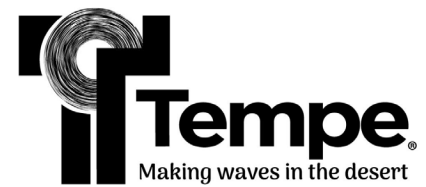


PUBLIC MEETING AGENDA



Sustainability & Resilience Commission

MEETING DATE

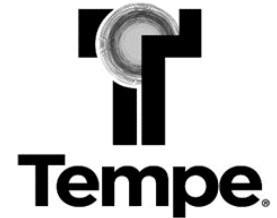
Monday, September 19, 2022
4:30 pm – 6:30 pm

MEETING LOCATION

Microsoft Teams meeting
Join on your computer or mobile app
[Click here to join the meeting](#)
Or call in (audio only)
[+1 480-498-8745,,565023865#](#) United States, Phoenix
Phone Conference ID: 565 023 865#
[Find a local number](#) | [Reset PIN](#)
[Learn More](#) | [Meeting options](#)

AGENDA ITEM	PRESENTER	ACTION or DISCUSSION
1. Public Appearances The Sustainability Commission welcomes public comment for items listed on this agenda. There is a <i>three-minute time limit</i> per citizen.	Kendon Jung, Commission Chair (4:30 – 4:33 pm)	Action
2. Approval of Meeting Minutes The Commission will be asked to review and approve meeting minutes from the August 15, 2022 meeting.	Kendon Jung, Commission Chair (4:33 – 4:35 pm)	Action
3. General Plan 2050 – Tempe Tomorrow Overview	Robbie Aarron, Planner (4:35 – 5:00pm)	Discussion
4. Development of the International Green Construction Code (IgCC)	Eric Iwersen, Interim Sustainability Director Greg Kinkle, Quest Energy Group (5:00 – 5:45pm)	Discussion
5. City of Tempe New Employee Introductions	Brianne Fisher, Climate Action Manager Andrea Escobar, Climate Justice and Energy Equity Coordinator Madeline Mercer, Neighborhood Resilience Coordinator (5:45-6:15pm)	Discussion
6. Housekeeping Items	Kendon Jung, Commission Chair (6:15 – 6:20 pm)	Discussion
7. Future Agenda Items Commission may request future agenda items.	Kendon Jung, Commission Chair (6:20 – 6:25 pm)	Action

According to the Arizona Open Meeting Law, the Sustainability Commission may only discuss matters listed on the agenda. The City of Tempe endeavors to make all public meetings accessible to persons with disabilities. With 48 hours advance notice, special assistance is available at public meetings for sight and/or hearing-impaired persons. Please call 350-2775 (voice) or 350-8400 (TDD) to request an accommodation to participate in a public meeting.



Minutes

City of Tempe Sustainability Commission August 15, 2022

Minutes of the Tempe Sustainability Commission meeting held on Monday, August 15, 2022, 4:30 p.m. at a virtual meeting on MS Teams, through City Hall, 31 E. 5th Street, Tempe, Arizona.

(MEMBERS) Present:

Kendon Jung (Chair)
Natalie Mendoza
Joyce Vesper
Katja Brundiers

Barbie Burke
Meaghan Coon
Jake Swanson

(MEMBERS) Absent:

Stephanie Milam-Edwards
Shawn Swisher
Ryan Mores

City Staff Present:

Brianne Fisher
Henry Pearson
Grace Delmonte Kelly

Guests Present:

David Sokolowski
Grass Clippings Team

Chair Jung called the meeting to order at 4:31 p.m.

Agenda Item 1 – Public Appearances

David Sokolowski spoke. He mentioned that he felt his statements were misrepresented in the documentation from the last meeting. He then spoke about agenda item 5: EV Ready Code:

- Political promises are often broken. Car companies monopolizing supply chains will slow transition to renewable energy. If the USA monopolizes supply chains it will force other countries to rely fossil fuels to improve their standard of living. 3 billion vehicles will be in the world by 2050. EV growth will grow at 1% per year in AZ while VMT will grow at 2%. It will be difficult to generate enough electricity for EVs. Current investment in renewable energy will not reach demand. We need to reduce VMT to conserve energy, transition to solar energy, and have a grid that can charge EVs. We need to facilitate adoption of EVs. Avoid, shift, and improve. Our city is not ready for EVs yet. We cannot cut corners and we need to focus on increasing transit ridership and adoption of solar energy.

Agenda Item 2 – Approval of Meeting Minutes

Chair Jung called for a motion to approve the minutes from June 22, 2022.

Motion: Barbie Burke

Second: Natalie Mendoza

Decision: Approved 7-0

Voted to Approve:

Kendon Jung (Chair)

Natalie Mendoza

Joyce Vesper

Katja Brundiars

Jake Swanson

Barbie Burke

Meaghan Coon

Agenda Item 3 – Grass Clippings

Craig Caggiano introduced the grass clippings team.

Tempe owns 2 golf courses. They are working with the team at Grass Clippings to modernize golf and ensure sustainability.

Jake, Connor, and Trevor from Grass Clippings introduced the project. They are currently in the public engagement phase of the process. Grass Clippings is a locally owned and

operated company. They are here to hear what the Commission has to say about their project. It is their intention to create the most sustainable golf course in the world.

Turf Quality:

- Grass Clippings wants to ensure long term viability of public golf in AZ.
- They are reducing the amount of turf on the course. This brings heightened level of quality and new layout.

Night Golf:

- The first lighted 18 hole course in the valley.
- Working with Musco Lighting.
- Lighting technology has come a long way. Will be using the best in class technology.

Food and Beverage:

- Attract people to the property for more than golf.
- Food and beverage and the surrounding beauty can draw people to the course.

Family Activity Lawn

- An extension of the clubhouse.
- Opportunity for events, concerts, farmers markets, etc.
- Increased utilization of space.

Conceptual Plan

- They have already adjusted the plan based on public input.
- Non-golfers can use the paths and walk to food and beverage areas.
- There are ~15 acres of excess land available which can be used however deemed fit.

Sustainability:

- Water
 - o Rolling Hills currently uses 1000 gallons/year/user with 50,000 rounds of golf and 11,000 driving range users.
 - o Attracting additional people to the property would greatly reduce the gallons per user.
- Land and Turf
 - o Grass Clippings will use ~75 acres and open up ~15 acres.
 - o Currently rolling hills has 46 turf acres, Grass Clippings would use 20 turf acres. This would allow for more natural desert restoration.
- Best Management Practices
 - o Protecting native species of plants and animals.

- Not negatively impact natural drainage and washes.
- Rely on cultural practices to minimize chemical inputs.
- Monitoring and tracking irrigation water usage.
- Overseeding the course to promote conservation and using best suited turf grasses.
- Serving as a contingency plan during times of drought, natural disaster, or any special circumstances.
- Additional Sustainable Practices
 - EV Chargers
 - Community Compost
 - Erosion
 - Water Harvesting
 - Trees and Landscaping
 - Water Usage Tracking

Questions and Comments:

- Currently will not be solar powered but will work with SRP to see how to best use LED lights.
- Have not thought about sustainability learning program but would be open to it.
- Plan is to remodel existing buildings.
- Water source is raw water from canal system.
- They are the closest golf course to light rail. Working to get a shuttle from the light rail to the location.
- There will be an uber/lyft drop-off location.
- Chair Jung said the course will use 300 gallons of water per day which is triple the city's water consumption goals. Besides reducing turf, what tactics are being used to limit water consumption?
 - They are getting a lot of pushback to keep all of the turf but they are trying their best to keep the reduced turf. They can use grass that requires less water and use maintenance practices to increase efficiency.
- Chair Jung asked what the average income of the users are and what efforts are being done to increase access to wider economic backgrounds.
 - It is the cheapest course in the state but is not widely attended. Price is not directly correlated to use in this case. They want to provide high quality and different options of play and use of the site.
- Commissioner Swanson asked about the plan to increase the connection of the place to the transportation networks.
 - The main plan is to connect to the light rail and get a shuttle from the light rail to the site.

- Commissioner Swanson mentioned that there are more options for adding connectivity. He suggested shade infrastructure, water availability, and things to make people want to actually use it as a mobility hub.
- Commissioner Swanson asked about measuring water usage per player as a metric about water reduction.
 - Golf is typically a private club game. Some courses have very few members but use an entire course. Water needs to be holistically managed. They want to look at how often the course is actually in use.
 - Kendon added that adding different types of events increases the utilization of that turf but does not justify the course being there. He said that it is a good opportunity to shift public perception and provide awareness about the amount of water used by the sport.
- Commissioner Brundiers asked them to elaborate on the use of the site as a contingency plan for disasters.
 - Their main plan is to cut back on the turf. They are looking at other ways to cut back further by potentially only watering parts of the course when needed.
- Commissioner Mendoza asked if it is possible to play on dirt instead of grass.
 - It would change the traditional nature of the course. They have thought about using dirt for other parts of the course. Currently a dirt course would not attract golfers. Commissioner Mendoza responded that if they wish to be the most sustainable course in the world, the best way would be to have no turf at all. Grass Clippings agreed but said that they need to engage the golfers currently in Tempe.
- Chair Jung mentioned that there is an opportunity to change community perception as to what a golf course is. Commissioner Brundiers said that sustainability practices can be implemented in other ways beyond golf. Partnerships with other organizations can help people learn about conservation when they visit the course.
 - They are very open to those types of partnerships and requested any ideas the commission might have.
- Vice Chair Burke mentioned that she is a golfer and thinks this is a great idea. Providing a venue for people to get outdoors is great. She mentioned that Papago Golf Course has great food and she sees many people there.
- Chair Jung asked them to expand on community compost.
 - It is an idea for the use of some part of the site.
 - Chair Jung said the Tempe Compost Yard is looking for a new home and perhaps they could partner. Breanne can connect them.
- Chair Jung said that while their comments sound harsh, it is only in response to the drought that we are facing. What they are doing is inherently good and their comments are an attempt to help them.

Agenda Item 4 – S&RO Reporting: CDP and LEED

Henry Pearson spoke about Tempe's LEED Certification Process.

Overview

- LEED for Cities is a USGBC program that certifies cities based on their sustainability practices.
 - o Includes social, economic, and environmental factors.
- Rankings range from "Certified" to "Platinum"

Certification Benefits

- Creates a benchmark for improvement.
- Improves data collection and tracking.
- Allows Tempe to compare itself to other cities.
- Helps to develop action planning and investment strategies in the future.

Tempe's Process

- Initial collection began in mid-2021.
- Work on write-ups started in September.
- Data collection and write ups continued until mid 2022.
- Tempe is currently in the initial review phase.

LEED in the valley

- Peoria, Tucson, and Chandler were all grandfathered into the program as they were STAR certified before the STAR system was absorbed into LEED. They are all certified as the lowest rating.
- Phoenix is Platinum Certified, one of the first cities to achieve it.
- Tempe hopes to achieve silver or gold in its first cycle.

Strengths and Weaknesses

- Strengths: Quality of Life, VMT, Innovation
- Weaknesses: Waste Programs, Water Usage, Comprehensive Ecosystem Assessment.

Next Steps

- Initial Review Process lasts 5 weeks.
- Final Review and Certification
- Public announcement
- Gap analysis and improving our score.

Grace Delmonte Kelly spoke about CDP

- This is the 6th year Tempe has participated.
- CDP, ICLEI, and GCOM are the three organizations involved.
 - o GCOM is a global alliance of cities for climate leadership.
 - o ICLEI software is used to create our GHG inventories.
 - o CDP coordinates reporting for companies, cities, and governments.
- Carbon Emissions Reporting Timeline
 - o Joined GCOM is 2016.
 - o Prepared first GHG inventory in 2017.
 - o 2018 adopted municipal carbon neutrality goal.
 - o 2019 Council approved CAP.
 - o 2021 the second GHG inventory was completed
 - o 2022 the council approved the second CAP and new GHG target.
- What data is reported?
 - o GHG emissions, climate risk and vulnerability, targets, goals, budget items, projects, and more.
- Where is data sent?
 - o CDP cities, GCOM, race to zero, global climate registry.
- Reporting
 - o 16% reduction in emissions between 2015 and 2020.
 - o Sixth year reporting. No grade, D, D, B, B. Hoping for an A this year.
- Next Steps
 - o Submitted on August 4
 - o Continue to work on CAP update actions.
 - o Continue annual report progress.
- Questions
 - o Chair Jung asked how the pandemic affected the emissions reductions.
 - Grace said it definitely had an impact. Maricopa estimated that emissions were down 14% in 2020 which was the year they did the GHG inventory.
 - Chair Jung asked if the next GHG inventory numbers will not look as good due to returning to the pre-pandemic activities.
 - Grace replied that the upcoming investments will hopefully mitigate that and is hopeful that we can continue to trend downwards.
 - Chair Jung thanked Grace for getting the city ready to report GHG data and get federal funding.
 - o Commissioner Mendoza asked how the grades are given and what the baselines are.

- Grace said that when we received a D, we did not have a CAP. In 2019 the CAP had not yet been adopted when reporting finished. In 2020, Tempe had a CAP and more goals which met more criteria. We have been adding more and more each year. Next year, an interim target will be important.
- Chair Jung referenced David Sokolowski's comments about reducing VMT. He asked if Grace had seen what other cities are doing to reduce VMT.
 - Breanne said that VMT is a strategy that gets us to larger goals. The TMP will help figure out how to clearly define our VMT strategy.
- Commissioner Mendoza asked if the reviewers look at results like passed legislation versus what was said in the plans.
 - There are sections to talk about leadership and partnerships.

Agenda Item 5- EV Ready Code

Breanne spoke about the code update.

- EV code lives within Green Codes and Standards. The IGCC is part of that; it will be voluntary but hopefully someday mandatory. However, they want to make the EV ready code mandatory right away.
- The wedge analysis showed the importance of reducing transportation emissions. It is a large opportunity for GHG emissions reduction.
- VMT is a more holistic approach, but in the meantime, EVs are a way to reduce the emissions from single occupancy vehicles.
- AZ is an EV manufacturing hotspot so there are lots of opportunities there.
- ADOT released a draft plan for EV infrastructure deployment. It looks at a lot of more rural locations for potential sites as opposed to metro hubs.
 - Supply chain issues have been a barrier to high adoption rates.
 - EV's take up rates are significant and increasing.
- 3 Readies of EV readiness:
 - EV capable: Wiring and capacity exist for future installation.
 - EV Ready: Installed capacity and raceway with conduit.
 - EV Installed: Fully installed EV station.
- Most people charge at home, and only makes sense to have level 3 charger at public spaces because of the short nature of trips.
- Public Engagement: Electric Tempe Expo
 - 15 EV Economy Vendors
 - Partnership with oval first
 - Promotion of benefits of EVS for businesses, green jobs.
 - Promoted the stakeholder survey.

Questions:

- Commissioner Mendoza asked about electricity generation for EVs. She said EV battery recycling needs to be easier and more widespread.
 - o Breanne replied that EVs are not a perfect solution. Utilities are very engaged in the conversation. They are participating in statewide data collection process. They are putting out a GIS map layer of grid utilization. This will show good and bad spots to put EVs. She mentioned that she would like to see a resiliency plan in place. Some of these chargers should be backed up by solar or batteries.
- Commissioner Brundiers wondered whether they brainstorm sometime around creative disruption. It seems they are replacing one system with a slightly better one but is fundamentally similar. How can they disrupt these systems themselves and think differently about how they get places and where the places are. She mentioned that there are many problems with the resources needed to create the batteries for EVs.
 - o Breanne said that the EV demand will happen with or without the city. They want to make sure that construction is EV ready. The mobility hub concept is a way to bring together multiple modes of transportation. Cul de Sac is a great example of having different modes available and giving them options. They can use that model and replicate it in mobility hubs.
- Commissioner Swanson said that they can disrupt these systems while also enhancing EV capacity.
- Commissioner Mendoza asked if we can think of different ways of long distance travel, such as traveling by zipline across power lines.

Agenda Item 6- Housekeeping Items

In this section the commission will discuss their progress on highlight actions.

Commissioner Mendoza gave an update to the EnVision and READI Programs.

- Goal: Draw attention and garner support for the programs.
- Objectives
 - o Discover how to promote and conduct outreach
 - o Assist and support staff with anything they need
- Potential Partners
 - o Unlimited Potential
 - o Local First AZ
- Timeline
 - o Fall 2022: Begin work and planning.
- Budget: State grant money
- Next Steps: Meet with staff to determine where they will go.

- Questions:
 - o Commissioner Coon said that they may want to have measurable objectives. Instead of “discover ways” they can have a concrete number. They can have names and dates for who and when they need to have meetings. They should be as specific as possible in the documentation, like saying how much money they are receiving from State Farm and by when, etc.

Breanne gave an update on Green Codes and Standards for Shawn.

- Goal: Create greater awareness and understanding of the CAP through the envisioning of an architectural or urban design perspective.
- Objectives:
 - o Collect various ideas and new perspectives on how to implement the CAP ie GSI or LID.
 - o Utilize entries to communicate CAP ideas to public and develop feedback loop.
 - o Use entries to spark pilot projects for deploying the CAP.
 - o This years theme for the contest could be GSI or Green Codes.
- Timeline:
 - o Fall 2022: Engage with AIA, develop competition outline
 - o Winter 2022: Draft competition brief. AIA partnership solidified. Begin identifying competition jury.
 - o Spring 2023: Finalize brief, distribute to design community.
 - o Summer 2023: Launch design competition.
 - o Fall 2023: Competition concludes, jury decided winner, award given, market competition winner. Discuss 2024 competition.
- Budget: Undetermined. Entry fees can potentially cover expenses.
- Next Steps:
 - o Outline brief, meet with AIA, research previous competition formats.
- Questions:
 - o Commissioner Coon asked if they could develop a resource plan. Have they estimated how many hours they need to execute this project. Chair Jung said this is an existing competition that is being tuned to advance our goals. They are not putting much into it but getting a lot out of it. They are using the AIA framework and plugging in their ideas.

Commissioner Swanson spoke about Mobility Hubs:

- Goal: Develop, expand, and open opportunities regarding mobility hubs.
- Objectives:
 - o Revise, develop, and expand language regarding mobility hubs.

- Develop trip planning tools utilizing existing resourced or develop GIS with transit options.
- Engage with communities and businesses.
- Partners:
 - LFA, City Staff, Cul de Sac, DTA
- Research and Next Steps will be continued after having conversations with organizations.
- Questions
 - Commissioner Coon said they can dial in exactly what they are shooting for.
 - Chair Jung suggested Commissioner Coon expanding the volunteer role to work with Breanne on the action leads.

Other

- Water rate structure discussion will be coming soon.
- Chair Jung wants to meet with anyone who he hasn't yet had a one on one conversation with and asks that they email him to set that up.

Agenda Item 7 – Future Agenda Items

Please refer future items to staff and CC Chair Jung

Motion: Barbie Burke

Second: Jake Swanson

Decision: Approved 7-0

Voted to Approve:

Kendon Jung (Chair)

Natalie Mendoza

Joyce Vesper

Katja Brundiars

Jake Swanson

Barbie Burke

Meaghan Coon

The meeting was adjourned at 6:31 pm.

Prepared by: Henry Pearson

Reviewed by: Brianne Fisher



TEMPE TOMORROW

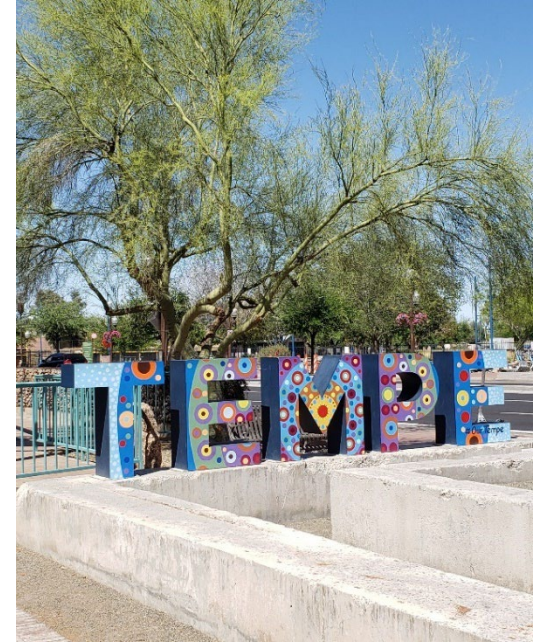
GENERAL PLAN 2050



Tempe



- Overview of Tempe Tomorrow - General Plan 2050
- How the General Plan is developed
- ARS Mandates for General Plans
- General Plan 2050 Elements
- Project Timeline



Overview of the General Plan 2050



Overview of Tempe Tomorrow: General Plan 2050



- The general plan is the City's overarching policy document related to development and growth in Tempe.
- It reflects the community's vision for the future expressing how the community wants to grow and change over the next 30 years.



Overview of the General Plan 2050



The general plan will guide Tempe in:

- Shaping plans for land use, infrastructure, economic development, historic, art, cultural amenities, and services.
- Guiding formation of master plans, character area plans, and infrastructure-related plans.
- Serving as a reference for zoning requests, economic development, and design of public facilities.



How will General Plan 2050 be Developed?



How will the General Plan 2050 be Developed?



The plan is developed to comply with the state's legal requirements. It will be based on:

- Tempe's previous General Plans
- Input from the Community Working Group (CWG)
- Input from the Technical Advisory Group (TAG)
- Input from the community at large
- Input from boards, commission and the Council

How will the General Plan 2050 be Developed?



- Staff will conduct online surveys, public meetings, and hold conversations with community members & stakeholders.
- Staff will conduct meetings with specialized groups, such as non-profits, affordable housing, environmental, & other interest groups.

How will the General Plan 2050 be Developed?



Some topics may be contentious. e.g.:

- Locations for higher residential densities and taller buildings
- Balancing historic preservation and development
- Balancing neighborhood stability and new development
- The desired amount of open spaces
- Public and private transportation options
- Provision of affordable housing



How will the General Plan 2050 be Developed?



- The general plan outline and drafts will be presented to the City's relevant boards and commissions, and at the City Council work study session(s).
- The plan will address the suggestions, comments, and input, and will seek to find a balance between the input received from various groups and citizens.



How will the General Plan 2050 be Developed?



- Draft plan available for public comment.
- Presented to Council for adoption.
- Adoption is expected at the end of 2023. The final step of approval of the plan will be by citizen vote planned for March 2024.



ARS Mandates for General Plan





- Arizona Revised Statutes (ARS) 9-461.06 requires that a municipality's plan be readopted or a new or updated General Plan be adopted and voter-approved every ten years.
- A.R.S. Section 9-461.05.C provides that: "The general plan shall consist of a statement of community goals and development policies. The plan shall include maps, any necessary diagrams and text setting forth objectives, principles, standards and plan proposals."



- Arizona Revised Statutes (ARS) 9-461.05 mandates that the general plan include Land Use and Circulation elements for all towns and cities.
- A.R.S. Section 9-461.05.C mandates that for Tempe (based on its population), the general plan shall contain other elements: open space; growth area; environment, cost of development, conservation, recreation, public service; public buildings; housing; conservation, rehabilitation and redevelopment; safety; bicycling; energy; and neighborhood preservation.

General Plan 2050 Elements





EXECUTIVE SUMMARY

INTRODUCTION

- Purpose and authority
- Vision & themes
- Guiding principles
- Plan structure & organization
- Relationship to other documents
- Public participation

- Implementation & accountability
- Amendment of plan*
 - Major amendment
 - Minor amendment
 - Criteria and process for amendment

*Note: * Denotes ARS-mandated elements.*

Red text shows proposed new elements compared to the GP 2040.



LAND USE AND DEVELOPMENT

- Land Use Element*
- Community Design Element*
- Historic Preservation Element
- Neighborhood Preservation and Revitalization Element*
- Redevelopment Element*
- Housing Element*

ECONOMIC DEVELOPMENT

- Economic Development Element
- Growth Area Element*
- Cost of Development Element*

- Innovation Hubs

CIRCULATION

- Pedestrian Element
- Pedestrian and Bikeways Element*
- Transit Element*
- Travelways Streets Element*
- Parking and Access Management Element*
- Aviation Element



ENVIRONMENT AND CONSERVATION

- Conservation Element*
- Environmental Planning Element*
- Water Resources Element*
- **Climate Change Element**
- **Extreme Heat Element**

OPEN SPACE, RECREATION AND CULTURAL AMENITIES

- Open Space Element*
- Recreation Element*
- Public Art and Cultural Amenities Element

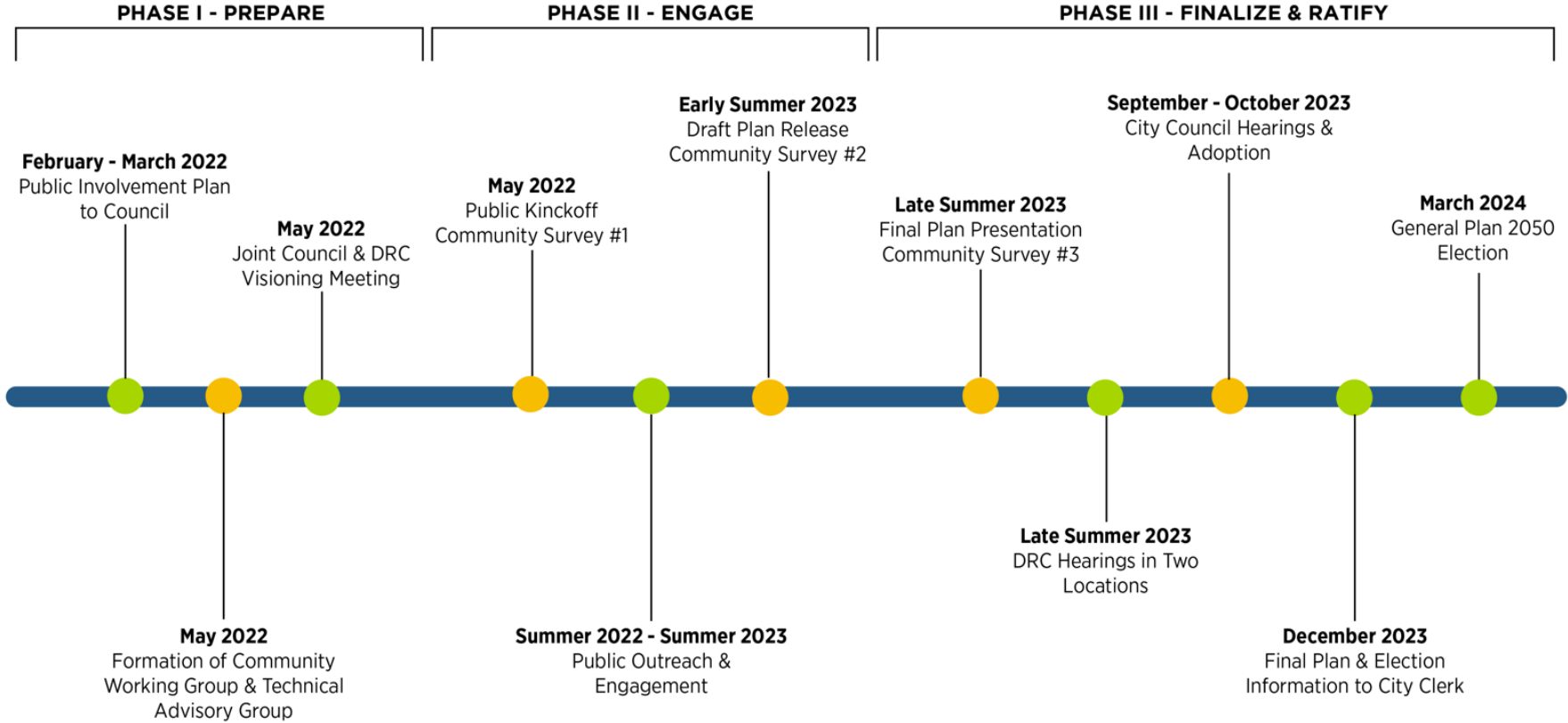
PUBLIC FACILITIES AND SERVICES

- Public Buildings and Facilities Element*
- Public Services Element*
- Municipal Court Element
- Safety Element*
- **Public Health Element**

General Plan 2050: Timeline



GP2050 Preparation and Adoption Schedule





Planning:

- Ambika P. Adhikari – Ambika_Adhikari@tempe.gov
- Robbie Aaron – Robbie_Aaron@tempe.gov
- Jacob Payne – Jacob_Payne@tempe.gov

Neighborhood Services:

- Shauna Warner – Shauna_Warner@tempe.gov
- Brenda Clark – Brenda_Clark@tempe.gov



Thank you!

International Green Construction Code (IgCC)

September 2022



Agenda

- What is the International Green Construction Code
- Importance of “Green” Construction
- History & Current Pilot Projects
- Status of Tempe specific IGCC Efforts
- Public & Stakeholder Outreach Process
- Future Policy Adoption Request 2023
- Future IGCC Code Adoption



Performance Measures

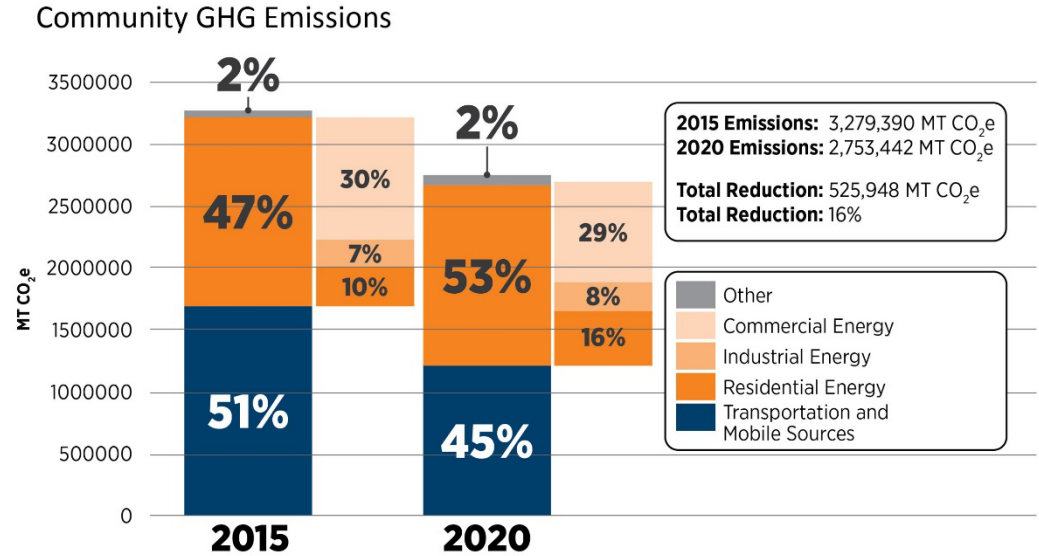
Sustainable Growth and Development

- 4.18 Community Carbon Neutrality
- 4.19 Municipal Carbon Neutrality
- 4.11 Tree Coverage
- 4.03 Water Conservation and Efficiency



What is IgCC and Why do we Care

- Reduces ghg emissions
- Increases life of building
- Reduces heat island affect
- Reduces water consumption
- Reduces dependency on fossil fuels
- City of Tempe currently enforces 2018 IECC
- Climate Action Plan and Update
- Sustainable Facilities Plan
- Takeaways from this slide
 - Construction accounts for half of ghg



What has been done so far

- Incorporated into Climate Action Plan
- Presented concept to council Spring 2022
- Hired consultant DWL & Quest to write code / March 2022
- Hiring Green Program Senior Specialist
- Engaging multiple municipal pilot projects to test the code
- We have done this before
 - Certifying program: Leadership in Energy & Environmental Design (LEED)
 - Tempe Transportation Center
 - East Valley Bus Operations & Maintenance



Tempe Transportation Center

- This seeks to codify what has already been done

Across the Valley (& World)

City of Scottsdale

- 2007 Adoption of LEED
- IgCC Adoption, voluntary Multiple “green” municipal buildings
- Exploring mandate

City of Phoenix

- 2011 LEED use on municipal buildings
- IgCC Adoption, voluntary

Chandler

- 2009 LEED use on municipal buildings
 - City Hall, 2009 LEED
-
- Goal: Learn from peer cities info and customize a code unique to Tempe



Tempe, AZ

- Testing pilot codes in city buildings
- Determining best city standards
- Not formally in building codes or ordinances

IgCC Fire Station 2 design.



Scottsdale, AZ

- Adopted IgCC into green building codes and promotes private sector use
- Offers incentives for developers complying with IgCC
- Not a requirement in for all private development

Street view of IgCC-designed Optima Sonora Village.



San Jose, CA

- Building code requires LEED certification for large buildings
- Any major development must be constructed sustainably
- Building code limited to city and not county

IgCC-designed Immanuel-Sobrato Community apartments.



Israel

- Regional: Green building code spans multiple cities
- Customized: Similar to LEED, the code applies to all types of buildings
- Mandatory: Code will become mandatory for all developments in 2022

Porter School of Environmental and Earth Sciences in Tel Aviv, Israel.

IgCC at the City of Tempe

Testing multiple diverse locations in Tempe:

- Fire Station #2
- Clark Park
- Tempe Municipal Operations Center

- Large & small sites
- Landscape and buildings

- Engaging the IgCC on these projects
 - Learn in real time
- Helps to pilot and proof the code with real construction in our city
- Customize for Tempe



CLARK PARK



TMOC



FIRE STATION

Code Development

- Quest Energy Group is an energy/Green consulting firm that has worked in Tempe over 20 years. Quest has consulted in LEED, Green Globes, and IGCC.
- DWL is an Architecture firm that has worked in Tempe over 70 years. DWL has worked on a variety of green projects.
- Role in IgCC Code Development
 - Expertise (Working with IGCC code for over 10 years)
 - Experience (involvement on dozens of IGCC projects in the valley (Scottsdale, Phoenix, Tempe))



DWL ARCHITECTS+



ASU Police Department



Chandler City Hall

Code Development Process

- **Chapter 5: Site Sustainability**
 - Stormwater Management, Heat Island Impact, Light Pollution, Bicycle Parking, Electric Vehicle Charging, Carpool Parking
- **Chapter 6: Water Use Efficiency**
 - Xeriscape, Low Flow Water Fixtures, Water Meters
- **Chapter 7: Energy Efficiency**
 - Renewables, High Efficiency Equipment, LED Lighting, Meters, Energy Modeling
- **Chapter 8: Indoor Environmental Quality**
 - Minimum Outside Air, Air Filters, No Smoking, Acoustical Design, Air Testing, Dimmable Lighting, Daylighting, Low-VOC Paints,
- **Chapter 9: Materials and Resources**
 - Construction Waste Management, Recycling, Green Materials
- **Chapter 10: Construction and Plans for Operation**
 - Commissioning, Metering, Testing

TMOOC

Acoustics & Air testing TMOOC investigated the cost and value of complying with the acoustical requirements of IGCC. After reviewing the design it was determined that these requirements were:

- Costly to implement
- Provided limited value to the project
- In some cases some elements could be added without add costs to the project. Increasing prescriptive VOC requirements but not require testing.

Learning From Scottsdale

Amended to follow Scottsdale's lead by removing these sections.



Clark Park

Renewables The Clark Team investigated the cost and value of the renewable system requirements of IGCC. It was determined that these requirements were:

- Challenging, but important
- Could be Costly, but flexibility could help

Conclusion was to offer more flexibility with Solar Ready, RECS, or off-site production.



Fire Station 2

Site Vehicle Provisions The Fire Station 2 Team investigated the cost and value of the EV charging and carpool requirements of IGCC. It was determined that these requirements were:

- Challenging, but important.
- With flexibility could be more beneficial

Conclusion: At least 5 percent, of the parking spaces provided shall be designated as preferred parking for low emission, hybrid, electric vehicle charging or carpooling.



Code Development Goals & Going

Forward

- Continue working with partners:
 - Municipal Utilities/Water
 - Engineering & Transportation
 - Community Development Learn from other Cities Experience
- Learn from Pilot Projects
- Refine the code to be successful for:
 - City
 - Developers
 - Community
- Tie in existing policy to lay the foundation for greener codes
- Customize for Tempe and Sonoran Desert



Next Steps

Fall 2022

- Stakeholder & developer outreach
- Public meetings & Boards and Commissions
- Tours and monitoring progress of our pilot projects.
- Review of draft policies with consultant
- Stakeholder tours of city pilot projects
- Complete the IgCC draft

January- Spring 2023

- Adopt IgCC for new municipal building construction (policy)
- Adopt voluntary IgCC city-wide