Tulsa Urban Data Pioneers

Tulsa's City Energy Efficiency Scorecard Team

May 28, 2020

Team Members:

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Contents:

Background and Project Justification

Each year, the American Council for an Energy-Efficient Economy (ACEEE), requests cities to complete its Clean City Energy Scorecard. Participating in the scorecard process allows cities to measure their progress and identify policies and programs that save energy, promote renewable energy, and reduce greenhouse gas emissions across five policy areas: local government operations, community-wide initiatives, buildings, energy and water utilities, and transportation. The 2019 scorecard, for the first time, also included metrics which measure investments in and engagement with low-income communities and communities of color

Unfortunately for the past few years the City of Tulsa has not responded to this information request. Consequently, Tulsa received a very low ranking, second to last, only behind Oklahoma City. This score was reported in national media coverage such as the City Lab article below. We believe that this score was not indicative of the hard work being done by City staff and other Tulsans working to advance clean energy and energy efficiency. This is not to say that we have finished this work – we have a long way to go. However, by responding to the ACEEE scorecard request for information, Tulsa can acquire a more accurate picture of where we are and where we need to go to advance energy efficiency and clean energy in Tulsa.

Due to our previous lack of response, ACEEE was left to research Tulsa's efforts by looking at our publicly available websites and plans. As a result, only 8 of the 80 metrics which ACEEE uses to evaluate cities had information. Consequently many of Tulsa's accomplishments and several exciting initiatives were not included in our evaluation. This resulted in Tulsa scoring 6.5 points out of a possible 100 points and unnecessarily put us at the bottom of a national ranking list.

CITYLAB DESIGN / TRANSPORTATION / ENVIRONMENT / EQUITY / LIFE

Solar panels on the roof of a building that offers individual solar-powered, net-zero-energy apartments in Los Angeles. // Mike Blake/Reuters

How American Cities Score on Clean Energy

LINDA POON AUGUST 1, 2019

The good news: More American cities are taking action. The bad news: There's a lot left to be done.

SHARE TWEET ...

Earlier this year, Washington, D.C., approved what was then the most ambitious climate bill in the nation, requiring utility providers to

***"Ranking in the bottom 10 are cities including** Newark, Jacksonville, Charlotte, **and Tulsa**. "Most of them haven't even set goals yet," says Ribeiro. "Most of them are at the very earliest stages, where it might be that clean energy isn't a priority yet, or maybe they're just getting started."*

City Lab: *How American Cities Score on Clean Energy*

Project Goals

- Respond to the 2020 ACEEE scorecard request by providing Tulsa's full portfolio of relevant efforts
- Establish an accurate baseline of Tulsa's work regarding clean energy and energy efficiency from which build upon efforts, which will raise Tulsa's score
- Provide a framework for future work and goals to advance these initiatives
- Offer recommendations for increasing Tulsa's score in future years.

Methodology and Results

In early March, our team reached out to ACEEE to confirm that the city had again not responded to their information request for the 2020 scorecard which was due in November 2019. We explained that Tulsa Urban Data Pioneers provides an opportunity for city employees to work together with community members to research important issues and concerns facing the city and to issue a visual analytic report to the Mayor and city leadership concerning them. When we asked if we could provide the data requested to complete the scorecard, ACEEE enthusiastically agreed.

With the deadline extended until March 25th, our team worked with City Staff, INCOG, PSO, and others over 3 weeks to systematically request information from relevant departments and organizations to address the 80 metrics on which cities are evaluated by ACEEE.

Through this process we were able to find data on 39 of the 80 metrics. This permitted us to create a comprehensive annotated list of contacts to streamline future efforts to respond to this scorecard, establish a team of interested City staff, INCOG staff, and other stakeholders to take ownership of this effort, and to draft a set of recommendations for the City to consider as it looks for more ways to enhance such efforts.

Though the final 2020 report with our updated score will not be issued by ACEEE for several more months, Tulsa's score should be higher because we were able to provide information on 31 more metrics than in previous years, as can be seen in the table below.

The full scorecard data request, along with our answers can be found at https://tinyurl.com/y8q5loue

ACEEE Scorecard Criteria Focus Area	2019 Score	2020 Scoring Criteria Answered
Local Govt Operations	0.5/9 pts	7 / 13 total
Community-Wide Initiatives	0.5/16 pts	4 / 17 total

Buildings Policies	0/30 pts	6 / 11 total
Energy & Water Utilities	3.5/15 pts	6 / 19 total
Transportation	2/30 pts	16 / 20 total
Total Questions Answered	**~8/80**	**39/80**
Total Points Awarded	**6.5/100**	**TBD/100**

Recommendations

Two sets of recommendations follow. The first is ACEEE's recommendations to the City based on its 2019 score of 6.5 out of 100. The second set of recommendations are from our team are based on our conversations with the relevant stakeholders while completing this project.

ACEEE 2019 Recommendations to Tulsa

- Establish goals for greenhouse gas reduction, energy efficiency, and renewable energy
- Reduce energy use in municipal buildings
- Update energy efficiency and initiate solar-readiness building codes
- Create distributed energy systems
- Improve energy efficiency of water services
- Sustainable transportation initiatives including location-efficient zoning policies and energy-efficient modes of transportation
- Adopt policies and programs to mitigate urban heat island effects
- Involve marginalized communities in planning and implementation

Our Team's Recommendations for Next Steps

- Explore how the scorecard metrics can be integrated into PLANITULSA, the Office of Resilience and Equity, Office Economic Development and Affordable Housing Strategy
- Municipal engagement with utilities to advance renewable energy and energy efficiency (i.e. PSO franchise agreement and PSO commercial cost efficiency program)
- Increase Tulsa's engagement with the Oklahoma Corporation Commission proceedings to support renewable energy and energy efficiency projects
- Survey this year's scorecard team about process/priorities
- Track greenhouse gas emissions and benchmark buildings' energy usage
- 10-year update of Tulsa's 2011 Sustainability Plan
- Community conversations or advisory board concerning sustainability, energy equity, and climate preparedness
- Interdepartmental coordination of sustainability efforts and the advancement of energy efficiency and renewable energy (Reopen the Office of Sustainability?)
- Tulsa Data Pioneer project to map Tulsa's energy burden

A power point presentation summarizing our methodology, findings and recommendations was given at the online Tulsa Urban Data Pioneer Report Out meeting on March 26

Conclusion

As most of the readers of this report will likely know, Tulsa is actively engaged in the process building the healthy, resilient, prosperous and equitable city its citizens envision for the future. Advancing energy efficiency, clean renewable energy and other sustainability initiatives will further Tulsa along its ambitious goals to become "a leader in sustainability, carbon neutrality, and the efficient use of natural resources." More than 60 specific sustainability initiatives supported by dozens of case studies have already been identified in 2011 City of Tulsa Sustainability. Eight years later, in 2019, 54% of Tulsa county residents surveyed by the Yale Program on Climate Change Communication, stated they thought that their local government officials should be doing more about climate change (Appendix B).

Through our research, our team found that the City of Tulsa is doing much more than the public realizes it is doing to be good stewards of our natural resources and to meet our current needs without compromising the ability of future generations to meet theirs. We can and should do more.

It is our hope that through our team's efforts, a baseline has been established upon which we can further expand and improve our city's climate preparedness, resilience, innovation, health equity, affordable housing and sustainability efforts. Through this process and backed up by our experiences as proud members the Tulsa community, it is apparent to us that there is no shortage of committed individuals, both civil servants and private citizens, who have the expertise and drive to work with the city to advance these efforts.

As the City of Tulsa takes the opportunity to review it's 10-year old comprehensive plan, PLANiTULSA and adapt its priorities, goals and policies to reflect new challenges and changing conditions, the ACEEE Clean City Energy Score can be utilized to provide specific guidance and best practices.

Appendix A: Tulsa's 2019 ACEEE Scorecard Results

RANK

74 /75

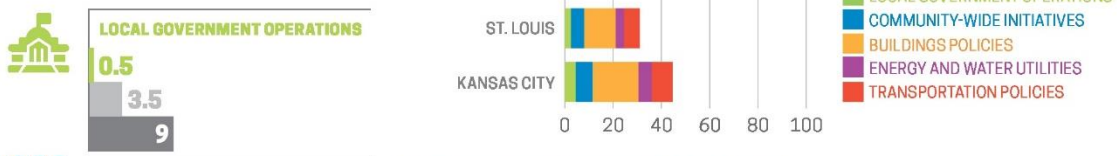
2019 CITY CLEAN ENERGY SCORECARD

Tulsa

OVERALL SCORE

6.5 /100

Tulsa has few clean energy policies, so it has substantial room to improve across the board. To jump-start its efforts, the city can focus on its own operations by reducing energy waste in government assets. It also can pursue other foundational clean energy policies like developing community-wide greenhouse gas (GHG) emissions reduction, energy-savings, and renewable energy goals; adopting a more stringent building energy code; and creating a sustainable transportation plan to reduce vehicle miles traveled (VMT) citywide. These could serve as stepping stones to a clean energy future in Tulsa.



LOCAL GOVERNMENT OPERATIONS (0.5 OF 9 POINTS)

Tulsa has a policy requiring that all replacement vehicles in its fleet have a higher fuel efficiency than the vehicles they replace. ACEEE did not identify other initiatives Tulsa has taken to reduce GHG emissions or energy use in local government operations. Tulsa can jump-start its efforts by establishing climate and energy goals and reducing energy use in new and existing municipal buildings.

COMMUNITY-WIDE INITIATIVES (0.5 OF 16 POINTS)

Tulsa established a goal of increasing the urban tree canopy to 30% by 2036 to mitigate the urban heat island effect, but otherwise the city has few community-wide initiatives aimed at reducing GHG. To inspire future clean energy efforts, the city can set GHG reduction, energy-savings, and renewable energy goals. It can take steps to achieve these goals by involving marginalized communities in planning and implementing initiatives; by supporting clean, efficient distributed energy systems; and by adopting programs and policies aimed at mitigating the urban heat island effect.

BUILDINGS POLICIES (0 OF 30 POINTS)

Oklahoma allows jurisdictions to adopt codes more stringent than those mandated by the state. Tulsa adopted the 2006 International Energy Conservation Code (IECC) for commercial buildings and 2015 International Residential Code (IRC) for residential buildings, but neither is stringent. ACEEE did not identify any programs run by Tulsa that are geared toward increasing energy efficiency in existing buildings. Tulsa can do more to encourage energy efficiency and renewable energy in buildings by updating its codes, creating more incentives, and establishing clean energy requirements.

ENERGY AND WATER UTILITIES (3.5 OF 15 POINTS)

Compared to other utilities, Public Service Company of Oklahoma shows low savings for electric efficiency programs while Oklahoma Natural Gas shows moderate savings for natural gas efficiency programs. Public Service Company of Oklahoma offers comprehensive programs for low-income and multifamily households; however the utility does not offer incentives for the construction of new distributed solar or wind systems. Tulsa could also improve the energy efficiency of water services.

TRANSPORTATION POLICIES (2 OF 30 POINTS)

Tulsa has adopted a comprehensive complete streets policy, but has few sustainable transportation initiatives. To improve its standing in the next *Scorecard*, the city could develop a sustainable transportation plan, enact location-efficient zoning policies, and encourage energy-efficient modes of transportation.

ACEEE

American Council for an Energy-Efficient Economy

Appendix B: Survey Data on Climate Change Opinions in Tulsa County

TULSA COUNTY, OKLAHOMA

Public Opinion on Climate Change, 2019

YALE PROGRAM ON Climate Change Communication

Public opinion data come from the Yale Climate Opinion Maps (YCOM), which are based on a statistical model that employs nationally representative Climate Change in the American Mind (CCAM) surveys conducted between 2008 and 2019. The model combines geographic, census, socioeconomic, and political data with CCAM survey data collected by the Yale Program on Climate Change Communication and George Mason University Center for Climate Change Communication (combined n > 24,000). For more information about the survey question wording and methodology, please visit YCOM: climatecommunication.yale.edu/visualizations-data/ycom-us

Beliefs

Global Warming is Happening

Tulsa County, Oklahoma

Oklahoma average **(59%)**

Global warming is caused mostly by human activities **51%**

Most scientists think global warming is happening **43%**

Global warming is affecting the weather **53%**

Risk Perceptions

Worried about Global Warming

Tulsa County, Oklahoma

Oklahoma average **(52%)**

Global warming will harm future generations **60%**

Global warming will harm people in the developing countries **55%**

Global warming will harm people in the US **52%**

Global warming will harm me personally **38%**

Policy Support

Schools Should Teach Global Warming

Tulsa County, Oklahoma

Oklahoma average **(71%)**

Fund research into renewable energy sources **78%**

Provide tax rebates for energy efficient vehicles or solar panels **79%**

Regulate CO_2 as a pollutant **68%**

Set strict CO_2 limits on existing coal-fired power plants **64%**

Behaviors

Discuss global warming at least occasionally **32%**

Hear about global warming in the media at least once a week **32%**

Who should do more about global warming?

The President	Congress	My Governor	My Local Govt. Officials	Citizens	Corporations
57%	58%	54%	54%	61%	64%

Color Legend

>0%	>10%	>20%	>30%	>40%	>50%	>60%	>70%	>80%	>90%

For help / questions, please contact: climatechange@yale.edu

In partnership with UCSB University of California Santa Barbara, Utah State University

Yale Program on Climate Change Communication 2019

Source: https://climatecommunication.yale.edu/visualizations-data/factsheets/

Appendix C: About ACEEE and the City Clean Energy Scorecard

ACEEE is a nonprofit, 501(c)(3) organization, seeking to advance energy efficiency policies, programs, technologies, investments, and behaviors.

By using energy more productively, reducing costs, protecting the environment, and promoting the health, safety, and well-being of everyone, ACEEE hopes to build a vibrant, equitable and resilient economy.

The full implementation of available energy efficiency measures according to ACEEE researchers, have the potential to cut US energy use and greenhouse gas emissions by 50% by 2050.

Given that cities consume over two-thirds of the world's energy and account for more than 70% of global CO2 emissions, while also being the centers of commerce and innovation, cities are well-positioned to provide leadership in crafting solutions to climate change.

The City Clean Energy Scorecard helps cities measure their progress and identify policies and programs that save energy, promote renewable energy, and reduce greenhouse gas emissions across 5 policy areas: local government operations, community-wide initiatives, buildings, energy and water utilities, and transportation.

The 2019 scorecard now also provides metrics for the extent to which marginalized communities or local organizations representing those communities are involved in the creation and/ or implementation of a local energy, sustainability, or climate action plan.

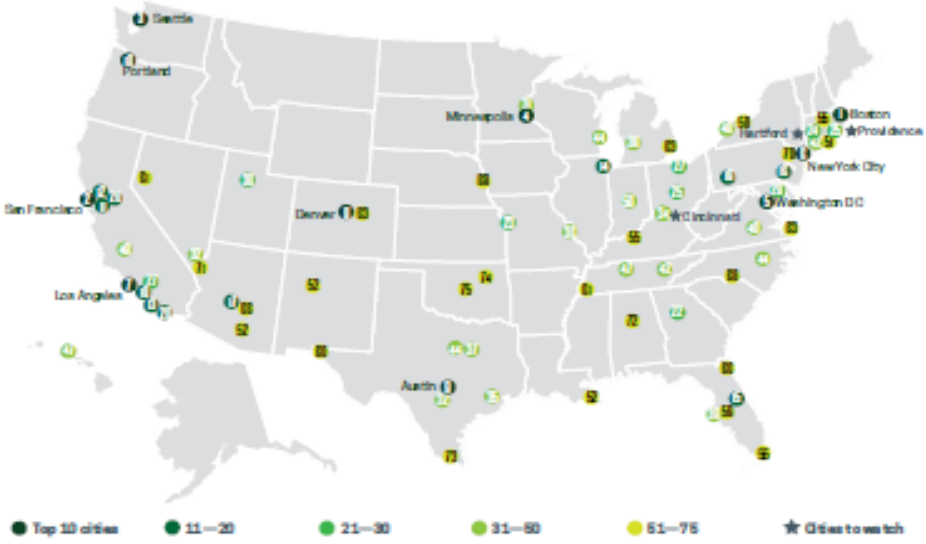
Participating in the Clean City Scorecard process

- Allows comparisons with other cities
- Helps evaluate Tulsa's performance in specific policy areas
- Provides options to advance energy efficiency and renewable energy
- Offers city-specific policy recommendations from experienced experts
- Provides case studies of city-specific practices

2019 CITY CLEAN ENERGY SCORECARD

United States

The *City Scorecard* captures examples of local leadership on climate action across the country. Boston is leading the way with outstanding clean energy policies. Others at the top—like San Francisco, Seattle, Minneapolis, and Washington—are also continuing to push the envelope. The leading cities face competition from several that have redoubled their efforts. San José nearly broke into the top 10 for the first time this year on the strength of its policies like the Energy and Water Building Performance Ordinance. We also identified Cincinnati, Hartford, and Providence as cities to watch: Each of them climbed in the rankings and stood out in its pursuit of clean energy policies. Across the country, between January 2017 and April 2019, the cities we assessed took more than 265 actions—new initiatives or expansions of past ones—to advance their clean energy agendas. At the same time, all of them can do more to meet their climate change mitigation goals by pushing for innovative buildings policies, tackling transportation emissions, and tracking progress to prioritize investments as they continue to build prosperous low-carbon communities.



LOCAL GOVERNMENT OPERATIONS | MEDIAN SCORE: 3.5/9

Austin, Boston, Orlando, Portland and San Francisco performed best for local government operations. All have set policies to increase efficiency in city government, procurement, and asset management. Across all cities, most municipalities did not perform well for their climate change mitigation, energy savings, and renewable electricity goals. While many cities have such objectives, few earned full points since their goals are not overly stringent and their progress toward achieving them is uneven. Thirty-nine cities aim to reduce greenhouse gas (GHG) emissions from their local government operations, but we projected only 17 to be on track. On the other hand, cities scored well for their procurement and construction policies and their asset management strategies. Many of them have above-code green building requirements and benchmark all local government buildings over 5,000 square feet.

COMMUNITY-WIDE INITIATIVES | MEDIAN SCORE: 4.5/16

Washington, Seattle, Cleveland, Denver, Minneapolis, Orlando, and Phoenix were the highest scoring cities for community-wide initiatives. All of them have adopted climate and energy goals, policies that support the creation of at least one type of distributed energy system, and initiatives to mitigate the urban heat island effect. All but two address equity in their clean energy planning and implementation. In fact most of the cities we reviewed have adopted community-wide climate and energy goals, and many have adopted new goals or strengthened existing ones since the last *Scorecard*. However few cities saw their climate goals translate into points: Whereas 34 earned points for GHG goal stringency, only 11 showed they were on track to achieve them. Cities can remedy this by adopting more aggressive climate goals and annually measuring progress towards them. In other areas, on-site renewables and community solar systems are twice as likely as district energy and combined heat and power to win policy support, even though all these systems can help achieve clean energy goals. Cities fared well in urban heat island mitigation, with over 60 having a goal or policy in place to reduce elevated urban temperatures. However just 24 cities scored points for equity-driven climate and energy planning, and only Minneapolis, Seattle, and Providence earned full points here. Most cities can do better in the way of equitable clean energy planning and implementation.

BUILDINGS POLICIES | MEDIAN SCORE: 9/30

Boston, New York, San Jose, Seattle, Los Angeles, and San Francisco performed best for buildings policies. These six cities show their commitment to reducing building energy use through stringent energy codes, solar- and EV-readiness policies, benchmarking ordinances, and energy-action requirements. Across the board, cities have increased their efforts to reduce energy consumption in private buildings since the 2017 *City Scorecard*. Nine have adopted more-stringent building energy codes, and several states now have codes that apply in all their cities. Five cities have adopted benchmarking policies, including single-family and multifamily benchmarking in Minneapolis. Seven passed energy-action requirements, including building labeling ordinances in Chicago and New York and energy performance standards in Washington. Other cities have more to do since the majority of them do not have benchmarking requirements or energy-action requirements in place.

ACEEE
American Council for an Energy-Efficient Economy

United States

ENERGY AND WATER UTILITIES | MEDIAN SCORE: 5.5/15

San Diego, Los Angeles, Boston, Chula Vista, Minneapolis, and San Francisco were the top scorers for energy and water utilities. The energy efficiency programs of the utilities serving these cities offer high levels of savings, and the utilities and cities are working to increase their supply of and use of renewable energy. Across all utilities, we found that few achieved either electric or natural gas savings greater than 2%. Yet more cities have developed formal partnerships with their utilities, and many utilities are continuing to improve and expand their low-income and multifamily programs. At the same time, many cities can ramp up their efforts to encourage local decarbonization of their utility grids. No city earned full credit for the renewable energy efforts of its utilities, and about 40% earned no points at all in this area. We found it more encouraging that six cities—Austin, Columbus, Denver, Los Angeles, San Diego, and Seattle—earned full credit for energy savings initiatives in drinking water and wastewater services.

TRANSPORTATION POLICIES | MEDIAN SCORE: 8.5/30

San Francisco, Washington, Boston, Portland, and Seattle performed best for transportation policies. They are dedicated to reducing transportation energy use through location efficiency strategies, shifts to efficient modes of transportation, and transit investments. Overall, 16 cities applied vehicle miles traveled (VMT) or GHG reduction targets to transportation emissions, but only 6 showed measurable progress toward goals. Eighteen cities had mode share targets that covered not only single-occupancy vehicles and public transit but also biking and walking. Cities performed best for their location efficiency and mode shift efforts as they recognized the need for clean transportation options and land-use changes to support them. In general, though, while a number of cities are making strides in reducing GHGs from transportation, they could all do more to reduce their transportation-related emissions and energy consumption, particularly through policies that target transportation systems as a whole in addition to vehicle-specific approaches.

FULL CITY RANKINGS

Top 10 cities

1. Boston
2. San Francisco
3. Seattle
4. Minneapolis
5. Washington
6. New York City
7. Los Angeles
8. Denver
9. Austin
10. Portland

11—20

11. San José
12. Oakland
13. San Diego
14. Chicago
15. Orlando
16. Philadelphia
17. Phoenix
18. Long Beach
19. Pittsburgh
20. Sacramento
20. Chula Vista, CA

21—30

22. Atlanta
23. Kansas City
24. Hartford
25. Providence
25. Columbus
27. Cleveland
27. Riverside, CA
29. Baltimore
30. Salt Lake City

31—50

31. St. Paul
32. San Antonio
32. Las Vegas
34. Cincinnati
35. Houston
36. St. Louis
37. Dallas
38. Grand Rapids
39. St. Petersburg
40. Richmond
40. Buffalo
42. Bridgeport, CT
42. Knoxville
44. Milwaukee
44. Raleigh
44. Fort Worth
47. Nashville
47. Honolulu
49. Bakersfield
50. Indianapolis

51—75

51. New Haven
52. New Orleans
52. Tucson
52. Albuquerque
55. Louisville
55. Miami
55. Worcester
58. Rochester
59. Tampa
60. El Paso
61. Reno
61. Memphis
63. Virginia Beach
63. Aurora
63. Detroit
66. Jacksonville
66. Mesa
68. Charlotte
69. Omaha
70. Newark
71. Henderson, NV
72. Birmingham
73. McAllen, TX
74. Tulsa
75. Oklahoma City

★ Cities to watch

Hartford
Providence
Cincinnati

Appendix D: Annotated Contact List for Future Scorecard Efforts

Question #	Answer Submitted?	Contact Name	Employer	Contact Info	Alt Name	Employer	Contact Info	Alt Name	Employer	Contact Info
1.1	Yes	Luisa Krug	INCOG	lkrug@incog.org						
1.2	No									
1.3	No									
1.4	No									
1.5	Yes	Randy Cloud	MTTA	rcloud@tulsatransit.org	Brian Franklin	City of Tulsa	bfranklin@cityoftulsa.org			
1.6	Yes	Randy Cloud	MTTA	rcloud@tulsatransit.org						
1.7	Yes	Adriane Jaynes	INCOG	ajaynes@incog.org						
1.8	Yes	Daniel Jeffries	INCOG	djeffries@incog.org						
1.9	Yes	George Heady	PSO	N/A	Jeff Brown	PSO	jebrown1@aep.com	Terry Ball	City of Tulsa	TBALL@cityoftulsa.org
1.10	No	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
1.11	No	Tanya Wade	City of Tulsa	twade@cityoftulsa.org	Thomas Chandler	City of Tulsa	(918)596-9389			
1.12	Yes									
1.13	Yes	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
2.1	No									
2.2	No									
2.3	No									
2.4	No									
2.5	No				Jeff Brown	PSO	jebrown1@aep.com			
2.6	No	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
2.7	No	Krystal Reyes	City of Tulsa	kreyes@cityoftulsa.org	Corey Williams	Sustainable Tulsa	corey@sustainabletulsainc.org	Mary Kell	City of Tulsa	
2.8	No	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
2.9	Yes	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
2.10	No	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
2.11	No	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
2.12	No	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
2.13	No	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
2.14	No	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
2.15	No									
2.16	Yes	John Tankard	INCOG	jtankard@incog.org						
2.17	Yes	John Tankard	INCOG	jtankard@incog.org						
3.1	Yes	Adriane Jaynes	INCOG	ajaynes@incog.org						
3.2	Yes	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
3.3	Yes	Tanya Wade	City of Tulsa	twade@cityoftulsa.org	Jeff Brown	PSO	jebrown1@aep.com			
3.4	Yes	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
3.5	No	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
3.6	No	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
3.7	No	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
3.8	Yes	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
3.9	No	Tanya Wade	City of Tulsa	twade@cityoftulsa.org						
3.10	Yes	Vernon Seaman	INCOG	vseaman@incog.org		City of Tulsa				
3.11	Yes	Vernon Seaman	INCOG	vseaman@incog.org		City of Tulsa				
4.1	Yes	Adriane Jaynes	INCOG	ajaynes@incog.org						
4.2	No									
4.3	No	Becky Gligo	City of Tulsa	bgligo@cityoftulsa.org						
4.4	No									
4.5	No									
4.6	No									
4.7	No									
4.8	Yes	Tanya Wade	City of Tulsa	twade@cityoftulsa.org	Austin Chapman	INCOG	achapman@incog.org			
4.9	Yes	Tanya Wade	City of Tulsa	twade@cityoftulsa.org	Austin Chapman	INCOG	achapman@incog.org			
4.10	Yes	Tanya Wade	City of Tulsa	twade@cityoftulsa.org	Austin Chapman	INCOG	achapman@incog.org			

4.11	Yes	Tanya Wade	City of Tulsa	twade@cityoftulsa.org	Austin Chapman	INCOG	achapman@incog.org			
4.12	Yes	Adriane Jaynes	INCOG	ajaynes@incog.org						
4.13	Yes	Becky Gligo	City of Tulsa	bgligo@cityoftulsa.org						
4.14	No									
4.15	No									
4.16	Yes	Corey Williams	Sustainable Tulsa	corey@sustainabletulsainc	Adriane Jaynes	INCOG	ajaynes@incog.org			
4.17	No									
4.18	No									
4.19	No	Tanya Wade	City of Tulsa							
5.1	Yes	Chase Phillips	INCOG	cphillips@incog.org	Adriane Jaynes	INCOG	ajaynes@incog.org			
5.2	Yes	Adriane Jaynes	INCOG		Emily Smith	INCOG	esmith@incog.org			
5.3	Yes	Emily Smith	INCOG		Adriane Jaynes	INCOG	ajaynes@incog.org			
5.4	Yes	Luisa Krug	INCOG	lkrug@incog.org	Daniel Jeffries	INCOG	djeffries@incog.org			
5.5	Yes	Daniel Jeffries	INCOG	djeffries@incog.org						
5.6	Yes	Daniel Jeffries	INCOG	djeffries@incog.org						
5.7	Yes	Chase Phillips	INCOG	cphillips@incog.org						
5.8	Yes	Chase Phillips	INCOG	cphillips@incog.org						
5.9	No									
5.10	Yes	Katie Sawicki	This Machine	katie@thismachinetulsa.co	Jane Ziegler	INCOG	jziegler@incog.org			
5.11	No									
5.12	Yes	Jane Ziegler	INCOG	jziegler@incog.org						
5.13	No									
5.14	Yes	Adriane Jaynes	INCOG	ajaynes@incog.org						
5.15	Yes	Adriane Jaynes	INCOG	ajaynes@incog.org						
5.16	No									
5.17	Yes	Brian Bigbie	INCOG		Viplav Putta	INCOG	vputta@incog.org	Adriane Jaynes	INCOG	ajaynes@incog.org
5.18	Yes	Daniel Jeffries	INCOG	djeffries@incog.org						
5.19	Yes	Chase Phillips	INCOG	cphillips@incog.org	Liann Alfaro	MTTA	lalfaro@tulsatransit.org			
5.20	Yes	Adriane Jaynes	INCOG	ajaynes@incog.org						