



Department of
Environmental
Conservation

Climate Justice Working Group Draft DAC Criteria Update


June 23, 2021

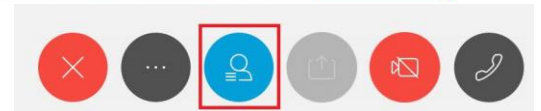
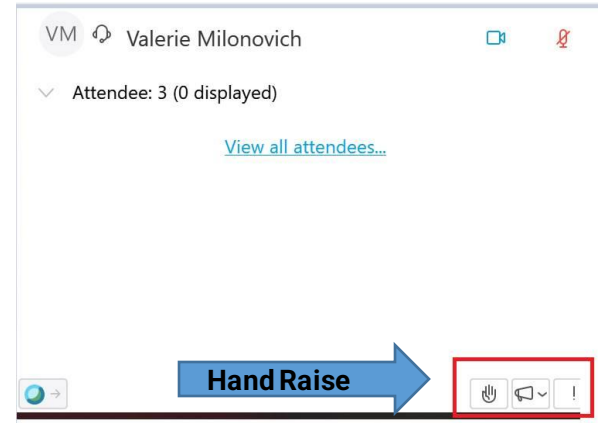
Meeting Procedures

Before beginning, a few reminders to ensure a smooth discussion:

- Working Group Members should be on mute if not speaking.
 - If using phone for audio, please tap the phone mute button.
 - If using computer for audio, please click the mute button on the computer screen (1st visual).
- Video is encouraged for Working Group members, particularly when speaking.
- In the event of a question or comment, please use the hand raise function (2nd visual). Click the participant panel button (3rd visual) for the hand raise function. Rosa or Alanah will call on members individually, at which time please unmute.



You'll see  when your microphone is muted



Welcome and Roll Call



Agenda

- Introductions and Business Items
- DAC Criteria Timeline Update
- Health Indicators
- Indigenous/Tribal Communities
- Review Draft Scenario
- Feedback on Draft Scenario
- Next Steps



Business Items

- > Approval of Minutes (May 24 and June 15)

Alex, can you replace this with a better screenshot from Tableau?

DAC Designation: DAC

Burden Score: 41

Vulnerability Score: 70

Parcel ID: 36067001600

Region: Central NY

County: Onondaga

City: Syracuse city

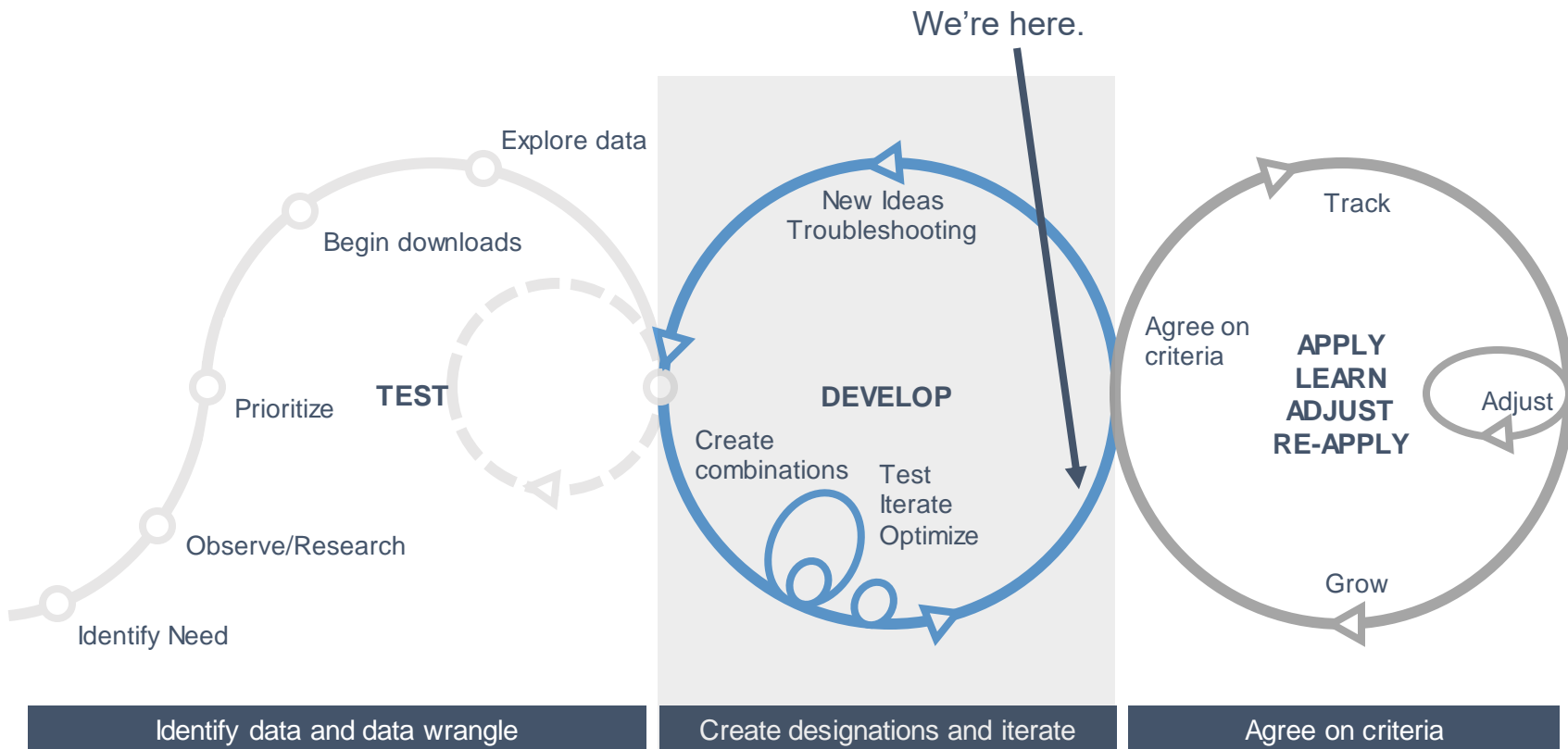
BIPOC: 39%

Median Income: \$22,768

Millage Score: 2

Where we are with DAC criteria

Where we are



Indicator selection is just one of several decisions

Indicator Selection

Ingredient List and Importance



What indicators capture the legislation + stakeholder interest?

What data can support them?

Scoring Approach

How to Make the Cake



How do we combine data, and score communities?

Designation

How to Slice the Cake



Should we score communities statewide or regionally?

What percentage of communities should be DACs?

Groundtruthing

Testing the Cake
(as we bake it!)



How well do draft DACs reflect your experience on the ground?

Can we modify indicators or scoring?

Timeline

If our goal is to provide criteria to CAC by end of the year...

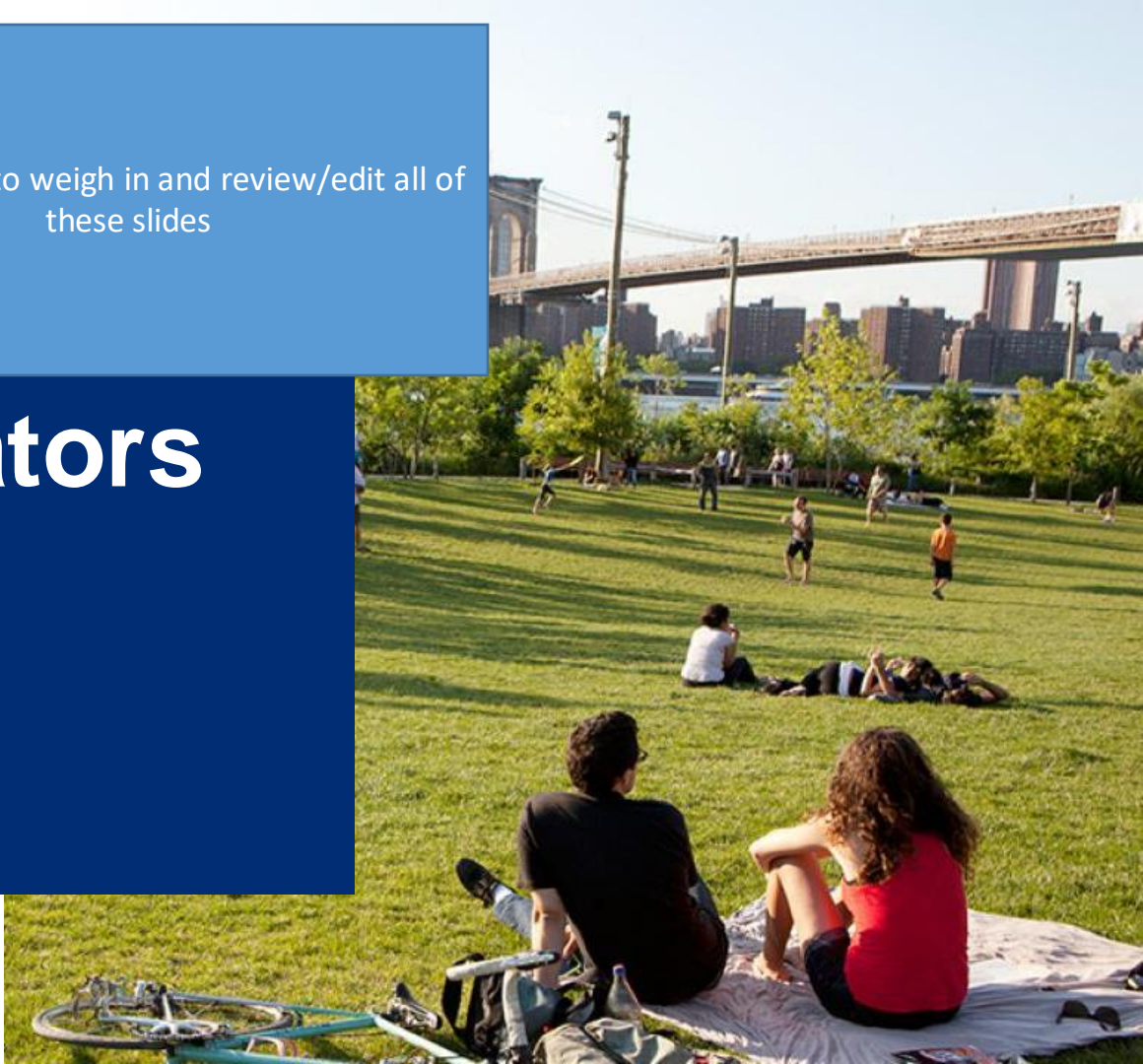
We need to publish draft scenarios in early August (still aggressive) and start public comment period...

This means heavier review/discussion of maps/scenarios and documentation through early August (+ voting)

Let's circle back to the timeline.

Let's ask DOH to weigh in and review/edit all of these slides

Health Indicators



Considerations for Health Indicators

- What state agencies track – Events (births, deaths, ED visits, hospital) rather than disease or chronic conditions (e.g., NYSDOH only “sees” diabetes when it involves hospital visit)
- Data available at small geographies – Due to data reliability (esp. less-common events) and confidentiality, many indicators not available below county level
- Association between “negative public health outcomes” and environmental exposures, burdens or climate change risks



Other indicators may capture health determinants

- Environmental exposures
- Potentially (or formerly) hazardous facilities
- Housing conditions
- Socioeconomic indicators
- Health insurance
- Language barriers



Overview of Health Indicators

Please add to this list if I missed anything

Proposed Indicators

- Asthma ED visits
- COPD ED visits
- Heart attack (MI) hospitalization
- Low Birthweight*
- Premature Deaths*
- Pct without Health Insurance
- Pct with Disabilities
- Pct Adults age 65+
- Distance to ED/critical/urgent care**

Considered but Not Included

- COVID-19
- Heat stress
- Cancer
- Diabetes
- Pre-term births
- Mental Health
- Childhood Lead Exposure

*NYSDOH is actively working on calculating rates at sub-county level

**NYSDOH and GIS team developing option to capture distance



Indicator	Rationale for Exclusion	Included Correlates
COVID-19	Data not yet available; cases under active investigation	Sociodemographics, race/ethnicity
Heat Stress	ED visits or hospitalization either unavailable or unreliable at sub-county level. Heat deaths too small to report at sub-county level.	High temps, vegetative cover, road density, housing quality
Cancer	Not available at sub-county level. Some cancers are more vs. less environmentally-driven.	Premature deaths, health insurance, environmental exposures (e.g., air toxics)
Diabetes	Hard to capture in NYSDOH datasets that contain ED visits & hospitalization. Clinic/pharmacy data would better capture disease. Also, diabetes may have a weaker environmental component.	Premature deaths, sociodemographic correlates and health insurance
Pre-term births	Generally captured by low birthweight	Low birthweight births
Mental Health	Mental health not well-captured in DOH data because they have ED visits & hospitalization; would only see co-occurring ICD-9 codes	
Childhood Lead Exposure	Exposure data is small/unreliable at sub-county level.	Age of home, renters & rental costs, income

Maps of Available Indicators

Alex will show maps of the health indicators
we have + potential correlates



Rationale for Inclusion

Potential Indicator	Rationale for Inclusion
Asthma ED visits	Strong scientific literature associating asthma with environmental exposures. And, managing asthma is linked with socioeconomic status and healthcare access.
COPD ED visits	COPD is considered a sub-set of cardiovascular disease, associated with air toxics as well as personal behaviors. We considered de-prioritizing though COPD outcomes are influenced by access to healthcare.
Heart attack (MI) hospitalization	Cardiovascular disease in general (not MI hospitalization specifically) increasingly associated with air pollution and criteria pollutants. However, MI hospitalization data is/was readily-available, though less stable at the sub-county level
Low Birthweight*	Broadly represents maternal health, which is a factor of environmental, social, and structural policies. Data is available at the sub-county level.
Premature Deaths*	Broadly represents deaths due to cancer, diabetes, heart disease, lung disease, accidents, homicides, etc., to capture systemic disadvantage.
Pct with Disabilities	Represents susceptibility to power outages and emergency situations due to extreme weather events
Pct without Health Insurance	Represents access to affordable healthcare services and may indicate structural and socioeconomic disadvantage.
Pct Adults age 65+	Represents susceptibility to power outages and emergency situations due to extreme weather events.

Indigenous and Tribal Communities

Potential Approach

David, can you please develop slides/content?
(...this is just placeholder content; please revise)

DEC (David Witt) reached out to Tribal and Indigenous Community leaders to understand if/how they would like to be included in the Disadvantaged Community criteria

One option may be explicitly including census tracts on large areas of tribal/indigenous land or high Native/Indigenous populations in DAC designation (20-25 tracts?)



Potential Census Tracts to Include

Potential Criteria:

- a. Tracts where $\geq 5\%$ of land is Tribal Designated Statistical Areas (US Census), or
- b. Tracts containing parcels owned by OIN (**← David is this what you were thinking? Please revise**), or
- c. Tracts with $\geq 25\%$ Native/Indigenous Population (US Census)

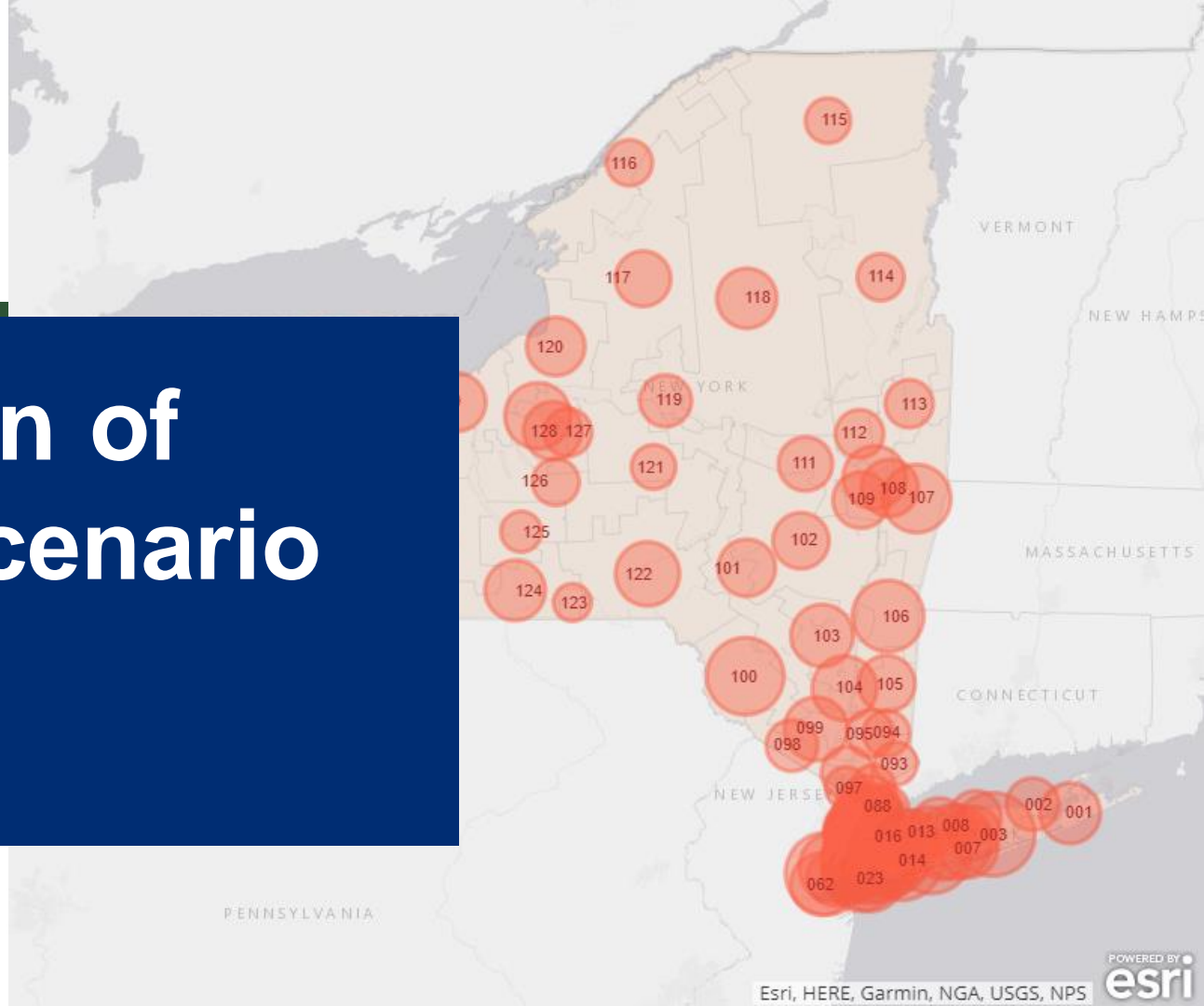
Potential Results:

20-25 total tracts included

County	Potential Tracts
Madison	9
Oneida	4
Cattaraugus	2
Suffolk	2
Chautauqua	1
Niagara	1
Genesee	1
Erie	1
Bronx	1
Franklin	1

Next Steps

Description of Today's Scenario



Review: Combining Data

Group Indicators into Factors



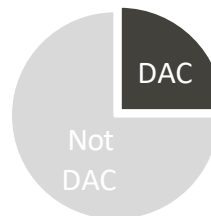
Combine Factors into Components



Calculate Statewide & Regional Scores



Designate DACs based on their relative score



Some decisions move things more than others

Designation Threshold

(High-scoring tracts to designate as DACs – e.g., top third?)



https://www.clrp.comell.edu/q-a/272-excavator_certification.html

Factor Importance

(Relative importance of exposures vs. climate, etc.)



<https://compactequip.com/excavators>

Indicators

(With ~40 indicators, changing one doesn't shift much)



Photo by Andres Siimon on [Unsplash](#)

Indicator Weights

(With highly-correlated indicators, weights don't shift results much)



Photo by Anaya Katlego on [Unsplash](#)

Designation Threshold

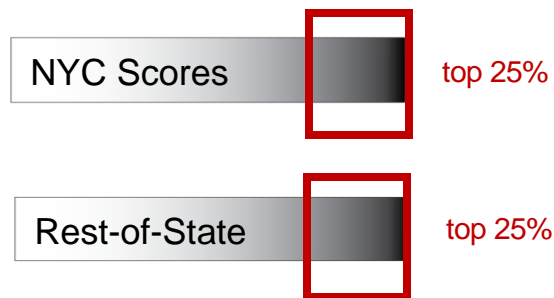
Statewide Score

How each community ranks (on all of the data) within the **entire** state



Regional Scores

How each community ranks (on all of the data) in NYC and Rest-of-State separately



About 1/3 designated

Designate communities that score in either top 25% **statewide** OR **regionally**



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Community Burdens and Potential Risks: Indicators in Current Scenario

Potential Pollution Exposures

- Vehicle traffic density*
- Particulate Matter (PM2.5)
- Benzene
- Wastewater discharge*

Land use associated with historical discrimination or disinvestment

- Hazardous Waste treatment/storage/disposal facilities*
- Remediation Sites (e.g., NPL Superfund or State Superfund/Class II sites)*
- Regulated Management Plan (chemical) sites*
- Industrial/manufacturing/mining land use (zoning)
- Utility/waste land use (zoning)
- Transportation facilities land use (zoning)
- Historical redlining score
- Housing vacancy rate

Potential Climate Change Risks

- Extreme heat projections (>90° days in 2050)
- Coastal/tidal flooding projections (from sea level rise, storm surge, etc.)
- Inland/riverine flooding projections (from sea level rise, storm surge, etc.)
- Low vegetative cover
- Agricultural land
- Distance to grocery stores

NOTE: Future data may include modeled Woodsmoke exposure & other water quality metrics.
*We may replace EJScreen indicators.

NOTE: Future data will include several other types of regulated and permitted facilities (e.g., power generation, landfills).
*We may replace EJScreen indicators.

NOTE: Future data may include distance to urgent/emergency care

Population Vulnerabilities: Indicators in Current Scenario

Sociodemographics

- Pct <80% Area Median Income
- Pct <100% of Federal Poverty Line
- Pct without Bachelor's Degree
- Unemployment rate
- Pct Single-parent households
- Pct Latino/a or Hispanic
- Pct Black or African American
- Limited English Proficiency

NOTE: State staff are considering designating Tribal Land/Territory as DACs **after** the quantitative scoring

Health Impacts & Burdens

- Asthma ED visits
- COPD ED visits
- Heart attack (MI) hospitalization
- Pct without Health Insurance
- Pct with Disabilities
- Pct Adults age 65+

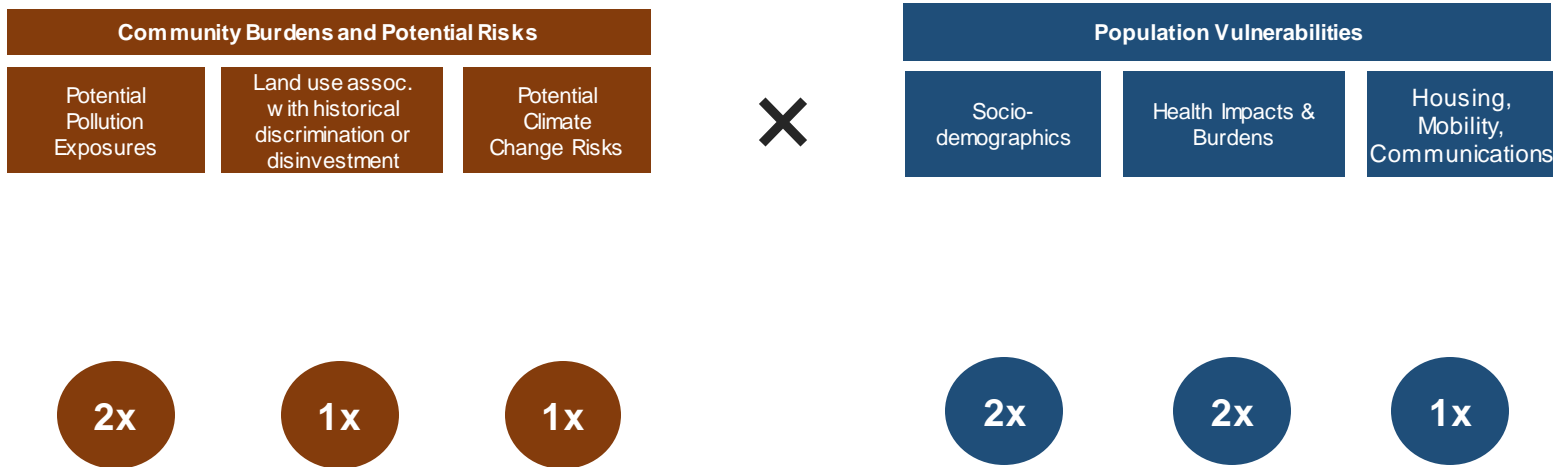
NOTE: Future data will include Low Birthweight births and Premature Deaths

Housing, Mobility, Communications

- Pct Renter-Occupied Homes
- Housing cost burden (rental costs)
- Energy Poverty / Cost Burden
- Manufactured homes
- Homes built before 1960*
- Percent without private vehicle
- Pct without Internet (home or cellular)

*Short-term proxy for lead-based paint risk. We are working with DOH on how to represent risk.

Starting point for Factor Importance



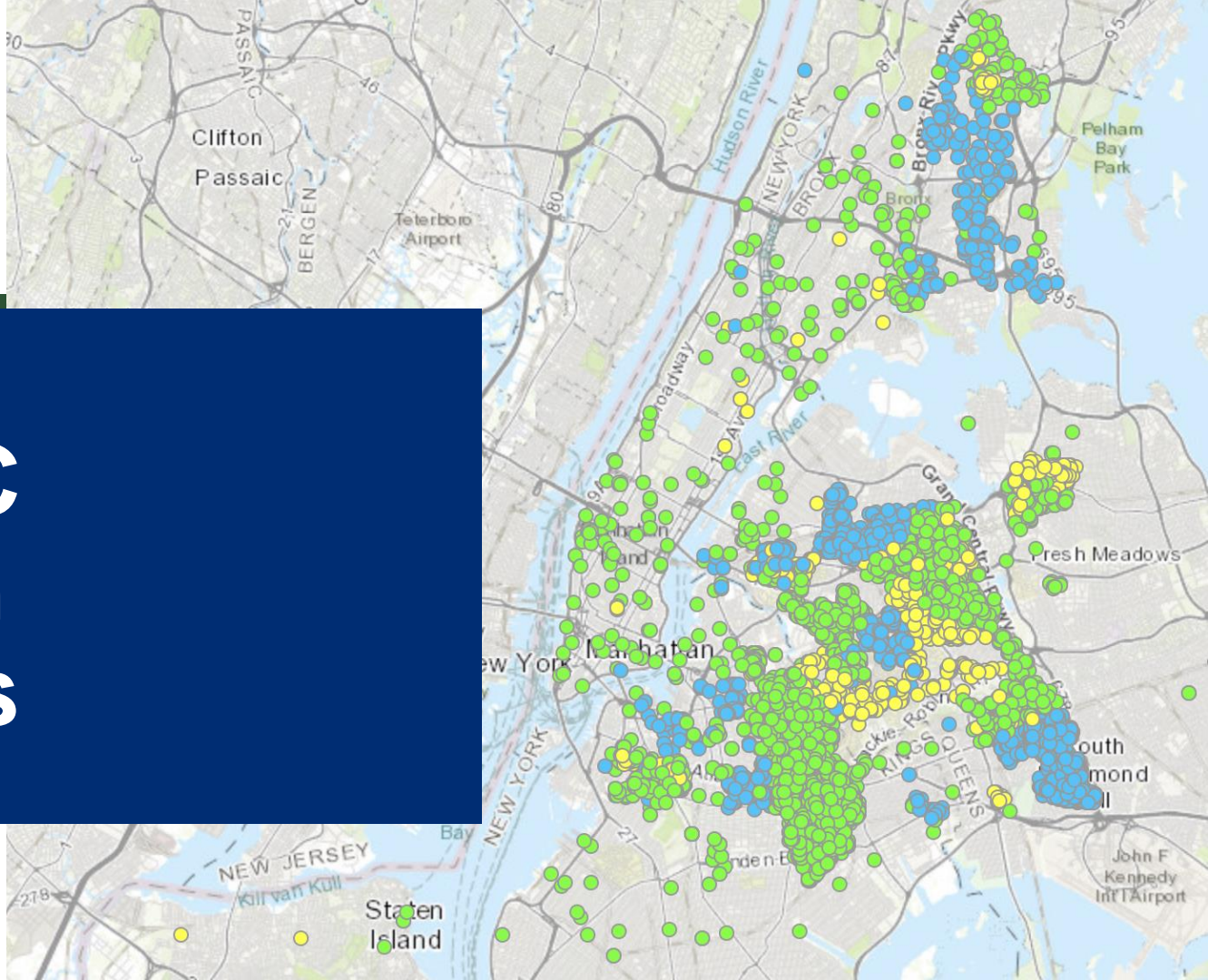
Note: Since Burdens and Vulnerabilities are multiplied, they have equal weight, regardless of how you weight things within them.



Legislation allows for continuous improvement



Draft DAC Definition Scenarios



Early maps to get your reaction to big things

Map tool includes a short form for submitting comments on individual tracts

When you select one or more tracts in the map, the "Selected Census Tract Details" table will update to show key metrics for those tracts

INSTRUCTIONS

1. Click on a tract in the map.
2. Fill out form
3. Click the "SUBMIT" button. Try clicking the button again if the website does not open.
4. Close the website window and ...

Name


Tract Number

Should be a DAC?
 Yes
 No

Brief Explanation

Statewide Averages

Burden Pctl	40
Vuln Pctl	48
Median Income	\$74,317
% BIPOC	45%
Redline Score	3.0
% PEJA	47%



Selected Census Tract Details

Tract	Is a DAC?	Burden Percentile	Vulnerability Percentile	Median Income	% BIPOC	Redline Score	% PEJA
36061022102	NON-DAC	73	54	\$96,154	79%	4.0	100%
36061022800	DAC	72	69	\$70,650	85%	4.0	100%
36061023000	DAC	73	79	\$36,124	92%	4.0	100%
Grand Total		73	67	\$67,643	85%	4.0	100%

Note: Draft maps exclude 138 census tracts (2.8%) with very low population because Vulnerabilities data is missing/unreliable; they can be scored separately on the basis of Burdens alone.



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% Region Designated DAC

Region	
New York City	44%
Long Island	12%
Mid-Hudson	34%
Western NY	32%
Finger Lakes	31%
Capital Region	22%
Central NY	31%
Southern Tier	21%
Mohawk Valley	24%
North Country	13%
Grand Total	33%

Percent of tracts **within** a region that are a DAC

22% of tracts in the Capital Region are designated DACs

DACs vs Non-DACs - Statewide Averages

	DAC	Non DAC	Grand Total
Burden Pctl	46	37	40
Vuln Pctl	63	41	48
Median Income	\$48,198	\$87,307	\$74,317
% BIPOC	70%	32%	45%
Redline Score	3.3	2.8	3.0
% PEJA	83%	29%	47%

Comparison of attributes of tracts that are designated DACs in this scenario

DAC census tracts have a higher vulnerability health score than non-DAC census tracts

DAC Designation by Region

Region	% of NY Tracts	% of NY DACs
New York City	44%	58%
Long Island	12%	5%
Mid-Hudson	11%	11%
Western NY	7%	7%
Finger Lakes	6%	6%
Capital Region	6%	4%
Central NY	4%	4%
Southern Tier	3%	2%
Mohawk Valley	3%	2%
North Country	2%	1%
Grand Total	100%	100%

Percent of DACs in a region vs the total % of tracts in that region

Long Island has 12% of the state's tracts but 5% of the DAC tracts

Groundtruthing: Buy One, Get One!

If you want to select a tract you think is **wrong**...

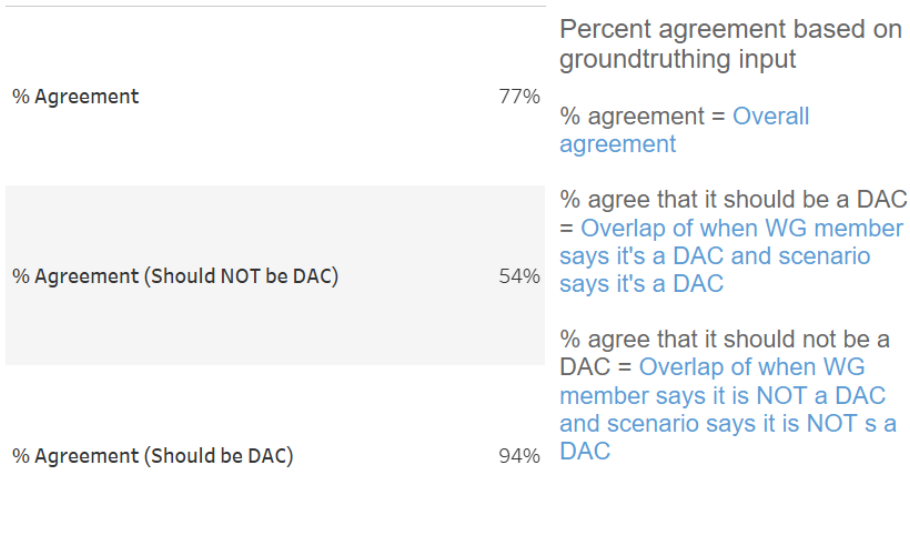


...First tell us a tract you think is **right!**

What we're doing with your input

1. Look at agreement between DAC scenarios + your “groundtruthed” list
2. Understand, through your comments, what indicators are more important to you
3. Check whether our data/indicators capture the types of things you care about

% Agreement with Responses



Go to Tableau

Note: Draft maps exclude 138 census tracts (2.8%) with very low population because Vulnerabilities data is missing/unreliable; they can be scored separately on the basis of Burdens alone.

What can we do to help your review?

What we heard on June 15:

- More information on considered indicators, esp. health impacts/burdens
- Update Tutorial PDF
- Tutorials/one-on-sessions?



Timeline & Next Steps



Month Ahead – DAC Scenarios

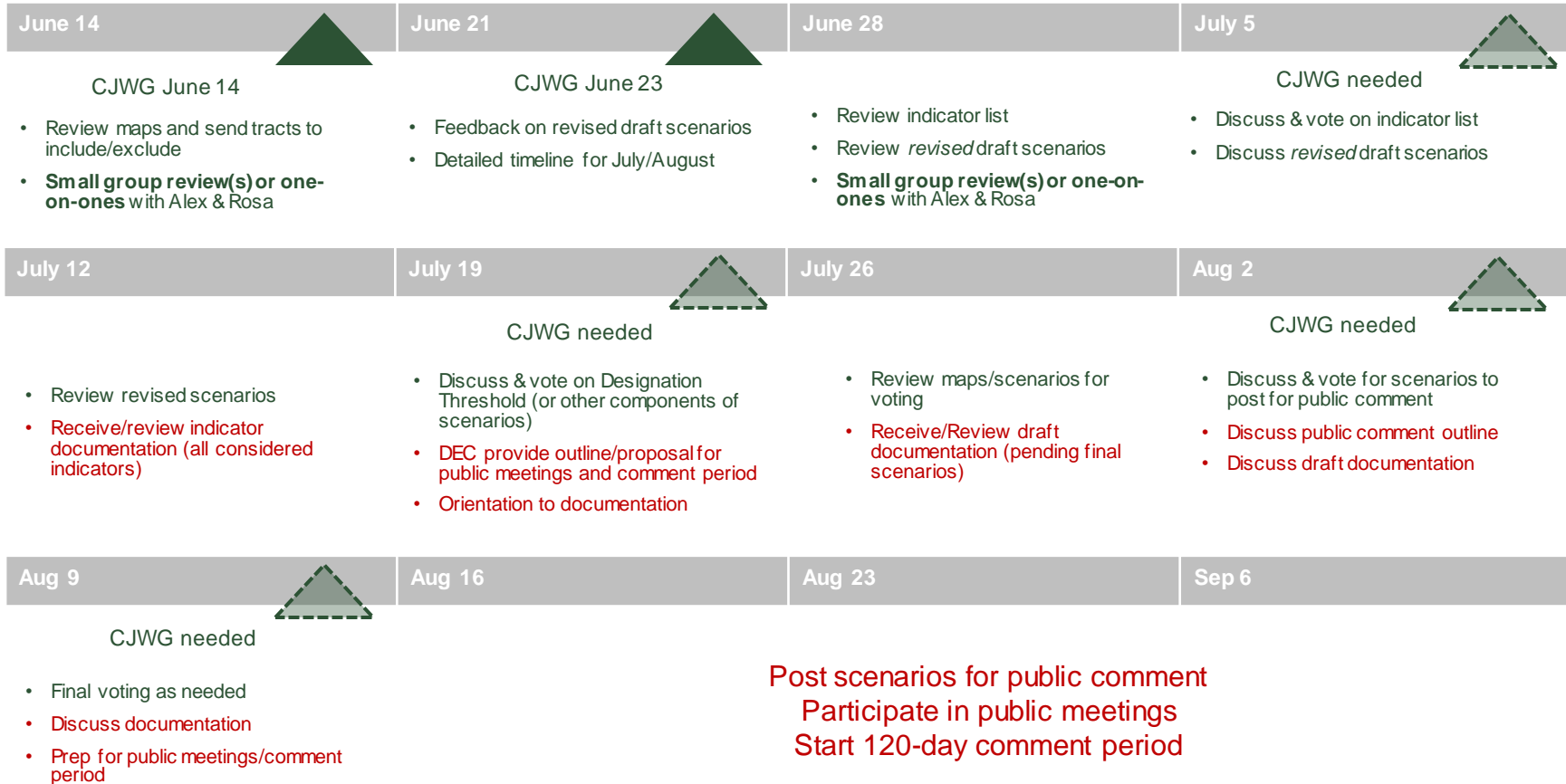
1. Review scenario iterations
2. Small group and one-on-one sessions
3. Voting on three critical parts:
 1. Indicator List
 2. Designation Thresholds (% of state designated as DAC)
 3. Scenario(s) to post to public comment (which will encompass other decisions like factor & indicator importance)



Related Review

1. Draft documentation
2. Plan/outline for public meetings & comment period
(DEC will provide proposal)





Next Steps

Work Ahead:

Groundtruthing – BOGO!

Compare several scenarios

Voting on indicators

Voting on designation threshold

Reviewing documentation

Voting on scenarios

Next Meeting:

Discussion of health indicators

Discussion of tribal/indigenous land & communities

Feedback on first draft scenario



Indicator Considerations



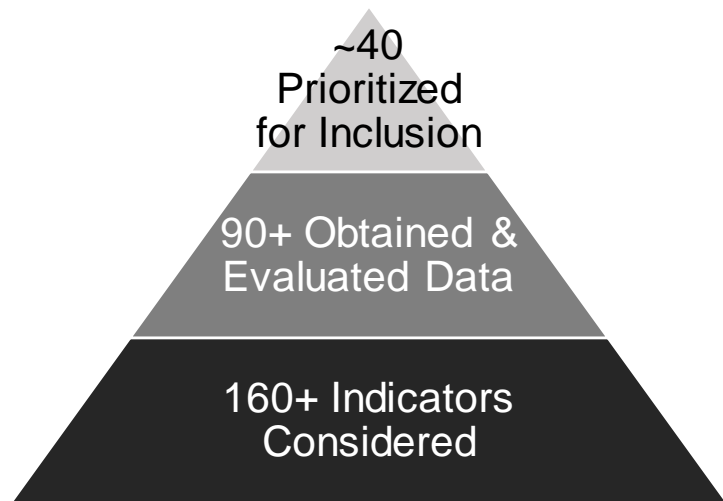
Inclusion Considerations

Inclusion decisions consider:

- Data coverage & granularity
- Data quality (e.g., measurement or sampling error)
- Modeled vs. directly-collected or measured data
- Correlations
- Technical guidance (e.g., DEC, DOH, DOS)

So far, we obtained & evaluated data for 90+ indicators
(a) on their own, and (b) in combination

Still waiting for key climate, health and environmental variables that require technical and/or GIS analysis



Indicator Update

Community Burdens and Potential Risks

Potential
Pollution
Exposures

Performing
“custom” analysis
with DEC data
(using EJScreen
in interim)

Land use
associated with
historical
discrimination or
disinvestment

Performing
“custom” analysis
with DEC data
(using EJScreen in
interim)

Potential
Climate
Change Risks

Tweaking inland/
coastal flooding
Waiting for
distance to
hospitals

Population Vulnerabilities

Socio-
demographics

Have all
census data;
assessing
correlations

Health Impacts &
Burdens

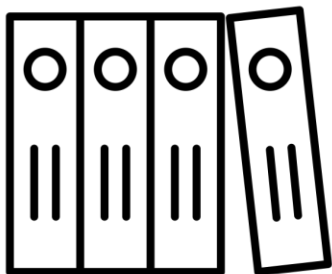
Waiting for Low
Birthweight &
Premature Deaths

Housing,
Mobility,
Communication
s

May improve lead
paint risk indicator



Indicator Limitations



Documentation (for public comment) will discuss:

- Indicators/data we **considered** but did not pursue, and why
- Data limitations, including Census (e.g., not specific enough to race/ethnicity), public health data (e.g., limited data @ sub-county level), and more
- Recommendations for future/additional community-level data (e.g., migration)
- Potential for periodic indicator review/updates