

COUNCIL MINUTES

November 9, 2017

The City Council of the City of Mesa met in a Study Session in the lower level meeting room of the Council Chambers, 57 East 1st Street, on November 9, 2017 at 7:30 a.m.

COUNCIL PRESENT COUNCIL ABSENT OFFICERS PRESENT

John Giles
David Luna
Mark Freeman
Christopher Glover
Francisco Heredia
Kevin Thompson

Jeremy Whittaker Christopher Brady Agnes Goodwine

Jim Smith

Mayor Giles excused Councilmember Whittaker from the entire meeting.

Mayor Giles excused Councilmember Thompson from the beginning of the meeting; he participated in the meeting through the use of telephonic equipment and called in at 8:49 a.m.

1-a. Hear a presentation and discuss an update on the City's digital community engagement campaign, Imagine Mesa, and future strategies.

Chief Digital Officer Julia Thompson introduced Principal Planner Tom Ellsworth who displayed a PowerPoint presentation (See Attachment 1) related to the City's digital community engagement campaign, Imagine Mesa, and future strategies.

Ms. Thompson reported that as part of the budget planning, Council directed staff to enhance Mesa's digital presence. She stated that Imagine Mesa is the cornerstone of that effort with the launch of the campaign on June 29, 2017 and that on October 31, 2017 the idea collection process concluded.

Ms. Thompson explained that Imagine Mesa aimed to engage residents, businesses, and visitors to share their ideas for shaping the City's future. She highlighted the campaign results and pointed out that with the combined social media feeds and the digital banner ads campaign, the City had 2.9 million campaign impressions. (See Pages 2 and 3 of Attachment 1)

In response to a question posed by Councilmember Glover, Ms. Thompson replied that the City has 14,000 followers on Facebook, 10,000 on Twitter, and 2,000 on Instagram. She clarified that compared to surrounding cities Mesa is similar to other East Valley cities and that Gilbert and Phoenix are higher with 16,000 followers.

Ms. Thompson displayed graphs depicting the five vision forums, devices used, and age groups. She noted that the play vision forum dominated the interest in terms of website traffic at approximately 37%. She noted that the desktop percentage increased once staff implemented the Imagine Mesa website as the homepage at the Mesa libraries. She reported that the heat map showed 85% of the respondents live in Mesa. (See Pages 4 and 5 of Attachment 1)

Ms. Thompson reviewed the digital communication strategy and emphasized the growth of the audience and noted that the City has 94 social media channels. (See Page 6 of Attachment 1)

In response to a question posed by Mayor Giles, Ms. Thompson responded that there is not a social media channel target number, but pointed out that staff is verifying that the social media space is active and helpful to residents.

In response to a question from Vice Mayor Luna, Ms. Thompson replied that analytics show who is interacting with the City's content by social media type, as well as showing areas that need more outreach such as Instagram.

Ms. Thompson highlighted the Imagine Mesa digital blueprint and noted that the Spanish language ad set was very popular and that staff is creating a strategy specific to the City's Spanish speakers on social media. She added that City departments will be expanding the outreach by placing information on the NextDoor application in order to reach residents in other areas. (See Page 7 of Attachment 1)

Mr. Ellsworth stated that the Imagine Mesa Advisory Committee has been tasked with evaluating and prioritizing the 465 ideas collected from the Imagine Mesa campaign. He noted that the ideas are being evaluated by sub-committees through a review process with a final report and presentation to Council on December 7, 2017. (See Pages 8 and 9 of Attachment 1)

In response to a question posed by Mayor Giles, Ms. Thompson responded that Imagine Mesa would have a multi-pronged approach which includes responding and interacting with users and soliciting ideas in order to receive feedback. She noted that staff is pursuing an add-on for the content management system that would allow staff to interact with users as projects arise.

In response to a question posed by Councilmember Freeman, Mr. Ellsworth reported that each sub-committee has two department liaisons to coordinate feedback on ideas.

Mayor Giles thanked staff for the presentation.

1-b. Hear a presentation, discuss, and provide direction on the Parks, Recreation, and Community Facilities Department's Five-Year Strategic Plan.

Parks, Recreation and Community Facilities Director Marc Heirshberg introduced Kristin Darr, Central Creative and Jamie Sabbach, President of 110% Inc. who displayed a PowerPoint presentation (See Attachment 2) related to the Parks, Recreation, and Community Facilities Department's Five-Year Strategic Plan.

Ms. Sabbach stated that the strategic plan for this department is a challenge because of the size, depth, and range of their services. She explained that strategic planning starts with an assessment of the organization, as well as the conditions that the department faces such as demographic shifts in the community, technological impacts, common interests, and changes in trends and issues in parks and recreation and facility management.

Ms. Sabbach reported that the Strategic Plan for 2022 has 4 priorities, 16 goals, and 108 actions and clarified that the actions are goals with the fundamental intention to impact, resolve, and effect the priorities. She added that the department is looking at the resource requirement for these actions that include the amount of staff time needed, energy, resources, and funding.

Ms. Darr reported that they worked with each of the full-time staff members for over 15 hours, met with Council individually, and had 11 community focus groups. She stated that the statistically-valid survey had an 8% response rate and the on-line survey had over 500 responses. (See Page 4 of Attachment 1)

Ms. Darr displayed the priorities and themes, and highlighted communication where focus groups and the public stated that awareness was important. She noted that with the implementation of Imagine Mesa, digital communication has improved awareness. (See Page 5 of Attachment 1)

Ms. Sabbach clarified that the four priorities are about the impact to the community. She pointed out the most critical issues for the department that will be addressed over the next three to five years. (See Pages 6 through 10 of Attachment 1)

Mr. Heirshberg highlighted the next steps that include creating annual work plans for implementation and scheduling of quarterly meetings to review progress. (See Page 11 of Attachment 1)

In response to a question posed by Vice Mayor Luna, Mr. Heirshberg replied that staff has been at the Imagine Mesa Sub-Committee meetings, provided guidance on the ideas submitted, and have combined the ideas to be presented for future budget requests.

In response to a question from Mayor Giles, Mr. Brady clarified that all department Public Information Officers (PIO) meet weekly to discuss ideas with the possibility of combining department ideas.

In response to a question posed by Councilmember Glover, Mr. Heirshberg responded that the Parks, Recreation and Community Facilities Department continually looks at a variety of funding options.

Councilmember Glover emphasized that the Parks, Recreation and Community Facilities Department research other communities around the Country to find a dedicated funding source for Parks.

Mayor Giles thanked staff for the presentation.

1-c. Hear a presentation, discuss, and provide direction on an update of the funding options of a proposed solar parasol project at the Mesa Arts Center.

Environmental Management and Sustainability Director Scott Bouchie introduced Energy Resources Director Frank McRae, Energy Resources Coordinator Anthony Cadorin, and Arts and Culture Director Cindy Ornstein who displayed a PowerPoint presentation (See Attachment 3) related to an update of the funding options of a proposed solar parasol project at the Mesa Arts Center (MAC).

Mr. Bouchie reported that the solar parasol project would produce locally generated energy and create additional event space for the MAC. He highlighted the Request for Proposal (RFQ)

process and explained that the proposed project is three projects in one. (See Pages 2 through 4 of Attachment 3)

Ms. Ornstein reviewed the new venue at the MAC to include placemaking features, additional events, and collaboration on a Public Information Campaign. (See Page 5 of Attachment 3)

Mr. Bouchie stated that Council requested a cost comparison between ownership versus a Power Purchase Agreement (PPA) and displayed a chart of the comparative cost over a 25-year term. He explained that the comparison is similar and clarified that the operations and maintenance (O & M) for ownership is an estimate. He added that if the structure does not produce energy, the City does not pay in the PPA model. (See Page 6 of Attachment 3)

Mr. Bouchie reviewed the PPA option and highlighted the pros and cons. (See Pages 7 through 11 of Attachment 3)

In response to a question posed by Councilmember Freeman, Mr. Bouchie responded that for Option 1 the option to purchase at Fair Market Value at year six ranges from \$1.3 million to \$119,000 at year 25. He noted that staff is currently negotiating with Ameresco on the values.

Mr. Cadorin reviewed Option 2, Purchase with Utility Bonds. (See Pages 11 and 12 of Attachment 3)

City Manager Christopher Brady explained that for the Purchase with Utility Bonds the City would issue additional debt and need authorization of electric utility bonds to pay for the structure.

In response to questions from Vice Mayor Luna, Mr. Brady pointed out that due to the height of the parasol for vehicles to park as well as for it to work as a venue for the MAC, the structure would need to be built by the same vendor in the PPA option. He noted that the City would be responsible for any increase in construction costs versus the PPA option, where the vendor would absorb the costs. He confirmed that the City would be responsible for maintenance under the Purchase with Utility Bonds option but not with the PPA option.

Mr. McRae added that with the Purchase with Utility Bonds option, additional staff would assume the maintenance of the structure or the City would engage a third party to perform the maintenance through a competitive procurement process in order to establish the services.

Discussion ensued relative to creating staff specific to solar energy and prices of kilowatt hours (kWh). (See Page 23 of Attachment 3)

Mayor Giles stated he is comfortable with the PPA option.

In response to a question posed by Mayor Giles, Ms. Ornstein replied that staff has not considered a misting system, however, staff can look into that option.

In response to a question from Mayor Giles, Ms. Ornstein responded that parking for the MAC will be a balancing act and noted that the Church has been a great partner in allowing the City to utilize their parking lot.

Mr. Brady clarified that under the PPA staff has negotiated within the contract an option to purchase at a later date.

Councilmember Freeman stated that he would prefer a locally owned facility and structure.

In response to a question posed by Councilmember Heredia, Mr. Brady stated that the rate for solar is pre-negotiated and guaranteed and is consistent throughout the agreement. He explained that the option to purchase amount is driven by a depreciation schedule that is provided by the vendor.

Mr. Brady added that PPA's are commonly used due to the vendors ability to apply for tax incentives whereas the City is not eligible for tax benefits.

Discussion ensued relative to Title 34 restrictions, PPA, and purchase options.

Mayor Giles stated that it is the consensus of the Council to move forward with Option 1, Power Purchase Agreement.

Mr. Brady confirmed that the purchase agreements will be brought back to Council at a future meeting.

Mayor Giles thanked staff for the presentation.

Information pertaining to the current Job Order Contracting projects.

(This item was not discussed by the Council.)

3. Hear reports on meetings and/or conferences attended.

Vice Mayor Luna: Arizona-Mexico Commission meeting

Councilmember Thompson: Constant Aviation Ribbon Cutting Ceremony

The following are upcoming events reported by Council:

Thursday, November 9, 2017, 6:30 p.m. – Lehi Community Meeting

Friday, November 10, 2017, 12:00 p.m. – Mesa Music Festival

Saturday, November 11, 2017, 9:30 a.m. - Naturalization Ceremony

Saturday, November 11, 2017, 11:00 a.m. – East Valley Veteran's Parade

Sunday, November 12, 2017, 12:00 p.m. – Red Mountain Community Party

4. Scheduling of meetings and general information.

City Manager Christopher Brady stated that the schedule of meetings is as follows:

Monday, November 20, 2017, TBD - Study Session

Monday, November 20, 2017, 5:45 p.m. – Regular Council Meeting

5. Convene Executive Session.

It was moved by Councilmember Glover, seconded by Councilmember Freeman, that the Study Session adjourn at 8:58 a.m. and the Council enter into an Executive Session.

Carried Unanimously.

- 5-a Discussion or consultation for legal advice with the City Attorney. (A.R.S. §38-431.03A 3)) Discussion or consultation with designated representatives of the City in order to consider the City's position and instruct the City's representatives regarding negotiations for the purchase, sale, or lease of real property. (A.R.S. §38-431.03A (7)) Discussion or consultation with the City Attorney in order to consider the City's position and instruct the City Attorney regarding the City's position regarding contracts that are the subject of negotiations. (A.R.S. §38-431.03A(4))
 - 1. Negotiations relating to City-owned property generally located at the southwest corner of Main Street and Pomeroy and 34 S. Pomeroy.
 - 2. Negotiations relating to City-owned property generally located at the northwest corner of Country Club Drive and Main Street.

Adjournment.

Without objection, the Study Session adjourned at 9:54 a.m.

JOHN GILES, MAYOR

ATTEST:

DEE ANN MICKELSEN. CITY CLERK

I hereby certify that the foregoing minutes are a true and correct copy of the minutes of the Study Session of the City Council of Mesa, Arizona, held on the 9th day of November, 2017. I further certify that the meeting was duly called and held and that a quorum was present.

DEE ANN MICKELSEN, CITY CLERK

JS

(Attachments – 3)

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IT ALL STARTS WITH A **SPARK** OF IMAGINATION. Share your ideas for making Mesa amazing! YOUR IDEAS, OUR FUTURE. ImagineMesa.com

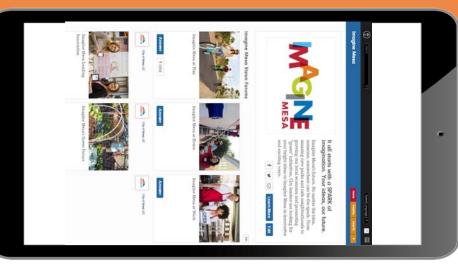
- Julia Thompson, Chief Digital Officer, City Manager's Office
- Tom Ellsworth, Executive Manager, City Manager's Office

Imagine Mesa Strategies

visitors to share their ideas for shaping Mesa's future by: Imagine Mesa aimed to engage Mesa residents, businesses and

- Using digital strategies that compelled engagement
- appealing to multiple interests Developing diverse communications and content that was
- Utilizing data from social media and website interactions to ensure community-wide representation

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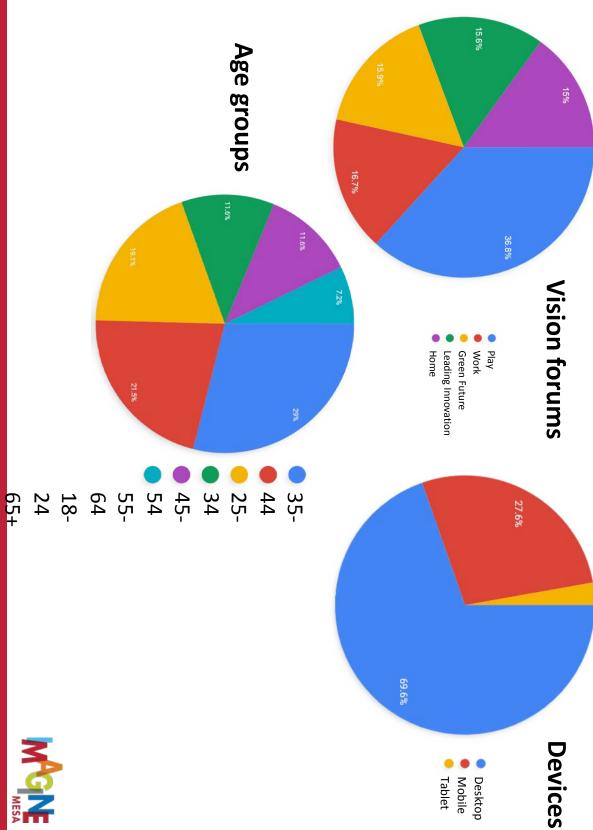
Campaign Results

- **67,111** visitors to the website
- 10,113 active participants
- 465 ideas submitted
- 24 events and presentations by staff
- **137** City social media posts that showed up in **238,000** social media feeds
- **4,872** new followers on main City social media channels since campaign kick-off



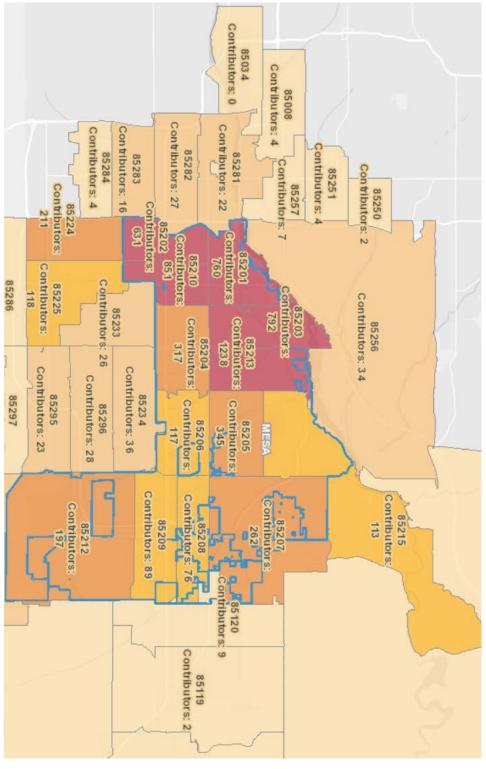


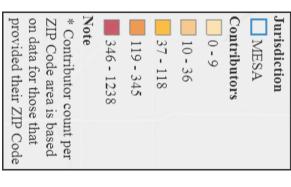
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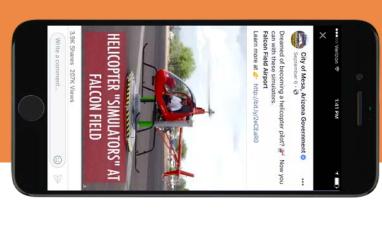


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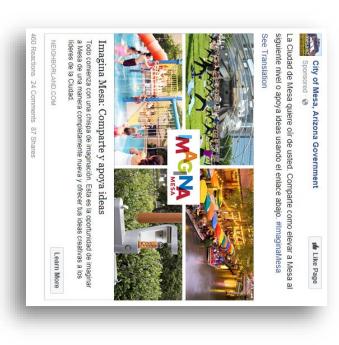


Digital Communication Strategy

- Connect be there
- Inform provide important information
- Promote tell our story
- **Engage** interact with and help people
- **Streamline** for users and staff
- **Grow** audience and reach
- 267,761 followers on 94 social media channels



magine Mesa Digital Blueprint



- Combination of City-owned assets, partners and external promotion
- Collaboration across departments
- Spanish language outreach
- NextDoor promotion
- Robust tracking and analysis
- Visual branding

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Imagine Mesa Advisory Committee



- 15-member Citizen Advisory Committee
- Tasked with evaluating and prioritizing ideas
- 9 meetings from Aug. 14-Nov. 30
- Recommendations will be summarized and presented to the City Council Dec. 7







Committee Review Process

- Success factors
- Existing programs, potential costs/revenues, public support (Me Too's), existing infrastructure and assets
- Subcommittees
- Work and Innovation
- Green Future
- Home
- Play
- Evaluate, discuss and prioritize ideas Final report and presentation
- Dec. 7 study session



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Plan

Council Presentation November 9, 2017

Presented by:
Marc Heirshberg, PRCF Director
Kristin Darr, Central Creative
Jamie Sabbach, 110%

mesa parks, recreation and community facilities



Your place to play

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What future will you create based upon what you know?



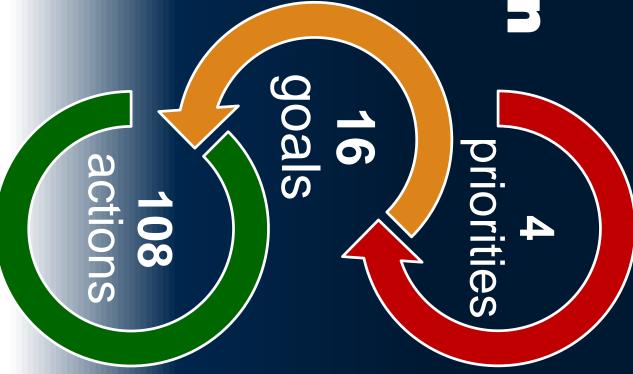
around you? happening What's



mesa parks, recreation and community facilities mesa-az

Your place to play

Strategic Plan 2022 2022 Mesa parks, recreation and community facilities Your place to play A CAPRA Accredited Agency



mesa-az

Stakeholder Engagement

Staff workshops

Mayor & Council interviews

Community focus groups

Imagine Mesa portal

On-line public survey

Statisticallyvalid survey



- Staffing Communication rganizational health
- Competition
- **Partnerships**
- Safety & security
- Relevance
- Maintain existing assets
- Financial sustainability
- Long range planning
- Communication
- Community awareness
- **Partnerships**
- **Economic development**
- Demographics

Themes

Organization Our

ourselves version of

Create the best

Priorities

Work & Play in **Serving Those** Who Live, Mesa

Deliver only the highest quality experiences services &

Management Resource

with wants to Balance needs stabilize the bottom line

Advocacy & Leverage

through community **Build strength** connections & relationships

Your place to play

Strategic Plan 2018-2020

Deliver only the highest quality services & experiences

creativity & innovation leading to memorable customer experiences

When renovating or building, ensure that the design of spaces and places provide unique and memorable experiences for citizens & visitors.



Balance needs with wants to stabilize the bottom line

Strategic management of our physical assets/inventory

Develop a comprehensive asset management plan and strategy.



Action 3di

bottom line stabilize the needs with Balance wants to

long range planning Invest in

Master Plan. a comprehensive Recreation development of resources to the **Dedicate** Parks and



Build strength through community connections & relationships

Focus on community outreach and education

Develop a comprehensive and streamlined Department marketing and communications plan.





Page 11 of 15 EXT Steps

- Finalize staff teams to focus work on actions
- Identify resources required for each action
- Create annual work plans for implementation
- Final presentation to staff and scheduling of quarterly meetings to review progress



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mesa-az

Our Purpose

those who live, work and play in Mesa. providing exceptional experiences and services to contributes to a healthy and vibrant community by Parks, Recreation and Community Facilities

We are committed to:

- being responsible stewards of parklands, facilities and resources. finances, and transparent in how we manage these
- providing safe spaces and places for people to enjoy and recreate
- working together to focus on services that meet the ever changing needs of our community







organizational Values

Safe spaces & places Fiscal responsibility

Integrity

Respect

Customer service

Sustainability

Innovation

Collaborative

Resourceful

Accountability

Adaptability



Study Session November 9, 2017 Attachment 2

ff perspectives, unity, customers rests & needs



SWOT

opportunities & threats) (strengths, weaknesses,



Competition



societal and technological) (political, environmental, considerations PEST



priorities Department

best version of Create the ourselves

Deliver only experiences the highest services & quality

Balance needs with wants to stabilize the bottom line

Build strength connections & relationships community through

Department

purpose & values

Our purpose

We are committed to: and services to those who live, and vibrant community by work and play in Mesa providing exceptional experiences Facilities contributes to a healthy Parks, Recreation and Community

- being responsible stewards of we manage these resources. finances, and transparent in how parklands, facilities and
- providing safe spaces and places for people to enjoy and
- working together to focus on changing needs of our services that meet the ever community.

We value:

Sustainability Customer service Respect Integrity Fiscal responsibility Safe spaces & places Innovation

Department

goals

Department actions

- Inspire staff to live
- Promote a sense of through collaboration Focus on teamwork
- Support employee
- memorable custom innovation leading to Foster creativity and
- Focus on relevant
- Impart quality through safety and accessibil
- Focus on fisca
- of our physical assets/infrastructure
- communities' desires Understand our
- planning
- Promote relationships
- Optimize partnerships Focus on community and opportunities to

27 actions

35 actions

Implementation/Execution

18 actions

Performance Outcomes – RESULTS!

Adaptability

Resourceful Collaborative

Accountability



Mesa parks, recreation and www...

Your place to play
A CAPRA ACCIPATION APPROVE

Solar at the Mesa Arts Center

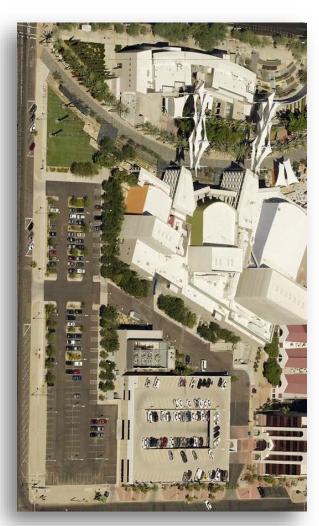
City Council Presentation - November 9, 2017

Scott Bouchie, Director, Environmental Management & Sustainability

Frank McRae, Director, Energy Resources

Anthony Cadorin Energy Resources

Cindy Ornstein, Director Arts & Culture



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Project Summary

- 874,000 kWh Generated Annually
- Locally Generated Energy
- Adds to Energy Resources
 Department's Green Portfolio
 & Local Generation
- Reduces the City's Carbon Footprint
- Creates additional event space for the Mesa Arts Center



RFQ Process

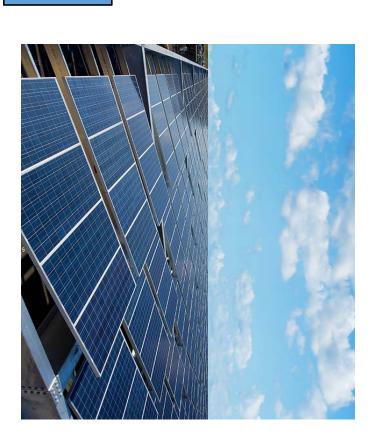
- Selected 4 qualified vendors, 9/2015
- Requested quotes from qualified vendors 3/2016
- 10 sites in Mesa ESA, 10 in SRP
- Narrowed sites in Mesa ESA down to Mesa Arts Center
- Solar showcase
- Multiple Projects with multiple benefits
- ulletRequested best and final offers from qualified vendors in 1/17

Three Projects in One

Shaded "Parasol" for Parking and Events

Local, Solar Energy

Special Event Features for the Mesa Arts Center (LED Lighting, Event Power Outlets)

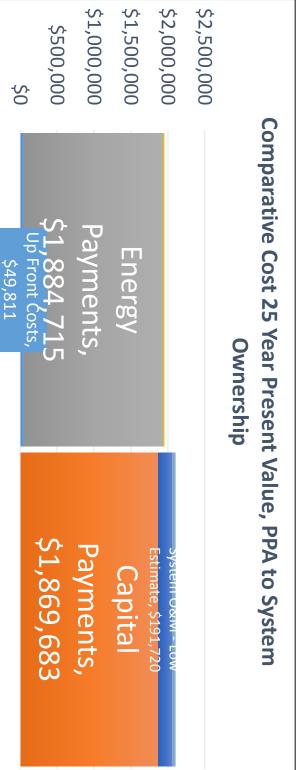


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New Venue at MAC

- Placemaking feature, reduction of urban heat island effect, improvement to air quality through emissions reductions
- Additional events at the MAC
- Additional event revenue and revenue for downtown businesses
- Energy Resources & MAC will collaborate on Public Resources as sponsors of events, etc mediums at the MAC & including recognition of Energy Information Campaign (e.g. "did you know...") using the

Cost Comparison



Energy Payments

Up Front Costs

Option 1: PPA

Option 2: Ownership

■ System O&M - Low Estimate ■ System O&M - High Estimate

Minor System Maintenance

Capital Payments

Option 1: Power Purchase Agreement ("PPA")

- Public-Private Partnership
- Ameresco will construct, own, operate, maintain the project and for a specific period of time at a specific price guarantees the project will generate a specific amount of energy
- Options to purchase system at Fair Market Value in years 6, 10, 15, 20 and 25
- City's Energy Resources Department purchases power from

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Option 1: PPA

Pros

- Ameresco absorbs the risks that Mesa most wishes to avoid
- Mesa assumes no solar system operations & maintenance
- Ameresco responsible for continuous monitoring and verification
- Ameresco capitalizes on significant tax benefits and shares with Mesa
- Less expensive than ownership

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Option 1: PPA

Pros

- Budget certainty fixed cost per kWh for 25 years
- Mesa pays only if solar energy is delivered to Mesa's electric utility
- If solar energy is not generated, Mesa does not pay for structure nor panels
- Mesa has experience with this type of agreement: 5 SSA's with Solar City
- Construction Timeline is 2 3 months + Design & Review Time
- Preserves City's capital for competing priorities
- Parasol provides additional event space at the MAC

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Option 1: PPA

Cons

- Less operational control over the generation asset
- If City wants to keep after 25 years, must purchase for Fair Market Value or have Ameresco remove project
- Institution of a property tax on solar would impact cost

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Utility Bonds Option 2: Purchase with

- Need to rebid project as a Title 34 design/build project
- Winning bid designs, constructs and tests the Project
- Mesa's electric utility bonds funds a portion of the capital cost
- Other capital sources would need to be identified
- Mesa receives all of the energy from the project and maintains it or contracts for 3rd party maintenance
- Uses electric utility rate revenue from customers to pay the debt service for 24 years on the Project

Utility Bonds Option 2: Purchase with

Pros

- City pays fixed payment over the term of the bonds (plus O&M)
- Mesa will own the solar structure & is exempt from property tax
- After bond repayment period, cost of energy = the cost for O&M
- Parasol provides additional event space at MAC

COUS

- All ownership risks from cost increases to production risk are borne by Mesa
- The most expensive option (bond issuance costs, O&M, no tax credits)
- Using bond funds for this project depletes funding for large scale solar projects
- Exceeds amount of Utility bonds designated for solar in the 2014 bond election
- Design and construction timeline affected negatively due to Title 34 requirements
- Electric utility customers fund the debt service and any additional capital needed
- No contractual incentive to produce energy

Rooftop PV ption 3: Customer

- City continues/increases incentive for customer rooftop PV for an additional 520 kW
- At 3 kW per customer, 173 homes
- Customer owns, maintains generation system, reducing their bill and utility payments
- given hour City Utility receives all kWh that customer generates in excess of what the customer is using in any
- Mesa's electric service area does not support a high penetration rate for rooftop solar
- Mesa's residential electric rates are relatively low; thus, the potential benefits/bills savings for our solar customers are less than they are for an SRP customer. SRP rates/bills are:
- 26.5% higher for 1st quartile customer
- 13.6% higher for average customer
- 12.9% higher for 4th quartile customer
- Demographics
- 52.4% of our customers are renters
- 17% vacancy rate
- Median annual income of \$36,000

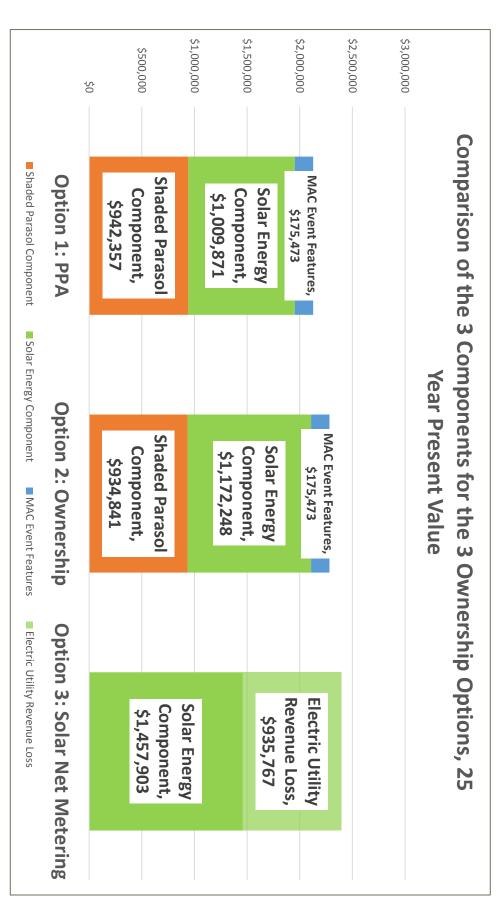
Rooftop PV Option 3: Customer

Pros

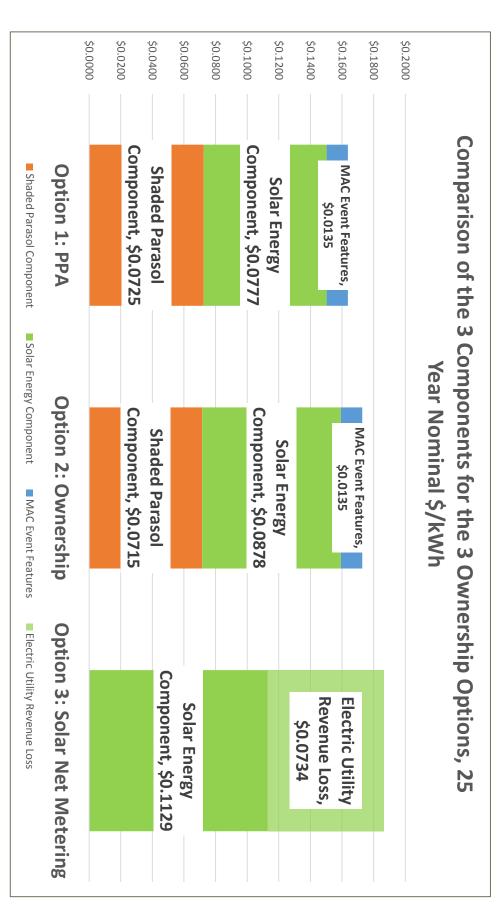
- Customer is responsible for maintaining
- Participating customer(s) see potential bill reductions

COLIS

- Non participating customers ultimately absorb the bill reduction benefits of participating customers
- If customer does not maintain kWh production, Mesa has no method to incent increase in kWh production
- No event space created at MAC
- The most expensive option when accounting for revenue loss
- \$936,000 revenue loss (25 yr NPV) affects electric utility's ability to make General Fund Transfer and keep rates low



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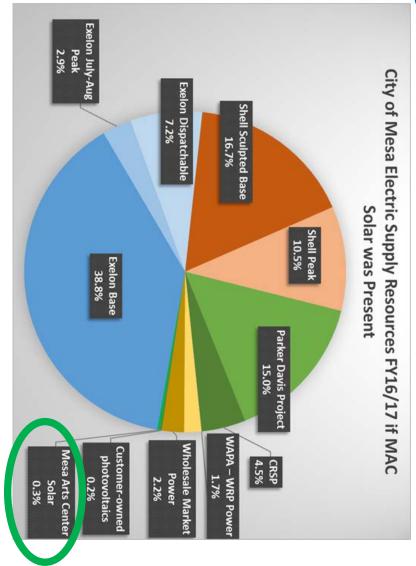
2uestions:

Technology

MAC Solar would be one **PART** of our multi-part supply portfolio

As parts of our diverse supply portfolio expire, we evaluate the economics & acquire replacements based on Integrated Resource Planning criteria & principles including considerations for environmental stewardship & technology

MAC Solar fits a specific & current purpose in the portfolio and should be compared to and be evaluated to today's options



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ASU's Experience

ASU Operates Multiple Power Parasols

- PPA on Lot 59
- Own Memorial Union and Gammage (working to contract for O&M)

APS Customer

- Incentives enhanced economics
- Incentives no longer offered

Maintenance requirements

- Vehicles
- Trees
- Equipment Failure
- Aesthetic maintenance
- Vandalism



Questions and Discussion



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MAC Event Fea

- LED Lighting
- Focused and ambient lighting for festivals
- Controllable
- Dimmable
- Colored
- Energy Efficient
- Power Outlets
- Vendor power for events
- Rigging Bracketry
- Hang speakers, lighting etc.





Purchase Structure	Constructed & Owned By	Maintenance Responsibility	Net Present Value 25 Year Cost	25 Year Electric Utility Revenue Loss
Option 1: Power Purchase Agreement ("PPA") includes O & M	Ameresco	Ameresco	\$1,952,000	\$0
Option 2: Up Front Purchase of Project with Utility Bonds	Mesa	Mesa / 3 rd Party Contractor	\$2,061,000 - \$2,107,000	\$0
Option 3: Incentivize Customers to Install PV on Their Rooftops	Electric Utility Customer	Electric Utility Customer	\$1,458,000 \$936 Total: \$2,394,000	\$936,000

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Technology

- Solar panel prices have fallen consistently and rapidly
- 1977: \$76.00/Watt for PV Modules
- 2017: \$0.50/Watt for PV Modules
- Solar panel efficiency has risen steadily
- •Solar panels, inverters etc. are \sim 40-60% of the cost of this type of project
- This project, due to its raised nature, will always be more expensive than other forms of energy
- Our forecasts of cost increases, rates, kWh production, replacements cost & trequency of inverters, etc. will have error
- We account for uncertainty in these forecasts
- How we manage and mitigate these uncertainties is the key challenge

Technology

- Contract accounts for project production to decline over time (0.5% per year)
- Plan for contract provisions to provide Ameresco incentive to replace failing or equipment over time faltering equipment (i.e. panels or inverters) with lower cost and/or more efficient
- Technology will continue to improve no matter:
- When the project is built
- What ownership structure is pursued
- Plan for the PPA to allow Mesa to buy the system in specific years (6,10,15,20 and 25) and make such investments
- Ownership would allow us to change panels on our timeframe
- Energy Resources and Environmental Management & Sustainability plan to pursue additional renewable energy projects to take advantage of technological innovations

MAC SOLAR'S 3 COMPONENTS

Option 1: PPA

Project Component

Shaded "Parasol" for Parking and Events

How It's Paid

Only City Buildings

- •\$0.0725/kWh or \$63k/year Paid via their electric bill

No residential or commercia

Impact to

Average City Building \$46.29 per month Customer 2.6% increase

Specific Event Features for the

Local Solar Energy



\$12,000 per year from its budget

or rentals

Mesa Arts Center (LED Lighting,

Event Power Outlets)

All Electric Utility Customers Paid via their electric bill Mesa Arts Center Pays the

No impact to electric customers

Average Residential \$0.09 per month

0.096% bills incr.

MAC SOLAR'S 3 COMPONENTS

Option 2: Ownership

Project Component

Local Solar Energy and Events



Shaded "Parasol" for Parking

How It's Paid

City as a Whole

- Paid via transfer to ERD
- \$61,300/yr in Capital Costs

Customer Impact to

Average City Building \$45.15 per month 2.5% increase

Mesa Arts Center (LED Lighting, Specific Event Features for the



Event Power Outlets)

\$12,000 per year from its budget Mesa Arts Center Pays the or rentals

> No impact to electric customers

Average Residential **\$0.10** per month

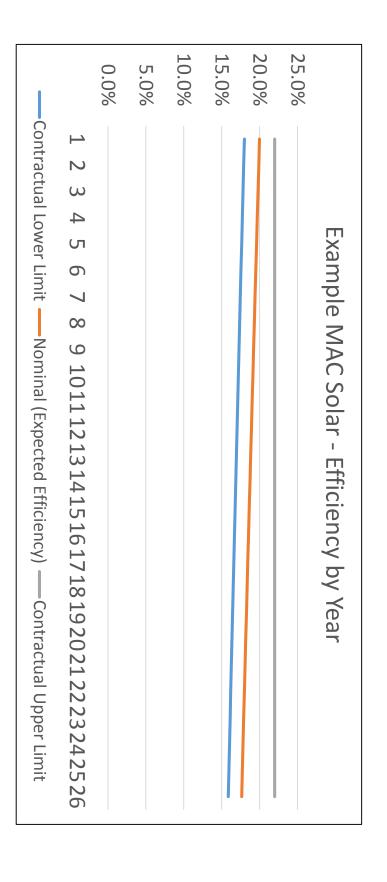
0.101% bills incr.

\$61,300/yr in Capital Costs

\$13,500/yr (avg.) in O&M Costs

All Electric Utility Customers

Limits Example Jontractual Production



ASU Solar Projects

Power Parasol	Total Project Cost	System Size	Installed \$/kW
Mesa MAC Solar	\$1.952 million	512 kW-DC	\$3,815/kW
Lot 59 – Rio Salado	\$11.171 million	2,124 kW-DC	\$5,259/kW
Memorial Union (Cady Mall)	\$590 thousand	86 kW-DC	\$6,843/kW
Gammage Pkwy - W	\$1.77 million	296 kW-DC	\$6,569/kW
Gammage Pkwy - E	\$1.486 million	225 KW-DC	\$6,619/kW

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City's Perspective

Customer-owned & Net Metered Solar

- \$76,000 first year energy cost charged to all customers
- Incentive payment of \$104,000 to customers
- \$57,000 in lost revenue that must be recovered from other residential, commercial, City and governmental entity customers

\$0.0961/kWh

<u></u>

0.17% increase rates/bills

Specific Event Equipment & Aesthetics Upgrades allows parking transformation to Special Event space

Solar Panel Electric Energy production 874,000 kWh (first year)

Structural Support & "Parasol" Configuration of Panels Creating Special Event Space

MAC Solar PPA

Mesa Arts Center Pays the \$12,000 per year from its budget and/or fundraising

Flat e \$12,000/year impact to Arts

A portion of the \$33k (net) is charged to the City as an electric utility customer, similar to all other customers

\$0.10/Month

Center

0.101% increase rates/bills

\$64,000 is charged to City directly via its electric bill for the structural support

\$45.15/month

2.5% increase rate/bills