



"Equity in Active Vehicle
Transportation Programs
and Projects - the need to
measure and do it well"

2020 Western &
Mountain
Districts Annual
Meeting



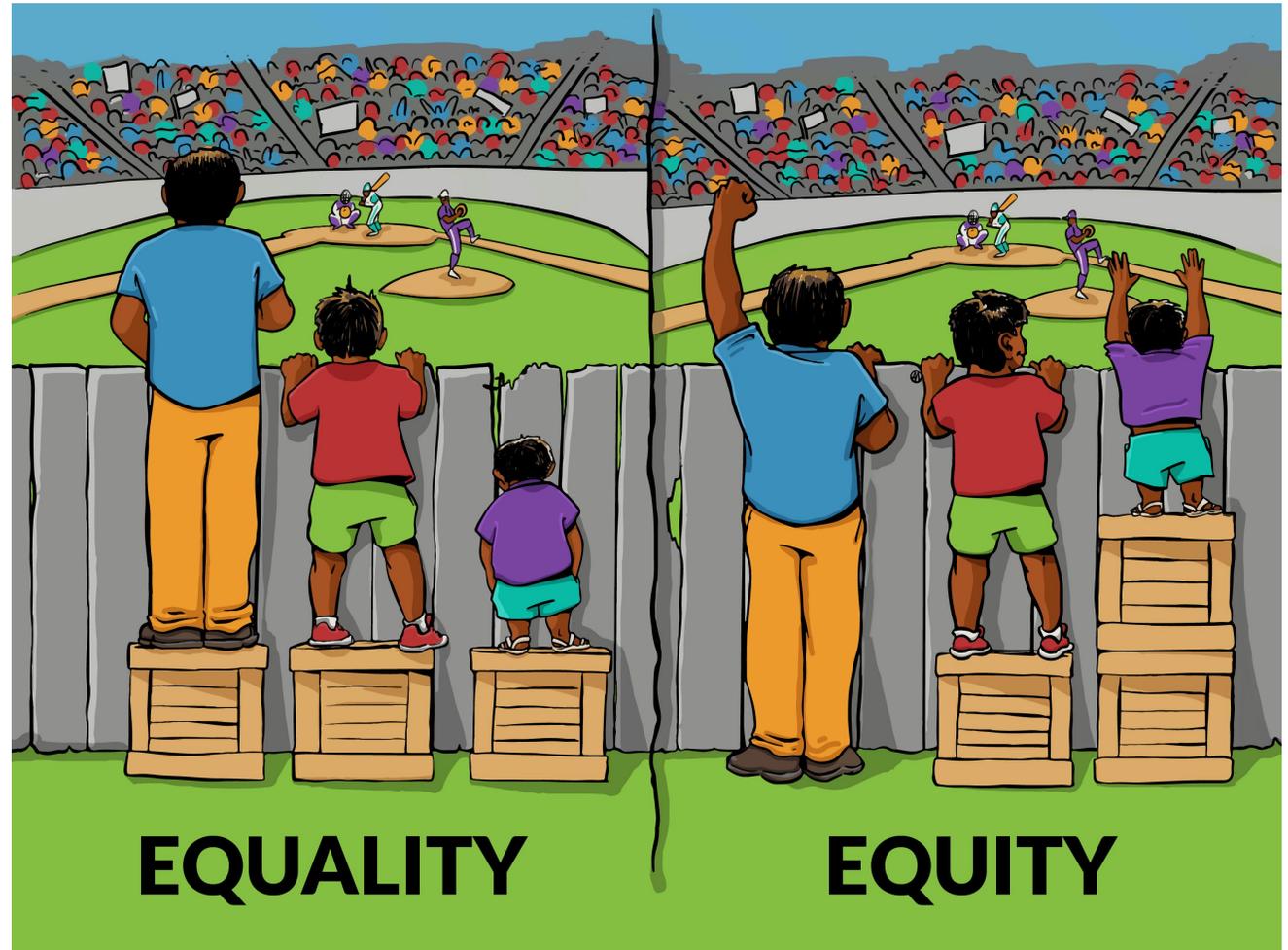


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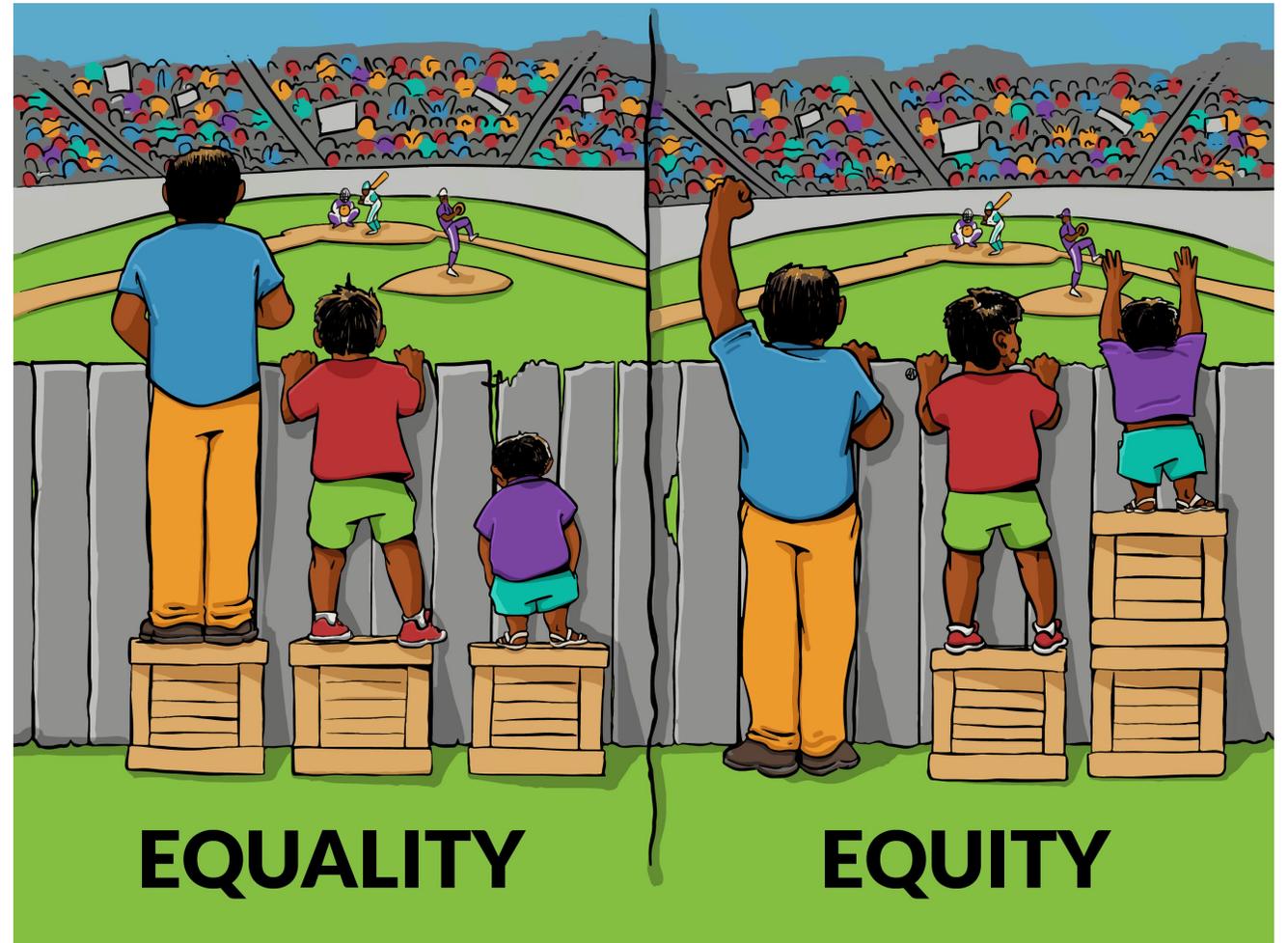
Agenda:

- Equity - meaning?
- Why active Transportation vehicles?
- Objectives
- Method
- Result
- Conclusion (working)
- Study cases (AZ)
- Future

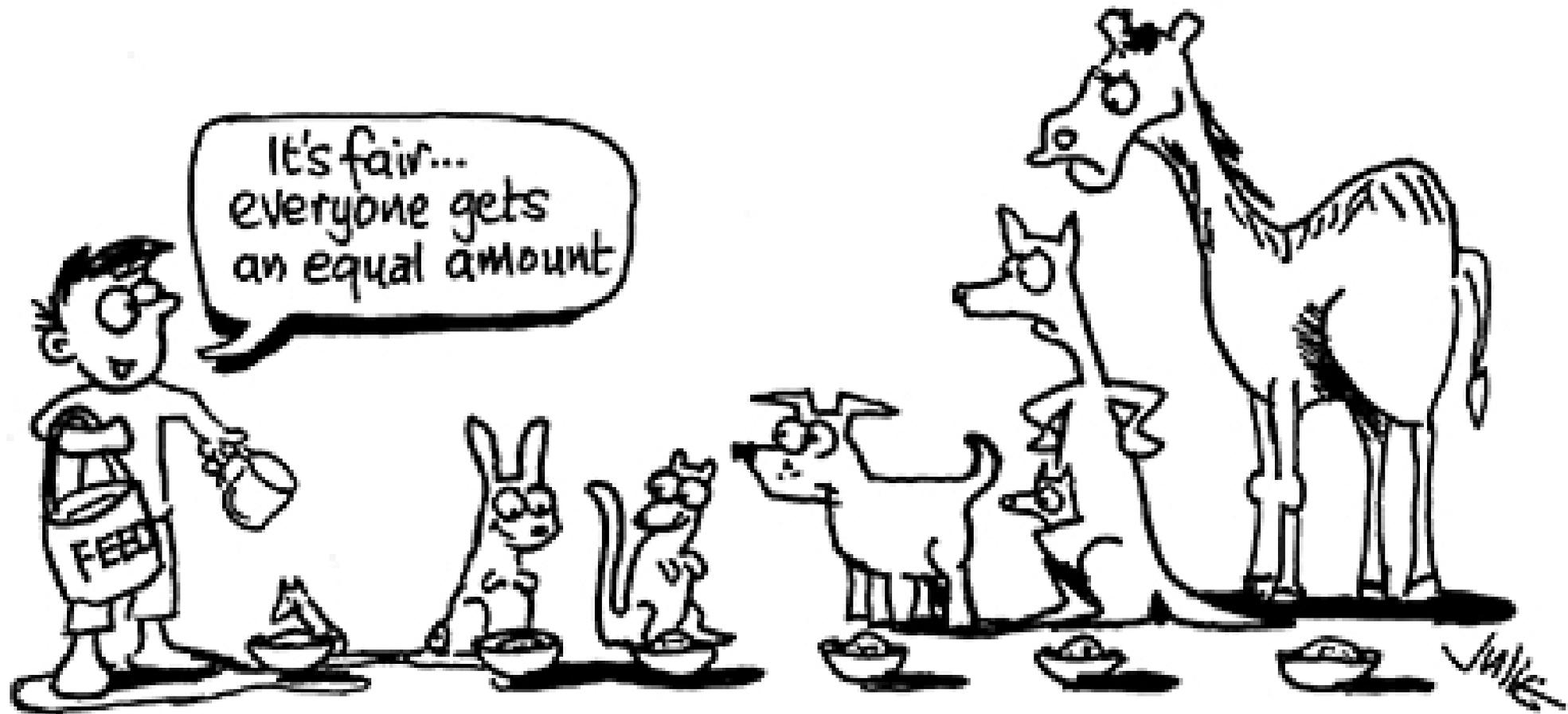


Agenda:

- Equity - meaning?



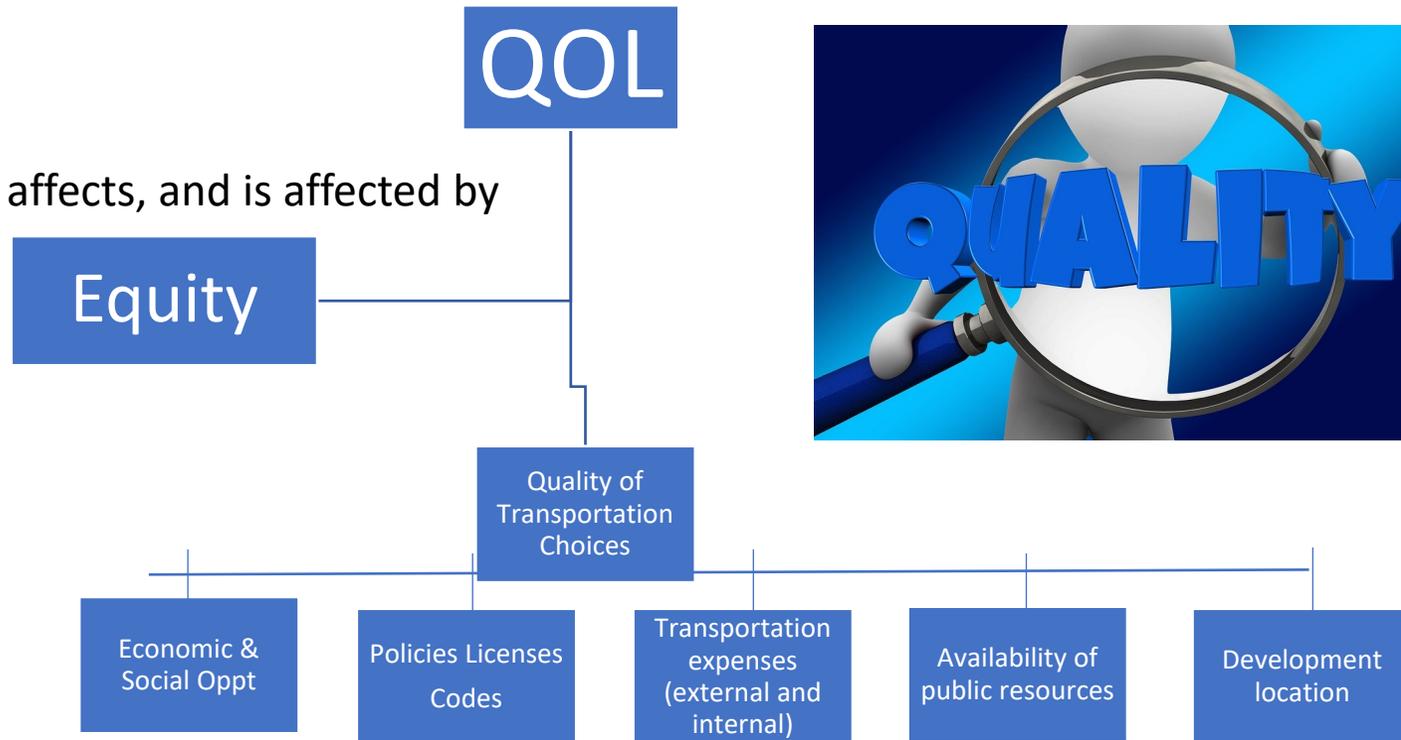
Equity: fairness with which impacts (benefits and costs) are distributed



The Importance of evaluating equity, especially when evaluating the net benefits and the success of public transportation, is the evaluation of the impact that transportation planning decisions has on **quality of life.**

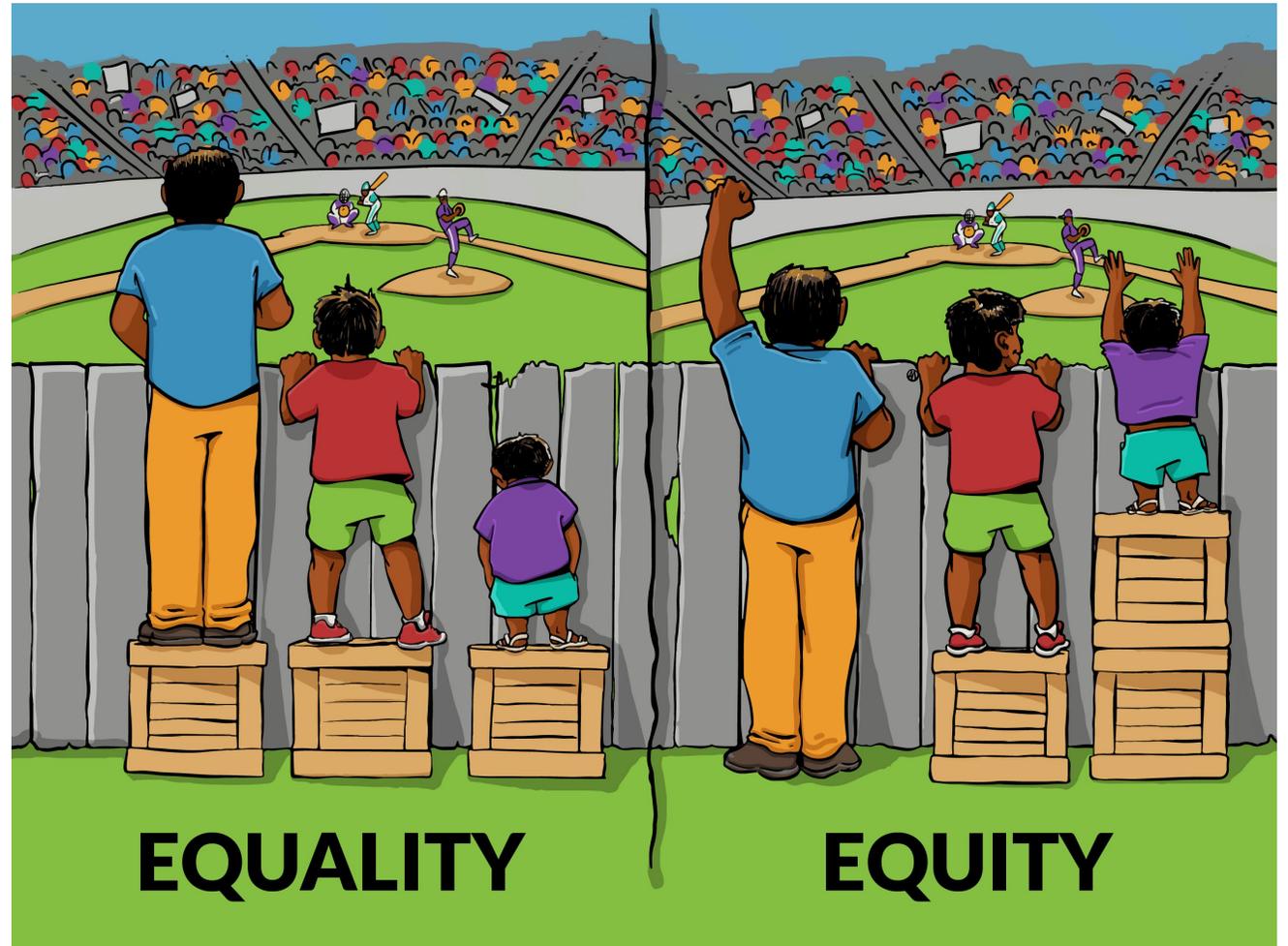


QOL: Equity affects, and is affected by



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Update (April 17, 2019): NACTO's Newest Report, Shared Micromobility in the U.S.: 2018, updates these figures with 2018 ridership numbers, including those of e-scooter systems

 **12 MINUTES**

Average trip for members

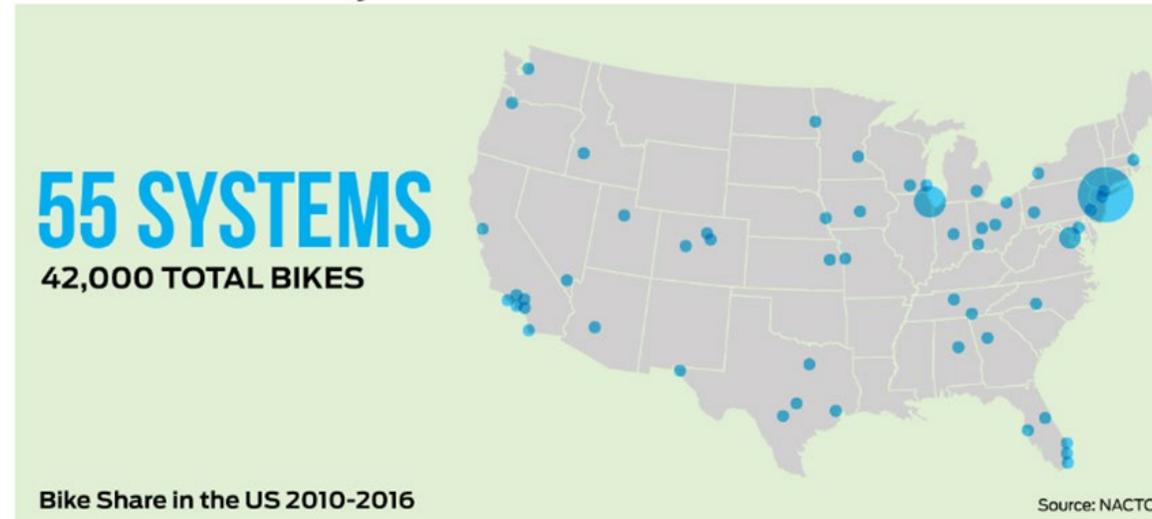
 **25 MINUTES**

Average trip for casual users

Bike Share in the US 2010-2016

Source: NACTO

The Number of Systems Continues to Grow



88 MILLION

TRIPS SINCE 2010

Bike Share in the US 2010-2016

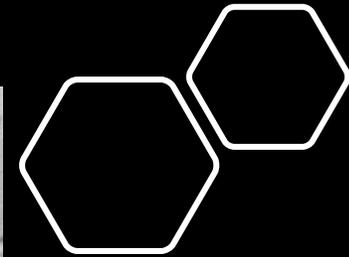
Source: NACTO





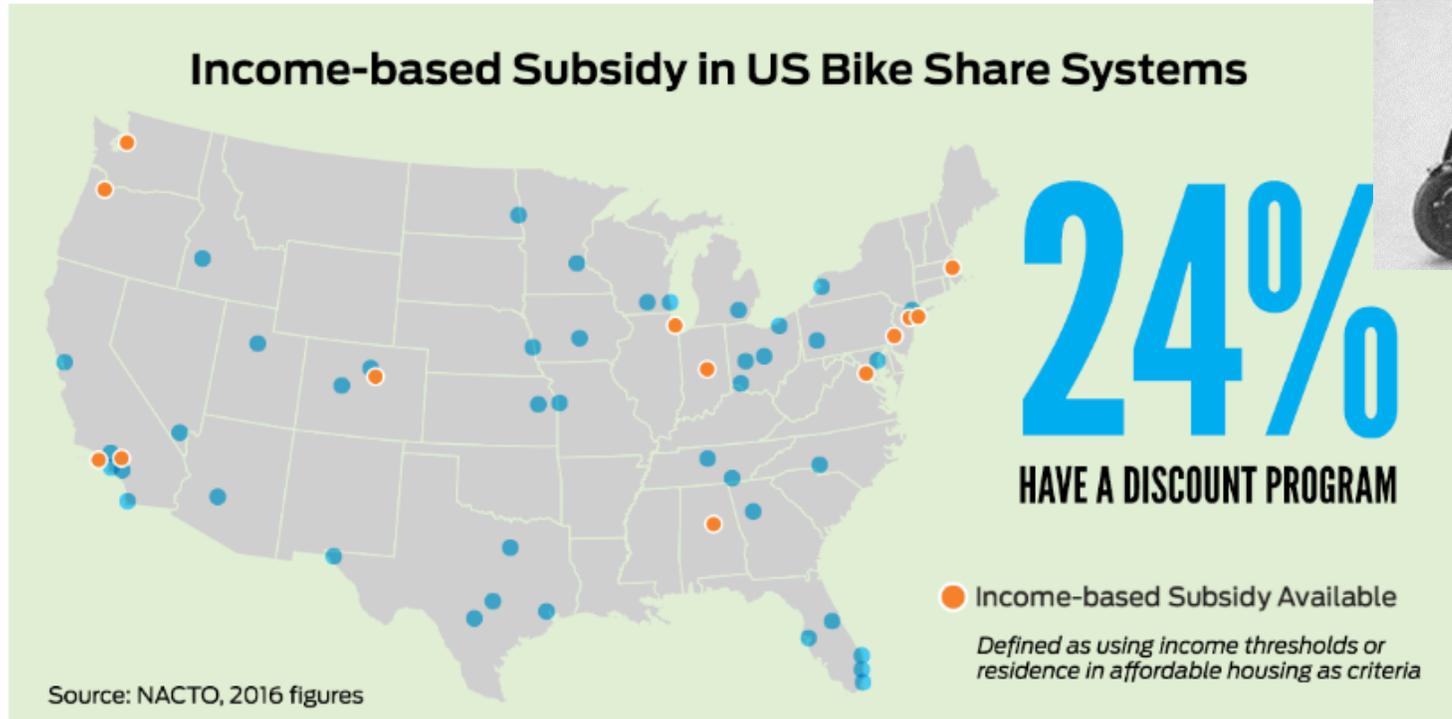
Very few professionals can be involved in the beginning of a new thinking manner involving an old mode of transportation.

Income-Based Subsidized Passes are Becoming More Common



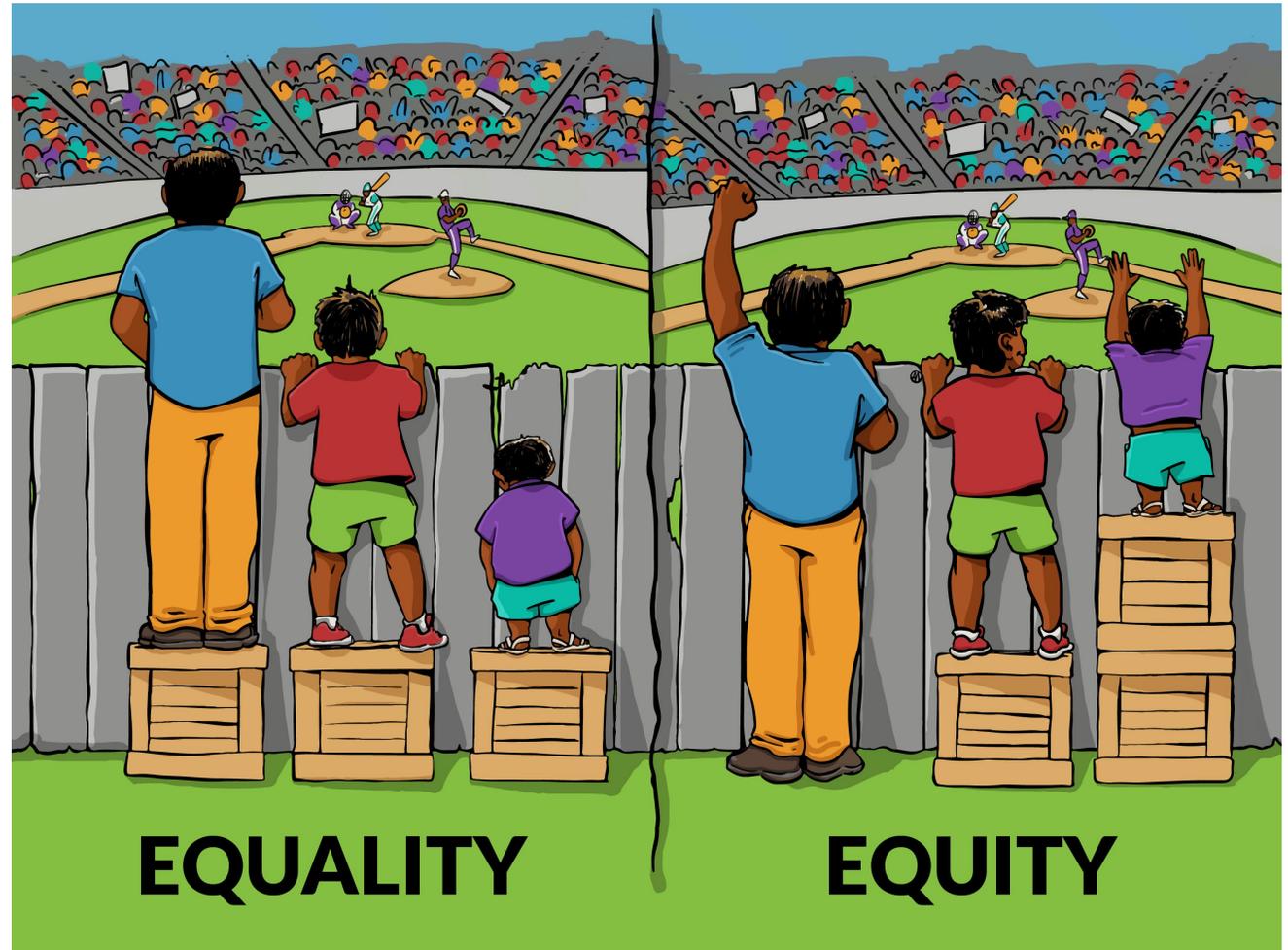
Goal: All markets should have an "Equity-based" program

Why must we include equity? Simply, we need to balance the finite resources of any transportation system, and the balancing act should be fair and equitable.



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- Objectives



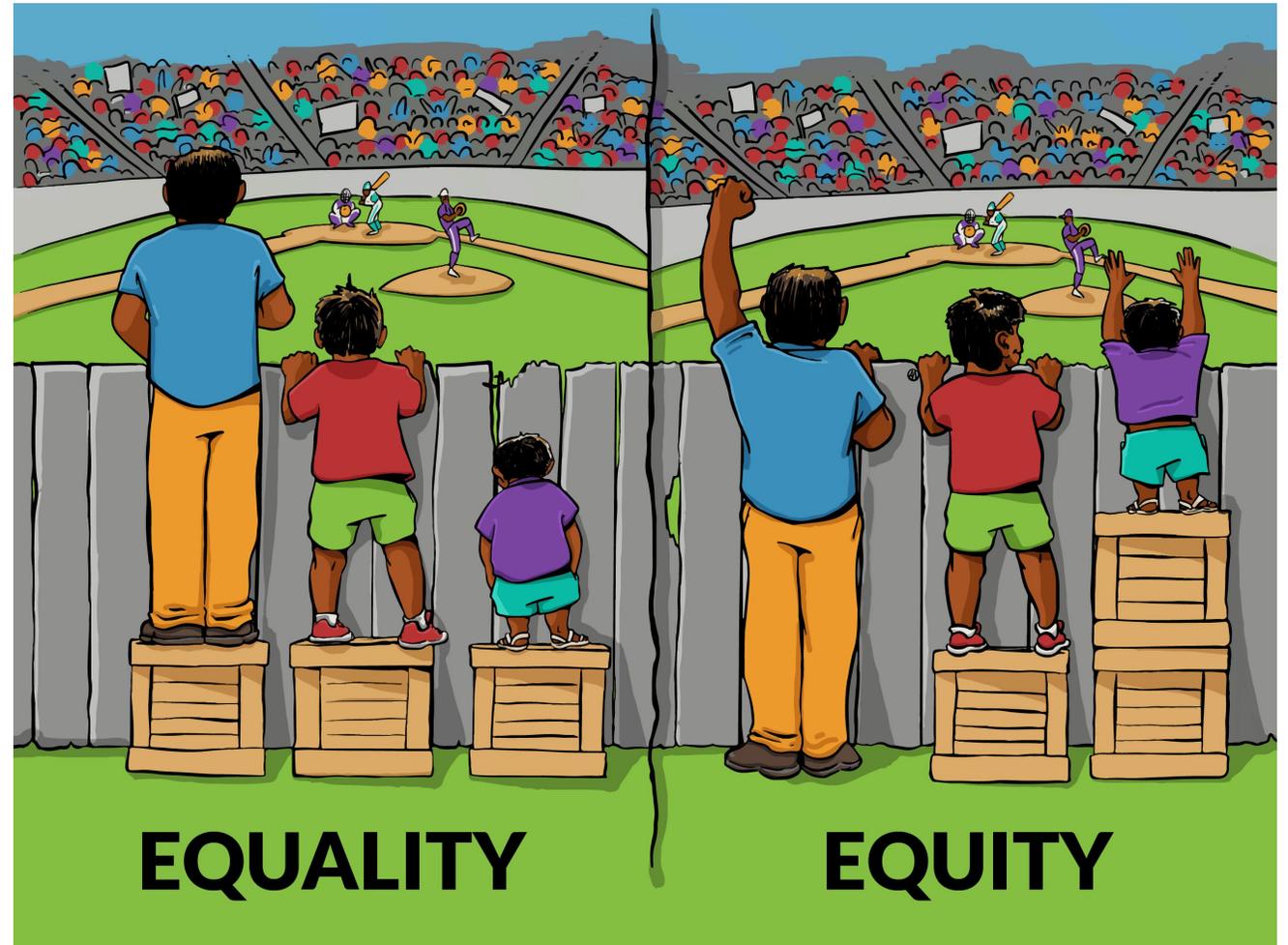
Objectives:

- 1. Identify the perception on what the users see as important and identify the tradeoffs that are part of their decision process.
- 2. Determine (through survey) if an ATV program should be equitable and the definition of what this means.
- 3. Determine if the results represent what program managers, ATV vendors, and public transportation officials measure when determining if their program is equitable and if these measures are used to define the success of their program.
- 4. Finally, determine if an equity measure is needed and recommend a methodology for measuring equity.



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- Background & Method



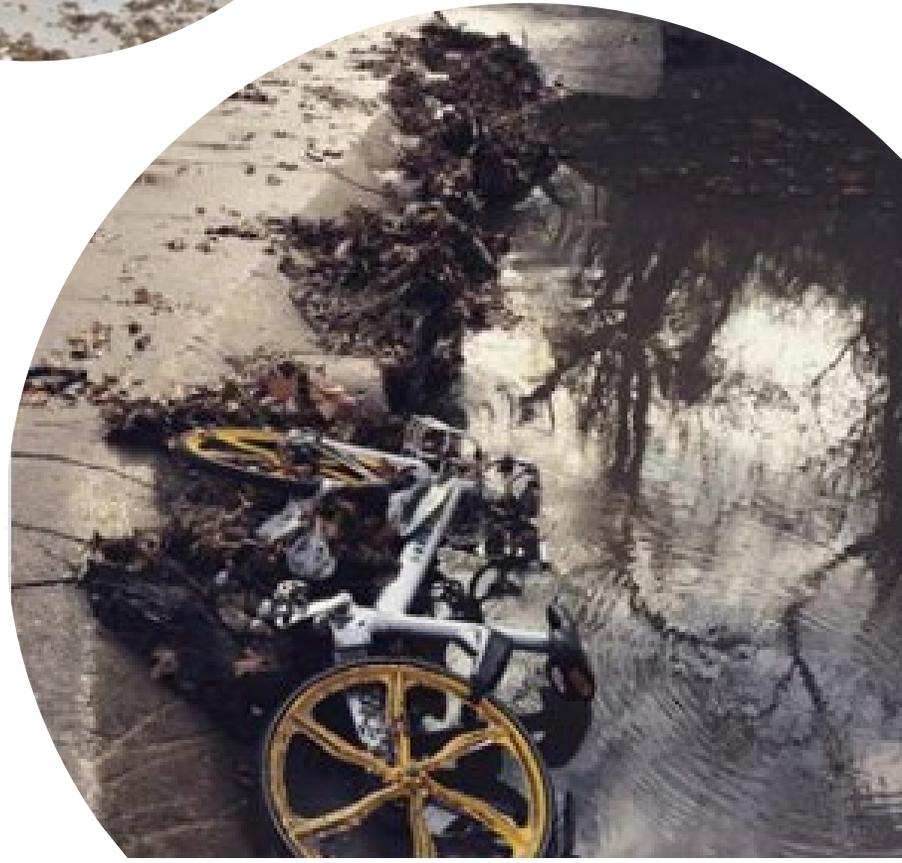
Background:

- One of the first community bicycle projects in the United States was started in Portland, Oregon in 1994 by civic and environmental activists Tom O'Keefe, Joe Keating and Steve Gunther.
 - **Approach:** of simply releasing several bicycles to the streets for unrestricted use.
 - **While Portland's Yellow Bike Project was successful in terms of publicity, it proved unsustainable due to theft and vandalism of the bicycles.**
- The Yellow Bike Project was eventually terminated and replaced with **the Create A Commuter (CAC) program**, which provides free secondhand bicycles to certain preselected low-income and disadvantaged people who need a bicycle to get to work or attend job training courses.
- ***FUTURE: Community & convenient programs.***



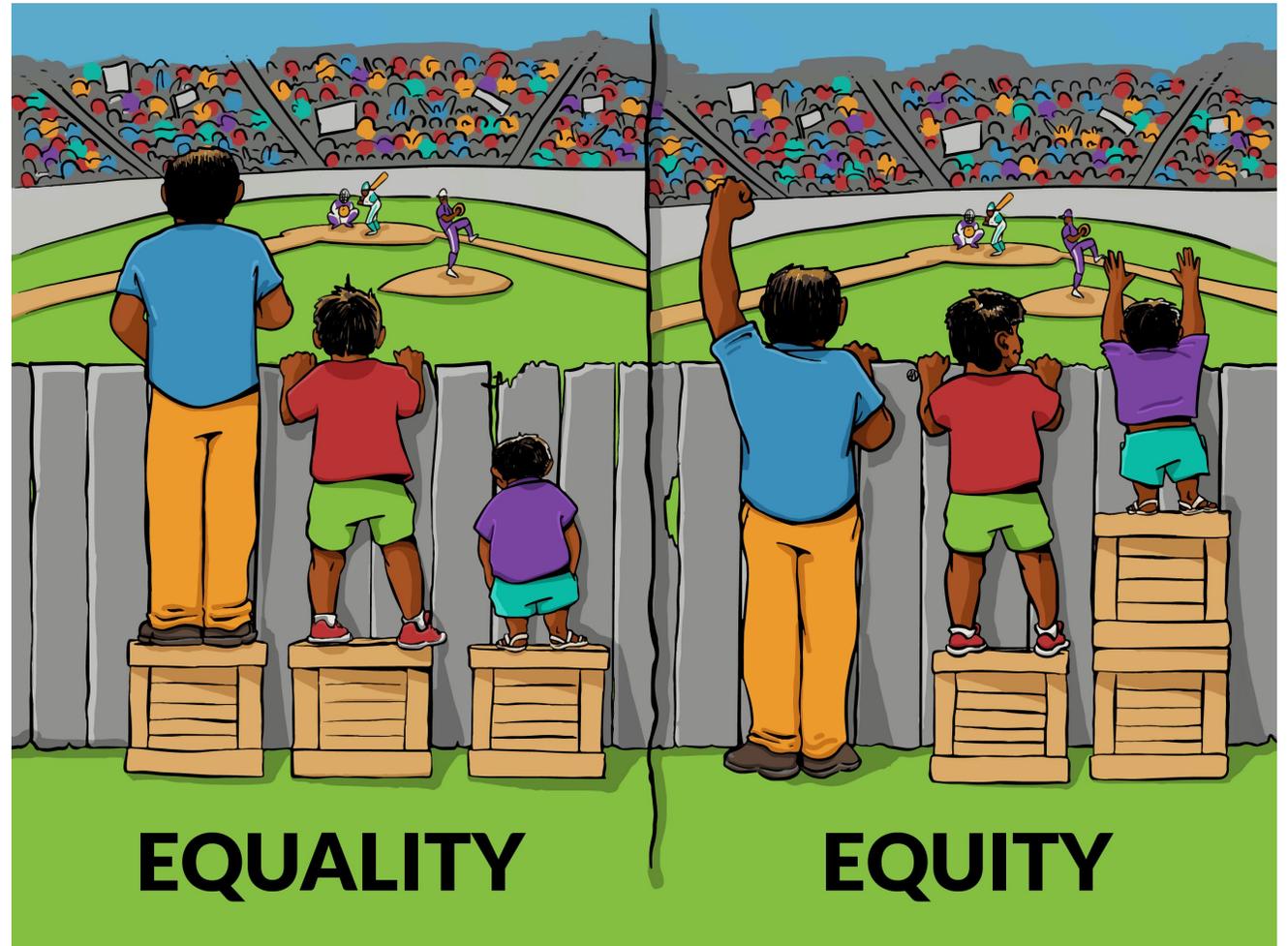
Methods:

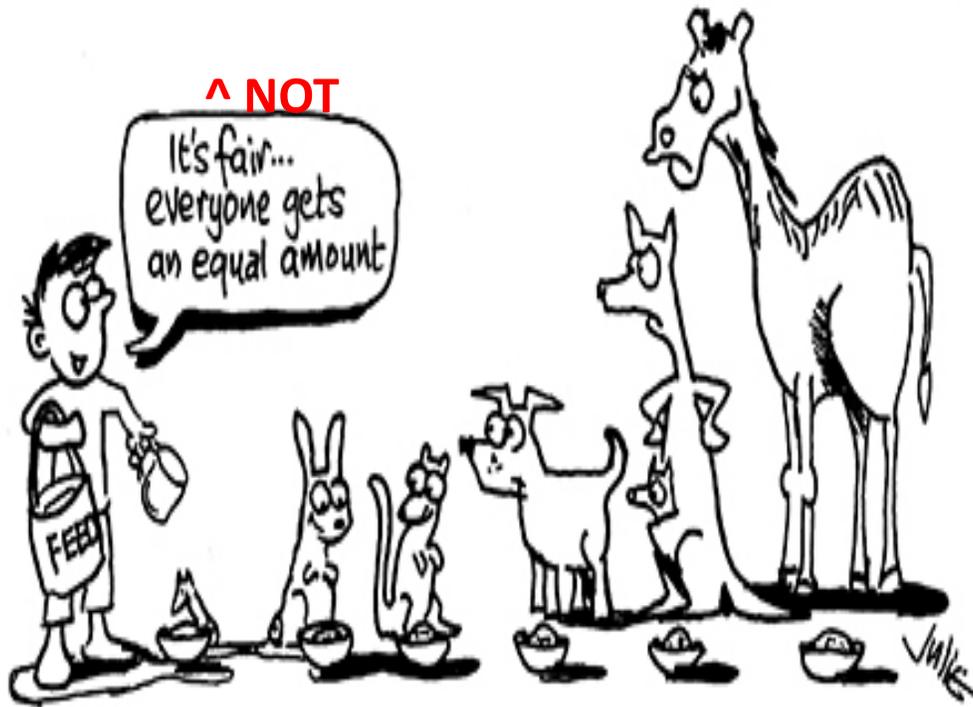
- Summarize on-going research, conducted between 2017 through 2020 identifying the tradeoffs and measures important for those using or managing ATV programs.
- The research team used platforms of social media to distribute an 8-question survey (all: vendors, government staff, users, researchers, etc).
- <https://www.surveymonkey.com/r/5RWKSQG>



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Results:

The responses obtained identified that two units of measurement should be used when measuring equity:

1. Unit per capita (per adult, per commuter, per peak period of travel, per household) and
2. Per unit of travel (per vehicle-mile/km, per commute trip, etc).

Over ninety-two percent of those surveyed judge that an ATV program should be equitable and that is best to include a variety of issues and perspectives.

The planning and implementation processes must include the community's equity concerns and priorities therefore public involvements is important for equity planning.



ATV are using PUBLIC ROADS/FACILITIES:



Important –Hear from the user-
As public agency (we do not own, but we need to regulate, define a policy/procedure) what can we do?

Planning: Bikes at convenient **locations & provide safe route** (1 mile from Light rail, fixed bus routes, school/university, special events) - look for economic development opportunities

Set the **staging areas** – access, parking, retrieval policy and **Use – only in roads with bike lanes? +18 yrs, helmet?, not sidewalk, SUP**

- Easy: Access and return
- Geofencing – provide map with no barriers (involve community of users, residents, advocates)

User cost: **Permit/License & Cost effective** – discount programs/busy public transportation/transit corridors

Fees/fares, \$ time, \$ trip by similar modes (transit, walking) , app, pre-paid, other

Regulation & Enforcement



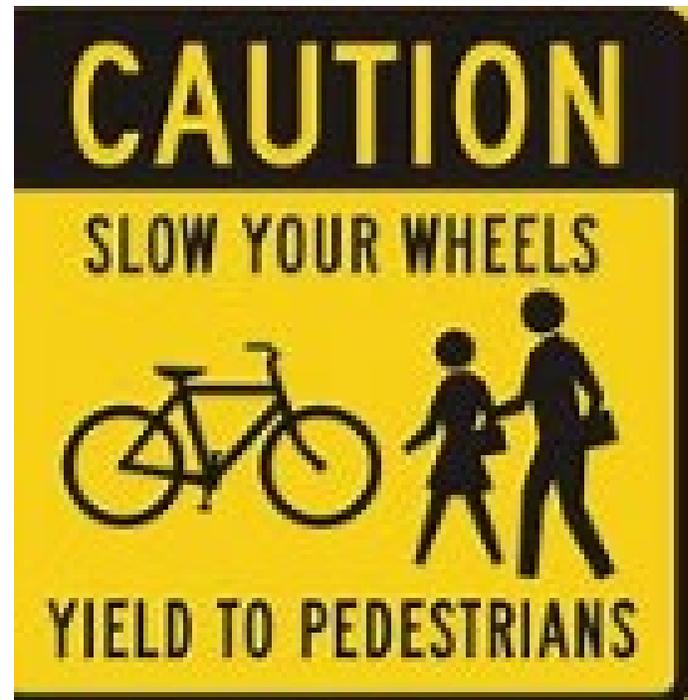


We are all pedestrians!!!!

Look out for others

And

ourselves



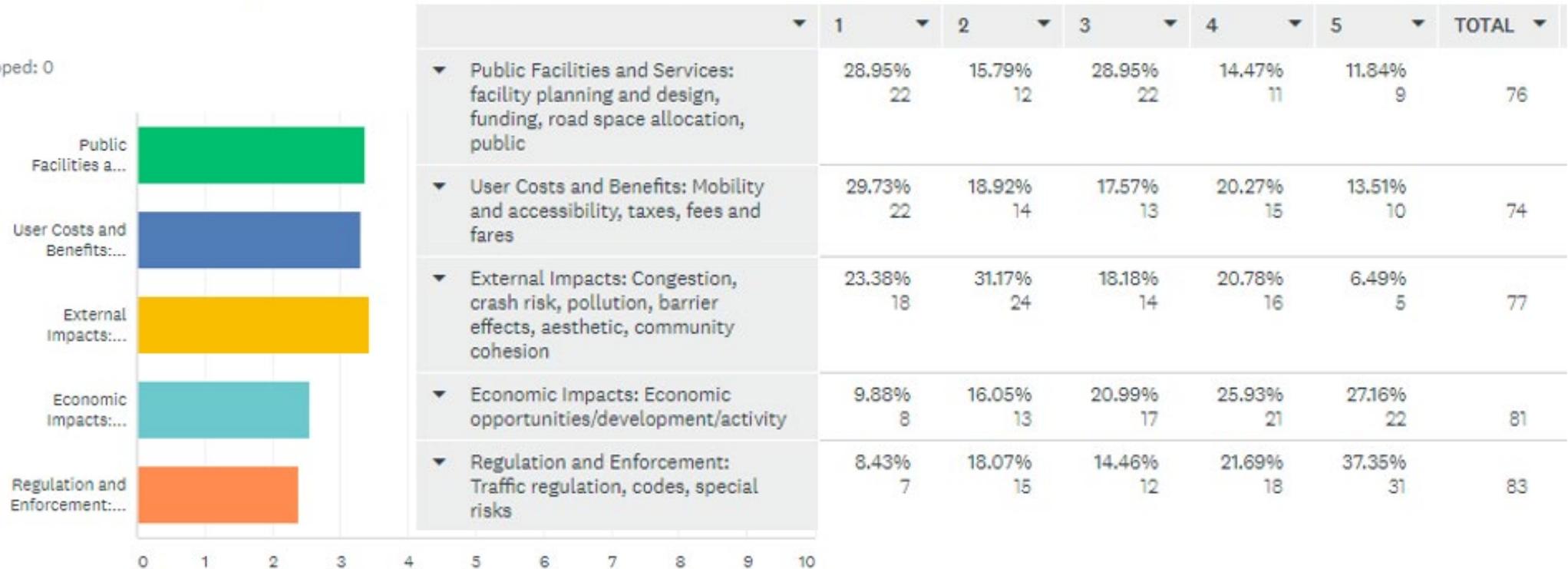
Identify what is important for users of ATV programs alike and what tradeoffs are part of their decision process.

Q2

Customize Save as

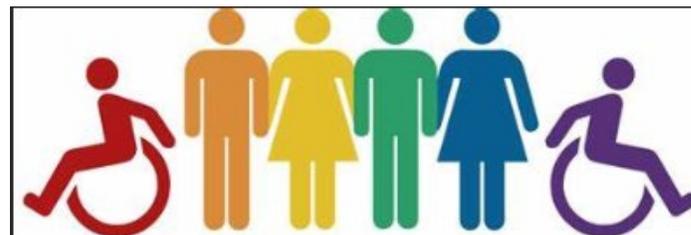
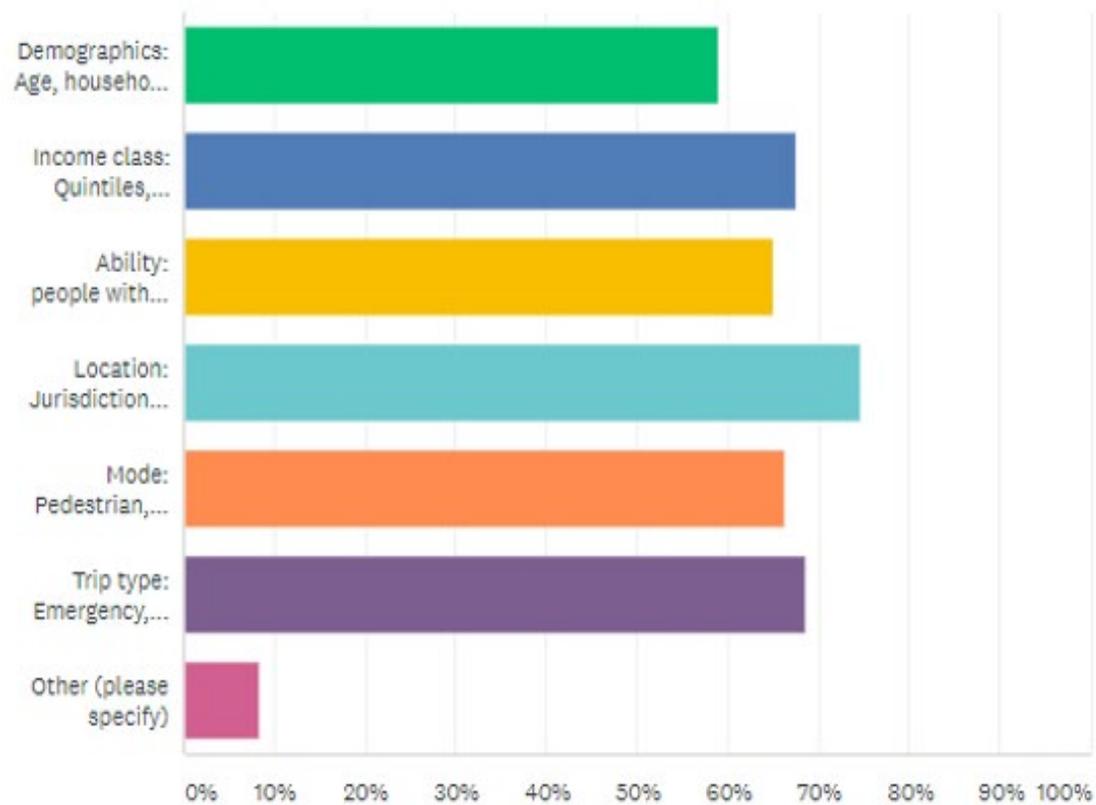
When evaluating equity, we are looking at how trade-offs are balanced (benefits and costs) and whether this is fair and appropriate. Please let us know what impact is most important to you? Scale 1 to 5 (1-high; 5-low)

Answered: 84 Skipped: 0



When categorizing the group served by the ATV program what is an important characteristic that should be part of a public transportation decision? Please checkmark all those that apply

Answered: 83 Skipped: 1

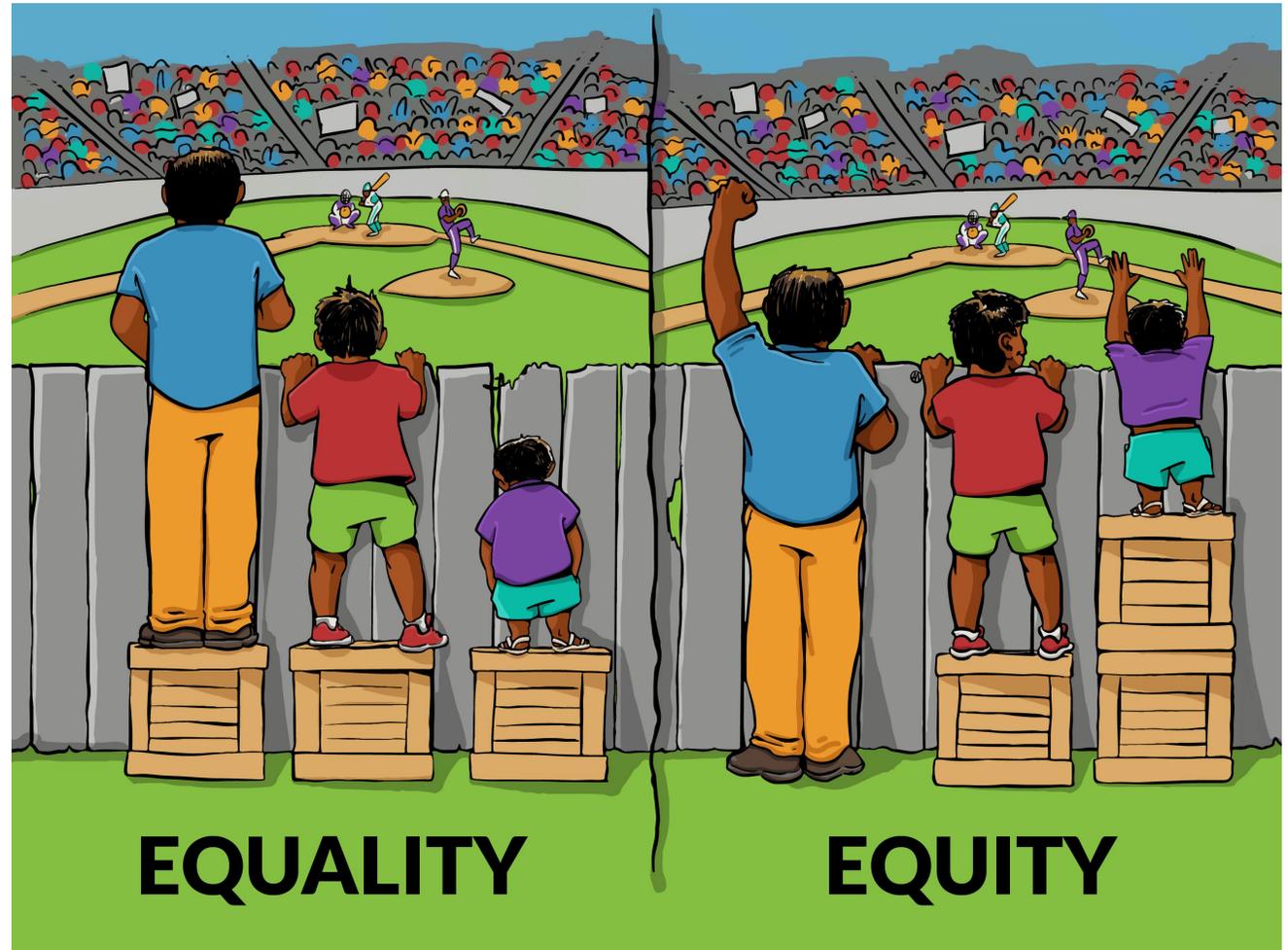


ANSWER CHOICES	RESPONSES
Demographics: Age, household type, Race or ethnicity, etc.	59.04% 49
Income class: Quintiles, Poverty line, Lower income zip codes, etc.	67.47% 56
Ability: people with disabilities, licensed drivers, etc.	65.06% 54
Location: Jurisdiction, neighborhood, streets, urban, sub-urban, etc.	74.70% 62
Mode: Pedestrian, Cyclist, Motorcycles, Public transit	66.27% 55
Trip type: Emergency, commute to work, commute to university/school, commercial, recreational, fill a gap etc.	68.67% 57
Other (please specify)	Responses 8.43% 7
Total Respondents: 83	



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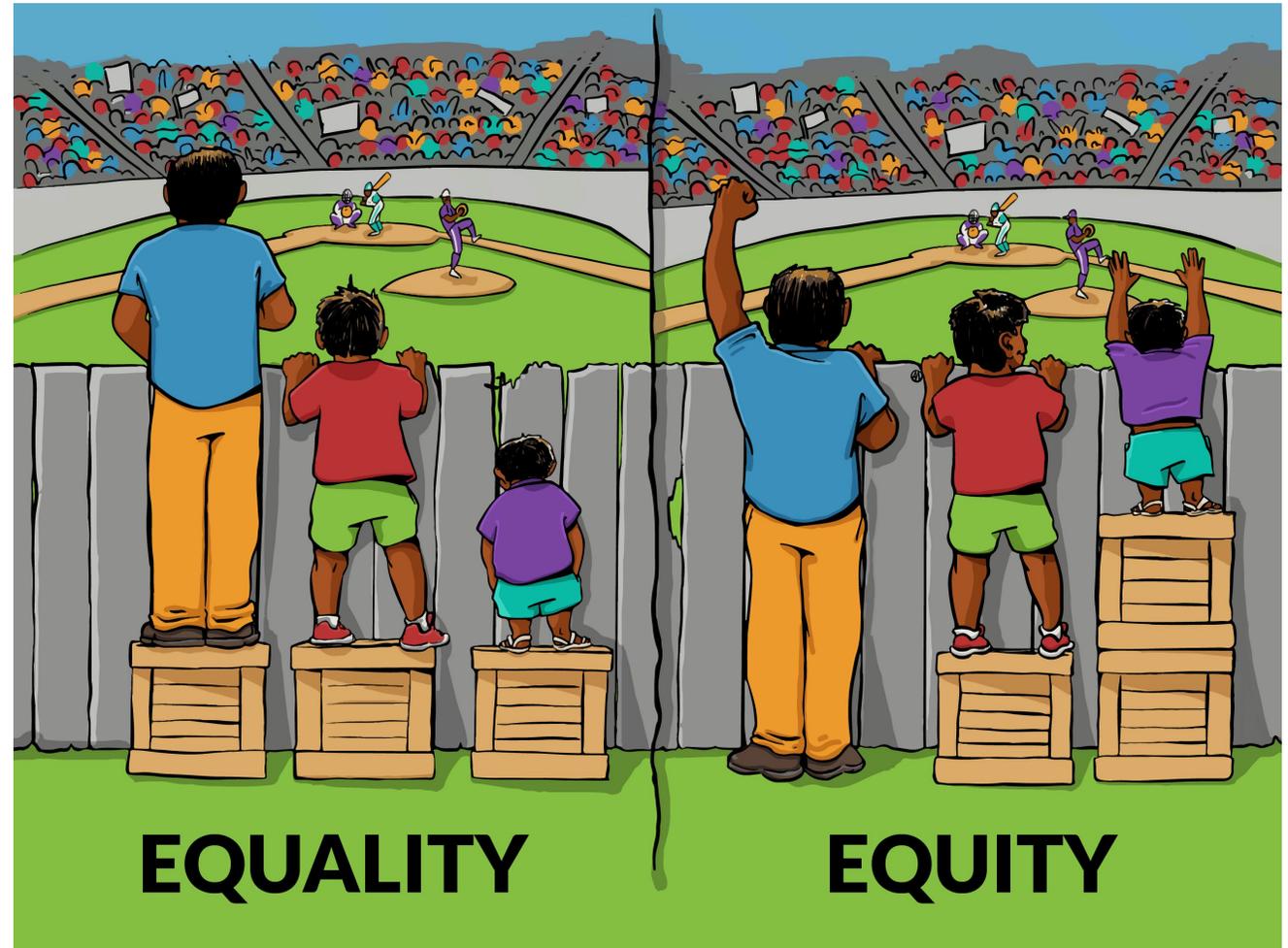
Conclusion:



Results show that when selecting the **total cost expresses as percentage of (daily) average income by user per vehicle mile per commute trip**, we are able to include an equity measure as different social groups have different “total costs perceived” per vehicle mile per commute trip. This measure works for both the users as well as for program managers, ATV vendors, and public transportation officials.

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2020 ITE-IMSA Conference
February 27, 2020

Micromobility in Tempe and Phoenix



Annual Average	2017	2018	2019
Trips per Month	2.6K	4K	1.7K
Miles per Month	5K	7K	3K
Minutes per Trip	25	20	21
Miles per Trip	1.9	1.8	1.7

Arizona Map



GRiD

- Tempe launched in May 2017
- Tempe, Phoenix, Mesa
- 900 bikes (300 in Tempe)
- 120 stations (32 in Tempe)
- Hybrid docked system

- Several companies operating in Tempe

- Bikes arrived in December 2017
- E-scooters arrived in May 2018
- E-bikes arrived January 2019

GRiD Performance in Tempe

Community concerns

- Blocking sidewalks
- Unightly
- Needs regulations
- Too many bikes
- No restaging necessary
- Support concept

Dockless Bikes / e-Bikes

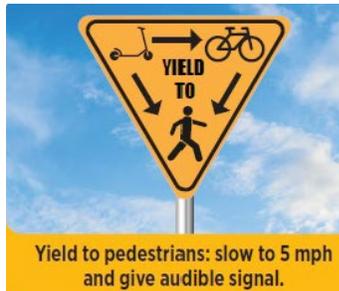


City Ordinance

- Chapter 7 – Bicycles and Light Motorized Vehicles
 - Eliminated from code and combined with Chapter 19
- Chapter 19 – Motor Vehicles and Traffic
 - Pedestrian and Human Powered Vehicles
 - Bicycles, E-Bicycles, and Non-Human Powered Vehicles
 - Electric Personal Assistive Mobility Devices (Segways)



Enforcement begins with Education



City Strategy – Ordinance and License



Bikes, e-bikes and scooters...

- Use a bike lane when one is provided
- Ride in the street when the speed limit is 25 mph or below
- Allowed on the sidewalk when there are no bikes lanes available and the speed limit is greater than 25 mph. Exception for minors and parents/guardians accompanying minor.
- Ride with the flow of traffic
- Yield the right-of-way to pedestrians; slow down to 5 mph; and give audible signal before passing
- Riders must be over the age of 16 to operate all non-human powered vehicles (scooters and other electric mobility devices)
- Riders under the age of 18 are required to wear a helmet



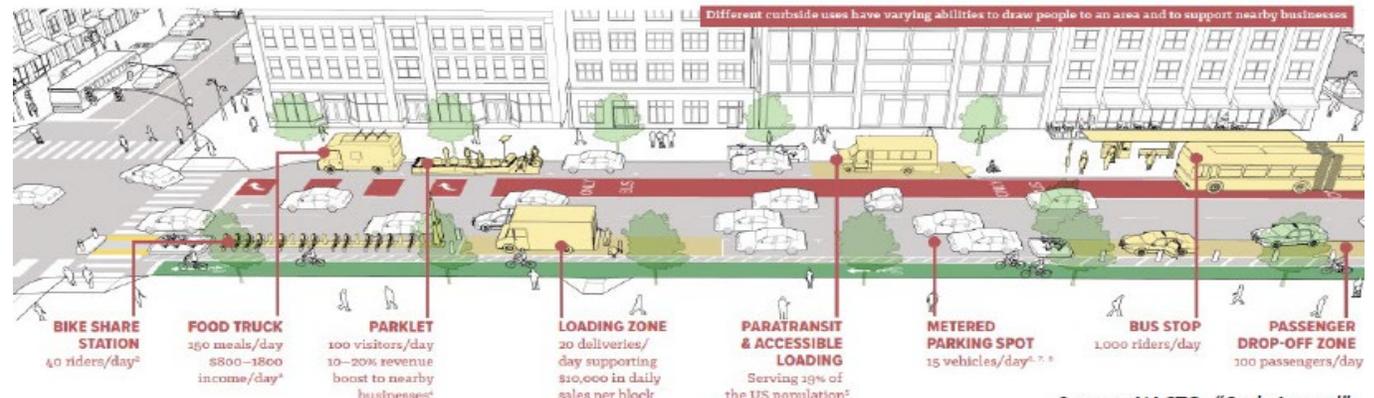
SATV ROW Use License

- Safety
 - Insurance and liability
 - Federal, state and local laws
- Operations
 - Customer service information
- Data Sharing
 - Real-time API
 - Mobility Data Specifications (MDS)
 - Monthly report
- Fees
 - Annual fee
 - Relocation fee
 - ROW use fee (per SATV per day)



- Staging
 - ADA compliance
 - Acceptable and unacceptable locations
 - Bus stops
 - Mill Avenue
 - Single-family residential property
 - 24-hour restaging requirement
 - Relocation process
- Operations and Parking Education Plan

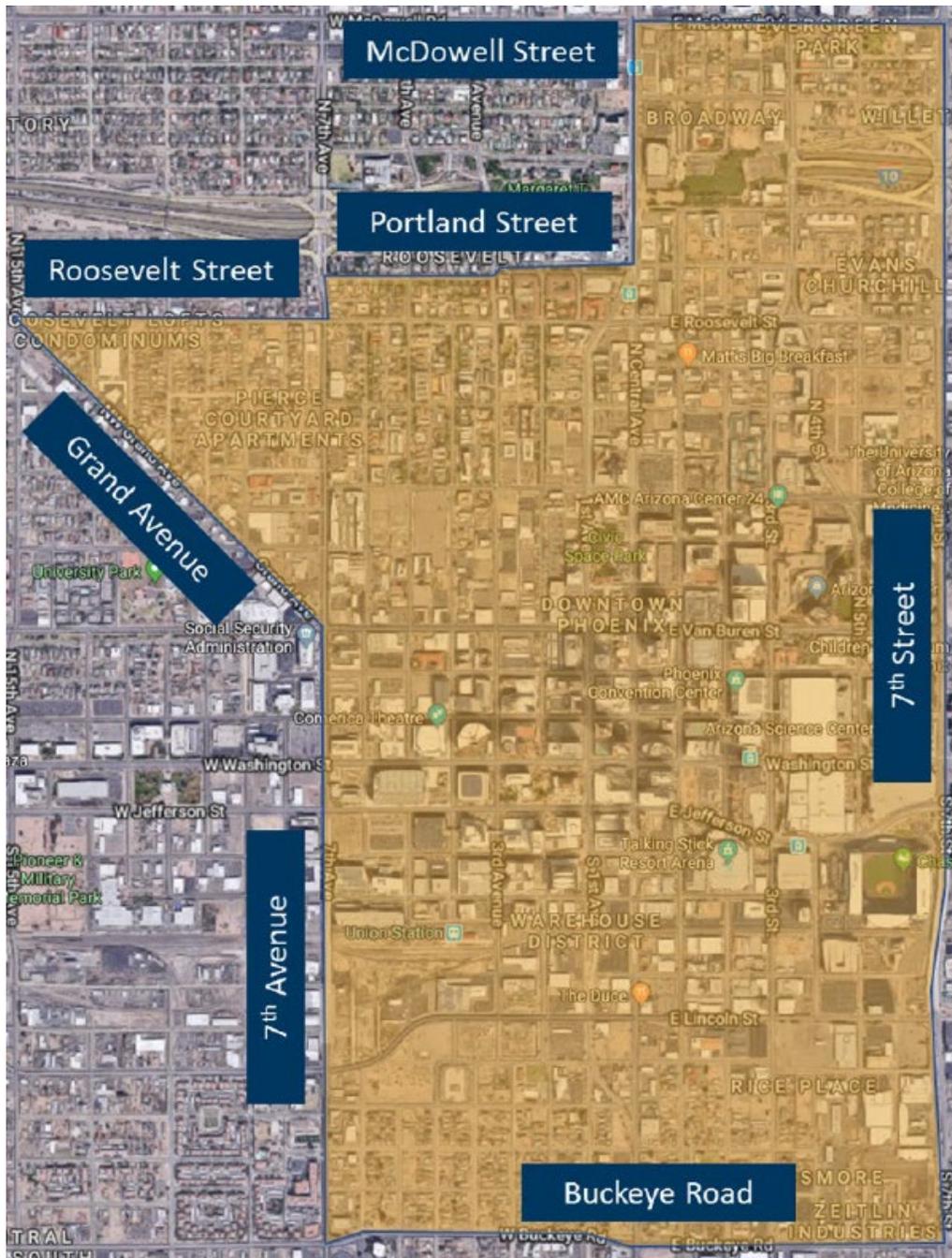
www.tempe.gov/satv



Source: NACTO, "Curb Appeal"

Future Considerations

- Evolving business models
- Emerging vehicle types
- Fixed charging stations
- ROW value / Curb management
- State legislations



Initial Pilot Program Overview

- Three permits issued
- Program launch: September 16, 2019
- Six-month pilot
- Sidewalk riding prohibited
- No ride zones and boundary limits
- Nightly scooter pick-up requirement
- Designated parking location requirement



Ridership and Micro Mobility Demand

- 5-month data
 - +/- 4,000 trips / week
 - 2 trips / scooter / day
 - 8 minutes / scooter trip
 - 1 mile / trip



Lessons Learned

- To be transparent with stakeholders
- Developing working groups with diverse skill sets
- Determine “geofence” delineations and limits
- Provide a accountability plan

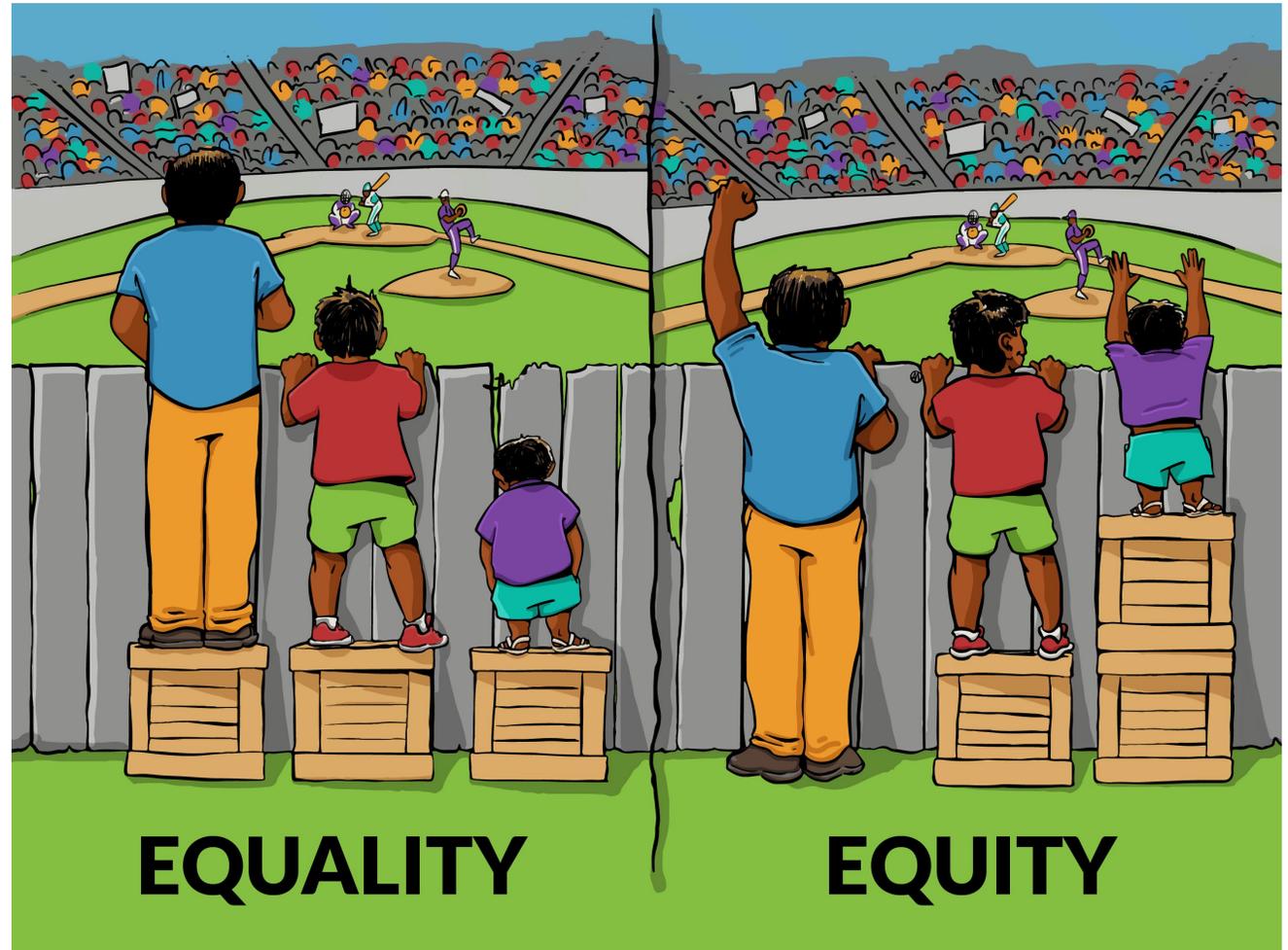
Public & Stakeholder Comments

- Dedicated email account, phone number & webpage
- 30 emails / phone calls received
- Most frequent comments
 - Parking related
 - Abandoned scooters
 - Sidewalk riding



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Survey – now we need to hear from you!!!

<https://www.surveymonkey.com/r/BN283LF>





Equity the need
to measure &
do it well:

- Equity-based program
- Codes, Ordinances
- Permits, Licenses
- Social Contract
- Public Relations & Outreach

Questions?

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Thank you

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The Arizona ITE board