial and facility maintenance
- Marketing targeting
- Cost recover
- Can do attitude
- Communication and collaboration
- Heart, soul and fun!

The data, and the return to indoor recreation

Increasing Aquaplex Members, serving thousands on the ice annually, over 200 youth basketball players, 60 plus congregate meals per weekday

Open Space

Open Space

3,000 acres

Three natural and cultural preserves

Educational programming for youth and adults

Connection for the community via trails/FUTS





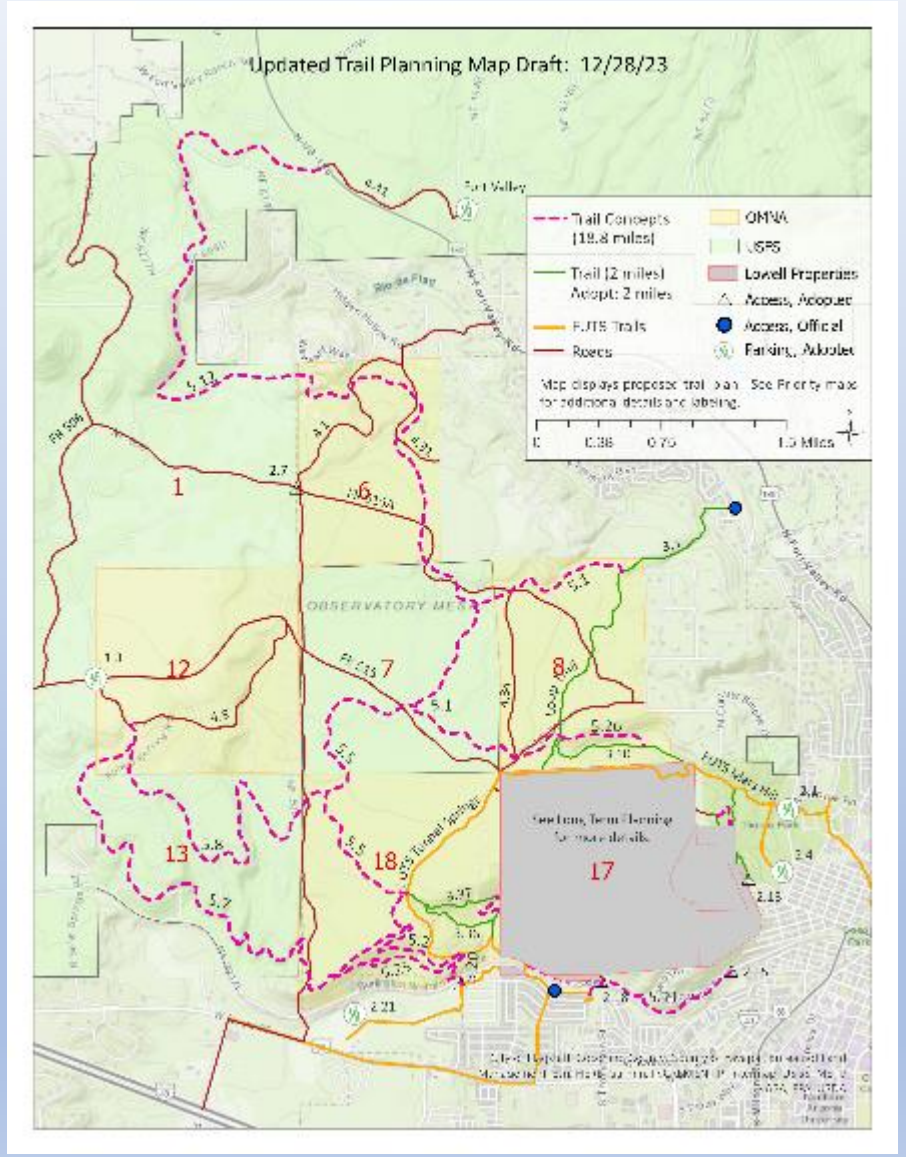




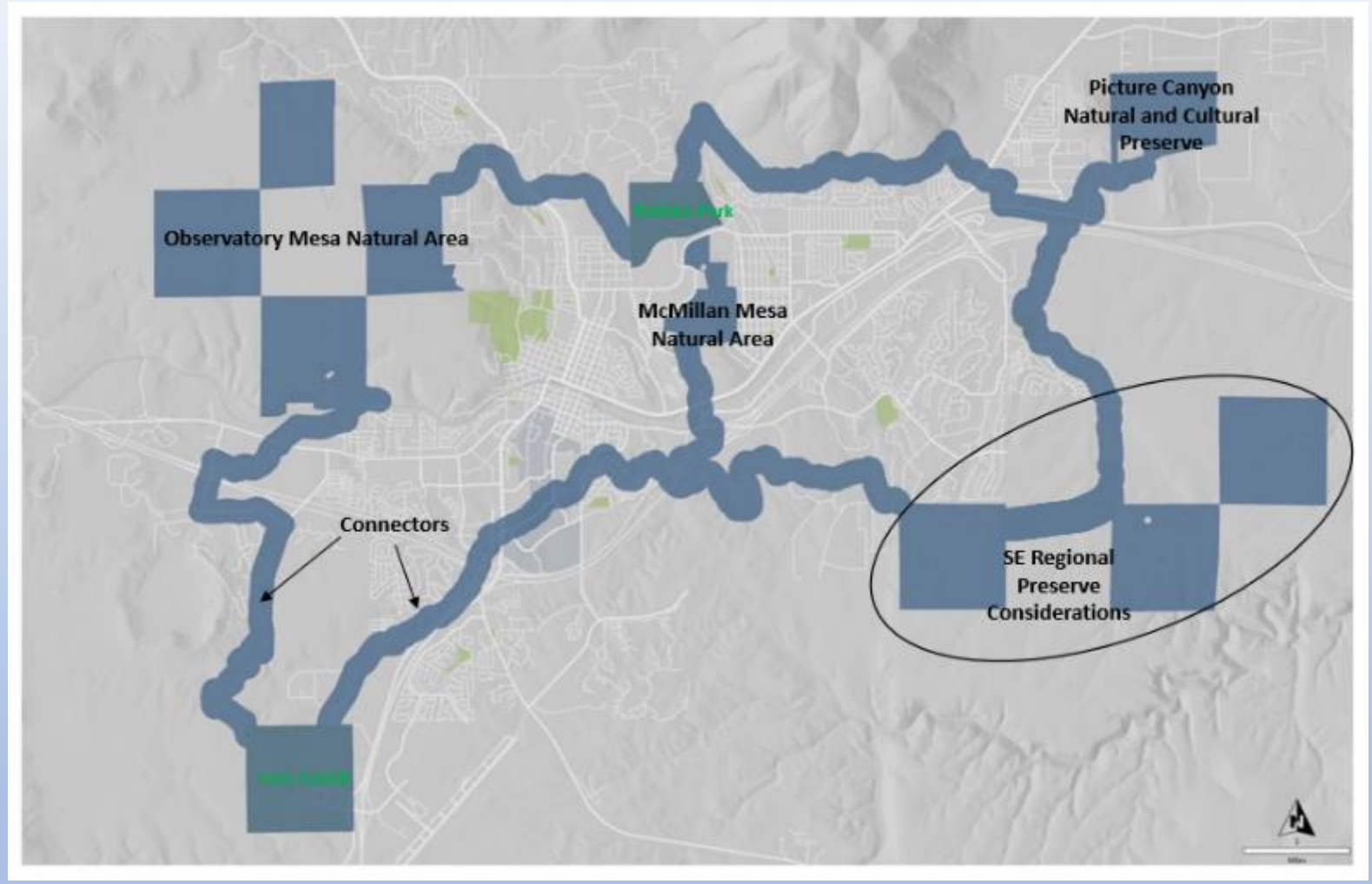

How does Open Space operate?

- Property maintenance
- Restoration
- Cultural site preservation
- Educational programming
- Community programs
- Grant project applications and implementation
- Refuse and litter control
- Volunteer coordination

- Observatory Mesa Natural Area Trail Plan
- Open Space system and 10-minute walking access time
- Preservation Along JWP
- Invasive plant mitigation
- Picture Canyon restoration and signage
- Educational programming



- PROSE Master Plan
- City Code updates
- Interconnected System
- Achieve a sustainable funding source outside of the general fund



Events

...and Marketing and Athletics

What does Events and Marketing “Mean”?

- Produce City Events and Manage External
  - Permit over 1,500 events annually
- Marketing for the <u>entire</u> Division

Athletics Programming

- Youth and Adult Sports plus tournaments, reaching thousands


FLAG 4TH FEST
FREE LASER LIGHT SHOW
GAMES
ACTIVITIES
FOOD
TRUCKS
CITY OF FLAGSTAFF
PROSE
PARKS, RECREATION, OPEN SPACE & EVENTS
LIVE MUSIC BY
BLACK
LEMON


CRAFTS


CITY OF FLAGSTAFF
PROSE
PARKS, RECREATION, OPEN SPACE & EVENTS
Concerts in the Park
Wednesday nights in June & July
5:30 pm - 7:30 pm
JUNE
JULY
7/5 No Concert
7/12 Big Daddy D and the Dynamites
Mobile Haven Park
7/19 Optical Delusion
Jim Cullen Memorial Park
7/26 Two Hand Union
Bushmaster Park

Getting into the details...

How is PROSE funded?

General fund: maintenance, operations, programming, small projects

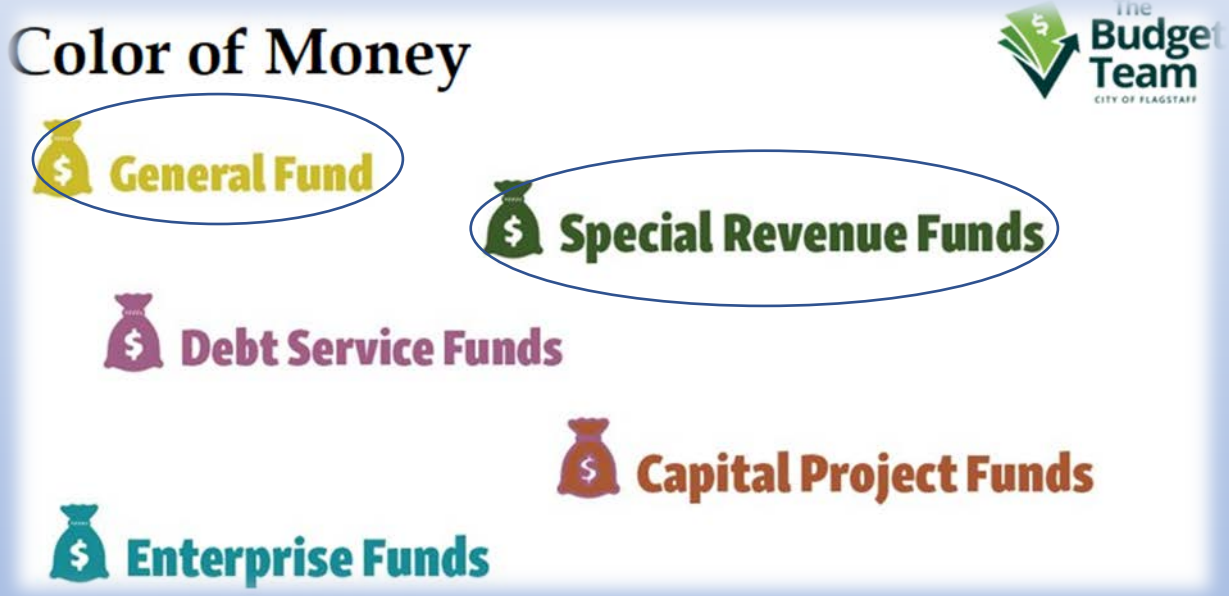
- $7,600,000 FY2023-2024

BBB Recreation: P&R focus (for now), 5-year capital plan, 10-year planned projects, some operations and maintenance including FUTS

- **$1,970,000 capital projects FY2023-2024**
- **$2,470,000 transfer to GF for operations**

Grants: mainly Open Space related grants for trail maintenance, invasive weed treatment, native vegetation restoration, education programming

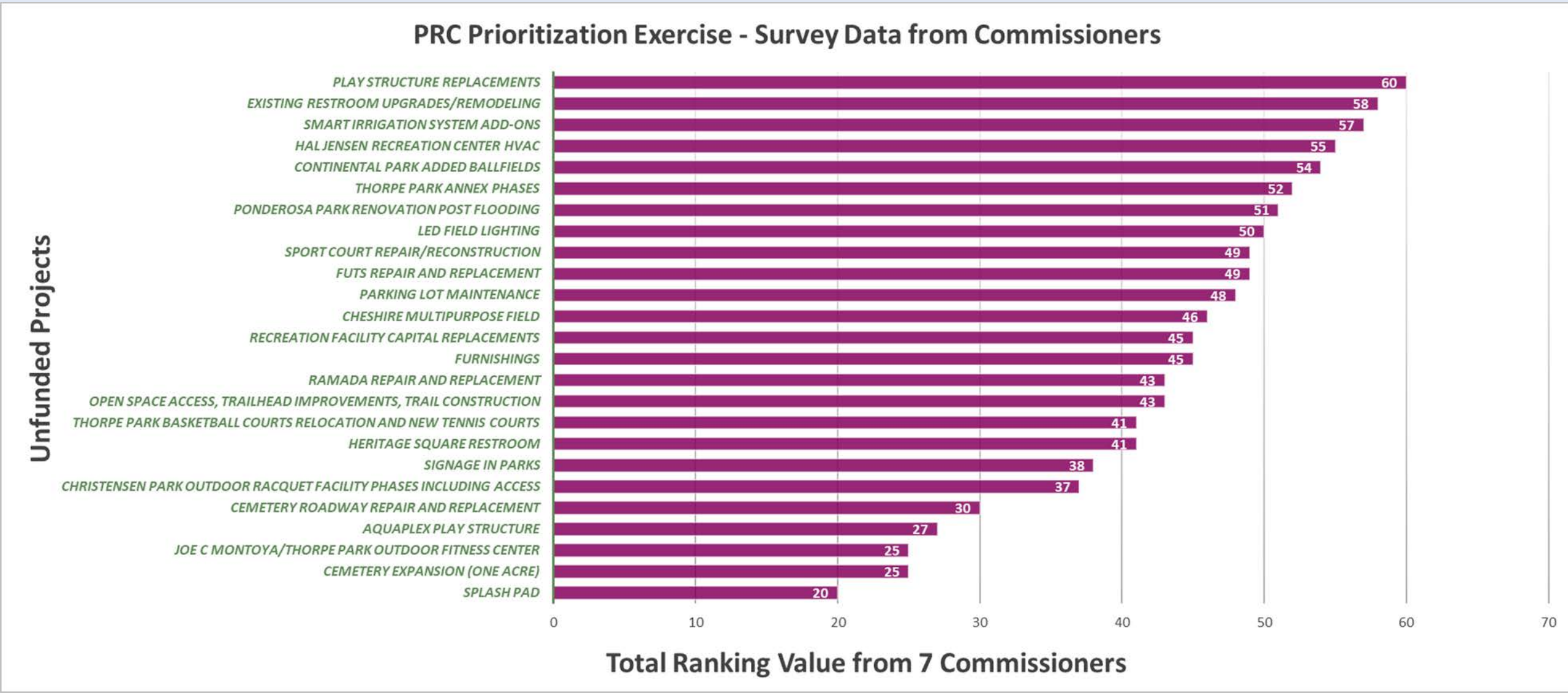
- **Over $500,000 FY2023-2024**



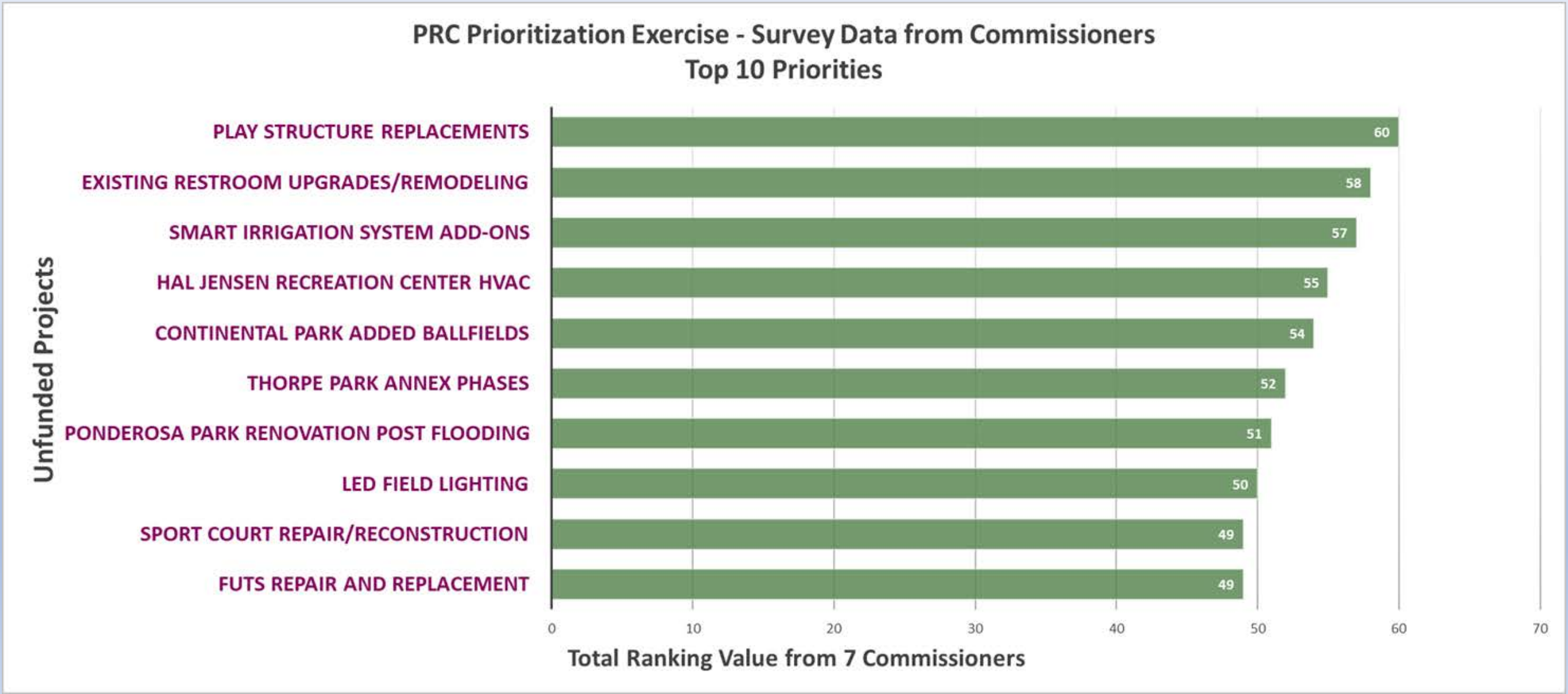
How does PROSE receive feedback and set priorities?

- Parks and Recreation Commission
  - Approves BBB Recreation spending
  - Prioritizes projects and needs for placement into the 5 and 10-year plan

Parks and Recreation Commission priority ranking exercise



Current Parks and Recreation Commission priorities (as ranked in 2022)



How does PROSE receive feedback and set priorities?

Open Spaces Commission

- Review plans and recommendations for open space
  - Maintenance and restoration
  - Programming
  - Planning for the future
  - Open Space land acquisition priorities – connections and access

Neighborhood or community-based projects

- Outreach to immediate neighborhood or regional community based on the location and type of space planned

5-year BBB-recreation capital fund, in year 1 right now

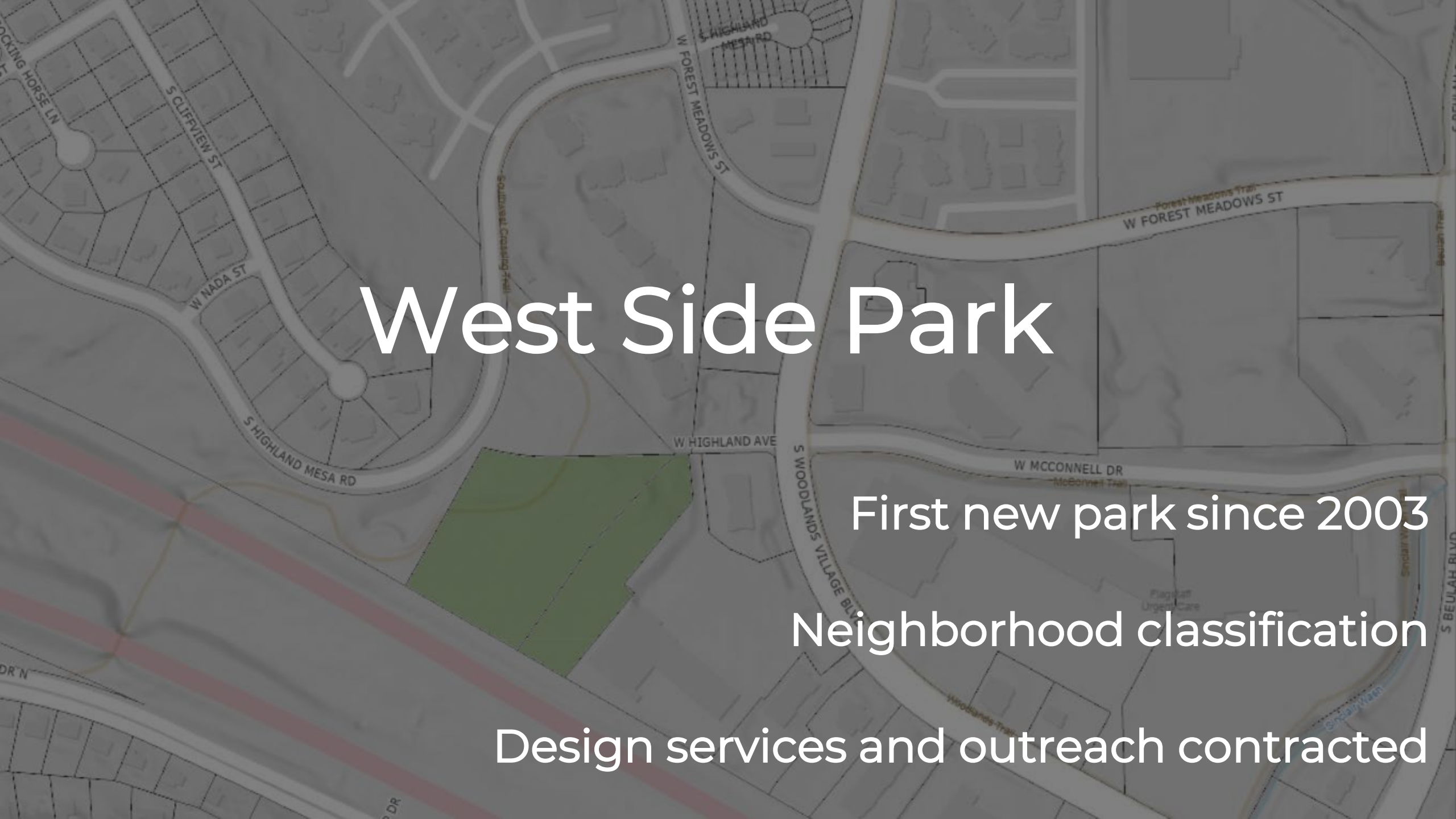
Upcoming deliveries

Upcoming planning

Operating Capital


Sport courts at
Bushmaster Park

FAIR: Bankshot opportunities



West Side Park

First new park since 2003

Neighborhood classification

Design services and outreach contracted

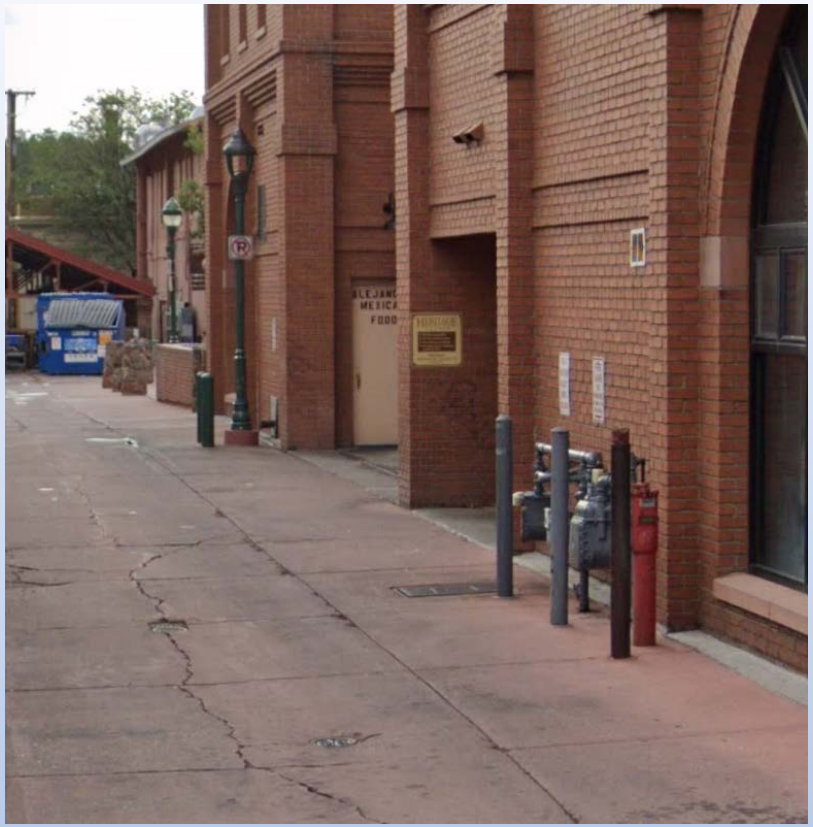
Thorpe Park

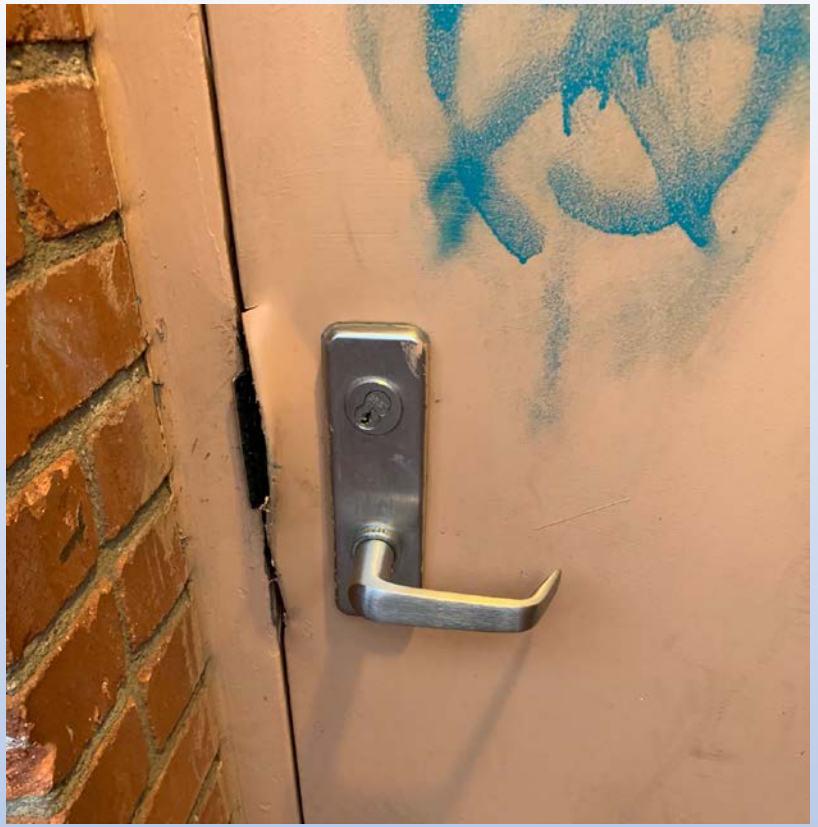
LEGEND:

- Native Pollinator Gardens
- Native Revegetation Gardens
- Orchard
- 15' Path
- 10' Path
- 5' Path
- Gathering Space
- Bench/Table
- Interpretive Signage

Six Pickleball courts will be located at the current Thorpe Bark Park.

Re-examine the skatepark/pumptrack location.

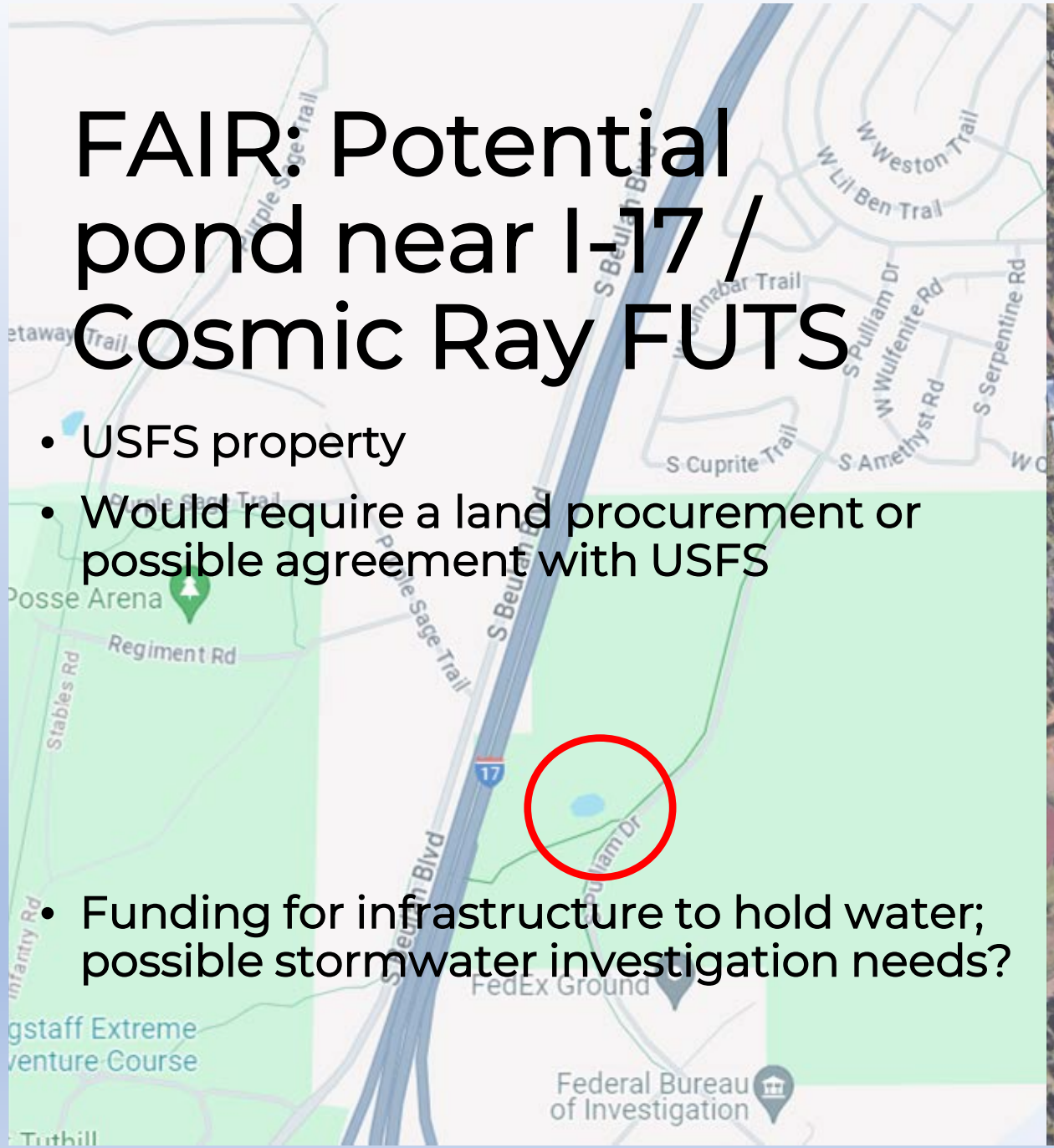




Heritage Square Restrooms

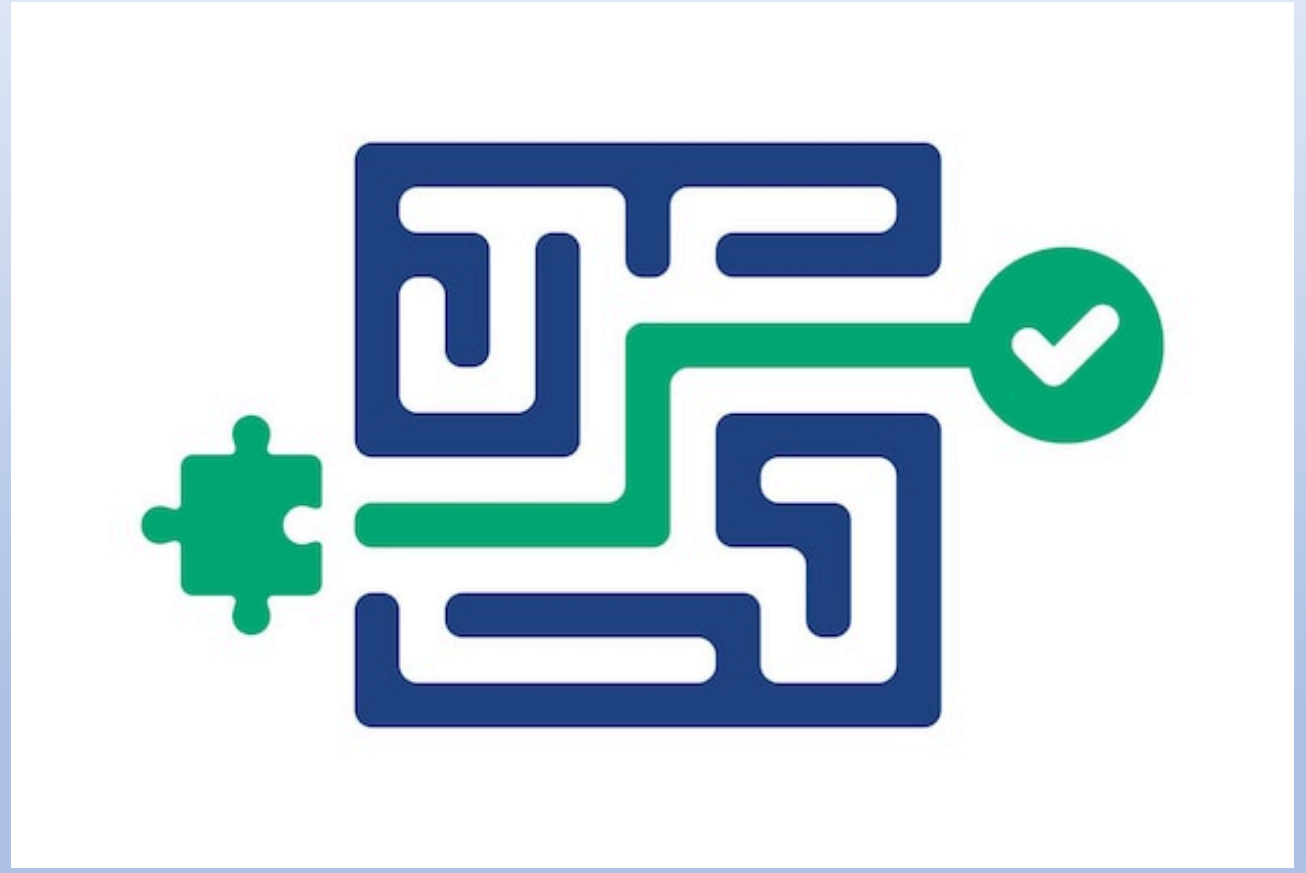
FAIR: Potential pond near I-17 / Cosmic Ray FUTS

- USFS property
- Would require a land procurement or possible agreement with USFS
- Funding for infrastructure to hold water; possible stormwater investigation needs?



What next?

Challenges exist but what are the PROSE doing about it?

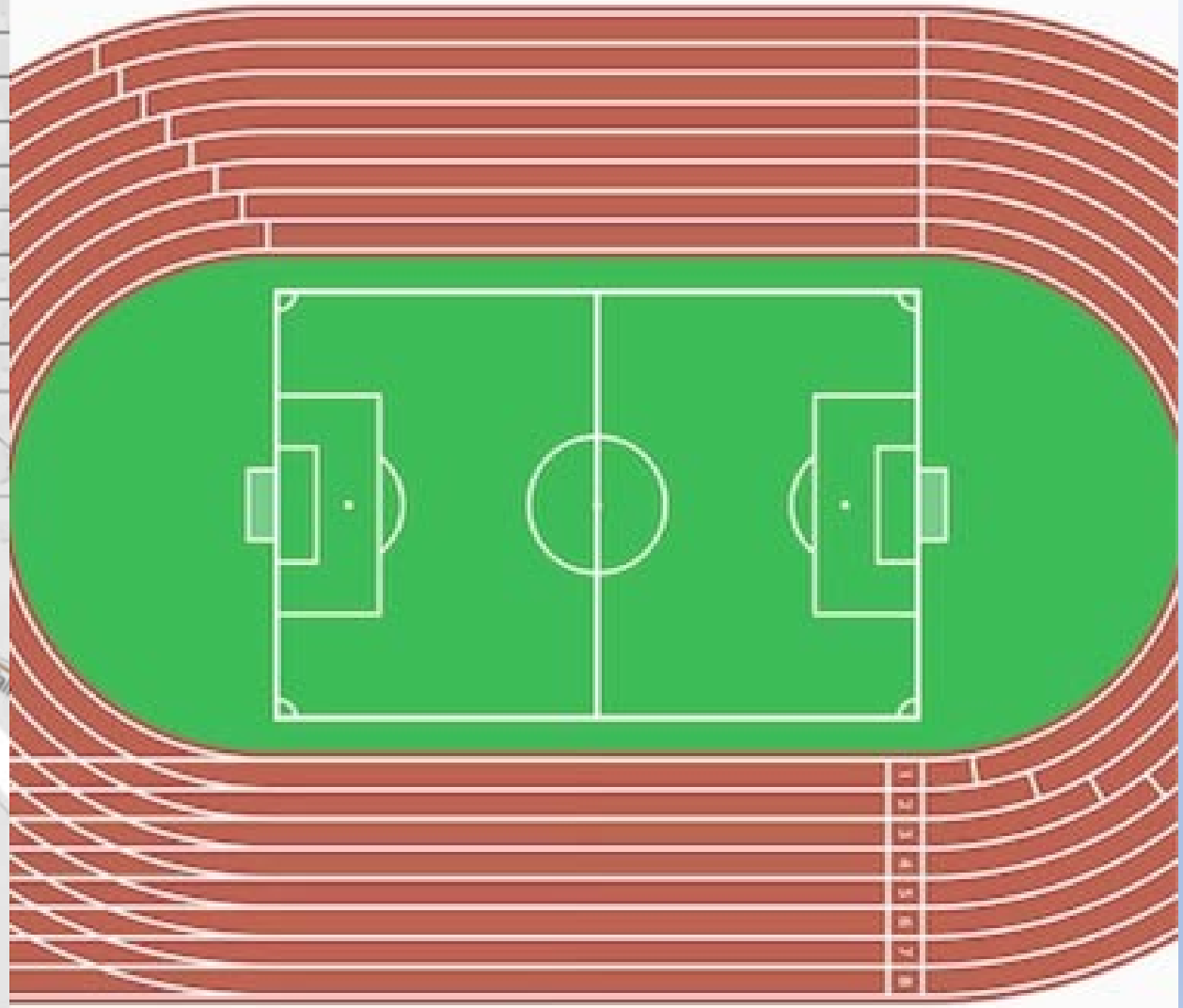



Thorpe Park - ICCC

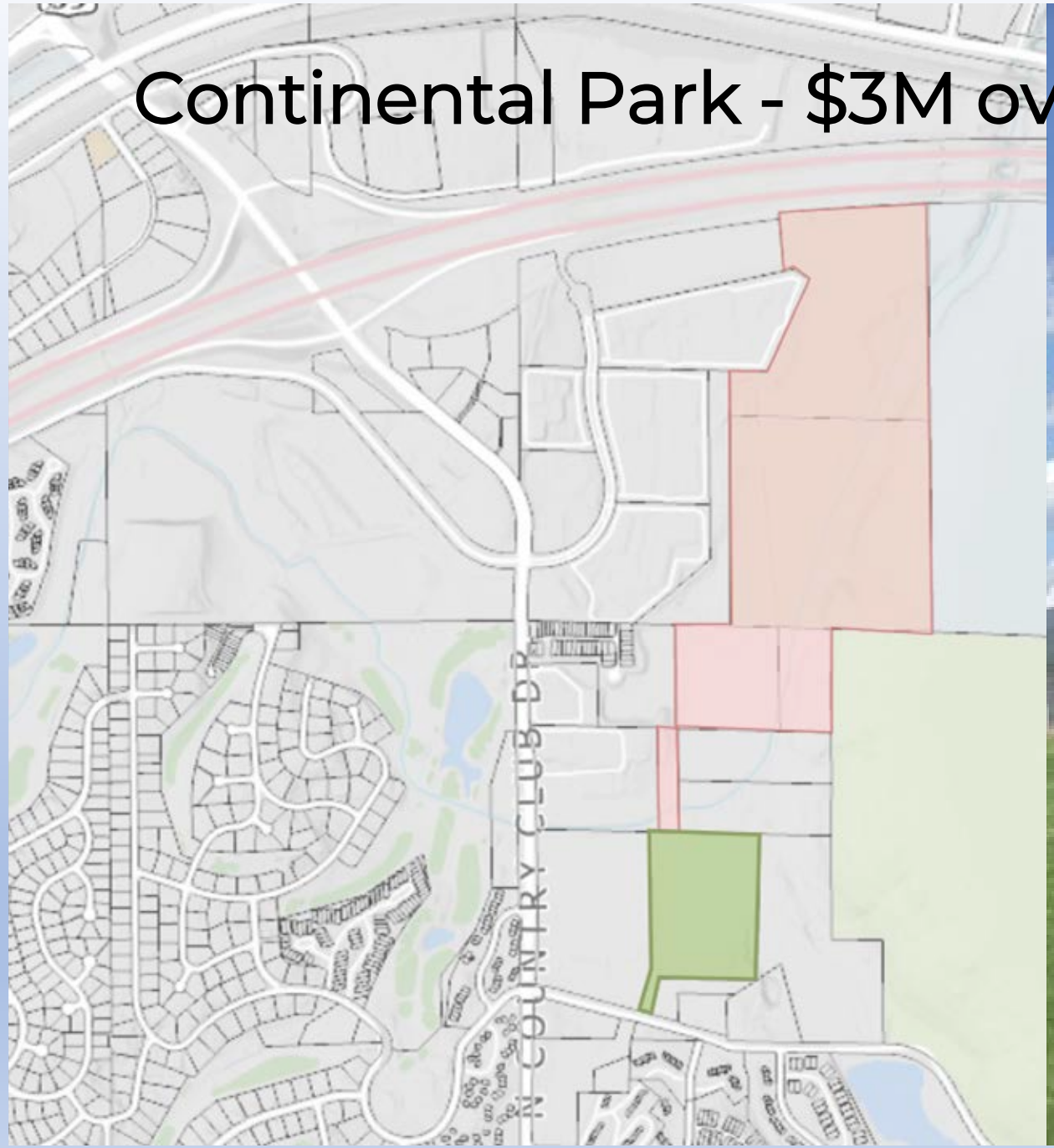
Provide air conditioning inside the gym at Hal Jensen Recreation Center

Ponderosa Park Reconstruction

Cheshire Park - $1M plus a partner



Continental Park - $3M over two FY, need a partner



Parks & Recreation Operating Capital – Impacts of a Good Change

Thorpe Park Multi-Purpose Field Entrance

Signage/Kiosks

Bushmaster Park Skate Park Fence Renovation

Noise abatement walls in the dining space at JCM

Fitness equipment

CITY OF FLAGSTAFF

PROSE

CITY OF FLAGSTAFF

STAFF SUMMARY REPORT

To: The Honorable Mayor and Council

From: David Pedersen, Capital Improvements Project Manager

Co-Submitter: Michelle McNulty

Date: 03/25/2024

Meeting Date: 04/09/2024

TITLE:
John Wesley Powell (JWP) Project Update

DESIRED OUTCOME:

JWP Team will provide an update on the status of the JWP Project. The update will also include time to answer questions from Council.

Executive Summary:

This update to Council will include the latest information on the JWP alignment, the status and rescoping of the Specific Plan, and a discussion on the anticipated timelines for project design and construction.

Information:

Connection to PBB Key Community Priorities/Objectives & Regional Plan: Sustainable, Innovative Infrastructure Utilize existing long-range plan(s) that identify the community's future infrastructure needs and all associated costs Environmental Stewardship Actively manage and protect all environmental and natural resources Council Goal 2017 -- 2019 - Transportation and Other Public Infrastructure Deliver quality community assets and continue to advocate and implement a highly performing multi-modal transportation system. Council Goal 2017 -- 2019 - Environmental and Natural Resources Actively manage and protect all environmental and natural resources Region Plan Goal -- Environmentally Sensitive Lands Goals and Policies Goal E&C.7. Give special consideration to environmentally sensitive lands in the development design and review process. Team Flagstaff Strategic Plan -- Priority 3 Deliver outstanding services through a healthy environment, resources, and infrastructure. Has There Been Previous Council Decision on This: The JW Powell Extension Project has been before City Council nine times in the past seven years. â€¢25 October 2016 (Council Work Session) - Discussion on Infrastructure and Public Facilities Planning and Engineering in the John Wesley Powell Boulevard area. â€¢6 February 2018 (Council Meeting) - Award of contract to Peak Engineering for design and planning services. â€¢24 April 2020 (Council Budget Retreat) - JW Powell Blvd Extension discussed during the Capital Programming update. â€¢27 October 2020 (Council Work Session) -- Land Use Framework and engineering design update shared for the original alignment. â€¢5 October 2021 (Council Meeting) -- Project update and Change Order 4 approved by Council. â€¢31 March 2022 (Five-Year Summary Retreat) -- JW Powell Blvd Extension discussed in project prioritization. â€¢22 April 2022 (Council Budget Retreat) -- JW Powell Blvd Extension discussed during the Capital Programming update. â€¢28 June 2022 (Council Meeting) -- Council direction sought on proposed alignment for new roadway. â€¢7 July 2022 (Council Meeting) -- Council finalized proposed alignment for new roadway. â€¢30 May 2023 (Council Meeting) -- Project update and discussion on Specific Plan and Scope of Change Order 5.
Background/History: On 20 February 2018, City Council approved the contract with Peak Engineering, Inc. for the John Wesley Powell Area Specific Plan Study to develop a Specific Plan to guide the future private development of public infrastructure, utilities and public facilities (schools, fire/police stations, libraries, parks, etc.). In November 2018, voters approved Proposition 419 which allocated a proportional share of funding for roadway and bike and pedestrian improvements along the future John Wesley Powell Boulevard extension. On 27 October 2020, City Staff and the JW Powell Design Team presented an update to City Council regarding the current design work and the Land Use Framework. On 28 January 2021, the JW Powell Design Team conducted a corporate meeting with the small-parcel property owners and consequential one-on-one meetings with small-parcel property owners who requested to meet regarding specifics to their respective parcels. Starting in May 2021, the JW Powell Design Team began to meet with the large-parcel property

owners individually. On 28 June and 7 July 2022, City Council, along with copious community input, selected the final alignment for the new JWP roadway extension. The final alignment shifts the alignment to the west and out of the South Fourth Street corridor.

Attachments: Presentation

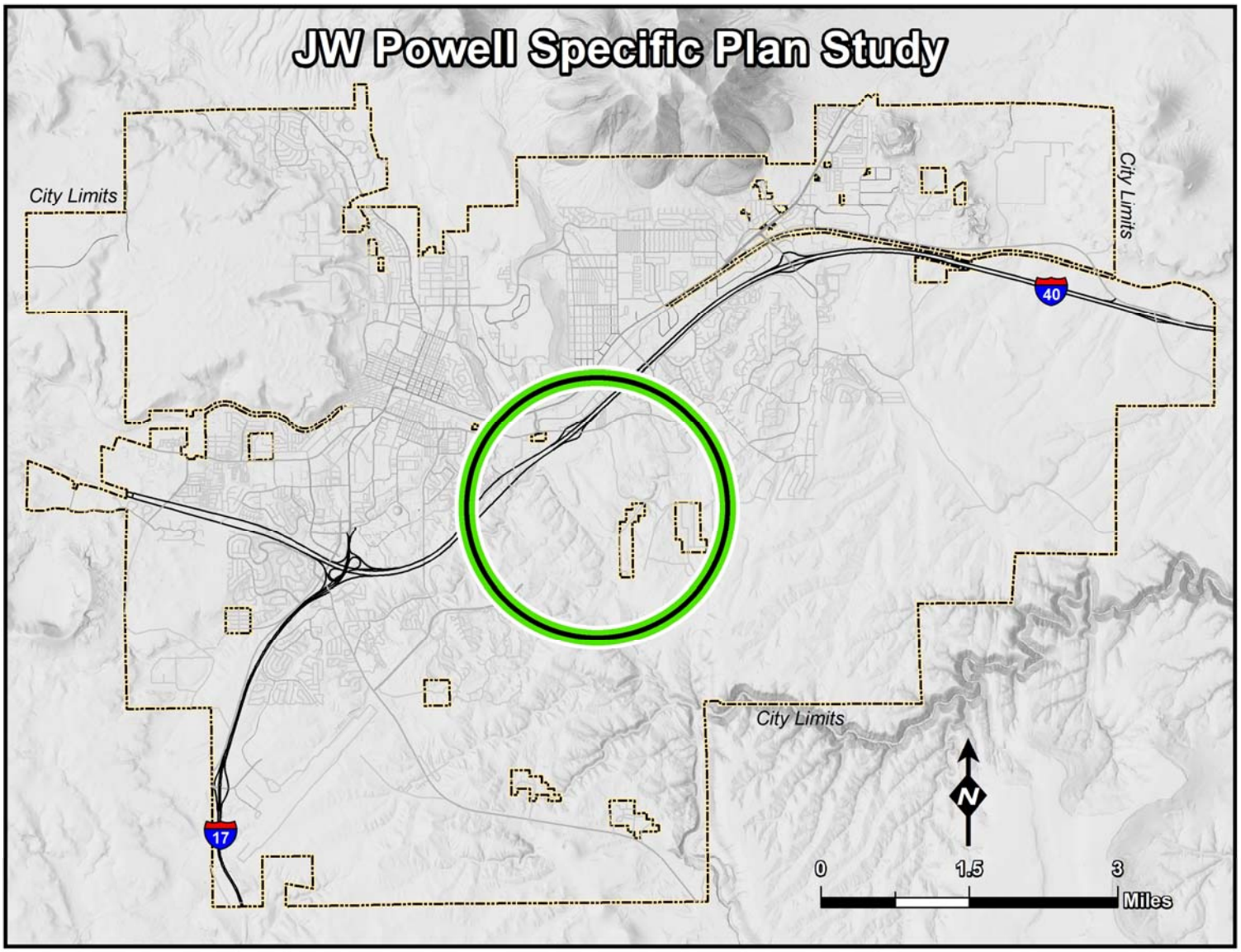
JWP Extension

Project Update

9 April 2024

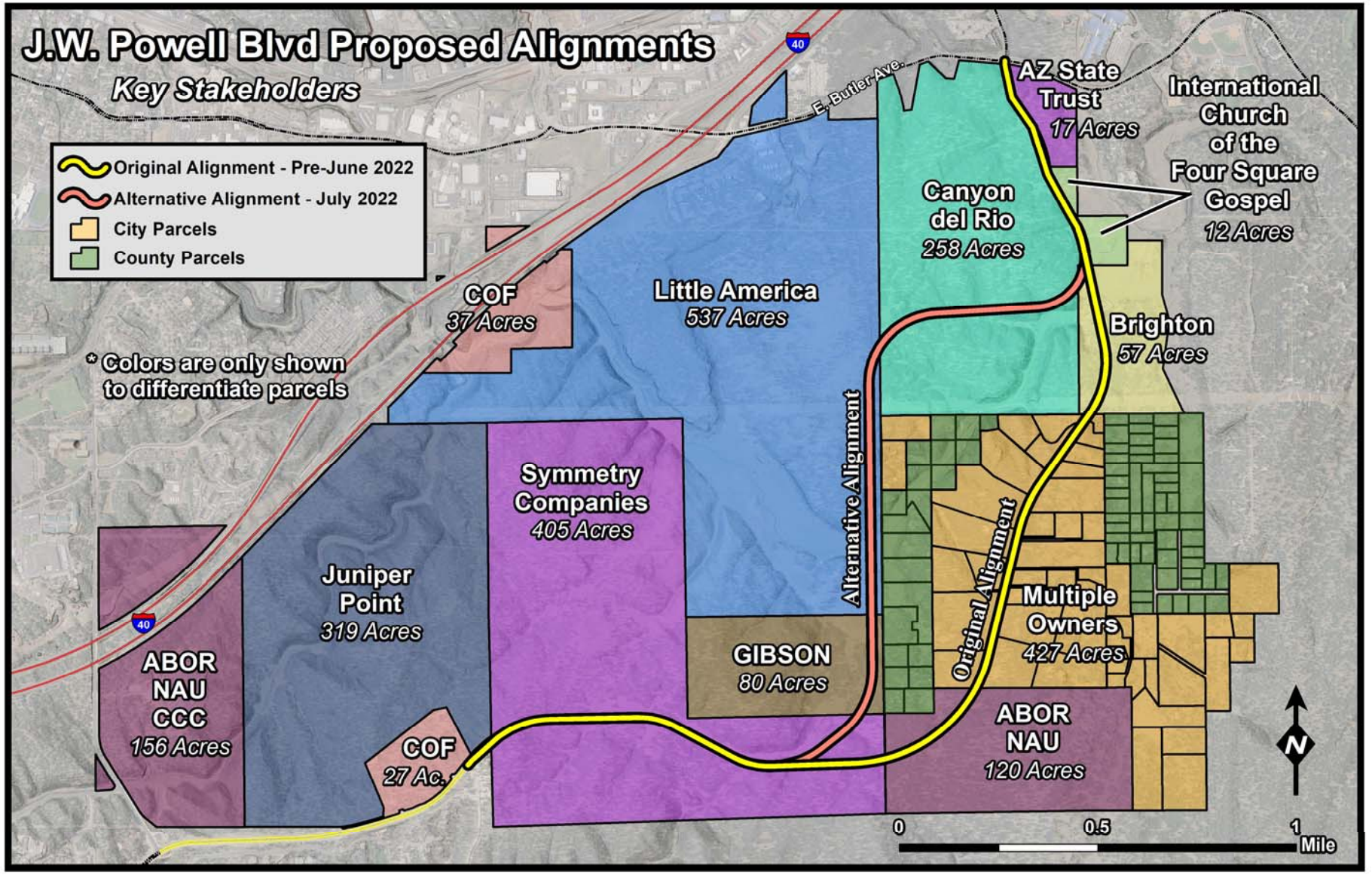
CAPITAL IMPROVEMENTS
CITY OF FLAGSTAFF

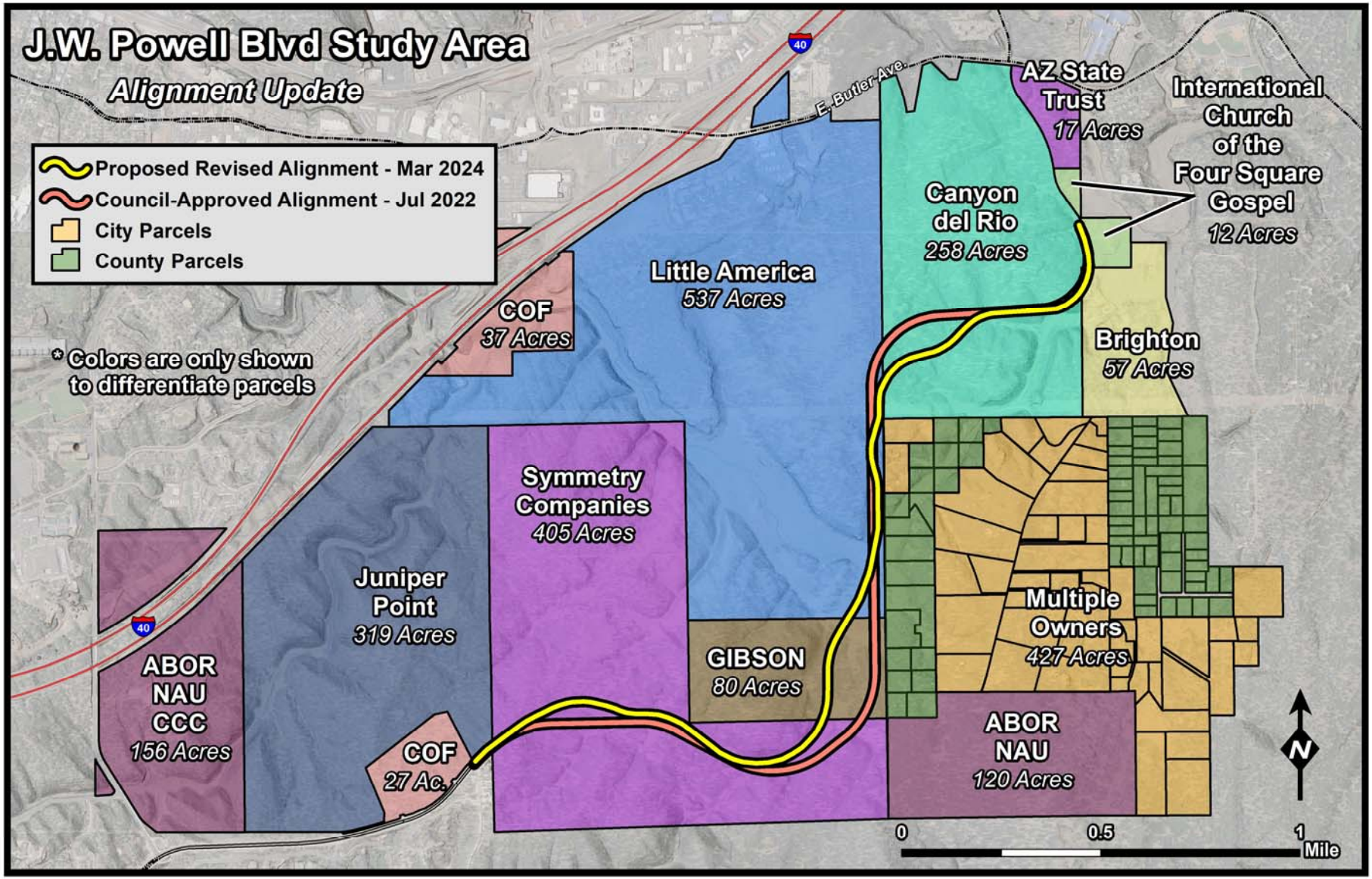
Peak ENGINEERING, INC.


JW Powell Specific Plan Study
City Limits
City Limits
City Limits
40
17
N
0
1.5
3
Miles

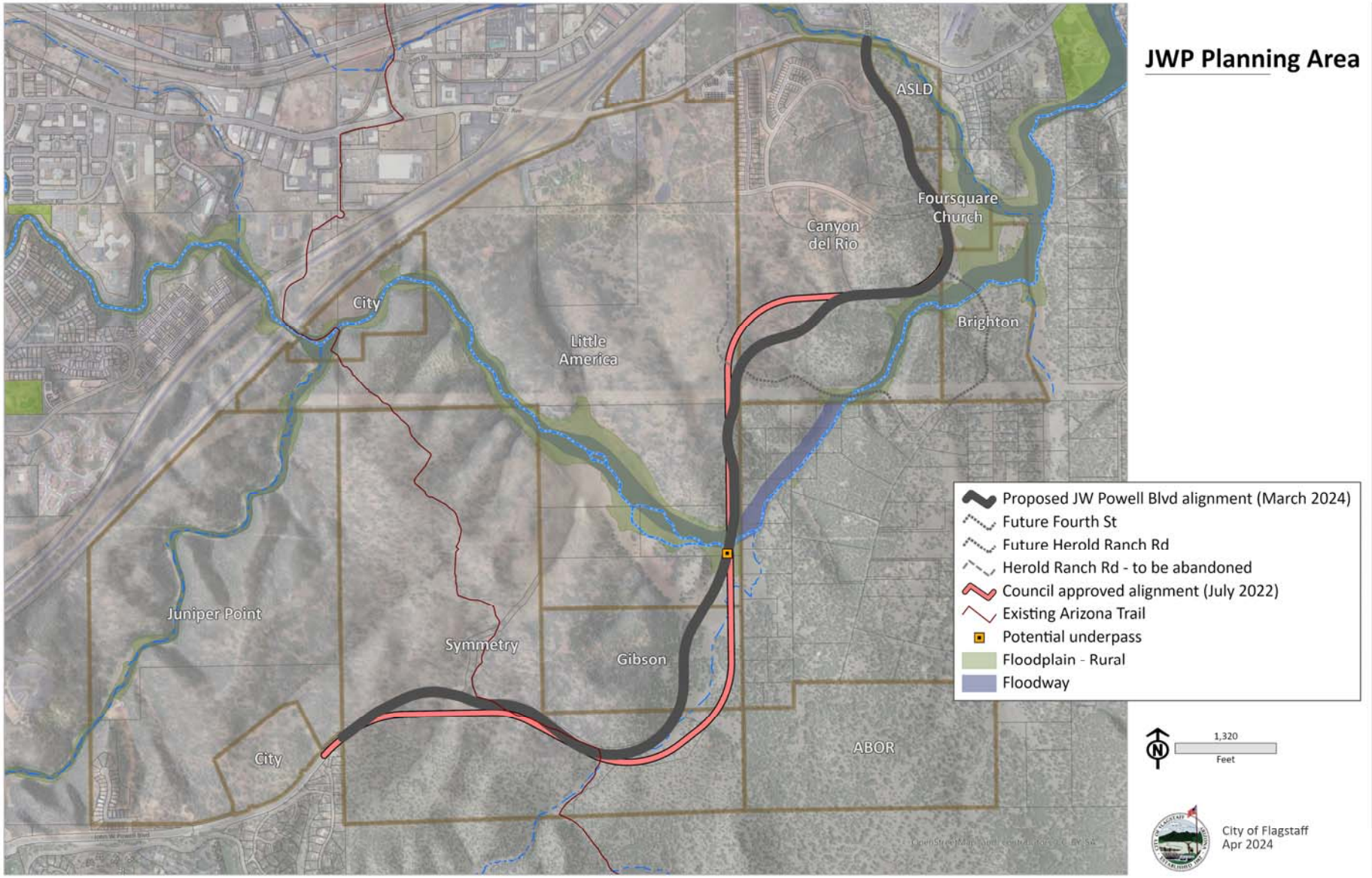
Background

- **2018**
  - City hires Peak Engineering for the JWP Specific Plan Study
  - Voters approve Prop 419 to allocate a proportional share of funding (40/60)
- **2020**
  - City Staff presents Land Use Framework to City Council
- **2021**
  - Town Hall & meetings with small-parcel property owners (original alignment)
  - Project Team begins meetings with the large-parcel property owners
- **2022**
  - City Council approves alignment west of the South Fourth Street Corridor


J.W. Powell Blvd Proposed Alignments
Key Stakeholders
Original Alignment - Pre-June 2022
Alternative Alignment - July 2022
City Parcels
County Parcels
* Colors are only shown to differentiate parcels
40
E. Butler Ave
AZ State Trust
17 Acres
International Church of the Four Square Gospel
12 Acres
Canyon del Rio
258 Acres
COF
37 Acres
Little America
537 Acres
Brighton
57 Acres
Alternative Alignment
Original Alignment
Symmetry Companies
405 Acres
Juniper Point
319 Acres
Multiple Owners
427 Acres
GIBSON
80 Acres
ABOR NAU CCC
156 Acres
COF
27 Ac.
ABOR NAU
120 Acres
N
0
0.5
1
Mile


J.W. Powell Blvd Study Area
Alignment Update
Proposed Revised Alignment - Mar 2024
Council-Approved Alignment - Jul 2022
City Parcels
County Parcels
* Colors are only shown to differentiate parcels
40
E. Butler Ave.
AZ State Trust
17 Acres
International Church of the Four Square Gospel
12 Acres
Canyon del Rio
258 Acres
Little America
537 Acres
COF
37 Acres
Brighton
57 Acres
Symmetry Companies
405 Acres
Juniper Point
319 Acres
Multiple Owners
427 Acres
GIBSON
80 Acres
ABOR NAU CCC
156 Acres
COF
27 Ac.
ABOR NAU
120 Acres
N
0
0.5
1
Mile

PROPOSED


JWP Planning Area
ASLD
Foursquare Church
Canyon del Rio
Brighton
City
Little America
Juniper Point
Symmetry
Gibson
City
ABOR
Proposed JW Powell Blvd alignment (March 2024)
Future Fourth St
Future Herold Ranch Rd
Herold Ranch Rd - to be abandoned
Council approved alignment (July 2022)
Existing Arizona Trail
Potential underpass
Floodplain - Rural
Floodway
1,320
Feet
City of Flagstaff
Apr 2024

Proposed Timeline

- **Design Work**
  - ***Summer-Winter 2024***
- **Construction**
  - **Summer 2025**
  - **Too Early to Know Construction Length**

J.W. Powell Blvd Proposed Alignments

COMMENTS & QUESTIONS

David Pedersen
Project Manager
Capital Improvements
dpedersen@flagstaffaz.gov
Office :: 928.213.2677

www.flagstaff.az.gov/jwpspecificplan