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

VM 🎧 Valerie Milonovich

Attendee: 3 (0 displayed)

View all attendees...

Hand Raise
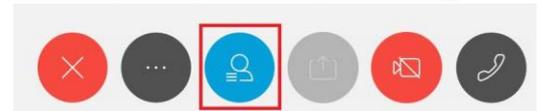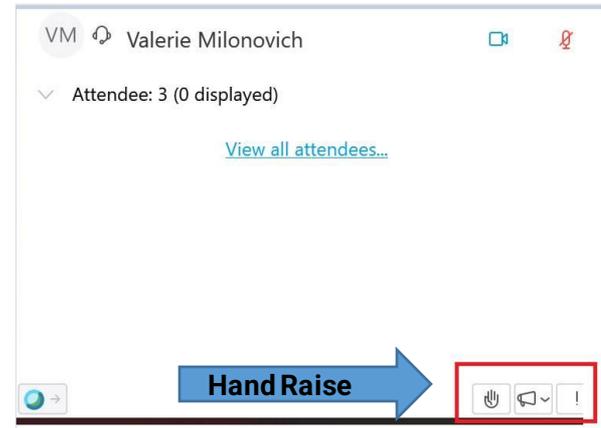
Welcome and Roll Call

Agenda

- Introductions and Business Items (10 min)
- Health Indicators (15-20 min)
- Draft Scenario (15-20 min)
- DAC Criteria Timeline Update (5 min)
- Next Steps (5 min)

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Business Items

> Approval of Minutes (May 24 and June 15)

> Indigenous and Tribal Communities

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Indigenous and Tribal Communities

Next Steps

DEC is continuing engagement with the Nations including:

- Inviting Nation leadership to consult on the topic
- Meet with CAC and others if desired

DEC's annual meeting with leadership is proposed as a remote webcall during the Fall or in-person next Spring.

Health Indicators

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 several health and environmental
indicators that require technical and GIS analysis

~40
Prioritized
for Inclusion

90+ Obtained &
Evaluated Data

160+ Indicators
Considered

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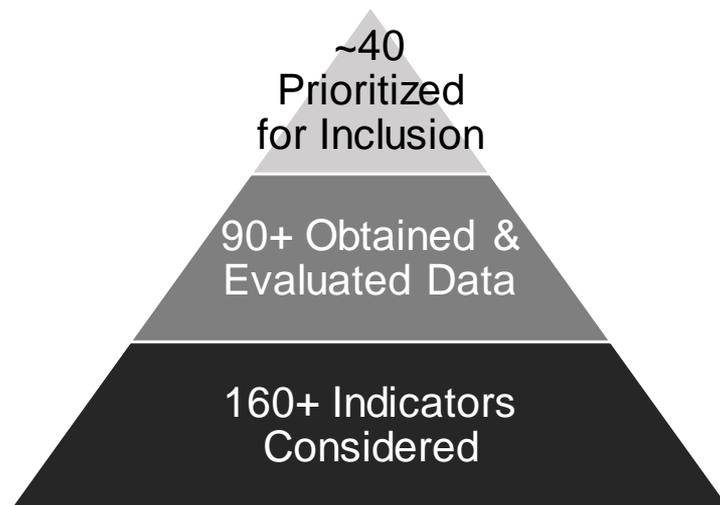
Considerations for Health Indicators

Link to Environmental Factors

- Environmental (geographic) component of health outcomes

  - For chronic conditions, exposures may have occurred many years prior and/or in places other than where the health outcome is recorded

  - Environmental factors exacerbate or trigger acute events for some conditions more than others (e.g., asthma, MI)

Data Availability and Granularity

- NYSDOH only "sees" a health outcome when it appears in a dataset - Births, deaths, ED visits, hospitalizations, surveys, registries

- Need higher event frequency for stable/reliable rates and ability to share data (confidentiality)

- Data availability for small geographies in time for Draft DAC Scenarios

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Potential Health Indicators

Proposed Indicators

- Asthma ED visits
- COPD ED visits
- Heart attack (MI) hospitalization
- Premature Deaths*
- Low Birthweight*
- 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

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Potential Indicator	Rationale for Inclusion
Asthma ED visits	Strong scientific literature associating asthma with environmental exposures. Managing asthma is linked with socioeconomic status and healthcare access.
COPD ED visits	COPD is considered a sub-set of respiratory 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. Could also be indicator of avoided deaths resulting from environmental/health policy changes
Pct with Disabilities	Represents susceptibility to power outages and emergency situations due to extreme weather events
Pct without Health Insurance	Represents access to screening, ability to manage conditions, affordable car. May indicate structural and socioeconomic disadvantage.
Pct Adults age 65+	Represents susceptibility to power outages and emergency situations due to extreme weather events.

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Indicator	Rationale for Exclusion	Potential Correlates (among included indicators)
COVID-19	Data not yet available; cases under active investigation; testing rates not equivalent across the state and through course of the pandemic	Socioeconomic status (SES), 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 (urban areas), housing quality, health vulnerabilities
Cancer	Cancers is multifactorial and represent a range of diseases. Some cancers are more vs. less environmentally or spatially-related.	Health insurance, SES (for certain types)
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. Clinic/pharmacy data would better capture disease.	
Childhood Lead Exposure	Exposure data is small/unreliable at sub-county level.	Age of home, renters & rental costs, income

# Other indicators may capture risk factors for health outcomes

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

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Maps of Available Indicators

Draft DAC Definition Scenarios
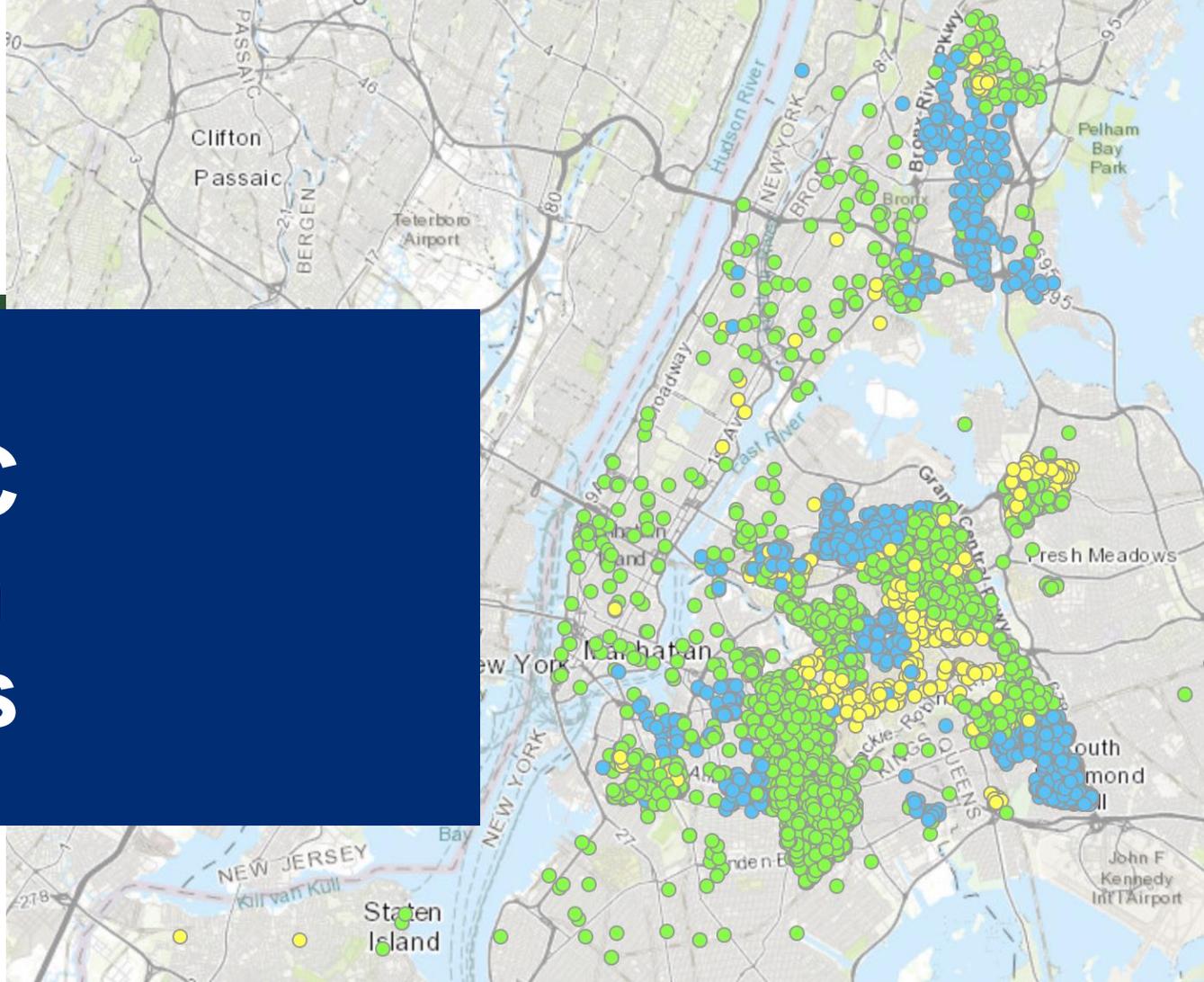
Early maps to get your reaction to big things

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

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.

% 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

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

These two tables will help you assess whether we're covering regions appropriately.

When we eventually have more than one scenario, you'll be able to compare the breakouts by region. For now, the question to ask yourself here is whether your region breakdown feels right to you.

Simple set of statistics for comparing scenarios. Currently we have:

- Burden and Vulnerability percentile scores

- Median income

- % BIPOC

- Redline score

- % PEJA

Is there anything else you'd like to see when comparing high-level scenario stats?

For the % agreement table:

- Look at agreement between DAC scenarios + your "groundtruthed" list

- Understand, through your comments, what indicators are more important to you

- Check whether our data/indicators capture the types of things you care about

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

% Agreement with Responses

% Agreement	77%
% Agreement (Should NOT be DAC)	54%
% Agreement (Should be DAC)	94%

Percent agreement based on groundtruthing input

% agreement = Overall agreement

% agree that it should be a DAC = Overlap of when WG member says it's a DAC and scenario says it's a DAC

% agree that it should not be a DAC = Overlap of when WG member says it is NOT a DAC and scenario says it is NOT s a DAC

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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.

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Review: Combining Data

Group Indicators into Factors

Exposures	Climate
Discriminatory Land Use	

	Health
Socio-demographics	Housing & Mobility

Combine Factors into Components

Burdens Score $\times$ Vulnerabilities Score

Calculate Statewide & Regional Scores

Designate DACs based on their relative score

DAC

Not DAC

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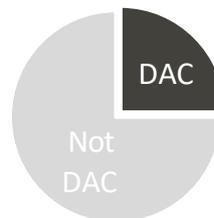
Some decisions move things more than others

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

https://www.clrp.cornell.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

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Critical Question for CJWG: Share of DACs

In general, what share of communities (census tracts) should be designated as DACs?

25%

30%

40%
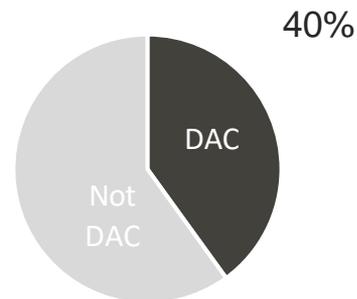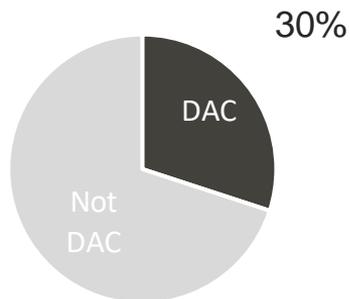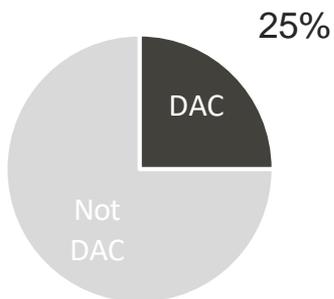
We've discussed the idea of "leave no DAC behind", but we need to operationalize this as the final % will be an arbitrary number.

Designation Threshold Across Regions

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

NYC Scores — top 25%

Statewide Scores — top 25%

Rest-of-State — top 25%
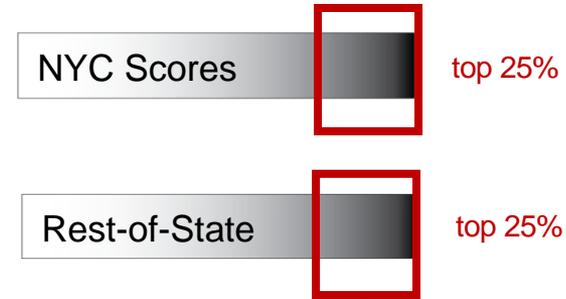
About 1/3 designated

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

Future: Include tribal/indigenous land & low-population areas with high burdens

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What can we do to help your review?

What we heard on June 15:

- More information on considered indicators

  - Health impacts/burdens – Discussed today

  - Any others?

- Update Tutorial PDF

- Tutorials/one-on-sessions

Don't forget BOGO

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

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

Timeline & Next Steps

Month Ahead – DAC Criteria

Work Ahead

Groundtruthing – BOGO!

Compare several scenarios

Review Considered Indicators

Meetings

One-hour meetings

Full meeting July 20

one-on-ones available

Voting in Stages

Indicator List

Designation Thresholds

Scenario(s) to post to public comment*

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June 14

CJWG June 14

- Review maps and send tracts to include/exclude
- **Small group review(s) or one-on-ones** with Alex & Rosa

June 21

CJWG June 23

- Health indicators
- Review Tableau functionality

June 28

- Review draft scenarios
- **Small group review(s) or one-on-ones** with Alex & Rosa

July 5

One-hour session?

- Review Indicator List & Considered Indicators
- Feedback on draft scenarios

July 12

One-hour session?

- Preview revised scenarios
- Questions/discussion on indicators

July 19

CJWG July 20

- Discuss & vote on Indicator List
- Discuss revised scenarios

July 26

CJWG July 27

- Discuss & vote on Designation Threshold
- Review maps/scenarios for voting
- DEC provide outline/proposal for public meetings and comment period

Aug 2

- Review revised draft scenarios

Aug 9

CJWG needed

- Discuss & vote for scenarios to post for public comment
- Discuss public comment outline
- Orientation to draft documentation

Aug 16

CJWG needed

- Final voting as needed
- Discuss documentation
- Prep for public meetings/comment period

Aug 23

scenarios)

Sep 6

Post scenarios for public comment
Participate in public meetings
Start 120-day comment period

Indicator Considerations

Indicator Update

Community Burdens and Potential Risks		
Potential Pollution Exposures	Land use associated with historical discrimination or disinvestment	Potential Climate Change Risks
Performing "custom" analysis with DEC data (using EJScreen in interim)	Performing "custom" analysis with DEC data (using EJScreen in interim)	Tweaking inland/ coastal flooding Waiting for distance to hospitals

Population Vulnerabilities		
Socio-demographics	Health Impacts & Burdens	Housing, Mobility, Communications
Have all census data; assessing correlations	Waiting for Low Birthweight & Premature Deaths	May improve lead paint risk indicator

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Community Burdens and Potential Risks: Indicators in Current Scenario

Potential Pollution Exposures	Land use associated with historical discrimination or disinvestment	Potential Climate Change Risks
• Vehicle traffic density* • Particulate Matter (PM2.5) • Benzene • Wastewater discharge*	• 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	• 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 indictors.	NOTE: Future data may include distance to urgent/emergency care

Population Vulnerabilities: Indicators in Current Scenario

| Sociodemographics	Health Impacts & Burdens	Housing, Mobility, Communications
• 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	• Asthma ED visits • COPD ED visits • Heart attack (MI) hospitalization • Pct without Health Insurance • Pct with Disabilities • Pct Adults age 65+	• 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)

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

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

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

Starting point for Factor Importance

Community Burdens and Potential Risks		
Potential Pollution Exposures	Land use assoc. with historical discrimination or disinvestment	Potential Climate Change Risks

×

Population Vulnerabilities		
Socio-demographics	Health Impacts & Burdens	Housing, Mobility, Communications

2x   **1x**   **1x**   **2x**   **2x**   **1x**

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

Indicator Limitations
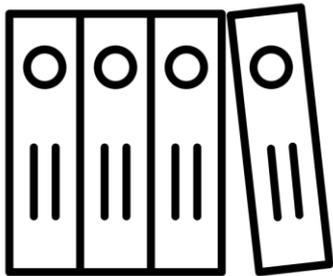
Documentation (for public comment) will discuss:

- 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

Legislation allows for continuous improvement

CalEnviroScreen 4.0 Indicators

Pollution Burden

Exposures
- Ozone Concentrations
- PM2.5 concentrations
- Diesel PM Emissions
- Drinking Water Contaminants
- Children's Lead Risk from Housing
- Pesticide Use
- Toxic Releases from Facilities
- Traffic Impacts

Environmental Effects
- Cleanup Sites
- Groundwater Threats
- Hazardous Waste
- Impaired Water Bodies
- Solid Waste Sites and Facilities

Population Characteristics

Sensitive Populations
- Asthma Emergency Department Visits
- Cardiovascular Disease (Emergency Department visits for Heart Attacks)
- Low Birth-Weight Infants

Socioeconomic Factors
- Educational Attainment
- Housing-Burdened Low-Income Households
- Linguistic Isolation
- Poverty
- Unemployment