

Baldwin Hills Steering Committee Planning and Facilitation Summary Report



Los Angeles County Department of Public Health

**Baldwin Hills Health Assessment and
Environmental Justice Study**

3/9/2020

Baldwin Hills Steering Committee Planning and Facilitation Summary Report

prepared for

**Los Angeles County Department of Public Health
Baldwin Hills Health Assessment and
Environmental Justice Study**

Los Angeles, California

3/9/2020

prepared by

**Burns & McDonnell Engineering Company, Inc.
Los Angeles, California**

INDEX AND CERTIFICATION

Los Angeles County Department of Public Health Baldwin Hills Steering Committee Planning and Facilitation Summary Report

Report Index

<u>Chapter Number</u>	<u>Chapter Title</u>	<u>Number of Pages</u>
1.0	Executive Summary	2
2.0	Introduction and Background	5
3.0	Committee Members	2
4.0	Stakeholder Analysis	3
5.0	Committee Planning and Facilitation	7
Appendix A	Relevant Reports	1
Appendix B	Public Health Expert Evaluation Tool	1
Appendix C	Stakeholder Interview Questions	1
Appendix D	Committee Meeting Documentation	161

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 EXECUTIVE SUMMARY	1-1
2.0 INTRODUCTION AND BACKGROUND	2-1
2.1 Committee Members.....	2-1
2.2 Stakeholder Analysis	2-2
2.3 Committee Meeting Planning and Facilitation using the IAP2 Collaborative Method	2-2
3.0 STEERING COMMITTEE MEMBERS	3-1
4.0 STAKEHOLDER ANALYSIS	4-1
4.1 Stakeholder Interviews.....	4-1
4.1.1 Stakeholder Theme 1: Scientifically Valid Assessment Design.....	4-2
4.1.2 Stakeholder Theme 2: Inclusive Assessment Design	4-2
4.1.3 Stakeholder Theme 3: Timely Implementation of Assessment	4-2
4.1.4 Stakeholder Theme 4: Cost Feasibility	4-2
4.1.5 Stakeholder Theme 5: Unique Site	4-3
4.2 Baldwin Hills CSD Website Review	4-3
4.3 CAP Meeting Attendance	4-3
5.0 COMMITTEE MEETING PLANNING AND FACILITATION.....	5-1
5.1 Meeting #1 — October 22, 2019	5-1
5.2 Meeting #2 — November 5, 2019	5-2
5.3 Meeting #3 — November 19, 2019	5-3
5.4 Meeting # 4 — December 17, 2019.....	5-4
5.5 Meeting # 5 — January 14, 2020.....	5-5
5.6 Next Steps.....	5-6
 APPENDIX A - RELEVANT REPORTS	
APPENDIX B – PUBLIC HEALTH EXPERT EVALUATION TOOL	
APPENDIX C – STAKEHOLDER INTERVIEW QUESTIONS	
APPENDIX D - COMMITTEE MEETING DOCUMENTATION	

LIST OF TABLES

	<u>Page No.</u>
Table 2-1: Steering Committee Meetings Overview	2-3
Table 3-1: Steering Committee Members and Other Meeting Invitees	3-1
Table 4-1:Stakeholder Interview Schedule.....	4-1

LIST OF FIGURES

	<u>Page No.</u>
Figure 5-1: The IAP2 Public Participation Spectrum	5-2
Figure 5-2: Presentation on “Environmental Racism in Los Angeles”	5-5

LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Term/Phrase/Name</u>
Assessment	Community Health Assessment and Environmental Justice Study
Burns & McDonnell	Burns & McDonnell Engineering Company, Inc.
CAP	Community Advisory Panel
CARB	California Air Resources Board
CHC	Community Health Council, Inc.
CSD	Community Standards District
DPH	Los Angeles County Department of Public Health
EIR	Environmental Impact Report
IAP2	International Association of Public Participation
Intrinsik	Intrinsik, Inc.
IRB	Institutional Review Board
Settlement Agreement	Settlement Agreement and Mutual Release
SNAPS	Study of Neighborhood Air near Petroleum Sources
Steering Committee	Baldwin Hills Steering Committee

1.0 EXECUTIVE SUMMARY

The Inglewood Oil Field is the largest urban oil field in the nation and operates under the Baldwin Hills Community Standards District (CSD), which was adopted in October 2008. The CSD established additional regulations for oil and gas production activities in the unincorporated portion of the field, including the communities of Ladera Heights and Baldwin Hills. The Los Angeles County Regional Planning Department has an active role in ensuring that the current operator, Sentinel Peak Resources, meets the requirements of the CSD. In 2011, the County entered into a Settlement Agreement with the operator (Plains Exploration & Production Company), and five litigants. The Settlement Agreement further regulates the oil field and includes a requirement that the Los Angeles County Department of Public Health (DPH) complete a Community Health Assessment and Environmental Justice Study (Assessment) every five to seven years throughout the life of the CSD.

The DPH contracted Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) to plan and facilitate five Baldwin Hills Steering Committee (Steering Committee) meetings and provide Assessment scoping that incorporates the Steering Committee input. This document provides a summary of the Steering Committee facilitation services provided by Burns & McDonnell, as follows:

- **Section 2.0 – Introduction and Background:** provides a detailed overview of each section of this document and an explanation of the engagement process particularly as it pertains to the importance of implementing a collaborative approach using the International Association for Public Participation (IAP2) model.
- **Section 3.0 – Committee Members:** identifies the selected committees and the process of selecting each committee member.
- **Section 4.0 – Stakeholder Analysis:** explains the research conducted by Burns & McDonnell to understand the perspectives of committee members and other stakeholders. This process was vital to developing a collaborative environment as the committee members that also participated in the Health Working Group have had years and, in some cases, nearly a decade of more of interactions.
- **Section 5.0 – Committee Meeting Planning and Facilitation:** provides a summary of each Steering Committee meeting including agenda and outcomes. The outcome of the five Steering Committee meetings was key recommendations made by the committee members to DPH for designing the pending Assessment:

- Recommend that the Assessment does not prioritize analyzing Cancer Registry Data and Mortality Rates (existing secondary data) considering the inability to identify causation/correlation due to lack of statistical power. (unanimous)
- Recommend prioritizing individual household birth outcome data as part of any potential secondary data analysis. (unanimous)
- Recommend that both a secondary data analysis be conducted and individual level data from residents be collected (both survey and biometric measurements). (majority, 67%)

The recommendations identified by the Steering Committee and discussion held during each meeting was observed by Burns & McDonnell's subcontractor, Intrinsic, Inc. (Intrinsic). Following the fifth Steering Committee meeting, Intrinsic developed a draft scope of work for the Assessment to be used to procure for Assessment implementation services. Intrinsic used the information shared during the meetings as well as relevant reports provided by DPH to develop the draft scope of work. The DPH will finalize the scope of work prior to releasing it to the public.

2.0 INTRODUCTION AND BACKGROUND

The Los Angeles County Department of Public Health (DPH) contracted Burns & McDonnell to support the planning phase of the upcoming Baldwin Hills Community Health Assessment and Environmental Justice Study (“Assessment”) for the Inglewood Oil Field. The Assessment is required to be conducted every five to seven years according to the Settlement Agreement that was entered into by the County of Los Angeles, the oil field operator (Plains Exploration & Production Company), and five litigants in 2011. The first Assessment was developed in 2012 and received written feedback from one of the litigants, Community Health Councils, Inc. (CHC) on areas of improvement for subsequent Assessment. Following this critique, DPH initiated a planning process with CHC and the Health Working Group of the Baldwin Hills Community Standards District Community Advisory Panel (CAP) in 2018 to address the comments and create a plan for the development of the next Assessment that is scientifically valid while also addressing stated stakeholder concerns.

The planning and facilitation services provided by Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) built upon the 2012 Assessment, 2018 planning process with CHC and the Health Working Group, and work documented in several relevant reports that were provided by DPH (Appendix A). Due to the contentious history related to developing the CSD, Settlement Agreement, and 2012 Assessment, the DPH clearly identified a need to strengthen trust and working relationships with Steering Committee members in order to collaboratively develop a scientifically valid design for the upcoming assessment.

2.1 Committee Members

The Baldwin Hills Steering Committee (“Steering Committee”) was developed to temporarily advise DPH on the design of the next Assessment. The Steering Committee was comprised of representatives of the Health Working Group of the CAP, DPH, and three public health experts.

The addition of public health experts to the Steering Committee was in response to the Health Working Group’s concerns about developing a scientifically valid design for the Assessment. The role of the public health experts was to provide objective feedback and suggestions based on their subject matter expertise on the design of the Assessment. In addition to the 12 Steering Committee members, three agency representatives (California Air Resources Board, CHC, and Los Angeles County Department of Regional Planning) were also invited to attend and participate in all Steering Committee meetings.

2.2 Stakeholder Analysis

Prior to planning and facilitating the Steering Committee meetings, Burns & McDonnell conducted a stakeholder analysis to better understand the perspectives, concerns, and hopes of stakeholders. This analysis included nine one-on-one interviews with key stakeholders, review of the Baldwin Hills Community Standards District (CSD) website, and attendance at the September 26, 2019 CAP meeting. The result of the stakeholder analysis was an understanding of the key community and Steering Committee member concerns:

- Developing a scientifically valid assessment design
- Developing an assessment design that is inclusive of all demographics of nearby communities
- Timely implementation of the Assessment
- Cost feasibility of the Assessment
- Considering the unique geographic, topographic, and meteorological nature of the site in the assessment design development

2.3 Committee Meeting Planning and Facilitation using the IAP2 Collaborative Method

While DPH was required by the Settlement Agreement to consult the CAP and the Health Working Group, the Steering Committee was intended to go beyond consultation and be collaborative in nature. To develop a collaborative process, Burns & McDonnell adopted the International Association for Public Participation (IAP2) Spectrum of Public Participation to identify key goals, commitments, and engagement techniques to create a collaborative environment. The guiding goal of this collaborative process was to work with the Steering Committee to develop alternatives and identify preferred solutions. Additionally, DPH made the explicit promise to work together with the Steering Committee to develop solutions and incorporate their advice to the maximum extent possible.

This collaborative process was implemented over five Steering Committee meetings held at the CHC offices in Baldwin Hills on a bi-weekly to monthly basis beginning on October 22, 2019 with the final meeting held on January 14, 2020. Committee members and other key stakeholders invited to attend the Steering Committee meetings were provided an agenda prior to each meeting, as well as meeting notes, “Parking Lot” items lists (important contributions by Steering Committee members that while may be

useful could not be discussed during the current meeting), and PowerPoint presentations from the meeting within one week of each meeting.

Table 2-1 below outlines the main topics and voting items for each meeting.

Table 2-1: Steering Committee Meetings Overview

Meeting Date	Main Topics	Voting Items
#1 – October 22, 2019	<ul style="list-style-type: none"> • Introduce all participants and processes. • Begin discussions on assessment design. 	Various group norms
#2 – November 5, 2019	<ul style="list-style-type: none"> • Review of 2012 Assessment and related documents. • Consider potential health outcomes. 	N/A
#3 – November 19, 2019	<ul style="list-style-type: none"> • Review of air quality related documents. • Provide detailed overview of California Air Resources Board (CARB) Study of Neighborhood Air near Petroleum Sources (SNAPS) plan. • Overview of possible methodologies previously conducted. 	N/A
#4 – December 17, 2019	<ul style="list-style-type: none"> • Review sources, strengths, and limitations of data available. • Consider public health experts recommendations. 	N/A
#5 – January 14, 2020	<ul style="list-style-type: none"> • Discuss environmental justice and environmental racism concerns. • Identify key elements of assessment design recommended by Steering Committee. 	Various elements of assessment design

3.0 STEERING COMMITTEE MEMBERS

The Steering Committee was developed to be a temporary body that advises DPH on the planning and implementation phases of the next Assessment. The Settlement Agreement requires DPH to consult CAP and HWG regarding the Assessment and consider reasonable comments made by CAP and Health Working Group. The Steering Committee is one means of meeting this Settlement Agreement requirement. DPH intended Steering Committee to go beyond a consultative process and be collaborative in nature. This intent is noted by the diverse mix of Steering Committee member type and meeting invitees:

Table 3-1: Steering Committee Members and Other Meeting Invitees

Steering Committee Member or Meeting Invitee	Affiliation	Committee Member?	Member Type
Erica Blyther	City of Los Angeles Public Works Department	Yes	Health Working Group
Debra Bright Stevens	Environmental Audit, Inc.	Yes	Public Health Expert
Christine De Rosa	DPH	Yes	Health Working Group
Paul Ferrazzi	Citizens Coalition for a Safe Community	Yes	Health Working Group
Jo Kay Ghosh	South Coast Air Quality Management District	Yes	Agency
Liz Gosnell	Cone Fee Trust	Yes	Health Working Group
Frank Jackson	Community Member	Yes	Health Working Group
Jill Johnston	University of Southern California	Yes	Public Health Expert
Carolyn Lozo	California Air Resources Board	No	Agency
Charles McCaw	Community Member	Yes	Health Working Group
Seth Shonkoff	Physicians, Scientists, and Engineers (PSE) for Healthy Energy	Yes	Public Health Expert
Timothy Stapleton	Los Angeles County Department of Regional Planning	No	Agency
Carrie Tayour	DPH	Yes	Health Working Group
Melanie Traxler	City of Culver City	Yes	Health Working Group
Sonya Vasquez	CHC	No	Health Working Group

Of note is the inclusion of public health experts to the Steering Committee. The purpose of including public health experts was to have a source of objective and scientific feedback and suggestions during the development of the Assessment design. A list of 14 subject matter experts were identified by the Health Working Group and DPH for consideration as public health experts and Burns & McDonnell subcontractor Intrinsik, Inc. (Intrinsik) added two experts for consideration. Subsequently, the list was shortened to six subject matter experts that were identified as being interested and able to fulfill the role of public health experts on the Steering Committee. Each expert's willingness to participate was identified during email and phone communication, led by Intrinsik. The Health Working Group evaluated each potential public health experts using a standardized evaluation tool (Appendix B) and during a telephonic Health Working Group meeting on October 8, 2019 voted for the following three experts to be invited to join the Steering Committee as public health experts: Debra Bright Stevens, Jill Johnston, and Seth Shonkoff. All public health experts were compensated for their expertise and up to 21 hours of committee support, including attending all Steering Committee meetings.

In addition to the above listed Steering Committee meeting invitees, representatives from Burns & McDonnell and Intrinsik attended all Steering Committee meetings for the purpose of meeting facilitation and note-taking.

4.0 STAKEHOLDER ANALYSIS

Prior to planning and facilitating Steering Committee meetings, Burns & McDonnell conducted a stakeholder analysis to better understand the perspectives, concerns, and objectives of stakeholders. This analysis included one-on-one interviews with key stakeholders, review of the Baldwin Hills CSD website, and attendance at the September 26, 2019 CAP meeting. The result of each tactic is outlined below.

4.1 Stakeholder Interviews

Throughout a three-week period, Burns & McDonnell lead facilitator Jennifer Trotter conducted nine interviews with key stakeholders. Each interview lasted about one hour and was conducted in person or by phone. See Appendix C for the Stakeholder Interview questions.

Table 4-1: Stakeholder Interview Schedule

Stakeholder	Affiliation	Steering Committee Member	Scheduled Interview Date	Conducted
Erica Blyther	City of Los Angeles Public Works Department	Yes	October 2, 2019	Yes
Paul Ferrazzi	Citizens Coalition for a Safe Community	Yes	October 10, 2019	Yes
Jo Kay Ghosh	South Coast Air Quality Management District	Yes	September 26, 2019	Yes
Liz Gosnell	Cone Fee Trust	Yes	October 2, 2019	Yes
Frank Jackson	Community Member	Yes	September 25, 2019	No
Carolyn Lozo	California Air Resources Board	No	September 30, 2019	Yes
Charles McCaw	Community Member	Yes	September 23, 2019	Yes
Timothy Stapleton	Los Angeles County Department of Regional Planning	No	September 30, 2019	Yes
Melanie Traxler	City of Culver City	Yes	September 24, 2019	Yes
Sonya Vasquez	CHC	No	September 25, 2019	Yes

A project objective was to conduct a stakeholder interview with each Steering Committee member, however Frank Jackson was not available to conduct a stakeholder interview nor available to attend Steering Committee meetings.

Several themes were identified through the stakeholder interviews. These themes were considered in both the planning and facilitation of each Steering Committee meeting.

4.1.1 Stakeholder Theme 1: Scientifically Valid Assessment Design

There was a consistent concern identified about the scientific validity and neutrality of the upcoming Assessment. The concern around study design validity stemmed from two sources:

1. Lack of public health expertise of many Steering Committee members. Most of the interviewees have been engaged with the oil field and participated in the CAP or Health Working Group for years, however, lack formal public health education. A consistent request for clarity on what makes an assessment design scientifically valid was made by most interviewees.
2. Perception that the assessment design may be influenced by sources beyond DPH technical staff. Several respondents shared concerns about elected officials and/or the existing operator influencing the assessment design. There was concern that interference with the assessment design by either elected officials and/or the operator would skew the Assessment results.

4.1.2 Stakeholder Theme 2: Inclusive Assessment Design

The CSD spans a large geographic area that is adjacent to several jurisdictions and unincorporated communities including City of Culver City, City of Los Angeles, Baldwin Hills, Ladera Heights, and View Park. A demographically diverse population (socio-economic and age) reside in these nearby communities. Many stakeholders expressed an interest that all communities, especially the Eastside communities that were perceived to have not been adequately studied in the 2012 Assessment, be considered during the assessment design element. This concern points to the importance that the required environmental justice study be complete.

4.1.3 Stakeholder Theme 3: Timely Implementation of Assessment

Many interviewees expressed a strong desire to quickly develop and implement a scientifically valid assessment design to minimize the potential for the Settlement Agreement to be re-litigated. This concern was expressed by both interviewees representing former litigants, as well as interviewees not involved in previous litigation against the County of Los Angeles.

4.1.4 Stakeholder Theme 4: Cost Feasibility

Interviewees consistently stated concerns about lack of funding to conduct the next Assessment. While interviewees prioritized developing a thorough and scientifically valid Assessment, they also expressed

concerns about the costs of doing so and the probability of DPH receiving necessary funds to implement such an Assessment.

4.1.5 Stakeholder Theme 5: Unique Site

Steering Committee members and other interviewees noted the unique nature of the Inglewood Oil Field. They were aware that it is the largest urban active oil field and the most highly regulated oil field in the United States. The geography, topography, and meteorology of the oil field and surrounding communities were also noted by several interviewees as being unique. It was requested that the unique nature of the oil field and surrounding area be considered when developing the assessment design for the next Assessment.

4.2 Baldwin Hills CSD Website Review

In addition to reviewing the relevant reports provided by DPH, Burns & McDonnell also reviewed the Baldwin Hills CSD website (planning.lacounty.gov/baldwinhills). The website review was conducted to better understand the more than 10-year history of the CSD and related community engagement. The following information posted on the website was reviewed to provide context prior to the first Steering Committee meeting.

- Background section
- Baldwin Hills CSD
- Settlement Agreement
- 2019 CAP Agendas and Minutes (prior to September 26, 2019)

The review of the website provided Burns & McDonnell with the history of the CSD, understanding of the Assessment requirements and other CSD requirements, and overview of the high level of community engagement through the CAP.

4.3 CAP Meeting Attendance

Burns & McDonnell Project Manager (Aaron Christensen) attended the September 26, 2019 CAP meeting, observed the concerns brought forward by the community to the CAP, and participated by describing the roles and relevant experience of Burns & McDonnell and its subcontractor Intrinsic.

5.0 COMMITTEE MEETING PLANNING AND FACILITATION

Five Steering Committee meetings were held at the CHC offices in Baldwin Hills on an approximately bi-weekly basis beginning on October 22, 2019. Four of the meetings were scheduled for two hours and one meeting was scheduled for three hours. An initial high-level plan for each meeting was developed at project kick off, however, at the request of DPH, the agenda for each meeting was altered and refined prior to each meeting. Finalized meeting agendas, meeting minutes (including parking lot items), and PowerPoint presentations used during meetings were sent electronically to Steering Committee members, DPH, and invited agency stakeholders. Meeting agendas, minutes, and PowerPoint presentations are presented in Appendix D.

Objectives, tactics, and themes of each meeting are outlined below.

5.1 Meeting #1 — October 22, 2019

The primary purpose of the initial meeting was to:

- Introduce Burns & McDonnell and Intrinsik to Steering Committee and provide background information on each company's past relevant experience.
- Introduce the public health experts to Steering Committee and clarify their roles.
- Provide an overview of the intended collaborative model based on the International Association of Public Participation (IAP2) Spectrum of Public Participation, outlined in Figure 5-1.
- Confirm the purpose of Steering Committee.
- Identify group norms to guide the interactions between Steering Committee members.
- Confirm understanding of Settlement Agreement requirements for the Assessment.
- Begin discussing valid assessment designs.

This meeting was used to define the collaborative process, set clear expectations of collegial engagement, and prepare Steering Committee members for the subsequent meetings. Key concerns presented by members during this meeting included:

- The desire for full engagement of Steering Committee members and limiting absences;
- The role of community benefits provided by the operators to community groups and how they may impact the neutrality of the assessment design; and
- The desire for equitable voting processes.

The final agenda item discussed was “Public Health Experts Discussion on Valid Study Design” and was conducted using a fishbowl format. The public health experts were provided with a prompt and instructed to answer the prompt to the best of their ability and encouraged to engage each other in the topic. The other Steering Committee attendees were instructed to actively listen to the PHEs and hold questions for a later time. This format allowed for all Steering Committee attendees to gain a clearer understanding of the various elements of studies, identify several ways to develop a valid assessment design, and consider how assessment designs are formulated.

Figure 5-1: The IAP2 Public Participation Spectrum

		INCREASING IMPACT ON THE DECISION				
		INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL		To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
	PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

© IAP2 International Federation 2014. All rights reserved.

The “Collaborate” portion of the IAP2 Public Participation Spectrum was used to identify the public participation goal and the promise to the public and the Steering Committee.

5.2 Meeting #2 — November 5, 2019

The second Steering Committee meeting was designed to review past efforts to study potential impacts of the oil field operation and identify lessons learned to apply to the next Assessment. DPH provided an overview of the relevant reports (Appendix A) that were related to the 2012 Assessment, including the 2012 Assessment, CHC feedback on the 2012 Assessment, and notes from a key HWG meeting (May 2018). After reviewing these documents, the Steering Committee discussed the specific strengths and limitations of the 2012 Assessment and considered recommendations for improving the next assessment

design. Below is an outline of recommendations made by Steering Committee (details of each recommendation are found in Appendix D):

- Coordinate with other agencies to obtain data that is beyond the scope or funding available for DPH to acquire.
- Consider how to overcome data deficiencies including identifying new data sources and addressing low statistical power of data collected for the 2012 Assessment.
- Review data collection techniques and types including birth data.
- Consider including data modeling that provides gradient visuals of emissions and account for meteorology and other factors.
- Proactive inclusion and consideration of environmental justice and how oil field operations may disproportionately impact lower-income communities and/or communities of color.
- Expand the potential health impacts studied.
- Determine the most appropriate type(s) of emissions exposure to evaluate.
- Consider the most meaningful way to include the community in the Assessment.

A list of potential health impacts was developed that included but was not limited to cancers, respiratory illnesses, acute reactions, and birth outcomes. The following potential health impacts were identified as possible new options that were not studied during the 2012 Assessment:

- Acute reactions (rashes, headaches, nose bleeds, nausea, and vomiting)
- Endocrine disruptors
- Reproductive health, including pregnancy
- Inflammation
- Stress
- Psychological impacts from noise and vibration

5.3 Meeting #3 — November 19, 2019

This meeting was dedicated to understanding air quality and discussing study methodologies. Both the Baldwin Hills CSD Environmental Impact Report (EIR) and Baldwin Hills Air Quality Study were discussed. One public health expert (Stevens) led the Steering Committee to consider strengths and limitations of the Air Quality Study and provided a set of recommendations for incorporating it into the next Assessment.

The CARB SNAPS team attended the meeting to provide an overview of the upcoming Baldwin Hills SNAPS program and gain feedback from Steering Committee. The CARB SNAPS team cited examples from its recent study in Lost Hills, California; listened to Steering Committee's concerns; and provided details on both the process and investments made into the tools used to conduct SNAPS studies.

Significant time was allotted for two of the public health experts (Johnston and Shonkoff) to provide the Steering Committee with an overview of potential assessment methodologies for the Steering Committee to consider. The broad methodologies presented were tied to past studies and discussed some of the challenges associated with implementation. The meeting concluded with the public health experts agreeing to present details on their recommended methodology(ies) for the next Assessment.

5.4 Meeting # 4 — December 17, 2019

This meeting's primary focus was to discuss the assessment methodologies presented during Meeting #3 and better understand the data available. The public health experts identified potential data sources and discussed their strengths, limitations, and sources. The Steering Committee also discussed general limitations of studies and potential ways to incorporate CARB SNAPS data into the next assessment. This conversation emphasized that there is no perfect assessment design and that acceptance of limitations in assessment designs is necessary.

Following the discussion on data, the public health experts made four recommendations to the Steering Committee:

1. Consider eliminating mortality and cancer rates studies. Limitations include small sample size, broad geo-coding, and lower statistical power. Potential modest gains only from previous Assessment.
2. Use household survey designs that includes biometric component (e.g. lung function) coupled with household level data (e.g. birth outcomes).
3. Do not use blood, urine, or hair samples for biometric analysis. There was discussion regarding their ability to provide benzene markers. Stated that these can be difficult to interpret because there can be multiple sources of benzene, would need to know time activity, place of work, and other factors. This type of assessment would probably be very expensive.
4. Have exposure metrics as a gradation by distance from fence line instead of just by zip code. For example, if reviewing birth data, pick multiple distances from residences to the fence line and assign each distance an exposure level. This will require a large enough sample size to be statistically powerful.

5.5 Meeting # 5 — January 14, 2020

The purpose of the final Steering Committee meeting was twofold: 1) understand the history and implications of environmental justice and racism on the communities surrounding the oil field; 2) further refine Steering Committee recommendations for the assessment design.

The presentation on environmental justice (Figure 5-2) was made by Steering Committee member Erica Blyther. She described how environmental justice is historically rooted in environmental racism and showed how the Eastside communities have been historically marginalized since pre-World War II era due to a pervasive practice known as Redlining. A series of maps shown demonstrated the Eastside communities were historically defined as being less desirable for real estate investment purposes due to its racially heterogenous make up and prevalence of African American residents in particular. The Steering Committee considered how environmental justice could be studied during the next Assessment including considering how race, age, and other socio-economic indicators will be studied.

Figure 5-2: Presentation on “Environmental Racism in Los Angeles”



Steering Committee member, Erica Blyther, presents the history of environmental racism and explores its implications for the communities surrounding the Inglewood Oil Field

The various assessment designs were revisited and categorized into three groups:

- Secondary data analysis
- Individual level data collected — household survey
- Individual level data collected — biometric measurements

Significant time was spent discussing the different types of biometric measurements available. Key considerations discussed included feasibility, costs, level of invasiveness, ability to obtain Institutional Review Board (IRB) approval, and quality of data provided. Through the conversation, four types of biometric measurements were identified: blood pressure, lung function, blood draw, and urine analysis.

The remainder of the meeting was set aside to discuss and vote on key elements of the Steering Committee's recommended assessment design. The Health Working Group members of the Steering Committee expressed understanding of the need to accept assessment design limitations for both the 2012 Assessment and future Assessments. Their understanding was underscored by a stated need to properly communicate these limitations to the greater Baldwin Hills community and the organizations that they represent. The Health Working Group members of the Steering Committee (DPH and public health experts members abstained) voted to make the following recommendations on the assessment design based on guidance and recommendation provided by the public health experts (Appendix D):

- Recommend that the Assessment does not prioritize analyzing Cancer Registry Data and Mortality Rates (existing secondary data) considering the inability to identify causation/correlation due to lack of statistical power. (unanimous)
- Recommend prioritizing individual household birth outcome data as part of any potential secondary data analysis. (unanimous)
- Recommend that both a secondary data analysis be conducted and individual level data from residents be collected (both survey and biometric measurements). (majority, 67%)

The final vote for the type of assessment design was taken by the Steering Committee and conducted by dot vote. Each Health Working Group member of the Steering Committee was given two stickers to identify their preferred choices. This voting technique allowed voters to review the discussion points of each voting option and select their preferred options without the time constraints of a traditional aye-nay vote.

5.6 Next Steps

The discussions held during each meeting was observed by Burns & McDonnell's subcontractor, Intrinsic. Following the fifth Steering Committee meeting, Intrinsic developed a draft scope of work for the Assessment to be used to procure for Assessment implementation services. Intrinsic's attendance at each Steering Committee meeting was vital to including committee members' input and the recommendations voted by committee members into the draft Scope of Work for the Assessment. Intrinsic used both the information shared during the meetings as well as relevant reports provided by

DPH to develop the draft scope of work. The DPH will finalize the Scope of Work prior to further engaging the Steering Committee. It is anticipated that the Scope of Work finalized by DPH will be released to the public as a solicitation to identify a vendor with appropriate expertise and experience in implementing community health and environmental justice assessments.

APPENDIX A - RELEVANT REPORTS

BALDWIN HILLS HEALTH ASSESSMENT AND ENVIRONMENTAL JUSTICE STUDY (2019)

Relevant Reports

#	Publication Name	Author	Webpage	Date Sent (Committee)	Notes
1	Notes from May 24, 2018 meeting of Health Working Group			10/14/19	
2a	2011-12 Health Assessment – Inglewood Oil Field Health Outcome Report	Cyrus Rangan (Director, Bureau of Toxicology & Environmental Assessment) Carrie Tayour		10/14/19	
2b	2011-12 Health Assessment – Inglewood Oil Field Health Outcome Presentation	Angelo J. Bellomo (Director Environmental Health)		10/14/19	
2c	2011-12 Health Assessment – Inglewood Oil Field Communities Survey Report	Cyrus Rangan Carrie Tayour		10/14/19	
2d	2011-12 Health Assessment – Inglewood Oil Field Communities Survey Presentation	Cyrus Rangan Carrie Tayour		10/14/19	
3a	Environmental Impact Report		http://planning.lacounty.gov/baldwinhills/background	10/14/19	Review Executive Summary only
3b	Critical Studies	Stringfellows		10/14/19	
3c	Table of example methods	LAC DPH TEA		10/14/19	
4a	Correspondence / letters between CHC & DPH (Sept 26, 2013 from CHC to DPH)	CHC (Lark Galloway-Gilliam, Executive Director)		10/14/19	
4b	Correspondence / letters between CHC & DPH (Nov 11, 2013 DPH response to CHC Sept 26 letter)	DPH (Jonathan Fielding, Director and Health Officer)		10/14/19	
4c	Correspondence / letters between CHC & DPH (April 6, 2018 from CAP to DPH)	CAP (David McNeill, Co-Facilitator of CAP)		10/14/19	Several publications referenced

BALDWIN HILLS HEALTH ASSESSMENT AND ENVIRONMENTAL JUSTICE STUDY (2019)

Relevant Reports

#	Publication Name	Author	Webpage	Date Sent (Committee)	Notes
4d	Correspondence / letters between CHC & DPH (May 18, 2018 response to CAP)	Los Angeles County Public Health (Barbara Ferrer, Director)		10/14/19	
5	Baldwin Hills Air Quality Study	Sonoma Technology, Inc. (STI)		10/14/19	
6	Baldwin Hills Census Tract / Zip Code / Oil Field Map	Los Angeles County Department of Public Health, Office of Health Assessment and Epidemiology		10/14/19	
7	Cal Enviroscreen Index / Healthy Places Index			10/14/19	
8	Periodic Review			10/14/19	2 documents, renamed 8a and 8b
9	MATES	South Coast Air Quality Management District	https://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf?sfvrsn=7	10/14/19	
10	Odor Study	UCLA Institute of the Environment	N/A	10/14/19	Developed as part of course

APPENDIX B – PUBLIC HEALTH EXPERT EVALUATION TOOL

**Scoring Sheet: Baldwin Hills Steering Committee
Candidates for Expert Consultant**

Candidate's Name: _____

The questions below ask for an answer on a scale of 1 to 5. Please check the box that corresponds to your answer.

1. Based on the candidate's response to question #1 (*...Please describe any potential conflicts of interest that might impact your ability to be impartial or might create the appearance of impartiality. This might include belonging to advocacy groups, authoring agenda-driven reports, or other activities*), how likely is this candidate to be impartial?

Not likely to be impartial	<table border="1"> <tr> <td align="center">1</td> <td align="center">2</td> <td align="center">3</td> <td align="center">4</td> <td align="center">5</td> </tr> <tr> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> </tr> </table>	1	2	3	4	5						Exceptionally likely to be impartial
1	2	3	4	5								

2. Based on the candidate's response to question #2 (*Please describe any challenges you might have in participating in this effort, and your level of commitment to its purpose*), how likely is this candidate to be sufficiently committed to this project?

Not likely to be committed, too many challenges	<table border="1"> <tr> <td align="center">1</td> <td align="center">2</td> <td align="center">3</td> <td align="center">4</td> <td align="center">5</td> </tr> <tr> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> </tr> </table>	1	2	3	4	5						Exceptionally likely to be committed, no challenges
1	2	3	4	5								

3. Based on the candidate's response to question #3 (*Please describe your experience conducting epidemiologic health studies, specifically into the health impacts of living near oil and gas development, and/or local health risk assessments*), how do you rate the candidate's experience with similar studies/health epi studies/local health risk assessments?

No experience	<table border="1"> <tr> <td align="center">1</td> <td align="center">2</td> <td align="center">3</td> <td align="center">4</td> <td align="center">5</td> </tr> <tr> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> </tr> </table>	1	2	3	4	5						Exceptional amount of experience
1	2	3	4	5								

4. Based on the candidate's response to question #4, (*Please describe your familiarity with AQMD and OEHHA methodology*), how do you rate the candidate's familiarity with AQMD and OEHHA methodology or equivalent?

Not familiar	<table border="1"> <tr> <td align="center">1</td> <td align="center">2</td> <td align="center">3</td> <td align="center">4</td> <td align="center">5</td> </tr> <tr> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> </tr> </table>	1	2	3	4	5						Exceptionally familiar
1	2	3	4	5								

5a. Based on the candidate's response to question #5, (*Please describe your experience with community-based participatory research and environmental justice studies*), how do you rate the candidate's experience with community-based participatory research?

No experience	<table border="1"> <tr> <td align="center">1</td> <td align="center">2</td> <td align="center">3</td> <td align="center">4</td> <td align="center">5</td> </tr> <tr> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> </tr> </table>	1	2	3	4	5						Exceptional amount of experience
1	2	3	4	5								

5b. Based on the candidate's response to question #5, (*Please describe your experience with community-based participatory research and environmental justice studies*), how do you rate the candidate's experience with environmental justice research?

No experience	<table border="1"> <tr> <td align="center">1</td> <td align="center">2</td> <td align="center">3</td> <td align="center">4</td> <td align="center">5</td> </tr> <tr> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> <td style="width: 30px; height: 20px;"></td> </tr> </table>	1	2	3	4	5						Exceptional amount of experience
1	2	3	4	5								

**Scoring Sheet: Baldwin Hills Steering Committee
Candidates for Expert Consultant**

6. Based on the candidate's response to question #6 (*Please describe your familiarity with the SCAQMD MATES studies, the Baldwin Hills Air Quality Study conducted by Sonoma Technology, Inc. in 2015, and the Baldwin Hills CSD Environmental Impact Report*), how do you rate the candidate's familiarity with these studies?

Not familiar	1	2	3	4	5	Exceptionally familiar
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

7. Based on the candidate's resume or CV, how do you rate the relevance of the candidate's training and professional experience

No relevant experience	1	2	3	4	5	Exceptional amount of relevant experience
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

8. Based on the candidate's resume or CV, how do you rate the relevance of their current employment, engagements, consultations, academic appointments?

Not relevant	1	2	3	4	5	Exceptionally relevant
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

9. Based on your review of the candidate's information, do you see anything that concerns you about the possibility of this candidate serving on the Steering Committee?

No	<input type="checkbox"/>	If yes, please explain: _____ _____ _____
Yes	<input type="checkbox"/>	

Your Name: _____

Are you a member of the CAP, Health Working Group, or both? _____

Please scan both sides of this form and email to cderosa@ph.lacounty.gov. Thank you!!

APPENDIX C – STAKEHOLDER INTERVIEW QUESTIONS

Baldwin Hills Steering Committee Stakeholder Interview Questions

Purpose: solicit views and opinions from all Steering Committee members and other stakeholders involved in the CAP. Having a one-on-one private conversation with each interviewee enables stakeholders to speak freely and confidentially about controversial and sensitive issues and build personal relationship with stakeholders. All interviews will be recorded with notes taken by interviewer. Consent will be requested to audio record the interviews.

- Can you tell me about your involvement in the CAP/CSD (historical)?
 - How do you view your role in this group?
 - How are decisions typically made?
 - What do you value most about this group?
 - How long have you been an active participant?
- Describe the purpose of the CAP/CSD (in your own words).
- What interested you in volunteering to be part of the CAP and on the Steering Committee in particular?
 - How do you see your role on the Steering Committee?
 - What are your expectations for participation?
- What do you see as next steps for the Steering Committee?
 - What is the most important thing for us to get right with the Steering Committee?
 - How will you know if the Steering Committee is successful?
- If you could go back and change anything since you became involved, what would that be?
- Can you share with me who has taken a leadership role in the efforts around the Health Assessment Study? How so?
- What are some concerns you may have about the Study (or how it is developed)?
 - Who are the supporters and opponents of the Study (if any)?
 - What level of trust is there among partners?
- Do you have previous experience developing an Environmental Justice or Health Assessment Study?
 - Are you clear on the defining differences between a Health Assessment, Health Risk Assessment, and Health Study?
- Is there anyone that should be included in the Steering Committee but has not yet been identified/committed?
- Anybody else that I should get feedback from before we begin meetings?

APPENDIX D - COMMITTEE MEETING DOCUMENTATION

Meeting #1 - October 22, 2019

Meeting Agenda



Meeting Subject: Public Health Baldwin Hills Steering Committee – Meeting #1
Meeting Date: October 22, 2019
Start Time: 1:00 PM
End Time: 4:00 PM
Location: Community Health Councils
3731 Stocker, Suite 201
Los Angeles, CA 90008

Invitees: Erica Blyther, Debra Bright Stevens, Christine De Rosa*, Sean Fahmian, Paul Ferrazzi, Jo Kay Ghosh, Liz Gosnell, Frank Jackson, Jill Johnston, Carolyn Lozo, Charles McCaw, Seth Shonkoff, Timothy Stapleton, Caitlyn Suruki, Carrie Tayour, Melanie Traxler, Jennifer Trotter, Sonya Vasquez

* indicates meeting organizer

Agenda:

- Welcome
- Safety Moment
- Introductions
- Burns & McDonnell Team – Role and Expertise
- Public Health Experts – Role and Expertise
- Rules of Engagement and Ground Rules
- Steering Committee Purpose
- Community Health Study Requirements
- 2012 Health Assessment Reviewed
- Public Health Experts Discussion on Valid Study Design
- Research Question

Baldwin Hills Steering Committee Meeting #1
Community Health Councils – 3731 Stocker, Los Angeles
October 22, 2019 – 1 p.m. to 4 p.m.

Attendees:

- Christine De Rosa, LA County DPH
- Caitlyn Suruki, Intrinsic**
- Carrie Tayour, LA County DPH
- Paul Ferrazzi, Citizens Coalition for Safe Community
- Melanie Traxler, City of Culver City
- Charles McCaw, UHA (eastside of La Brea community)
- Tim Stapleton, LA County DRP*
- Jill Johnston, University of Southern California
- Erica Blyther, City of LA
- Debbie Stevens, Environmental Audit, Inc.
- Seth Shonkoff, PSE Healthy Energy
- Liz Gosnell, Cone Family Trust
- Jonathan Bluffer, California Air Resources Board*
- Caroline Lozo, California Air Resources Board *
- Nico Schulte, South Coast Air Quality Monitoring District
- Jennifer Trotter, Burns & McDonnell**
- Sean Fahmian, Burns & McDonnell **

*Interested agency representative, not a Steering Committee Member

**Facilitating consultant

Action Items

- Provide document from Dr. Lambert as optional reading (Trotter)
- Provide meeting notes within one week of meeting containing items discussed (Trotter)
- Include overview of other documents during next meeting (Trotter/De Rosa)
- Contact Frank Jackson to understand if able to participate in Steering Committee by 10/24 (Trotter)
 - If no response, then will be discussed at CAP meeting to identify new steering committee member. Person to be identified before November 5th (Meeting #2). When person is nominated by CAP, they will need to be pre-evaluated by Working Health Group before joining the Steering Committee. (Stapleton)
- Provide the conference call phone number at top of agendas going forward (Trotter)
- Note specific relevant reports important for review prior to meetings going forward (Trotter)
- Provide specific questions, particularly for Public Health Experts, to Trotter prior to meeting (Steering Committee Members)
- Provide Steering Committee Members with an electronic version of the “Examples of Different Health Assessment Tools” (Trotter)
- Provide Steering Committee Members with PowerPoint Presentation from meeting (Trotter)

Meeting Notes

1. Safety Moment – evacuation of the Community Health Councils office in the event of emergency
2. Introductions
3. Burns & McDonnell Team – Role and Expertise
 - Overview of Burns & McDonnell and Intrinsic experience
 - Overview of the International Association for Public Participation (IAP2), commitment to “Collaborate” on Spectrum
4. Public Health Experts – Role and Expertise
 - Overview of experience
 - Overview of expectations/role
 - Discussion on feasibility of Public Health Experts being on the same page for how the study will be conducted.

Baldwin Hills Steering Committee Meeting #1
Community Health Councils – 3731 Stocker, Los Angeles

October 22, 2019 – 1 p.m. to 4 p.m.

- Debbie and Jill: On key issues and big picture items, it is more than likely that they would all agree. There may be some disagreement on nuances.
- Seth: Science in general is a process of arguments that lead to agreements. The disagreements can be helpful in the process.

5. Rules of Engagement and Ground Rules

Discussion on implementing and editing CAP's Rules of Engagement and including additional ground rules.

Voting Item: accept the following Group Norms for engaging in the Steering Committee (Unanimous Agreement – Pass):

- Constructive participation and commitment to the group and the process.
- Remain positive and collegial. Don't make or take anything personal.
- Recordings of meetings will not be shared or taken out of context.
- Voting to occur by hand in person and verbally if online/on-call.
- Members to be on-time to meetings. Either in person (preferred) or by phone.
- Read provided documents and be prepared to participate in meetings.
- Stay on agenda.
- Listen and hear all. Facilitator to engage those who have not spoken.
- Don't dominate conversations/group. Keep everyone heard. Facilitator to interject those who dominate the conversation(s).

Discussion on Operator's practice of providing cash community benefits to neighborhood groups and if acceptance of these donations by Steering Committee members representative organization should be shared with other members. Discussion continued about availability of this data, the need for transparency, and does acceptance of donations create bias.

Voting Item: Steering Committee members disclose if the organization that they are representing has previously received community contributions / benefits from Operator. (Pass)

- Yes: Seth, Paul, Jill, Erica, Christine, Carrie (6)
- Abstain: Charles, Melanie, Debbie, Nico, Liz (out of room) (4)
- No: (0)

Discussion on acceptable number of absences for participation in Steering Committee. Committee expressed wanting active participation of all members and absent members should be responsible for reviewing meeting minutes. Remote attendance will be considered an acceptable replacement for in person meeting, as needed. If no longer able to participate in Steering Committee, notify the Committee to identify a new replacement via the Health Working Group and CAP.

Voting Item: Committee members will try not to miss any meetings but if a meeting is missed by a Committee member they are responsible for conducting their own due diligence by reviewing documents and notes before the next meeting. (Unanimous Approval - Pass)

Baldwin Hills Steering Committee Meeting #1
Community Health Councils – 3731 Stocker, Los Angeles

October 22, 2019 – 1 p.m. to 4 p.m.

Discussion on recording meetings for Committee member purposes. Request was initiated as a means for Committee members to prepare for subsequent meetings after missing a meeting. Concerns about making recordings of meetings publicly available due to words potentially being manipulated.

Conversation on if the Steering Committee is a public meeting or not. Confirmation that the CAP does not post recordings of their meetings and should the Steering Committee use a higher standard. The process of recording meetings will have to be determined (via Zoom or external device).

Voting Item: Each Committee Member sign a Statement of Confidentiality stating that they will not share meeting recordings prior to accessing recording of meeting(s). (Unanimous Approval - Pass)

Discussion on allowing Steering Committee members to send a proxy in their place when unable to attend a meeting. Highlight that Public Health Experts contracted to attend each meeting and therefore cannot use a replacement. Noted that proxy participated in first meeting (SCAQMD) and other agencies participating in Steering Committee may have need for proxies. Community members also stated a desire for the option to use proxies.

Voting Item: Allow use of Proxy Members when a Steering Committee Member (except of Public Health Experts) is not able to attend and participate in a meeting(s). (Pass)

- Yes: Liz, Paul, Debbie, Jill, Erica, Christine, Carrie, Melanie, Seth, Nico (10)
- Abstain: Charles (1)
- No: (0)

Discussion on best method for voting on for future discussions. Verbal and ‘raise of hand’ was listed as practical method.

Voting Item: Steering Committee will vote on all decision points by verbal and ‘raise of hand’ voting process. (Unanimous Approval - Pass)

6. Community Health Study Requirements (summarized as described in Settlement Agreement)
 - Review other agencies’ air quality, water quality, and seismic data reports (where feasible)
 - Analyze information by socio-economic and demographic data to accommodate and reflect on Environmental Justice component
 - Analyze cancer rates, mortality rates, birth outcomes, a survey of other pertinent health indicators
7. Public Health Experts Discussion on Valid Study Design – fish bowl exercise in which Public Health Experts discussed their opinion on valid study design. All other Steering Committee members and attendees listened, observed, took notes. Public Health Experts were prompted with the following question:
 - The field of epidemiology has established a ‘hierarchy’ of study designs. DPH has shared a matrix of various epidemiological study designs. Please consider if any additional information would be helpful in distinguishing the merits between these study designs.

The Public Health Experts provided the following insights:

- Gold standard: randomized control trial (example: new pharmaceutical drug)
 - One group gets the drugs
 - The other group gets a placebo

Baldwin Hills Steering Committee Meeting #1
Community Health Councils – 3731 Stocker, Los Angeles
October 22, 2019 – 1 p.m. to 4 p.m.

- Goal of study is trying to identify causation
- Doesn't work with public health because you cannot expose someone to something that will cause them harm.
- Challenge: How can we design the research to identify causation?
- Especially when considering the population level
- Goal is to figure out some sort of representation of the truth of what is going on in the population in the study
 - There is general knowledge in the Baldwin Hills that there is concern
 - Statistical study is possible if there is sufficient statistical power. Need to understand rarity of outcomes to know how to set up a study.
- What kind of information can we get? How do we get that information?
 - There are limitations on how much data you can collect. What can we do with the information and the funding that we have? Trying to stay away from incorporating funding into the conversation.
 - Air quality studies from the past to understand exposures to the community.
 - Retrospective study: Utilize previous data to come to a conclusion
 - Prospective Study: Collecting data on people going forward in time to understand who develops disease. In environmental epidemiology, prospective data is stronger. Collecting prospective data adds more time.
 - Available data: Need an understanding of how this data was collected. Area that we are looking at is a relatively small area. Utilizing census track data may not be as helpful as collecting data at the household level.
 - Air Quality Data: Potential exposures and potential risks. Can be issues with the variability of the data that is collected for air quality.
- Data Collection and Quality of Life / health outcome Issues:
 - Acute impacts are easier to identify
 - Harder to design a study of chronic impacts such as cancer, long term disease. Would take more time to design and execute this type of study
- Discussion on the types of Health Assessments
 - All Health Assessments answer a different type of question
 - Health Impact: What would the health impact be if something new was introduced.
 - Health Risk: Environmental monitoring data
 - Tends to look at a specific type of operation
 - Normally done through modeling and is heavily dependent on the assumptions used for the modeling.
 - Tend to look at emission data/estimates. Usually is somewhat accurate. Harder to measure emissions from a large facility (considered fugitive emissions).
 - Biases in health risk estimates:
 - How much does a certain pollutant affect your health?
 - Risks may be dominated by different types of pollutant sources.
- Differences between hazards, risks, and impacts:
 - Hazard: Potential for some sort of risk
 - Risk: Probability that when exposed to a hazard, an adverse health event will occur
 - Impact: Did/when this happened, what is the actual impact of that happening (mortality, morbidity, etc.)

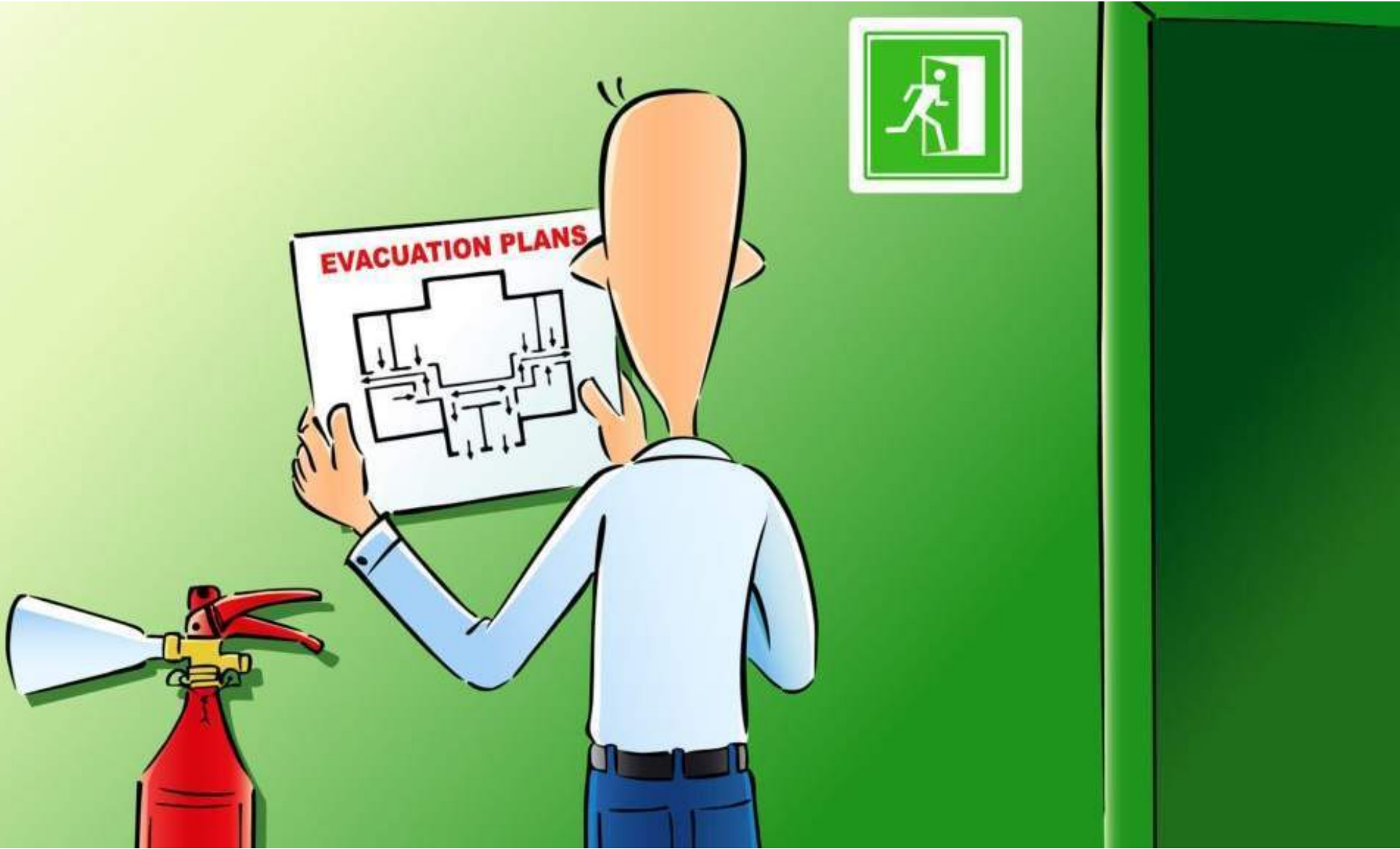
Attachments: PowerPoint, Parking Lot Items, Examples of Different Health Assessment Tools

BALDWIN HILLS STEERING COMMITTEE

MEETING #1

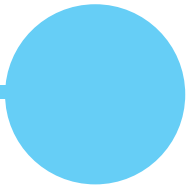
OCTOBER 22, 2019

Safety Moment

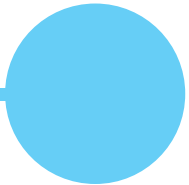


Introductions

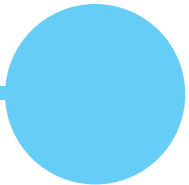
60 Seconds



Name



I am here because



Just for fun

Burns & McDonnell



Working Group



Public Health Experts



Other Stakeholders



About Burns & McDonnell

Our Team

▶ Burns & McDonnell

- Jennifer Trotter, MPL, ENV SP (facilitator)
- Aaron Christensen, PE, PG, ENV SP (project manager)
- Kanan Patel-Coleman, PhD (technical advisor)
- Sean Fahmian (assistant public involvement specialist)

▶ Intrinsik

- Charles Lambert, PhD, DABT
- Caitlyn Suruki, MPH



Who We Are

Where We Are





**Environmental
Permitting**



Procurement



Construction



**Routing
and Siting**



Safety



**Project
Controls**



**Project
Management**



**Community
Relations**



Licensing



Engineering



Planning



Real Estate

INTEGRATION | ONE TEAM

Role

- ▶ Review Relevant Reports
- ▶ Steering Committee Planning and Facilitation
 - Using International Association for Public Participation (IAP2) values
 - Neutral facilitator
 - Intrinsik – silent observer
- ▶ Develop a *Draft* Scope of Work for the Health and Environmental Justice Assessment
 - Goals and Objectives
 - Methods
 - Estimated Cost

IAP2 views public participation as any process that involves the public in problem solving or decision-making and uses public input to make decisions.

“If you don’t intend to use their input, then don’t ask them.”

-Dr. Marty Rozelle, IAP2 Trainer and Core Values Award Judge

IAP2 Core Values

- 1 Public participation is based on the belief that those who are affected by a decision have a right to be involved in the decision-making process.
- 2 Public participation includes the promise that the public's contribution will influence the decision.
- 3 Public participation promotes sustainable decisions by recognizing and communicating the needs and interests of all participants, including decision makers.
- 4 Public participation seeks out and facilitates the involvement of those potentially affected by or interested in a decision.
- 5 Public participation seeks input from participants in designing how they participate.
- 6 Public participation provides participants with the information they need to participate in a meaningful way.
- 7 Public participation communicates to participants how their input affected the decision.



The Core Values define expectations and aspirations of the public participation process. Processes based on the Core Values have been shown to be the most successful and respected.

IAP2 Spectrum of Participation

INCREASING IMPACT ON THE DECISION

	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision. We will seek your feedback on drafts and proposals.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will work together with you to formulate solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

© IAP2 International Federation 2014. All rights reserved.

**About Public Health
Expert Consulting
Members**

Public Health Expert Consulting Members

- **Debra Bright Stevens**
- **Jill Johnston, PhD**
- **Seth Shonkoff, PhD, MPH**

Role

- Review Relevant Reports
 - Review documents in advance of meetings
- Steering Committee Active Participation
 - Attend all Steering Committee meetings
 - Agreeing to group norms
 - Advising group on study approach and methodology
 - Provide expert opinion on elements of study design
- May be asked to stay on in an advising role for the Study implementation phase but will not be eligible to apply to conduct the resulting study

Rules of Engagement and Ground Rules

CAP Rules of Engagement

- Show up on time and prepared with thoughts
- Stay focused on meeting agenda items
- Allow all attendees to participate and speak up
- Do not interrupt others while speaking
- Do not engage in side conversations during the meeting

Other Rules of Engagement or Ground Rules

- Participate constructively, respecting other members and the process, until Phase 2 is complete (*draft expectations document*)
- Agree to the best of your ability to represent the Health Work Group and the CAP and any recommendations put forth by all communities surrounding the Baldwin Hills (*draft expectations document*)
- Others?

Attendance

- 5 bi-weekly meetings beginning October 22nd
- First meeting (10/22) will last up to 3 hours
- Meetings #2 – 5 will last up to 2 hours
- A 6th meeting may be added if deemed necessary
- Number of excused absences?
- Responsibilities of absent committee member?
- Remote participation possible?
- Shared seat?

Voting

- Note that this body will present its recommendations to the CAP and the Health Working Group, who will provide the final approval on the Scope of Work in coordination with DPH. (*draft expectations document*)

BREAK

Study Requirements

Settlement Agreement & Mutual Release

▸ Section 5 (page 7)

- Review other agencies' air quality, water quality, and seismic data reports (where feasible)
- Analyze information by socio-economic and demographic data to accommodate and reflect on Environmental Justice component
- Analyze cancer rates, mortality rates, birth outcomes, a survey of other pertinent health indicators

Valid Study Discussion

Fish Bowl: Key Considerations

- ▶ The field of epidemiology has established a 'hierarchy' of study designs. DPH has shared a matrix of various epidemiological study designs. Please consider if any additional information would be helpful in distinguishing the merits between these study designs.

Meeting #2 - November 5, 2019

Meeting Agenda



Meeting Subject: Public Health Baldwin Hills Steering Committee – Meeting #2
Meeting Date: November 5, 2019
Start Time: 1:00 PM
End Time: 3:00 PM
Location: Community Health Councils
3731 Stocker, Suite 201
Los Angeles, CA 90008
Conference Call: (408) 638-0968 US (San Jose)
Meeting ID 707 759 566
<https://zoom.us/j/707759566>

Invitees: Erica Blyther, Debra Bright Stevens, Christine De Rosa*, Sean Fahmian, Paul Ferrazzi, Jo Kay Ghosh, Liz Gosnell, Frank Jackson, Jill Johnston, Carolyn Lozo, Charles McCaw, Seth Shonkoff, Timothy Stapleton, Caitlyn Suruki, Carrie Tayour, Melanie Traxler, Jennifer Trotter, Sonya Vasquez

* indicates meeting organizer

Group Norms:

- Constructive participation and commitment to the group and the process
- Remain positive and collegial. Don't make or take anything personal
- Members arrive on-time (in person or by phone)
- Read provided documents and be prepared to participate
- Stay on agenda
- Listen and hear all - Facilitator to engage those who have not spoken
- Don't dominate conversations - Facilitator to interject those who dominate a conversation

Agenda:

- Welcome (2 minutes)
- Safety Moment (2 minutes)
- Meeting Recap (15 minutes)
- Steering Committee Purpose (5 minutes)
- Relevant Reports Overview (5 minutes)
- 2012 Health Assessment Reviewed (40 minutes)
- BREAK (5 minutes)
- Potential Health Impacts (35 minutes)
- Debrief (10 minutes)

Next Meeting:

- Tuesday, November 19, 2019 at 1 p.m.
- Meeting to focus on estimate exposures and assessment design considerations

Baldwin Hills Steering Committee Meeting #2
Community Health Councils – 3731 Stocker, Los Angeles
November 5, 2019 – 1 p.m. to 3 p.m.

Attendees:

- Jonathan Blufer (by phone), CARB*
- Christine De Rosa, LA County DPH
- Caitlyn Suruki, Intrinsic**
- Carrie Tayour, LA County DPH
- Paul Ferrazzi (by phone), Citizens Coalition for Safe Community
- Melanie Traxler (by phone), City of Culver City
- Charles McCaw, UHA
- Tim Stapleton, LA County DRP*
- Jill Johnston, University of Southern California
- Erica Blyther, City of LA
- Debbie Stevens, Environmental Audit, Inc.
- Seth Shonkoff, PSE Healthy Energy
- Liz Gosnell, Cone Family Trust
- Jennifer Trotter, Burns & McDonnell**
- Sean Fahmian, Burns & McDonnell **

*Interested agency representative, not a Steering Committee Member

**Facilitating consultant

Action Items

- Send email to Steering Committee requesting disclosure of receipt (by representing organization/group) of community benefits from oil field operator (Trotter)
- Send list of previous related projects completed by Burns & McDonnell and Intrinsic (Trotter)
- Public Health Experts (PHE) prioritize the recommendations, provide an idea of what is possible, present plan – action item will be developed further based on PHE availability (PHE)

Meeting Notes

1. Safety Moment – evacuation of the Community Health Councils office in the event of emergency
2. Meeting Recap
 - Confirmation that Steering Committee Members will disclose receipt (by representing organization/group) of community benefits from Oil Field Operator in an email
 - Previous Reports and Experiences to be sent (via email) to Steering Committee.
 - Schedule and CSD Expiration updates are in progress (Stapleton)
 - Discussion on CARB SNAPS schedule (anticipate start Spring 2020 to later)
3. Relevant Report Overview (Tayour)
 - 2012 Health Assessment/Study reviewed available health data for the nearby community compared to Los Angeles County
 - PowerPoint presentation presented to the CAP (DATE) provided overview of data results and limitations (ex. small number issue, study boundaries, data available limited to zip codes)
 - Survey completed in 2012 collected data over 4 months looked at general health and environmental concerns. Odor complaints were found closer to the oil field. Noise and vibration complaints were not as apparent. Conclusion was that the analyses that were done weren't conclusive enough and that an air quality study should be conducted.
 - Letter from CHC stated that the assessment did not meet the concerns of the community.
 - Response from DPH stated that the study design was not designed to address long term health concerns of the community.
 - Notes from HWG Meeting: reviewed Health Assessment, limitations acknowledged, and suggestions provided on how to design future studies.

Baldwin Hills Steering Committee Meeting #2
Community Health Councils – 3731 Stocker, Los Angeles
November 5, 2019 – 1 p.m. to 3 p.m.

4. Steering Committee Purpose
 - Provide insight and feedback on the design of a SOW for the upcoming community Health Assessment and Environmental Justice Study through a series of reviews and activities.
5. 2012 Health Assessment Reviewed
 - Discussion on process of reviewing health assessment. Consideration of defining research question and reviewing CAP list (letter from CAP) prior to assessing 2012 Health Assessment.
 - Recommendation: develop spreadsheet of community recommendations and PHEs review and assess list for plausibility
 - Discussion of Strengths, Limitations, and Recommendations of 2012 Health Assessment (below):

Strengths

- Data - quality (publicly available), quantity, accurate analysis
- Transparency - identified study limitations and laid them out transparently in study
- Health Outcomes Reviewed – a number of different health outcomes reviewed, health outcomes specifically tied to what are generally known as exposures. Clear attempts to tie the health outcomes to the exposures
- Unbiased - steps made to ensure study was unbiased, no obvious or inadvertent biases

Limitations

- Limited exposure considerations - only benzene considered. Captured traces of HCl but not reviewed. Analyses could not link any exposure from oil field to any particular health outcome. No quantification of the chemicals and the exposure to the community.
- Lack of any exposure assessment – no modeling conducted
- Lack comparable data - limited by comparisons to the LA County health survey. Data unavailable to find what the group wanted. Consider if LA County data is appropriate since there is a lot of drilling countywide, not true comparison
- Study boundary issues – distance in relation to the exposure. Different areas get exposed differently. Didn't deal with proximity to the oil field.
- Lack of community support – community mistrusted or not in support of methodologies utilized.
- Residency length not considered - did not go into detail with the resident's time in the area.
- Perspective of the oil field not assessed - did not account for impact for perceptions on reports of health outcomes.
- Lacked Environmental Justice perspective: unclear what's happening when adjustments for race were made, raw data is very different from the adjusted data.
- Limited review of acute symptoms - did not look at connection between odor to reports of headaches, nosebleeds, nausea (example Aliso Canyon)

Recommendations

- Agency Coordination
 - Request AQMD to conduct modeling of the oil field and expand current data collection methods
 - Confirm with CARB that SNAPS is well informed of community concerns and past assessment completed before utilizing data for Health Assessment. Key concern with SNAPS is that difficulty in collecting air samples around oil and gas facilities due to episodic, inconsistent, nature of operations related emissions and chemical use

Baldwin Hills Steering Committee Meeting #2
Community Health Councils – 3731 Stocker, Los Angeles
November 5, 2019 – 1 p.m. to 3 p.m.

- Data Available
 - Consult AQMD records that detail chemicals used during the operation of the facility (imperfect data source, but a lot of information available)
 - Request access to asthma related data from Culver City and Los Angeles unified school districts
 - Develop a model/plan that addresses the fact that there is a very small group of people to be studied.
 - Identify data available
- Data Collection
 - Confirm data validity and collection methods.
 - Use data available in birth certificates.
 - Use geocoding instead of zip code/census tract data.
 - Conduct surveys using available mailing list
 - Collect data through HOAS
 - Use production data
 - Need lifetime exposure for cancer and chronic health issues
- Data Modeling
 - Use more modeling by utilizing gradients from the oil field to do a better exposure assessment. Looks at distance plus meteorology.
- Emissions exposure
 - Prioritize emissions and chemicals reviewed by known impacts.
 - Exposure should be an evaluating point.
 - Collect emissions data in real time and note daily and weekly averages.
 - Focus study on constituents that public health community understands and has data available.
 - Consider chemical combinations and associated potential health risks
- Environmental Justice
 - Consider socioeconomic lens rather than race only lens
 - Define Environmental Justice and how it is being addressed in study (environmental racism vs. environmental justice)
 - Consider which communities use government resources
 - Consider elected official involvement in protecting their communities.
- Health Outcomes
 - Expand the cancer list
 - Look beyond cancers for other potential health impacts.
- Study Design
 - Assuming that reaching out to the community needs to be random, how can you adjust study to reach out to the proper population?
 - Monitor study participants for entire day
 - Conduct panel studies
 - Need longitudinal study design to assess chronic health issues including cancer

Baldwin Hills Steering Committee Meeting #2
Community Health Councils – 3731 Stocker, Los Angeles
November 5, 2019 – 1 p.m. to 3 p.m.

6. Potential Health Impacts

Existing (2012 Assessment):

- | | | |
|------------------------------------|---|---------------------------------------|
| • General Health / Quality of Life | • Diabetes | • Mortality |
| • Asthma | • Heart Disease | • Low-Birth-Weight Births |
| • Hypertension | • Chronic Respiratory Conditions (e.g. emphysema, chronic bronchitis) | • Birth Defects |
| • High Cholesterol | | • Incidences of blood related cancers |
| • Depression | | |

Discussion on other potential health impacts:

- Impacts that are related to carbon emissions
- Identify if any recommendations from previous or upcoming AQMD and CARB studies
- Expand the blood related cancers because detectable metals may have a relationship to other cancer types
- Rashes, headaches, nose bleeds, nausea, and vomiting (Disclaimer: Data is hard to validate)
- Endocrine Disruptors
- Reproductive Health/Pregnancy
- Inflammation
- Stressors/Stress (differ from depression, depression used in 2012 due to lack of specific data)
- Hazards & Risks may be easier to identify than health impacts
- Psychological impacts from noise and vibration

Meeting Agenda



Meeting Subject: Public Health Baldwin Hills Steering Committee – Meeting #3
Meeting Date: November 19, 2019
Start Time: 1:00 PM
End Time: 3:00 PM
Location: Community Health Councils
3731 Stocker, Suite 201
Los Angeles, CA 90008
Conference Call: (408) 638-0968 US (San Jose)
Meeting ID 707 759 566
<https://zoom.us/j/707759566>

Invitees: Erica Blyther, Debra Bright Stevens, Christine De Rosa*, Sean Fahmian, Paul Ferrazzi, Jo Kay Ghosh, Liz Gosnell, Frank Jackson, Jill Johnston, Carolyn Lozo, Charles McCaw, Seth Shonkoff, Timothy Stapleton, Caitlyn Suruki, Carrie Tayour, Melanie Traxler, Jennifer Trotter, Sonya Vasquez

Agenda:

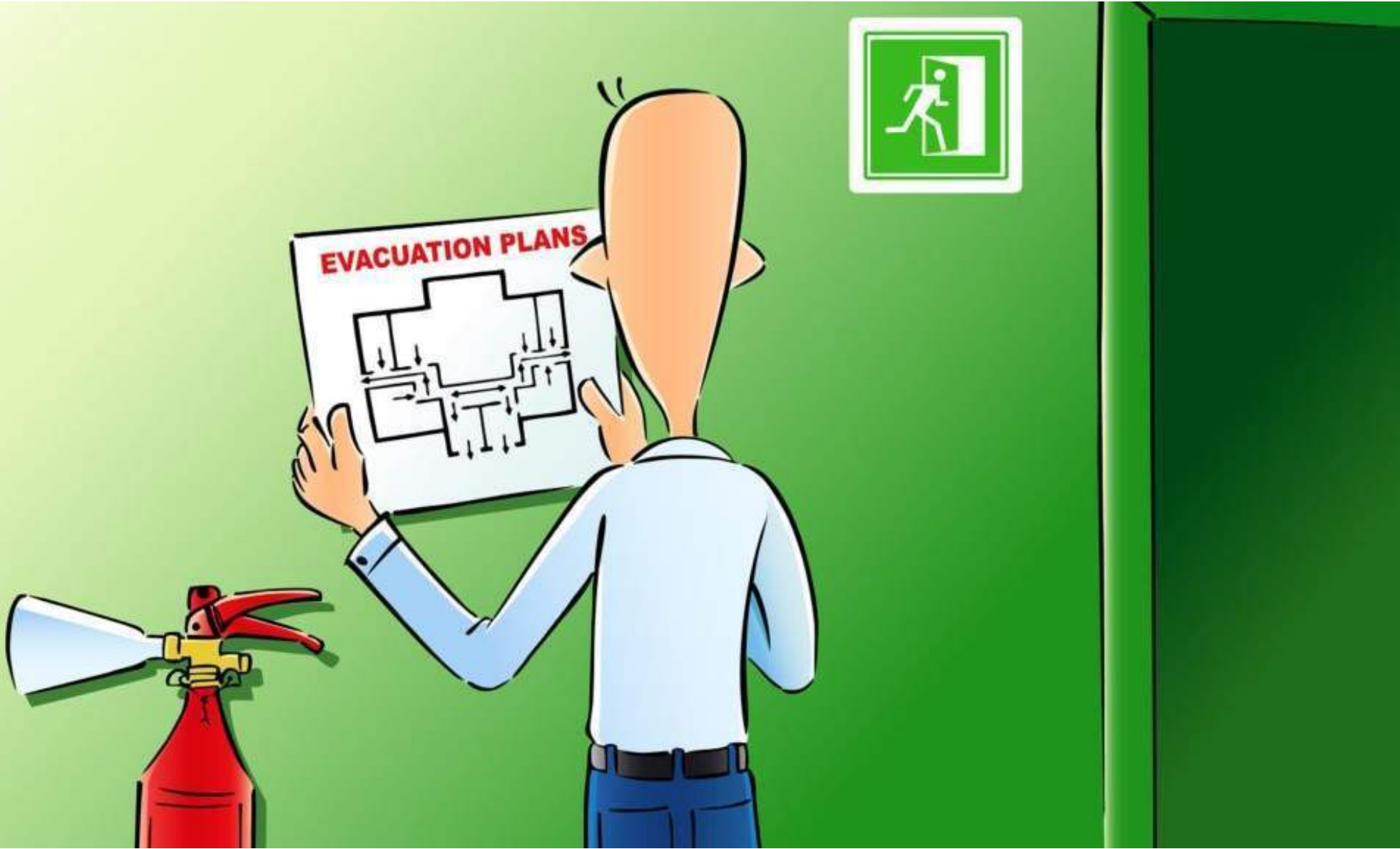
- Safety Moment (2 minutes)
- Meeting Recap (5 minutes) - Jennifer
- Air Quality (30 minutes) – Debbie and Carolyn
- Methodologies (40 minutes) – Jill and Seth
BREAK
- Prioritize Health Outcomes – 30 minutes
- Debrief (10 minutes)
- Homework

BALDWIN HILLS STEERING COMMITTEE

MEETING #2

November 5, 2019

Safety Moment



Meeting #1 Recap

Relevant Reports

Relevant Reports

Required Reports to Review (Nov 5):

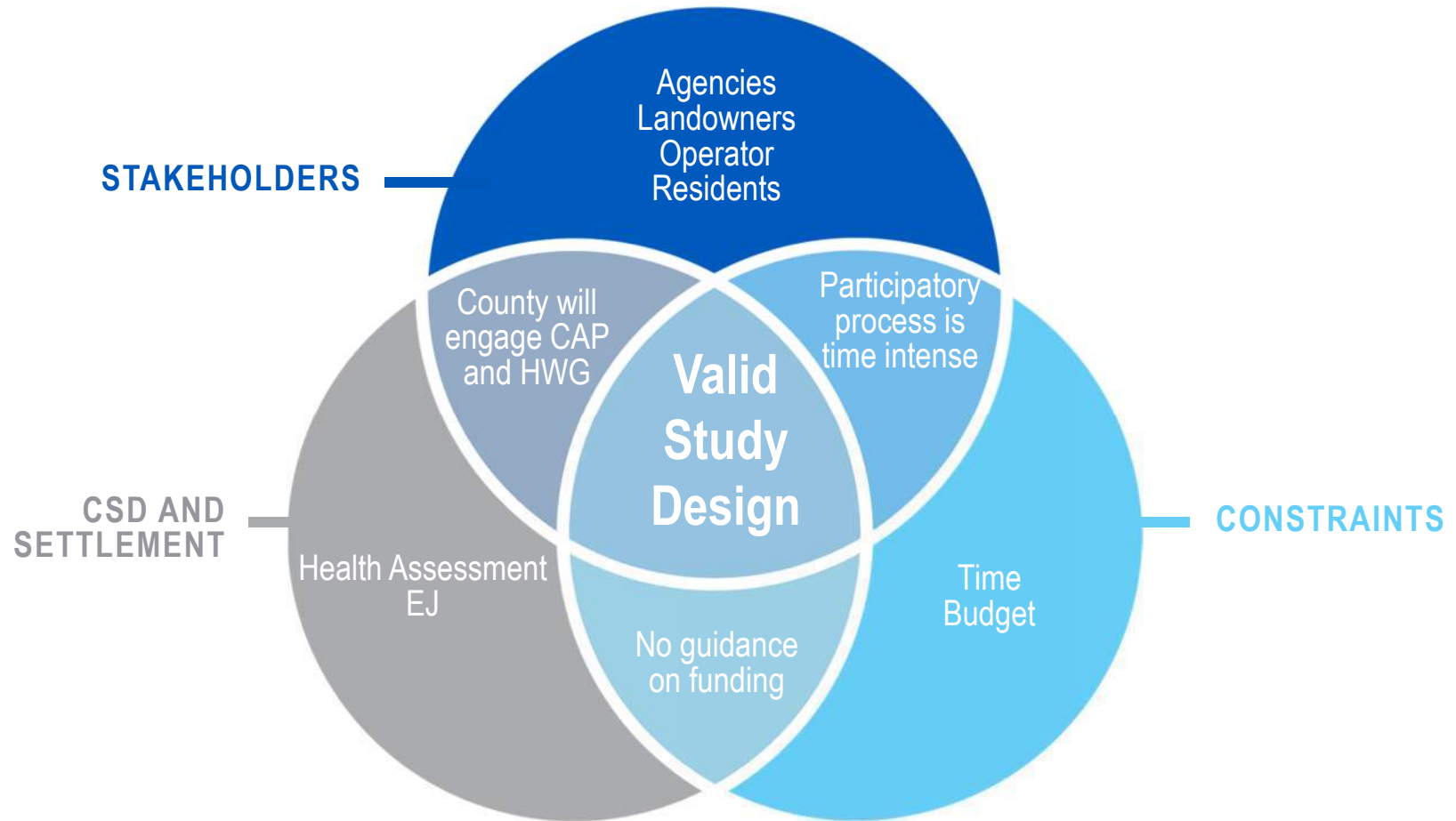
- Inglewood Oil Field Communities Health Assessment, February 2011
- Health Outcomes in the Communities Surrounding the Inglewood Oil Field, April 25, 2011
- Results of the 2011 Inglewood Oil Field Communities' Survey, April 2012
- Inglewood Oil Field Communities' Survey, June 27, 2012
- Letter from Community Health Councils (Lark Galloway-Gilliam, MPA), September 26, 2013
- Letter from Los Angeles County Department of Public Health (Jonathan Fielding, MD, MPH), November 14, 2013
- Letter from Community Advisory Panel (David McNeill), April 6, 2018
- Letter from Los Angeles County Department of Public Health (Barbara Ferrer, Ph.D, MPH, M.Ed), May 18, 2018

Optional Reports to Review (Nov 5):

- Notes from May 24, 2018 Health Working Group Meeting
- Letter from Johns Hopkins University, Bloomberg School of Public Health (Carlos Castillo-Salgado, MD, JD, MPH, Dr.PH)
- Letter from University of California Los Angeles School of Public Health and Center for Research, Education, Training, and Strategic Community on Minority Health Disparities (Vickie M. Mays, Ph.D, MSPH)
- Letter from The Centers for Disease Control and Prevention (CDC) (Stephen Thacker)

Committee Purpose

The Challenge



Purpose and Activities

- **Provide insight and feedback on the design of a SOW for the upcoming Community Health Assessment and Environmental Justice Study** that DPH will issue for solicitation. This objective will be completed by discussing the following items for Burns & McDonnell to consider in developing a *draft* Scope of Work:
 - ▶ 2012 Health Assessment strengths, limitations, and recommendations
 - ▶ Health outcomes of interest
 - ▶ Previous health outcome studies and relevancy
 - ▶ Health Assessment goals, specific aims, research questions/hypotheses, and methodologies
 - ▶ Best designs to reach Health Assessment goals

2012 Health Assessment Reviewed

2012 Health Assessment

- Strengths
- Limitations
- Recommendations

Truth without Grace is mean.

Grace without Truth is meaningless.

-Unknown

BREAK

Potential Health Impacts

Potential Health Impacts

- ▶ General Health / Quality of Life
- ▶ Asthma
- ▶ Hypertension
- ▶ High Cholesterol
- ▶ Depression
- ▶ Diabetes
- ▶ Heart Disease
- ▶ Chronic Respiratory Conditions (e.g. emphysema, chronic bronchitis)
- ▶ Mortality
- ▶ Low Birth-Weight Births
- ▶ Birth Defects
- ▶ Incidences of Blood-Related Cancers
- ▶ Others?

Debrief

Homework

Review Relevant Reports

Required Reports to Review (Public Health Experts)

- ▶ 3A – Environmental Impact Report (Executive Summary)
- ▶ 3B – Background Studies and Resources (Abstracts/Executive Summary)
- ▶ 3C – Table of Example Methods for BH CAP (Methods Section)
- ▶ 5 – Baldwin Hills Air Quality Study (Executive Summary)
- ▶ 8B - Draft Periodic Review, Chapters 1 and 2
- ▶ 9 – MATES, Executive Summary and Chapters 2 and 3

Optional Reports to Review (Health Working Group Members)

- ▶ Same as listed above

Meeting #3 - November 19, 2019

Baldwin Hills Steering Committee Meeting #3
Community Health Councils – 3731 Stocker, Los Angeles
November 19, 2019 – 1 p.m. to 3 p.m.

Attendees:

- Carolyn Lozo, CARB*
- Christine De Rosa, LA County DPH
- Caitlyn Suruki, Intrinsik**
- Carrie Tayour, LA County DPH
- Paul Ferrazzi, Citizens Coalition for Safe Community
- Melanie Traxler, City of Culver City
- Charles McCaw, UHA
- Kathleen Kozawa, CARB*
- Nico Schulte, SCAQMD
- Jill Johnston, University of Southern California
- Erica Blyther, City of LA
- Debbie Stevens, Environmental Audit, Inc.
- Seth Shonkoff, PSE Healthy Energy
- Liz Gosnell (by phone), Cone Family Trust
- Jennifer Trotter, Burns & McDonnell**
- Sean Fahmian, Burns & McDonnell **
- Chris Jakober, CARB*

*Interested agency representative, not a Steering Committee Member

**Facilitating consultant

Action Items

- Send email to Steering Committee requesting disclosure of receipt (by representing organization/group) of community benefits from oil field operator (Trotter)
- Send CARB a list of community concerns via Facilitator (Committee)
- Confirm if get data based on the last 4 digits of zip codes (Public Health Experts)
- Send CARB a list of community organizations/stakeholders and contact information for the SNAPS program via Facilitator (Committee)
- Include approximate pricing for study design presented at next meeting (Public Health Experts)

Meeting Notes

- **Safety Moment** – In case of emergency, evacuate building and meet in back of parking lot.
- **Meeting Recap**
 - Focused on strengths, limitations and recommendations for the 2012 Health Assessment and identifying public health outcomes that may be related to oil field emissions.
- **Air Quality Discussion (Debbie & Carolyn)**
 - **Baldwin Hills Community Standards District EIR**
 - Almost always looking at potential risks in the future. Not usually looking at what is currently there today.
 - Emission factors are placed into an air quality model. Identifies the potential concentrations and then in turn looks at how these emissions will affect the surrounding area. Utilizes a number of assumptions to identify what affects may be.
 - Tend to overestimate potential impacts or risks (conservative approach).
 - **Baldwin Hills Air Quality Study:**
 - Cost estimate for this study categorized as Medium.
 - East side more likely affected by emissions than the west side.
 - When wind was blowing from west to east, it was the only time able to detect change in emissions levels.
 - Monitored existing emissions (point in time). The measurements are cumulative to a certain extent.

Baldwin Hills Steering Committee Meeting #3
Community Health Councils – 3731 Stocker, Los Angeles
November 19, 2019 – 1 p.m. to 3 p.m.

- Strengths:
 - Utilized EPA approved models for air quality that tend to be conservative and accurate.
 - Monitored different locations surrounding the area to understand upwind and downwind concentrations.
 - Utilized data in order to estimate health risks.
 - Model identified spikes in Black Carbon.
 - Identified slight increase in risk for cancer, still not certain of source of emissions.
- Weaknesses:
 - Only required to review the project emissions.
 - Oil field emissions largely fugitive emissions which are the hardest to estimate.
 - Seems like the emissions from the oil fields are underestimated.
 - When monitoring emissions, not always certain where emissions are coming from.
 - VOCs were measured for two weeks. Not strong when the operations are variable.
 - Did not measure ultra-fine particles
- Discussion on timeframe used to measure VOCs. Confirmation that measurement taken when oil field in full operation. Noted that Los Angeles is affected by the seasons. It would have been better to monitor during different seasons in LA because the weather has an impact on emissions. (Charles and Jill)
- Discussion on benefits of measuring black carbon as it tends to fall out of the atmosphere faster, which allows for more accurate measurements of emissions in real time. When measuring PM 2.5 concentrations you may pick up different emissions from different times/sources. Measures for black carbon are much higher for diesel vs. organic carbon. (Seth)
- Discussion on kinds of health outcomes/disease risk typically trying to predict with air quality reports. Most of these are limited to either cancer risk, chronic health impacts, or acute health impacts. Study considered Chronic Impacts and Acute Impacts and not triggered to be significant. (Christine)
 - Chronic:
 - Compare concentrations of emissions to exposures limits (developed by OEHHA or other organization) and associated to diseases. Most of the time these limits come from previous studies either from past experiences or from animal studies.
 - Asthma, pulmonary diseases, kidney issues.
 - Target organs
 - Acute:
 - Difficulty breathing, skin irritation, etc.
 - These are short term, typically within 1 hour of exposure.
- **CARB SNAPS:**
 - Program Overview (Lost Hills):
 - One trailer currently sited
 - Plan to be done collecting data by March 1, 2020 (7 months to date)
 - There are many wells, possibly thousands but smaller geographic footprint
 - 15 different measurements taken and the following are provided online in real time: CO₂, Black Carbon, methane, PM 2.5, Ozone, H₂S (benchmarked to other stationary sites)

Baldwin Hills Steering Committee Meeting #3
Community Health Councils – 3731 Stocker, Los Angeles
November 19, 2019 – 1 p.m. to 3 p.m.

- Practice to overcommunicate with stakeholders (neighbors, operators, etc)
 - No similar requirement or data captured as SCAQMD Rule 1141
 - Program Overview (Baldwin Hills):
 - Tentatively two trailers, one sited on the oil field and another one sited in the community (downwind from oil field, east side). Have been speaking to schools, churches, etc. to find a location for community sited trailer. There are a lot of challenges to siting a trailer in the community:
 - Space is a major issue (availability and cost)
 - Topography
 - Identifying space with no tall buildings next to the trailer
 - Timing - second trailer is currently being built, planning on being ready for deployment by June 1, 2020
 - Study Elements
 - Collect air on a medium and then take it to a lab to be analyzed.
 - Real time air monitoring (real time gas chromatograph) measures VOC concentrations. Provides a VOC profile daily (22 samples/day).
 - Mobile monitors used to conduct spatial analysis
 - All data sent to OEHHA
 - Final Report will be available 6 months after data is collected (approximately June 2021), CARB will share draft to the public before the final is prepared.
 - Benefits of SNAPS to Health Assessment
 - Robust quality control. Independent third-party audit of the trailer before commissioned.
 - Mobile monitors provide spatial models of surrounding communities.
 - Can provide an analysis of the data as both an average and as the specific data points. At the earliest that this information will be available is after at least a month.
 - Discussion on process validation and consideration of what is measured. Source attribution in this environment is a challenge. Have to be very careful that data isn't overinterpreted. Having two trailers will be a major help in differentiating emission sources.
 - Discussion on Dense Gas Modeling. This particular analytics is not in CARB SNAPS wheelhouse, but is possible to get this from a different department.
 - Discussion on CARB SNAPS used Reference Exposure Limits (REL). CARB uses OEHHA's REL. Consideration of how applicable is REL to residents.
 - Discussion on methane measurements (methane : ethane). Episodic events lead to additional analysis and coordination with appropriate jurisdiction(s).
 - Discussion on endocrine disruptors and how/if being monitored. Some of the compounds that are in the SNAPS analysis are endocrine disruptors, but SNAPS isn't necessarily targeting them specifically.
 - **Methodologies (Jill & Seth)**
- Jill:**
- Four (4) categories (quadrant): Exposed, Not Exposed, Diseased, Not Diseased
 - Review of different approaches to study (from least to most expensive):
 - Existing data set, assign some level of exposure (ex. number of wells)

Baldwin Hills Steering Committee Meeting #3
Community Health Councils – 3731 Stocker, Los Angeles
November 19, 2019 – 1 p.m. to 3 p.m.

- Utilize administrative records (recommend birth outcomes, instead of cancer registries because need to look much further back).
- Strengths: Shorter time frame; different factors can be reviewed: birth weight, premature rate, etc; more flexibility; complete count of the area.
- Limitations: geocoded birth records are available, but you need approvals. Need to assume that birth records are accurate.
- Discussion on data sources that may be obtained at household level. Some hospital records that you can get, but need to be cautious when utilizing.
- Physiological testing
- Proximity lung function – not possible to self test
- Participatory Research – self-collect data, individual is test group, defined study boundary
 - Advantages: stronger statistical power, study episodic exposures
 - Limitations: only study acute symptoms,
 - Example: Collect blood pressure measurements from 10 people near hog farm(s) twice a day at same location for 2 weeks to obtain 28 data points per person. Repeated 10 times for a total of 100 participants. Compare results to air quality. Study boundary was 2 miles from animal facility.
 - Discussion: how to prevent data from being skewed. Measures were taken to ensure that the data was as accurate as possible (including teaching participants on using equipment correctly and consistently), but no matter what the data source, there will be some inaccuracy/limitations.
 - Discussion on participant selection. Communities within 2 miles of animal facilities were considered and participants were self-selected (volunteer) sample group. Participation rate was high (specific number unavailable)

Seth:

- Overview of benefits and challenges of working with the operator
 - Telling the operator of study might contribute to bias and result in short term changes to operations.
 - Ability to efficiently and cost effectively assess potential health impacts across large geographic areas.
 - Challenge with mechanistic interpretation of health impacts is complicated by lack of environmental data
- Review of 3 different approaches to study:
 - Exposure Metrics – test at location of oil/gas infrastructure (typically only wells used)
 - Relatively low cost
 - Look at distance, density, well pad activity, well productivity, etc.)
 - CCST study/documents provided and what exposure metrics were utilized.
 - No operator cooperation required
 - Health risk assessment based on in-situ environmental measurements (ex. SNAPS)
 - Preferred study type
 - Environmental measurements in communities to be sensitive to emission patterns: meteorological data, location of oil and gas infrastructure and sensitive receptors (mapped from 2008 FEIR)
 - Health benchmarks used (e.g. OEHHA, ATSDR, etc.)

Baldwin Hills Steering Committee Meeting #3
Community Health Councils – 3731 Stocker, Los Angeles
November 19, 2019 – 1 p.m. to 3 p.m.

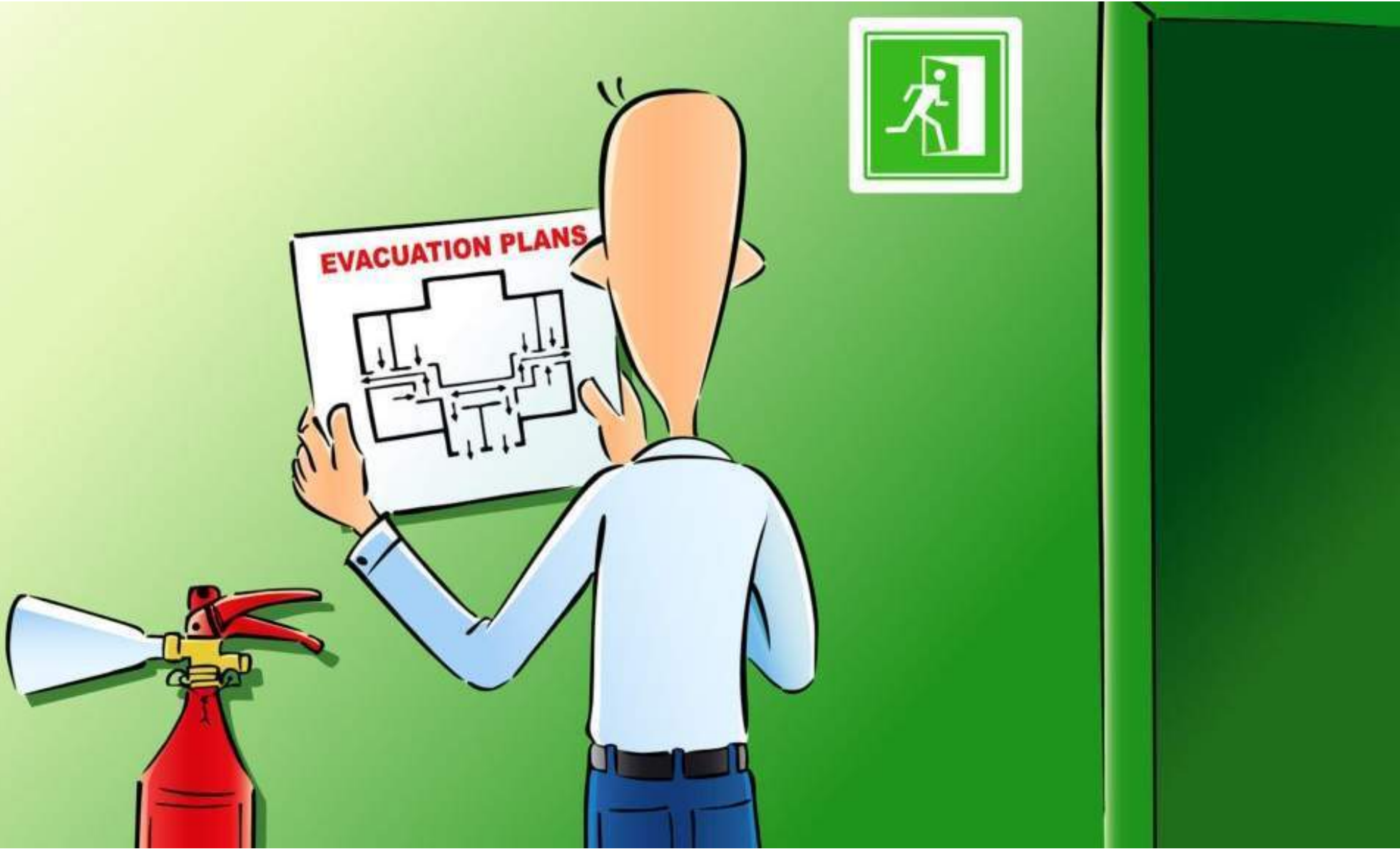
- Benefits:
 - Potential to overcome critiques of exposure metrics regarding validity of metrics to predict exposure and impact.
 - Ability to take advantage of standardized health benchmarks of chemicals of concern.
 - SNAPS can be very helpful.
- Challenges:
 - Uncertainty whether measured compounds are the most important or relevant (e.g., oilfield chemicals)
 - QA/QC of air quality monitoring equipment for most accurate results
 - Uncertainty regarding representativeness of samples relied on for risk assessment (external validity issues)
 - Focuses analysis on particular chemicals and stressors
- Health risk assessment based on reported emissions
 - This approach is the easiest because the data is already available. Spatially and temporally explicit emissions data for health relevant compounds (mass, location, time). Not a recommended study design.
 - Challenges:
 - Non-consistent data and you need to assess whether or not the data is useful.
 - Data available for only a limited number of compounds (CA Hotspots Program)
 - Aggregate data available and hard to parse out
 - Reports tied to operator's address (sometimes a P.O. Box)
- Discussion on how Baldwin Hills assessment may be developed based on information provided by Public Health Experts. Might be beneficial to have two studies going on in parallel (participatory community study and Health Risk Assessment In Situ).
- Discussion on data preciseness and possibility of utilizing last 4 digits of postal codes.
- Discussion on benzene. The World Health Organization (WHO) says there is no safe benzene exposure level.
- Discussion on importance of understanding what health benchmarks represent. Most benchmarks are Worker Exposure Levels. Air quality management districts' benchmarks tend to be conservative.
- Discussion on to define study population (different groups that may be impacted) and how to define exposure.

BALDWIN HILLS STEERING COMMITTEE

MEETING #3

November 19, 2019

Safety Moment



Meeting #2 Recap

Air Quality

Final Environmental Impact Report (FEIR)

- ▶ Conducted to establish Community Standards District
- ▶ Includes specific operating requirements and procedures (for portions of field within unincorporated LA County)
- ▶ Considered maximum development that could occur at oil field over next 20 years
- ▶ Looked at 16 different environmental issues
 - Air Quality and Public Health Risk impacts – construction and operations
 - ▶ Use of second generation heavy duty diesel catalysts Tier II diesel engines on all drill rigs and all off road construction equipment.
 - ▶ When drilling new wells, a distance of at least 400 feet be maintained from all areas where public exposure could occur.
 - ▶ New health risk assessment would have to be performed to determine if additional changes to the buffer zone are merited.
 - ▶ Development and operation of meteorological station, data to be reviewed after 5 years of operation

Baldwin Hills Air Quality Study

- **Objectives**

- ▶ Quantify the air toxics emission from operations, drilling and well workovers
- ▶ Assess health risk of acute and chronic exposure to air toxics emitted from operations
- ▶ *To the extent feasible*, determine and distinguish major sources of toxic air emission within area surrounding oil field
- ▶ *To the extent feasible*, assess oil field's contribution to overall acute and chronic health risk in surrounding area

- **Overview**

- ▶ Considered 37 air toxics emitted (based on EIR) and performed hazard identification to prioritize air toxics for greatest concern
- ▶ California Office of Environmental Health Hazard Assessment (OEHHA) benchmark levels used

Baldwin Hills Air Quality Study (cont.)

Key Pollutants Identified

- Diesel particulate matter
- Cadmium
- Benzene
- Nickel
- Formaldehyde
- Mercury
- Manganese
- Acrolein
- Arsenic
- Lead

Monitoring Types

- Aethalometers to measure black carbon (proxy for PM)
- X-Ray Fluorescence spectrometer (XRF) for metals
- Proton Transfer Reaction Time of Flight Mass Spectrometry (PTR-TOFMS) for VOCs
- Meteorological sensors to assess wind patterns, temperatures, and humidity

Site Name	Window of Operation and Duration		
	BC	Metals	VOCs
North (N)	11/15/12–11/15/13 1 year	–	–
South (S)	11/15/12–11/15/13 1 year	–	–
East (E)	11/15/12–11/15/13 1 year	11/15/12 – 2/1/13 2.5 months	7/3/13–7/17/13 2 weeks
West (W)	11/15/12–11/15/13 1 year	–	–

FEIR and AQ Study – what do they tell us?

- ▶ What are likely impacts of drilling?
- ▶ What are likely impacts of operations?
- ▶ Who is likely to be impacted?
- ▶ Modeling Studies vs Epidemiologic method or survey?
 - Which outcomes are better addressed by each method?
- ▶ Strengths, limitations, recommendations?

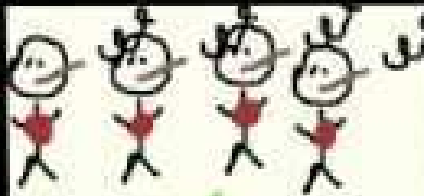

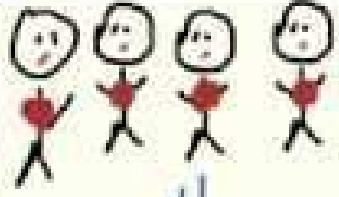
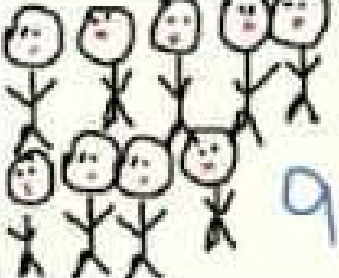
CARB SNAPs

Study of Neighborhood Air near Petroleum Sources (SNAPS)

- ▶ Background
- ▶ Purpose
- ▶ Goals
- ▶ Challenges (data collection and interpretation)

Methodologies

Jill Johnston, PhD

	Disease Heart Disease	No disease	
Exposed smoking	 4 a	 3 b	7
Unexposed no smoking	 4 c	 9 d	13
	8	12	20

Relative risk = $\frac{a/(a+b)}{c/(c+d)} = \frac{4/7}{4/13} = \frac{.57}{.31} =$

STATE OF CALIFORNIA
CERTIFICATION OF VITAL RECORD

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC HEALTH

1 05 1975 124682

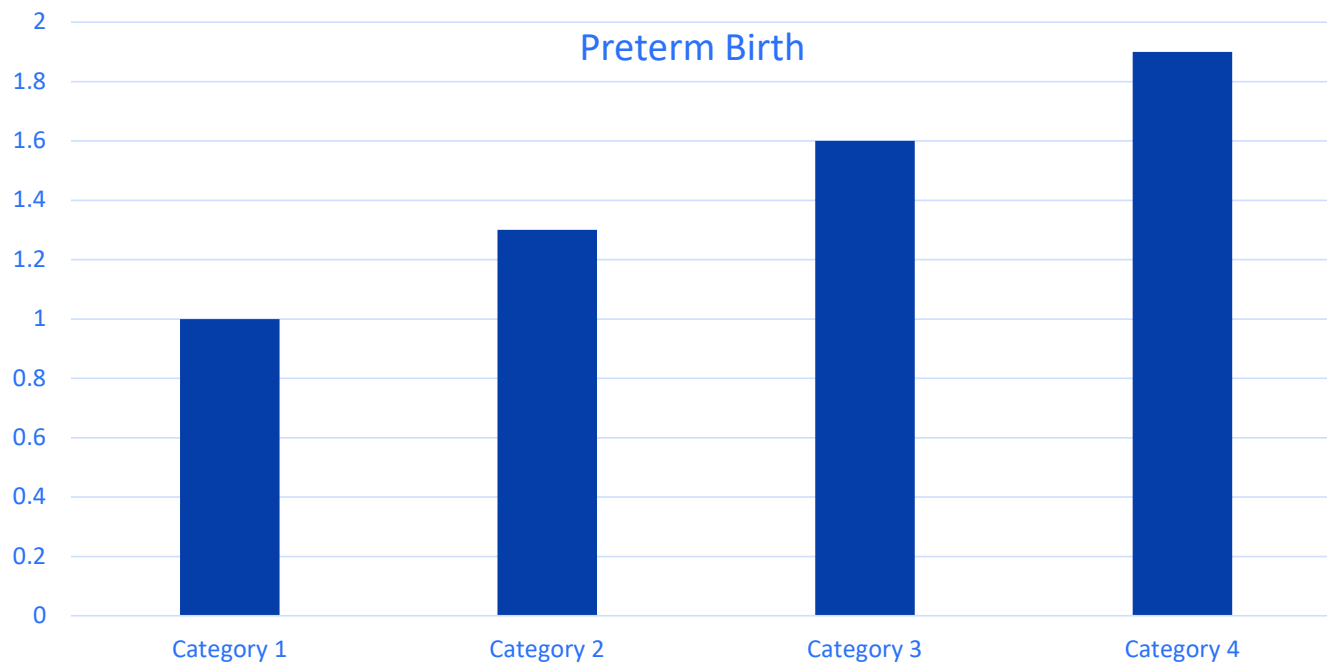
STATE FILE NUMBER

CERTIFICATE OF LIVE BIRTH
STATE OF CALIFORNIA
USE BLACK INK ONLY

1 1975 27 001891

LOCAL REGISTRATOR NUMBER

THIS CHILD	14. NAME OF CHILD - FIRST Nikki		16. MIDDLE Paige		18. LAST Purdue	
	15. SEX Female	14. THE BIRTH SINGLE YEAR ETC. Single	16. IF FACTOR THE CHILD IS (1) (2) ETC. ---		14. DATE OF BIRTH - MM/DD/YYYY 06/04/1975	16. HOUR (14 HOUR) CLOCK TIME 2225
PLACE OF BIRTH	16. PLACE OF BIRTH - NAME OF HOSPITAL OR FACILITY Community Hospital			18. STREET ADDRESS - STREET AND NUMBER OR LOCATION W. R. Holman Highway		
	18. CITY Carmel			19. COUNTY Monterey		
MOTHER	14. NAME OF FATHER (LAST, FIRST) Christin		16. MIDDLE Wayne		18. LAST Purdue	
	14. NAME OF MOTHER (LAST, FIRST) Sheri		16. MIDDLE Lynn		18. LAST Taylor	
SIGNATURE AND BIRTH CERTIFICATION	14. STATE OF FATHER (MM/DD/YYYY) KS		16. STATE OF BIRTH (MM/DD/YYYY) 11/12/1954		18. STATE OF BIRTH (MM/DD/YYYY) 02/21/1955	
	14. STATE OF MOTHER (MM/DD/YYYY) OH		16. STATE OF BIRTH (MM/DD/YYYY) 06/06/1975		18. STATE OF BIRTH (MM/DD/YYYY) 06/09/1975	
	14. I HEREBY CERTIFY THAT I AM A TRUE AND CORRECT COPY OF THE ORIGINAL AS KEPT IN THE OFFICE OF THE REGISTRATOR			16. RELATIONSHIP TO CHILD Mother		
	14. I HEREBY CERTIFY THAT I AM A TRUE AND CORRECT COPY OF THE ORIGINAL AS KEPT IN THE OFFICE OF THE REGISTRATOR			16. LOCAL REGISTRATOR NUMBER C 25900		
14. TYPE NAME, TITLE AND SACRED ADDRESS OF ATTENDANT Monterey, CA			16. TYPE NAME AND TITLE OF SURVEYOR (FOR RESUBMITTED) ---			
14. DATE OF SIGNATURE (MM/DD/YYYY)		16. SIGNATURE (LAST, FIRST, MIDDLE)		18. LOCAL REGISTRATOR NUMBER		



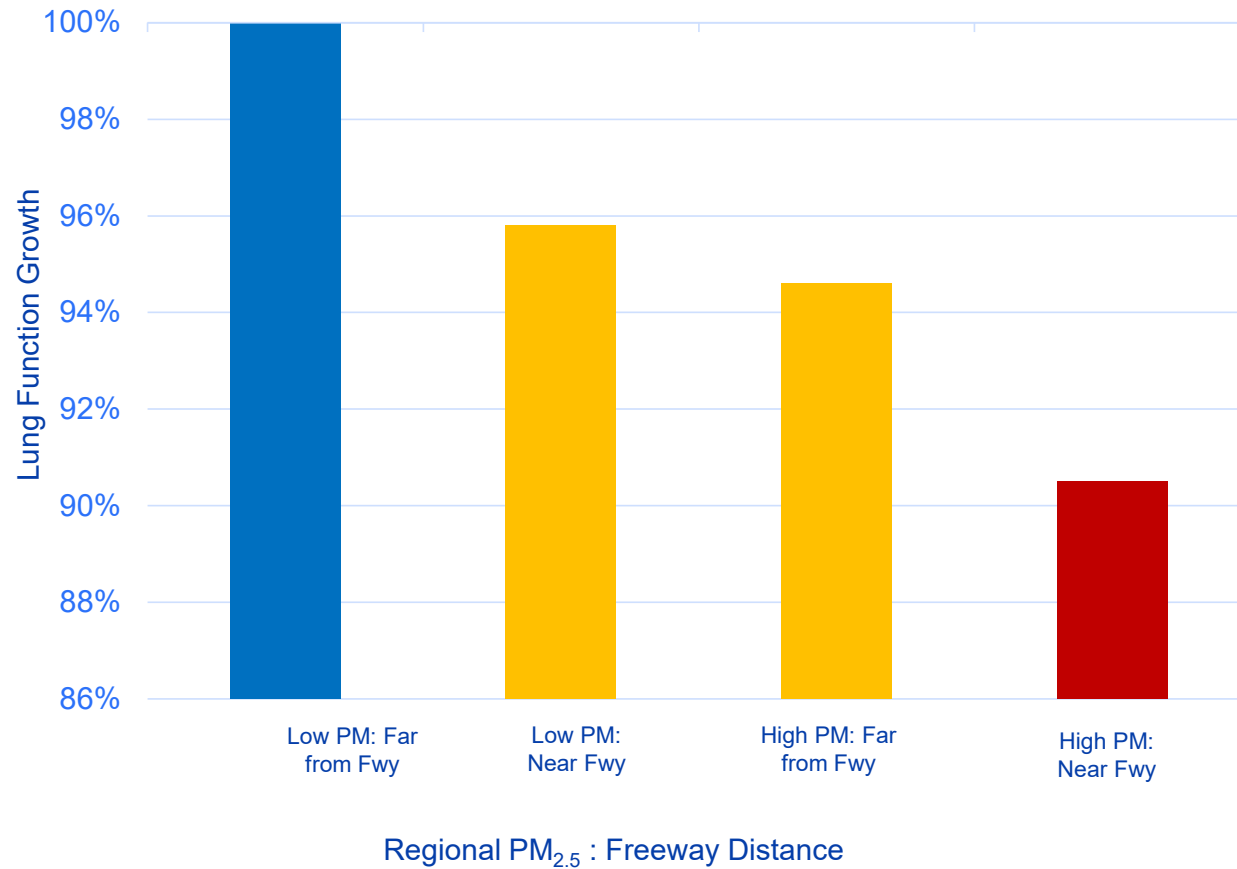
■ Preterm Birth

Casey et al., 2017



Proximity To Traffic Matters

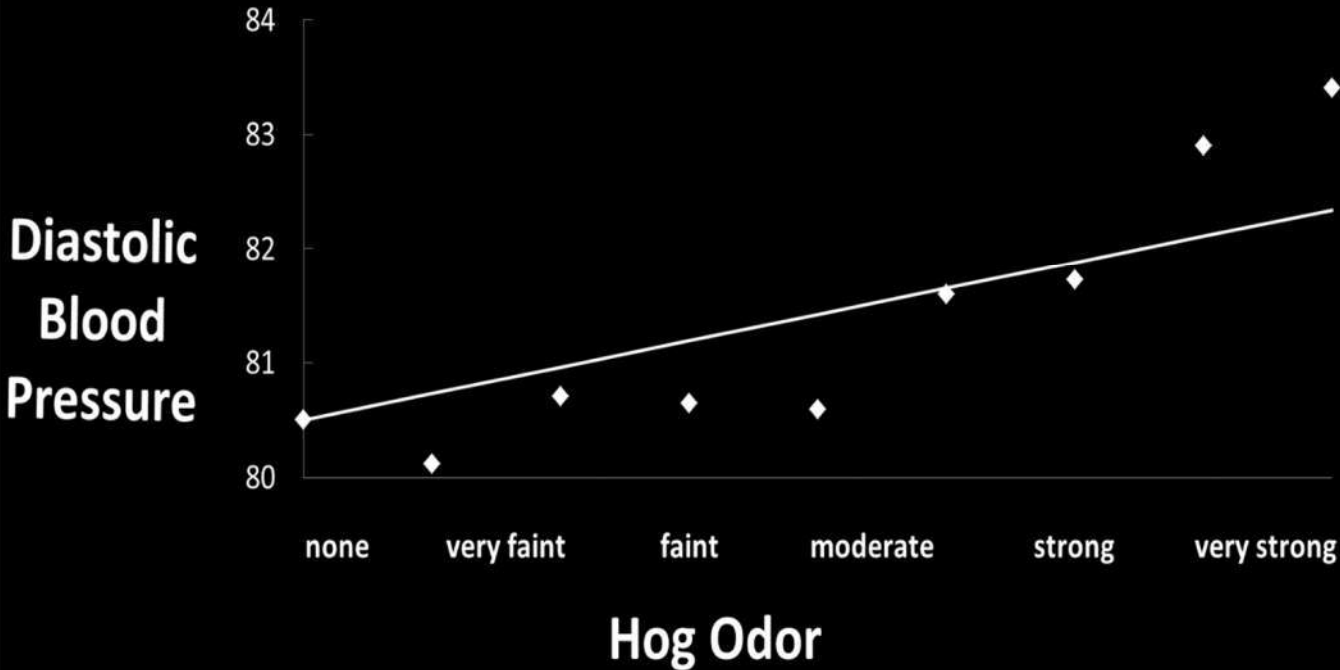
Children who live near traffic have diminished lung capacity



Gauderman et al., 2015



Factory Hog Odor and Blood Pressure



Some Approaches to Oil and Gas Development Health Assessments

Seth B.C. Shonkoff, PhD, MPH
*PSE Healthy Energy / UC Berkeley /
Lawrence Berkeley National Lab*

November 19, 2019

PSE

Bringing science
to energy policy

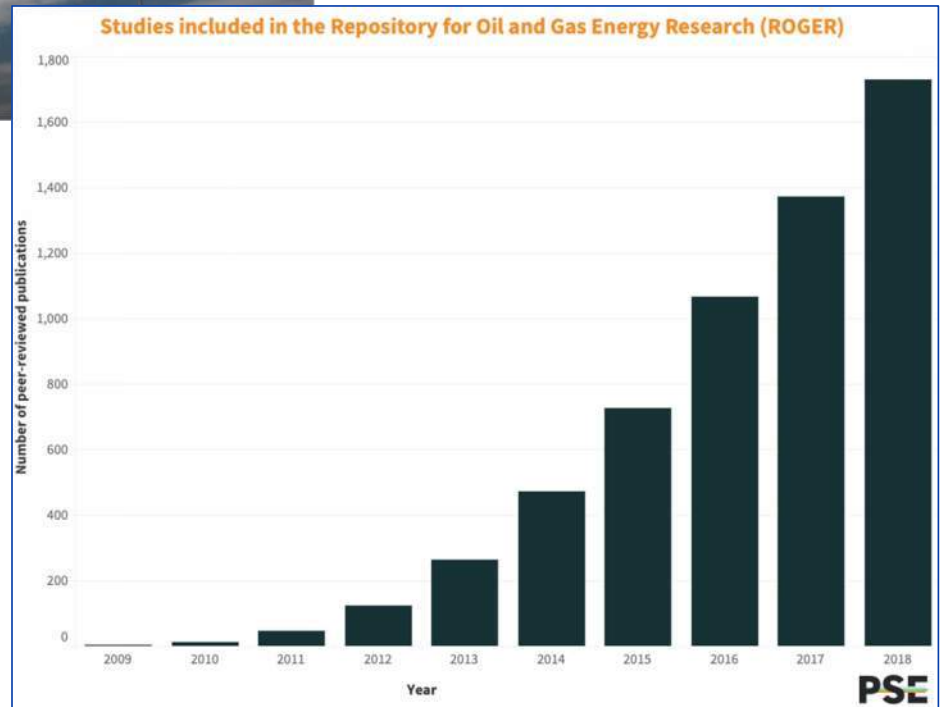


Repository of Oil and Gas Energy Research (ROGER)

Near Exhaustive Database of Peer-reviewed literature on Shale and Tight Gas Development



<https://www.psehealthyenergy.org/our-work/shale-gas-research-library/>



Some Study Approaches

1. Exposure metrics (e.g., distance, density, well pad activity, well productivity, etc.)
2. Health risk assessment based on in-situ environmental measurements
3. Health risk assessment based on reported emissions

Exposure metrics

Data Requirements

- *Location of O&G infrastructure (DOGGR, Drillinginfo)*
- *Density of O&G infrastructure*
- *Hydrocarbon productivity (DOGGR)*
- Location of sensitive receptors, e.g., residents, schools, hospitals (US Census, etc.)
- Population density (US Census)
- Demographics (US Census)
- Health outcome datasets (e.g., birth outcomes, cardiovascular disease, etc.), preferably at the household level (CDPH, LA County, etc.)

Distance evaluated (ft)	Publication	Region	Reported primary hydrocarbon produced	Source rock, migrated hydrocarbons or both? ¹	Study design	Study population and sample size	Findings	Health effect evaluated
	Stacy et al. (2015)	PA	Gas	Source rock	Retrospective cohort	15,451 singleton births to women living in southwest Pennsylvania between 2007 and 2010,	No association observed for premature birth. Lower birth weight and higher incidence of small for gestational age (SGA) observed with increased density at one mile (<0.87 wells vs. >6 wells per mile, 5,280 ft)	Perinatal

where the study took place.

² Studies evaluating noise levels near oil and gas development published since 2015, but not included in the systematic review.

³ Study (discussed in Section 4.7) includes setback distance recommendations by health care providers, public health practitioners, environmental advocates, and researchers; health effects are not assessed.

⁴ Exposure assessed at different scales (ambient air, personal exposure) and at gradient of distance; health effects are not assessed.

⁵ Studies published prior to 2015 and discussed in the CCST SB 4 Report that evaluate air pollution and health effects by proximity to oil and gas wells.

⁶ Studies using exposure metrics including multiple parameters, such as distance, density, activity at well pad, and well productivity.

² Studies evaluating noise levels near oil and gas development published since 2015, but not included in the systematic review.

Shonkoff and Hill (2019)

Exposure metrics: benefits and challenges

► Benefits

- Avoids necessity of cooperation with operators to grant site access which is often not granted and can introduce actual or optical bias
- Relatively inexpensive compared to studies that require field data collection
- Ability to efficiently and cost effectively assess potential health impacts across large geographic areas

► Challenges

- Mechanistic interpretation of health impacts is complicated by lack of environmental data
- Makes the implicit assumption that metrics approximate health hazards without ability to verify mechanisms

Health risk assessment based on *in-situ* environmental measurements

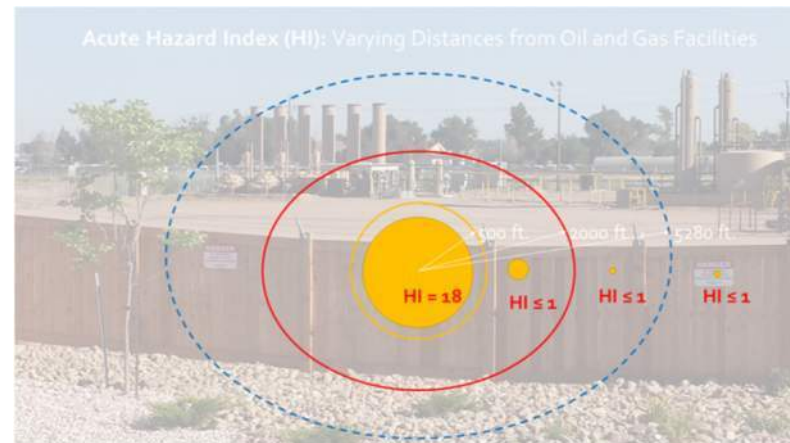
Data Requirements

- Environmental measurements (e.g., air quality) in communities.
 - **Study design must be sensitive to emission patterns (e.g., episodic emissions)**
- Health benchmarks (e.g., OEHHA, ATSDR, etc.)
- Meteorological data – pad and monitor specific is best.
- Location of O&G infrastructure (DOGGR, Drillinginfo)
- Location of sensitive receptors, e.g., residents, schools, hospitals (US Census, etc.)
- Demographics (US Census)

Example: distance and cancer risk

- ▣ **Field-based air samples collected:**
 - ▣ 467 1-hr samples of benzene, toluene, and C9 aromatics (500 – 2,001 ft)
 - ▣ 109 1-min non-methane hydrocarbons (NMHC) samples (<500 - >5,249 ft)
 - ▣ 59 72- or 96-hr NMHC samples (1,470 - >5,249 ft)
 - ▣ 41 3-hr NMHC samples (810 ft).

- ▣ **Results:** Within 152 m (~500 ft) of active oil and gas development, **the cancer risk estimate was 8.3 cases per 10,000 individuals, exceeding the US EPA upper threshold for acceptable risk (1 case in 10,000).**



McKenzie et al. (2018)

Health risk assessment based on *in-situ* environmental measurements: benefits and challenges

► Benefits

- Potential to overcome critiques of exposure metrics regarding validity of metrics to predict exposure and impact.
- Ability to take advantage of standardized health benchmarks of chemicals of concern.
- **In the case of The Inglewood Oilfield – the SNAPS program could offer a huge amount of data.**

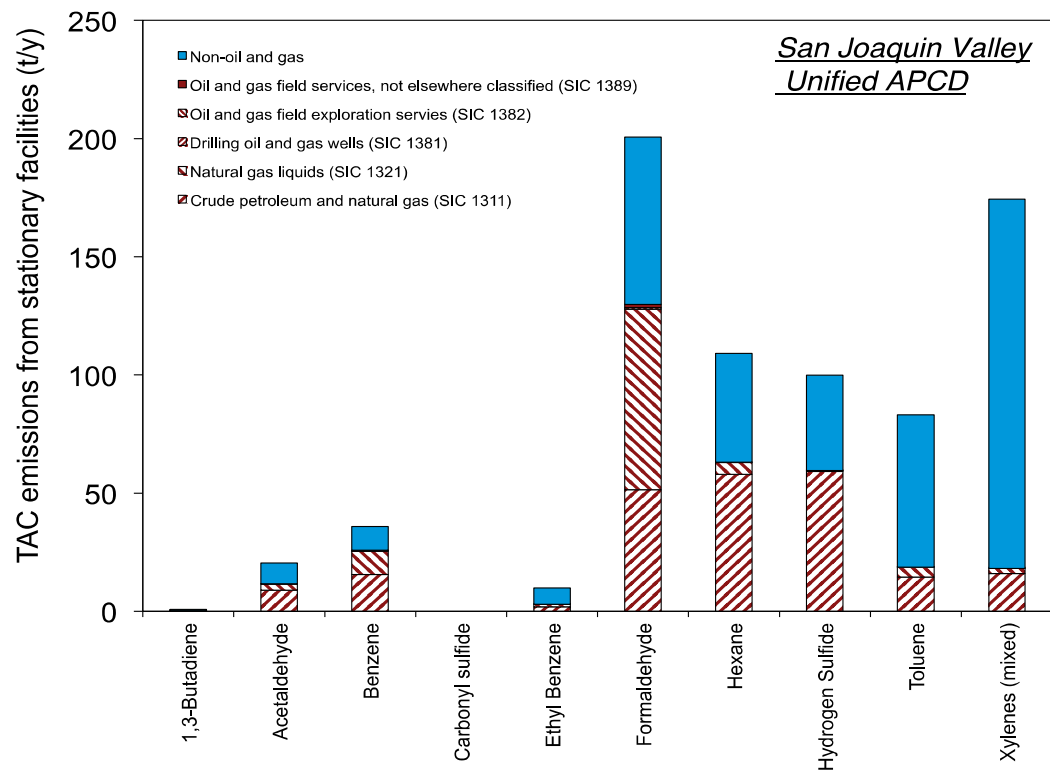
► Challenges

- Uncertainty whether measured compounds are the most important/relevant (e.g., oilfield chemicals)
- QA/QC RE: air quality monitoring equipment
- Uncertainty regarding representativeness of samples relied on for risk assessment (external validity issues)
- Focuses analysis on particular chemicals and stressors while knowledge about which stressors are most important (and in which combination) remains uncertain.

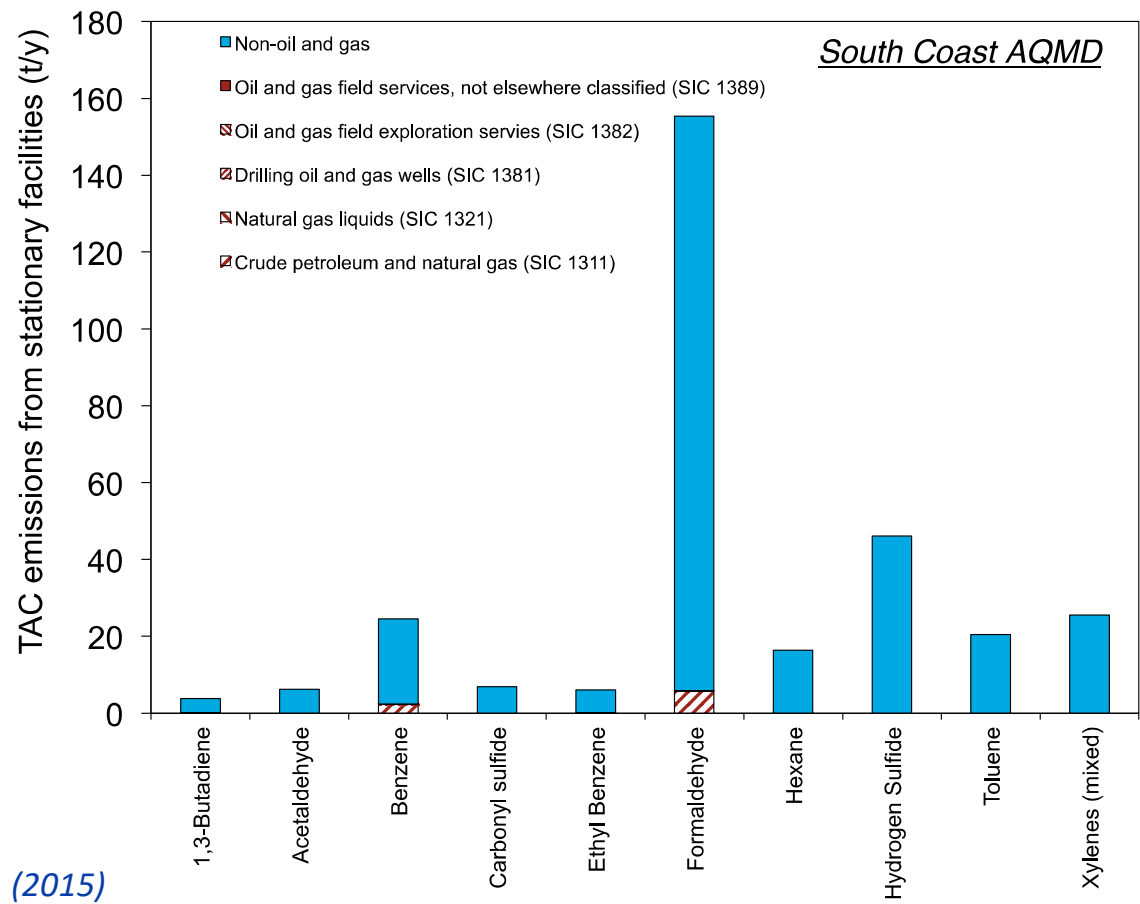
Health risk assessment based on *reported* emissions

Data Requirements

- Spatially- and temporally-explicit emissions data for health-relevant compounds (mass, location, time)
 - Emission mass per year is available for a limited number of compounds pursuant to CA Hotspots Program)
 - Emission factors by equipment type for limited number of compounds available, but spatial resolution and off-normal emission events is lacking
 - ****Note: these attributes are rarely available****
- Meteorological data (pad and monitor specific is best, also nearest met station)
- Health benchmarks (OEHHA, ATSDR, etc.)
- Location of O&G infrastructure (DOGGR, Drillinginfo)
- Location of sensitive receptors, e.g., residents, schools, hospitals (US Census, etc.)
- Demographics (US Census)



Brandt et al. (2015)



Brandt et al. (2015)

Carbonyl sulfide	not available	not available	20	not available
Ethyl Benzene	28	0.50%	1,000,213	0.00%
Formaldehyde	5,846	3.80%	2,375,149	0.25%
Hexane	1	0.00%	1,608,302	0.00%
Hydrogen Sulfide	not available	not available	6,238	not available
Toluene	1	0.00%	6,860,168	0.00%
Xylenes (mixed)	1	0.00%	1,275,480	0.00%

Source: Shonkoff et al. (2015b)

2015, in the Los Angeles Basin alone, approximately nearly 630,000 residents, 130 seniorly facilities and 184 daycare facilities were sited, within a half-mile (2,625 ft) of an oil and gas well. Of note, more than 32,000 people in the Los Angeles Basin are estimated to live within 100 meters (m) (328 ft) of an active oil and gas well (Shonkoff et al., 2015b) (Table

Shonkoff, et al. (2015)

Homework

Review Relevant Reports

All Required:

- ▶ 6 – Oil Field Map
- ▶ 7 – CalEnviro Maps

PHE Required (Community, optional):

- ▶ 10 – UCLA Nuisance Odors

Meeting #4 - December 17, 2019

Meeting Agenda



Meeting Subject: Public Health Baldwin Hills Steering Committee – Meeting #3
Meeting Date: December 17, 2019
Start Time: 1:00 PM
End Time: 3:00 PM
Location: Community Health Councils
3731 Stocker, Suite 201
Los Angeles, CA 90008
Conference Call: (408) 638-0968 US (San Jose)
Meeting ID 707 759 566
<https://zoom.us/j/707759566>

Invitees: Erica Blyther, Debra Bright Stevens, Christine De Rosa*, Sean Fahmian, Paul Ferrazzi, Jo Kay Ghosh, Liz Gosnell, Frank Jackson, Jill Johnston, Carolyn Lozo, Charles McCaw, Seth Shonkoff, Timothy Stapleton, Caitlyn Suruki, Carrie Tayour, Melanie Traxler, Jennifer Trotter, Sonya Vasquez

Agenda:

- Safety Moment (2 minutes)
- Meeting Recap (5 minutes) - Jennifer
- Data (100 minutes) – Public Health Experts
 - Sources Available
 - Limitations
 - Recommendations
 - SNAPs data incorporation
- Debrief (10 minutes)

Baldwin Hills Steering Committee Meeting #4
Community Health Councils – 3731 Stocker, Los Angeles
December 17, 2019 – 1 p.m. to 3 p.m.

Attendees:

- Christine De Rosa, LA County DPH
- Caitlyn Suruki, Intrinsic**
- Carrie Tayour, LA County DPH
- Paul Ferrazzi (by phone), Citizens Coalition for Safe Community
- Melanie Traxler, City of Culver City
- Charles McCaw, UHA
- Jill Johnston, University of Southern California
- Erica Blyther (by phone), City of LA
- Debbie Stevens, Environmental Audit, Inc.
- Seth Shonkoff (by phone), PSE Healthy Energy
- Liz Gosnell (by phone), Cone Family Trust
- Nico Schultz (by phone), SCAQMD
- Jonathan Bluffer (by phone), CARB
- Jennifer Trotter, Burns & McDonnell**
- Katy Muirhead, Burns & McDonnell **

*Interested agency representative, not a Steering Committee Member

**Facilitating consultant

Action Items

- Share City of LA July Feasibility Study on Gas Wells and Drill Sites (Seth).

Meeting Notes

Safety Moment – In case of emergency, walk calmly downstairs and meet in the back of the parking lot.

Meeting Recap

- Public Health Experts (led by Debbie) provided an overview of air quality studies conducted
- CARB provided an overview of Lost Hills SNAPS program and preliminary plans for Baldwin Hills SNAPS program
- Public Health Experts (led by Jill and Seth) described potential study designs

Data Discussion

Data Sources Available, Strengths and Limitations (Debbie) – overview of charts (attached)

1. Household Surveys (preferred method) – discussion on blending multiple types of household surveys in one study (i.e. survey questions and bio measurements).
 - Example provided by Jill (Murphy and AllenCo site) – survey plus lung function test and weight measurement of 550 (Murphy) and 350 (AllenCo) participants ages between 5 and 95. Used *promotora* model for outreach and low-cost devices (collocated with reference monitors) to measure methane, VOC, CO₂. NIH grant funded (\$275K) cost of surveys, monitor set-up, lung biometric, and blood pressure. University provided equipment and other resources (in-kind match).
 - Each community near the oil field is different, such as one is mainly retirees and one is mostly young families. (Charles)
2. California Health Interview Survey (CHIS) – additional limitation discussed is that data is provided at different geographic levels for each question
3. Mortality Outcomes - reliable data source since a doctor or coroner reports the reason for death but doesn't state morbidity (underlying cause) or environmental factors.
4. Birth Outcomes
 - Discuss additional data points available by birth certificate: gestational age, birth weight, and any abnormalities, Maternal address at time of delivery (with IRB approval)

Baldwin Hills Steering Committee Meeting #4
Community Health Councils – 3731 Stocker, Los Angeles
December 17, 2019 – 1 p.m. to 3 p.m.

- Discuss additional limitations/considerations:
 - Not a lot of studies on the impact of fracking on birth defects. (Jill)
 - Need to take socio-economic status into account. UCLA study about birth weight near LAX showed SES has an impact. (Jill)
- 5. Cancer Incidence
 - Doctors required to report all cancer diagnosis including stage
 - Address at time of diagnosis is also available (Carrie)
 - Discussion of additional limitation of cancer data:
 - Childhood cancer is less influenced by lifestyle (Jill)
 - Lots of factors can influence cancer incidences. Proxies like type of health insurance are often used, but proxy data requires a lot of assumptions to be made. (Jill)
 - Cancer registry does not collect risk factor data. People would need to be interviewed to get lifetime exposure information. (Carrie)
 - Cancer cluster study structure may exclude a part of the cluster by focusing on community drawn lines. (Carrie)
 - Not so costly when data already exists but incorporating SNAPs data will increase the cost.
 - Within the methodology section of Health Assessment, a summary of why cancer clusters were excluded should be included. (Charles)
- 6. Emergency Room Visits
 - Additional limitation discussed: Socio-demographic factors like health insurance play a large role in person deciding to go to ER. ER visit frequency may not change with better air quality due to these factors. (Carrie)
- 7. School Attendance and Health Information – discussion on unreliability of data quality and accuracy.
 - Additional limitations included not all schools have a nurse everyday, limits data reliability and availability. (Carrie)
 - Absences often on Friday, but not correlated to health. Asking why a student was absent is difficult. (Jill).
 - Difficult to access information, each school district may collect data differently, and the area is often larger than a census tract. (Christine)
- 8. SCAQMD Chemical Use Reports
 - 1148.2 database contains drilling, routine maintenance, and fracturing. (Seth)
 - Discuss limitations of data:
 - Difficult to obtain a detailed list of chemicals used (often only get potential list of chemicals used in well drilling).
 - Daily well activities are more important for exposure modelling, rather than the health study.
 - Not all events trigger reporting, ex. maintenance (Debbie)
 - Likely underreporting of chemical use in the 1148.2 database as compared to what's reported to the fire marshal. (Seth)
 - The 1148.2 database does not require reporting for injection wells, which likely uses hydrochloric acid. (Paul)
 - Discuss how to use 1148.2 data:
 - Refer to recent City of LA Feasibility Report on Gas Wells and Drill Sites lists potential chemicals (Table 9) used in well drilling, their carcinogenic and other properties. Table 10 in the report shows potential air pollutants and inhalation exposure. (Melanie)

Baldwin Hills Steering Committee Meeting #4
Community Health Councils – 3731 Stocker, Los Angeles
December 17, 2019 – 1 p.m. to 3 p.m.

- Ask CARB about peaks in data [during Baldwin Hills SNAPS]. Noted that CARB doesn't hold data indefinitely. (Charles)
 - Request notification of an Event on the oil field and look at emissions data before and after. Noted no scheduled drilling soon. (Christine, Melanie, and Jill)
9. Air Emissions (SCAQMD Database) - publicly available data, potential that not all data is reported.
10. Oil and Gas Production Data
- Discussion on additional limitations
 - Data suggest that higher producing wells are not necessarily higher emitting wells.
 - Discussion on how to use data:
 - Areas of higher productivity can be monitored closer in study, can find age of wells in the database, and can see geographically where stimulations are occurring. (Melanie)
 - Monthly DOGGR data may be useful for contextualizing SNAPS data. It's helpful to know the rates during monitoring events. Looking at the casing pressure can provide more information on whether some gases are migrating beyond intended area.
 - Drillers required to report maintenance activities to DOGGR, which CARB can use to plan when to monitor. (Paul)
11. Air Monitoring Data (e.g., SNAPS)
- Discussion on additional limitations:
 - Unsure when data will available, other data can be analyzed in the meantime. (Debbie)
 - Expensive to model estimated health risk from this data.

General Study Limitations (Debbie) – open discussion

- How specific should the plan be? How much better or worse does a person's health need to be to be detected in this study? (Charles)
 - Need to create a specific question in community survey such that the approach will answer the community's questions. (Jill)
 - We need to try to estimate beforehand to see if even detect a health impact. (Christine)
- How do we account for environmental justice and handle access to health care? (Melanie)
 - Might be limited to available data, but if we are collecting data ourselves, we can just ask about health care. (Jill)
 - Need to investigate CARB data before narrowing down which contaminants to look at and if there should be a cutoff concentration. (Christine)
- Which diseases or health impacts should we focus on? (Charles) Should cognitive effects be included? (Paul)
 - Depends on the data available, but if cognitive effects were to be investigated it should be only for a few conditions and for a narrow age range. (Jill)
 - It's difficult to do an exposure study on chemicals that don't remain in the body long term. Limited track record of VOC biomonitoring. (Jill)
 - There might be some difficulty getting permission for collecting biometrics, since some are rather invasive. (Christine)

Public Health Experts' Recommendations

1. Consider eliminating mortality and cancer rates studies. Limitations include small sample size, broad geocoding, and lower statistical power. Potential modest gains only from previous Assessment. (Seth)
2. Use household survey designs that includes biometric component (ex. lung function) coupled with household level data (ex. birth outcomes). (Jill)
3. Do not use blood, urine, and hair samples for biometric analysis. Discussion on their ability to provide

Baldwin Hills Steering Committee Meeting #4
Community Health Councils – 3731 Stocker, Los Angeles
December 17, 2019 – 1 p.m. to 3 p.m.

benzene markers. Stated that these can be difficult to interpret because there can be multiple sources of benzene, would need to know time activity, place of work, and other factors. This type of study would probably be very expensive. (Seth)

4. Have exposure metrics as a gradation by distance from fence line instead of just by zip code. Ex. birth data, pick multiple distances and assign each an exposure. Need to get a large enough sample size. (Jill)
 - o Need to investigate CARB data first before narrowing down which contaminants to look at and if there should be a cutoff concentration at distances. (Christine)

SNAPs Data Incorporation

- Need to discuss with CARB, but we can work with data.
- Can investigate other sources of data first and then refine later once SNAPs is released.

Additional Areas of Discussion

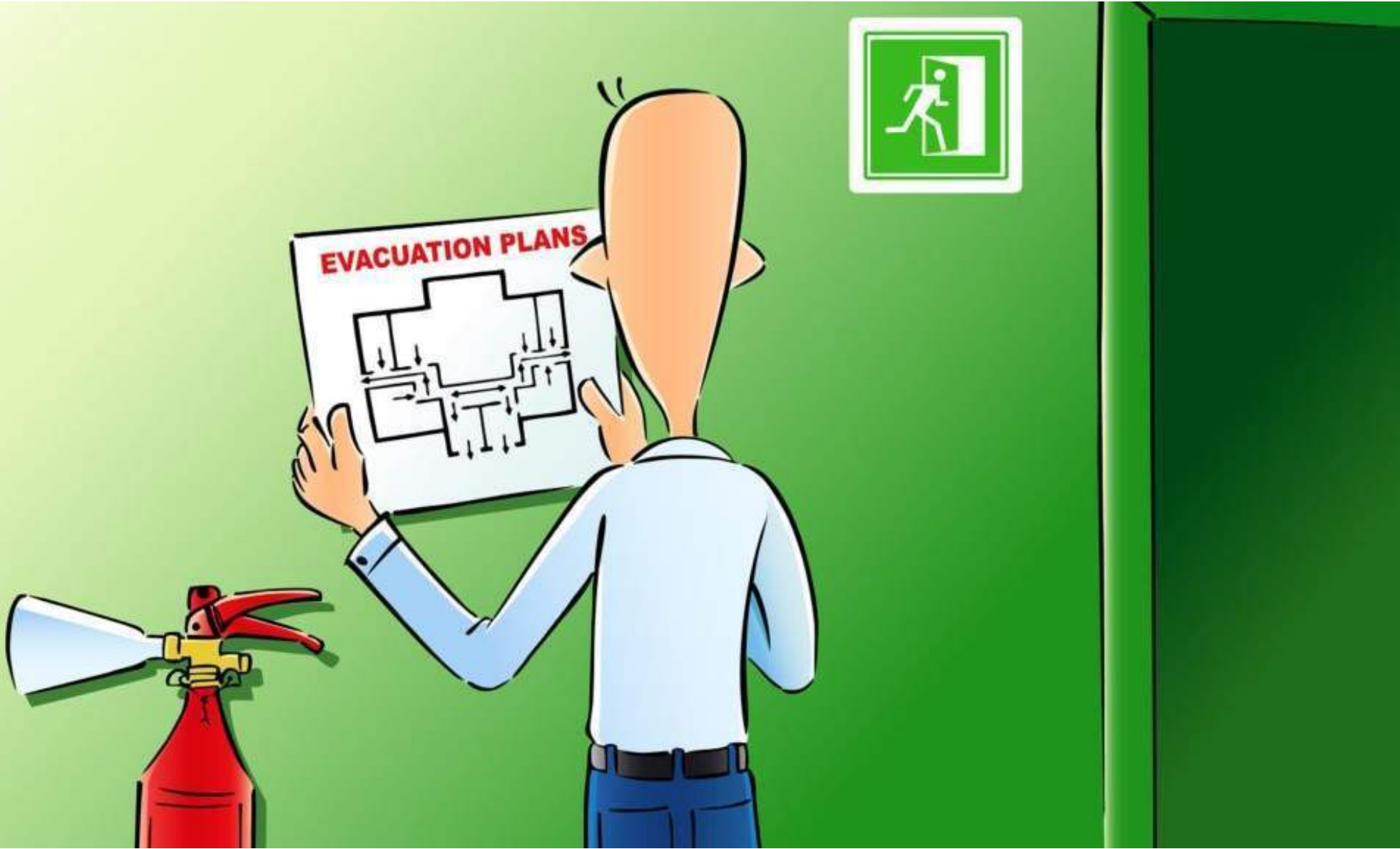
- Settlement Agreement - are we required to do a better study than what we did before, as listed in the settlement agreement? (Debbie)
 - o Shouldn't do the same study again unless it can be improved upon (Christine).
 - o We should discuss the settlement agreement after constructing our study (Charles).
- Would looking at lung function be satisfactory to the community, even though it's not a disease? (Jill)
 - o The community wants to find tangible evidence that the oil field is responsible for some health impacts. Maybe use this study as a steppingstone to recommend further study. (Melanie)
 - o We need to provide assurance to the community regarding their children's lung function. (Charles)

BALDWIN HILLS STEERING COMMITTEE

MEETING #4

December 17, 2019

Safety Moment



Meeting #3 Recap

Data Sources

Data Sources Available

	Type of Data	Sources of Data	Types of Data Collected	Reported	Location/Geocoding
1	Household Surveys	Community survey (random sample)	<ul style="list-style-type: none"> Questions on health outcomes Bio-measurement 	Self-reported or bio-measurement	Collected at the household level (measures needed for confidentiality)
2	California Health Interview Survey (CHIS)	Telephone survey (to be multi-mode starting 2020, e.g., web)	Asthma, diabetes, heart disease, high blood pressure, mental health status, plus others	Self-reported	Census tracts
3	Mortality Outcomes	Death certificates	Causes of death	Doctor/coroner	Census tracts (household level?)
4	Birth Outcomes	Birth certificates	Birth outcomes, e.g., birth defects, low-birth weight	Doctor reported	Census tracts and zip codes. IRB approval (4-6 months) for household geocoded data
5	Cancer Incidence	USC Cancer surveillance program	Cancer rates	Doctor reported	Census tracts, IRB approval required for household level (difficult to obtain)
6	Emergency Room Visits	Hospitals	Reason for ER visit	Doctor reported	Zip code
7	School Attendance and Health Info	School District	Attendance and possibly asthma incidence	School nurse	Uncertain - Likely by school attendance boundary
8	SCAQMD Chemical Use Reports	Regulated oil development facilities	Volume and types of chemical used	Reported by facility	Facility address
9	Air Emissions (SCAQMD databases)	Provided by stationary sources, approved by SCAQMD	Emissions data used to estimate health risk through AQ models	Reported by facility/Air District	Addresses the potential health impacts of emissions on adjacent land uses
10	Oil and Gas Production Data	Quantities of oil / gas produced by well no. reported to DOGGR	<ul style="list-style-type: none"> Oil and gas production data Potentially estimate emissions 	Facility reports to DOGGR	Address/oil well identification number
11	Air Monitoring data (e.g., SNAPs)	Air sampling/testing	Actual concentrations of pollutants in the environment.	CARB, SCAQMD	Collected within community, usually upwind/downwind locations

Data Strengths & Limitations

Data Strengths and Limitations

	Type of Data	Strength	Limitations	Cost
1	Household Surveys	<ul style="list-style-type: none"> Household level Stronger study with a bio-measurement Estimate health outcomes by distance from source Community directly involved 	<ul style="list-style-type: none"> Self-reported data are less reliable Participation can be challenging leading to low participation rates and small sample size 	\$\$\$-\$\$\$\$\$
2	California Health Interview Survey (CHIS)	<ul style="list-style-type: none"> Available data Easy to obtain 	<ul style="list-style-type: none"> Self-reported data are less reliable Generally low participation rates Only available at census tract level 	\$
3	Mortality Outcomes	<ul style="list-style-type: none"> Reported by doctor/coroner Reliable data 	<ul style="list-style-type: none"> Only available at census tract level No information on length of time at residence Only reports causes of death and not morbidity Probably only marginally better than previous study (more data available since 2012) but sample size may still be small Can't control for other pollution sources or behavioral risk factors. 	\$\$
4	Birth Outcomes	<ul style="list-style-type: none"> Doctor reported Exposure time is limited to 9 months Minimizes impacts of moving and other exposures. 	<ul style="list-style-type: none"> Data at household level available but requires 4-6 months to obtain IRB approval Can't control for other pollution sources or behavioral risk factors 	\$\$
5	Cancer Incidence	<ul style="list-style-type: none"> Doctor reported Available data 	<ul style="list-style-type: none"> Only available at census tract level No information on length of time at residence Likely marginally better than previous study (more health data available since 2012 and could look at more forms of cancer than blood-related cancers) Can't control for other pollution sources or behavioral risk factors. 	\$

Data Strengths and Limitations

	Type of Data	Strength	Limitations	Cost
6	Emergency Room Visits	Doctor reported	<ul style="list-style-type: none"> • Only available at zip code • No information on length of time at residence • Can't control for other pollution sources or behavioral risk factors • Apparently difficult to obtain 	\$\$
7	School Attendance and Health Info	Source of data on attendance and asthma (inhaler use)	<ul style="list-style-type: none"> • Likely only available by school attendance boundary • No information on length of time at residence • Can't control for other pollution sources or behavioral risk factors • Likely difficult to obtain. 	\$
8	SCAQMD Chemical Use Reports	<ul style="list-style-type: none"> • Source of data on chemical use and volumes • Public data 	<ul style="list-style-type: none"> • Difficult to determine exposure or emissions from these data 	\$
9	Air Emissions	<ul style="list-style-type: none"> • Provides overall emissions from oil field • Public data 	<ul style="list-style-type: none"> • Data is reported as annual average emissions making it unlikely for any type of relevant exposure determination or air quality models to be used. 	\$
10	Oil and Gas Production Data	<ul style="list-style-type: none"> • Provides volumes of oil and gas production • Public data 	<ul style="list-style-type: none"> • Data could be converted into emissions estimates but is too general to provide accurate emission or exposure estimates 	\$
11	Air Monitoring data (e.g., SNAPs)	<ul style="list-style-type: none"> • Concentrations of pollutants in ambient air • Estimates actual exposures • Estimates contribution of sources using sampling • Public data 	<ul style="list-style-type: none"> • Data based on cumulative emissions of air emission sources within the area • Requires modeling to estimate health risk associated with exposure 	\$\$\$\$

Public Health Experts' Recommendations

Meeting Agenda



Meeting Subject: Public Health Baldwin Hills Steering Committee – Meeting #5
Meeting Date: January 14, 2020
Start Time: 1:00 PM
End Time: 3:00 PM
Location: Community Health Councils
3731 Stocker, Suite 201
Los Angeles, CA 90008
Conference Call: (408) 638-0968 US (San Jose)
Meeting ID 707 759 566
<https://zoom.us/j/707759566>

Invitees: Erica Blyther, Debra Bright Stevens, Christine De Rosa*, Sean Fahmian, Paul Ferrazzi, Jo Kay Ghosh, Liz Gosnell, Frank Jackson, Jill Johnston, Carolyn Lozo, Charles McCaw, Seth Shonkoff, Timothy Stapleton, Caitlyn Suruki, Carrie Tayour, Melanie Traxler, Jennifer Trotter, Sonya Vasquez

Agenda:

- Safety Moment (2 minutes)
- Meeting Recap (5 minutes)
- Environmental Racism (20 minutes) – Erica Blyther
- Broad Study design (85 minutes)
 - Scenarios Reviewed
 - Exposure metrics
- Debrief (5 minutes)

NOTE: various voting items anticipated to record Committee recommendations and preferences.

Meeting #5 - January 14, 2020

Baldwin Hills Steering Committee Meeting #5
Community Health Councils – 3731 Stocker, Los Angeles
January 14, 2020 – 1 p.m. to 3 p.m.

Attendees:

- Christine De Rosa, LA County DPH
- Caitlyn Suruki, Intrinsik**
- Carrie Tayour, LA County DPH
- Paul Ferrazzi (by phone), Citizens Coalition for Safe Community
- Melanie Traxler, City of Culver City
- Charles McCaw, UHA
- Jill Johnston, University of Southern California
- Erica Blyther, City of LA
- Debbie Stevens, Environmental Audit, Inc.
- Seth Shonkoff, PSE Healthy Energy
- Liz Gosnell, Cone Family Trust
- Jo Kay Ghosh (by phone), SCAQMD
- Kathleen Kozawa (by phone), CARB
- Timothy Stapleton, LA County DRP
- Jennifer Trotter, Burns & McDonnell**
- Sean Fahmian, Burns & McDonnell **

*Interested agency representative, not a Steering Committee Member

**Facilitating consultant

Meeting Notes

Safety Moment – In case of emergency, walk calmly downstairs and meet in the back of the parking lot while safety of building is assessed.

Meeting Recap

- Public health experts laid out limitations, strengths and processes of various study designs.
 - Looking at exposure metrics, distance is important, but also incorporate meteorological and CARB data in it as well. (Jill)
 - Density of oil and gas development and the infrastructure associated with it should also be included. (Seth)
 - We can get more detailed data from the operator if we need it. They are willing to work with this group. (Liz)

Environmental Racism – Presented by Erica Blyther

See presentation slides for details of presentation.

- Discussion:
 - Environmental Racism Incorporated into Study Design
 - How do we incorporate Environmental Racism into our study?
 - The Settlement Agreement states that it is required that environmental justice is included in the report. The last study didn't address Environmental Racism. Important to go above and beyond the previous study
 - Important to include how the steering committee chosen and process to develop plan.
 - Looking at the definition of Environmental Justice, we won't achieve Environmental Justice until everyone has a seat at the table. Need to have data incorporated that represents impacted lower socio-economic areas (over inclusive) in this study.
 - Include outreach component to study, such as community workshops to educate the public in plain language about study including environmental justice component.
 - Can consider how social stressors and historical racism could affect health outcomes. There are ways that we can look at these health outcomes with respect to races.
 - Potential to do a separate study as a means of secondary analysis focused on environmental justice/racism.
 - EnviroScreen - important to understand that EnviroScreen measures cumulative impacts (not

Baldwin Hills Steering Committee Meeting #5
Community Health Councils – 3731 Stocker, Los Angeles
January 14, 2020 – 1 p.m. to 3 p.m.

relative impacts) and does not include oil production in evaluation.

- Health Data - When you look at health data, you need to incorporate race because different races are affected differently when it comes to health. How are we going to incorporate environmental justice when you have different health outcomes? (Debbie)
- Additional Data - CARB will put out data in order to develop community specific plans.

Broad Study Design - Scenarios reviewed

Secondary Data Analysis:

- *Birth Outcomes*
 - Limitations Reviewed
 - Lack of Community Engagement
 - Imperfect information on emissions (i.e. when/how emissions contact pregnant women, what is related to other emissions including mobile sources)
 - Birth data release is delayed years
 - East side community may have a higher proportion of residents over 60 years compared to other neighboring communities
 - Assumption that mother lives at same location over the course of the 9 months of pregnancy. Birth addresses are recorded at time of birth without consideration of living history.
 - Opportunities Reviewed
 - Only secondary data source that is available at household level data
 - Lots literature available around birth outcomes and fracking
 - Strongest body of data that shows a link between living close to an oil field is birth studies.
 - 20 years of data available
 - Exposure time known (assumed) to be 9 months
 - Low, medium, high exposure
 - Doctor reported and at the home level
 - Multiple data points
 - Consider scoping birth outcome study to the Los Angeles Oil Field Basin to get larger sample size.
 - Other oil fields in Los Angeles are not regulated to the same level as the Inglewood Oil Field and not comparable in size.
 - Recommendations
 - Best exposure metric will be a combination of emissions data and oil field operations.
 - Do not rely on oil well productivity only (production level does not always equate to higher emissions)
 - Discussion on Emissions:
 - Possible to factor out the diesel particulate matter from the City of Los Angeles oil field?
 - A consistent baseline to measure from is needed. Concerned that operators are producing less in order to calculate some of the changes we might expect to see from study.
 - There are 188 idle wells that could be emitting.
 - Consider studying methane levels as methane carries gas that will carry emissions.
 - If operations data is available, would it be possible to tie the CARB data to the activities that are occurring in the field that might warrant more pollution. Does not tie data to health outcomes, rather allows understanding of what activities are emitting more pollution.
 - CARB is not measuring emissions; they are measuring environmental air concentrations. It is possible to go back and check to see if there is correlation to the emission rates from the oil field.
 - SB4 data can be useful to show when hydrochloric acid or hydrofluoric acid used on wells.

Baldwin Hills Steering Committee Meeting #5
Community Health Councils – 3731 Stocker, Los Angeles
January 14, 2020 – 1 p.m. to 3 p.m.

- *Cancer and Mortality Rates*
 - Limitations Reviewed
 - Small sample size. Sample size is not large enough to develop a conclusion.
 - No length of residence info
 - Data not provided at household level
 - This is not a study design that is calibrated to show that something is there. The problem with this is that if it is included it can be used to say that there are no health outcomes from being near the oil field operations.
 - Opportunities Reviewed
 - Potential marginally better data
 - Strong community emotional attachment to these issues.
 - Recommendations
 - Identify how to explain to the community why this data is not able to identify the health impacts of living near an oil field
 - Discussion on Cancer:
 - LA County as a whole has cancer and mortality issues. The community will not listen if the data says that it isn't causing cancer/mortality because they see cancer happening to themselves and their neighbors.
 - The report needs to address the challenges with Cancer/Mortality rate analysis to ensure that the community has an explanation.
 - Can the community's concern be addressed during data collection method?

VOTING ITEM (Unanimous, Yes): Section 5 of the Settlement Agreement requires a Cancer and Mortality Rate Analysis. In concurrence with the Public Health Expert's opinions we recommend that the DPH Community Health Assessment does not prioritize analyzing Cancer Registry Data and Mortality Rates (existing secondary data) considering the inability to identify causation/correlation due to lack of statistical power. Specifically, the number of people around this oil field is not large enough to provide a sample size sufficient to detect statistically significant changes in rare health outcomes such as cancers. We understand that cancer outcomes are important to the community and recognize that CARB SNAPS will analyze for cancer risk.

- Yes: Paul, Erica, Melanie, Charles, Liz (5)
- No: (0)
- Abstain: (0)

NOTE: Public Health Experts are unanimous in the above recommendation voted on by the committee.

VOTING ITEM (Unanimous, Yes): In concurrence with the Public Health Expert's opinions we recommend prioritizing individual household birth outcome data as part of any potential secondary data analysis.

- Yes: Paul, Erica, Melanie, Charles, Liz (5)
- No: (0)
- Abstain: (0)

NOTE: Public Health Experts are unanimous in the above recommendation voted on by the committee.

Collect Individual-Level Data from Residents

- Bio-metric measures discussion

Baldwin Hills Steering Committee Meeting #5
Community Health Councils – 3731 Stocker, Los Angeles
January 14, 2020 – 1 p.m. to 3 p.m.

Bio Metric Measure	Purpose	Opportunities	Limitations
Blood Pressure		<ul style="list-style-type: none"> • Can easily be done at the same time as other data collection activities 	<ul style="list-style-type: none"> • Difficult to understand potential factors (diet, family history, exercise, existing medications)
Lung Function	Cardiovascular responses	<ul style="list-style-type: none"> • Wide age range acceptable • Large data set because conduct several times on each test • Comparison studies available 	<ul style="list-style-type: none"> • Trained people required to administer tests
Blood Draw	Inflammatory response (can trigger respiratory and cardiovascular responses)	<ul style="list-style-type: none"> • Provide detailed health information • Potential to better understand participants' other health factors 	<ul style="list-style-type: none"> • Invasive process require higher level of Institutional Review Board (IRB) approval • Potentially less community members interested in participating • Require lab (increase cost of study design)
Urine Analysis	<ul style="list-style-type: none"> • VOCs • Oxidative Stress Markers 	<ul style="list-style-type: none"> • Studies (limited number) conducted show more oxidative stress markers in people living near refineries and oil fields (Jill) 	<ul style="list-style-type: none"> • VOC can go in and out of your system very quickly (8 hrs) • Require lab (increase cost of study design) • Benzene is not necessarily a marker of oil field activity • In LA, people exposed to emissions gas stoves/heaters

- Discussion
 - Part of this study should allow for room for creativity from the community members/respondents.
 - If we are not going to be studying cancer and mortality rates from secondary data, then maybe we should beef up the biometric data collections efforts from the community.
 - Asthma can be caused by many factors, not necessarily connected to oil field operations
 - Regarding the design, what would be the outreach process as far as getting to the secondary data? The easiest thing to use is people who are on the mailing list within the vicinity of the oil field.
 - Bio-metrics and self-reporting:
 - Self Reporting: People take measurements every day for a certain period of time. Time intensive, requires a lot of work from participants. Hard studies to do.
 - What is a decent sample size? In the North Carolina study (Jill) there were 100 people.

VOTING ITEM (Majority, Option 3): Each committee member was provided with 2 stickers. Committee members were instructed that they could place both stickers on the same poster or on multiple posters as a means to indicate their prefer broad study design(s). Note: Public Health Experts did not participate in vote.

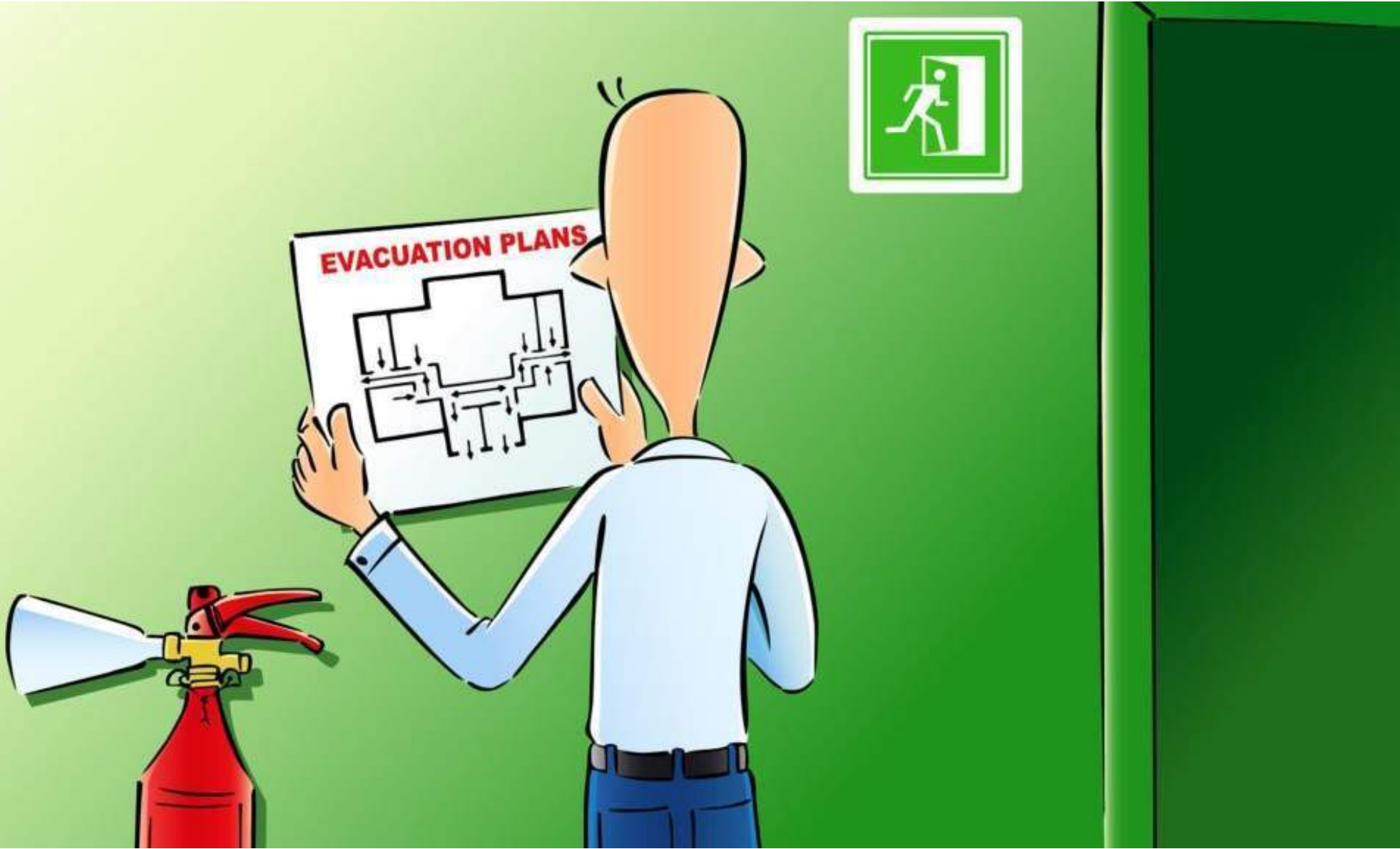
1. Conduct secondary data analysis only: 3
2. Collect individual level data from residents only: (0)
3. Conduct secondary data analysis AND collect individual level data from residents: 6

BALDWIN HILLS STEERING COMMITTEE

MEETING #5 (FINAL)

January 20, 2020

Safety Moment



Meeting #4 Recap

Public Health Experts Recommendations

- ▶ Consider eliminating mortality and cancer rates studies
- ▶ Use household survey designs that include a biometric component(s)
- ▶ Do not use blood, urine, and hair samples for biometric analysis
- ▶ Have exposure metrics as a gradation by distance from fence line

Environmental Racism in Los Angeles

Erica Blyther

Environmental Affairs Officer

Office of Petroleum and Natural Gas

City of Los Angeles

Environmental Justice

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This goal will be achieved when everyone enjoys:

- The same degree of protection from environmental and health hazards, and
- Equal access to the decision-making process to have a healthy environment in which to live, learn, and work.

From: <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice>

Robert D. Bullard- “Father of Environmental Justice”



- Bullard is known as the 'father of environmental justice'. He has been a leading campaigner against environmental racism, as well as the foremost scholar of the problem, and of the Environmental Justice Movement which sprung up in the United States in the 1980s. He is currently a Distinguished Professor at Texas Southern University.

Bean v. Southwestern Waste Management, Inc.

- In 1979 Bullard's wife, attorney Linda McKeever Bullard, represented Margaret Bean and other Houston residents in their struggle against a plan that would locate a municipal landfill next to their homes. The lawsuit, *Bean v. Southwestern Waste Management, Inc.*, was the first of its kind in the United States that charged environmental discrimination in waste facility siting under the civil rights laws. Houston's middle-class, suburban Northwood

Robert D. Bullard- “Father of Environmental Justice”

- Bullard, having received his doctoral degree only a couple of years before, was drawn into the case as an expert witness. In this role Bullard conducted a study which documented the location of municipal waste disposal facilities in Houston. Entitled 'Solid Waste Sites and the Black Houston Community', the study was the first comprehensive account of **ecoracism** in the United States.
- Bullard and his researchers found that African American neighborhoods in Houston were often chosen for toxic waste sites:
 - All 5 city-owned garbage dumps (100%)
 - 6 of the 8 city-owned garbage incinerators (75%)
 - 3 of the 4 privately owned landfills (75%)

These were all sited in black neighborhoods, although blacks made up only 25 percent of the city's population.

Robert D. Bullard- “Father of Environmental Justice”

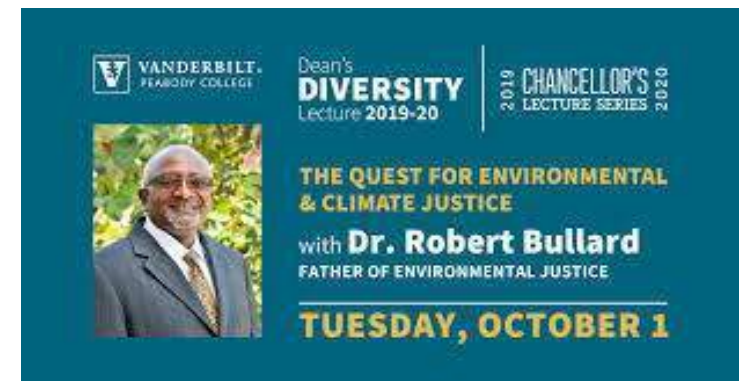
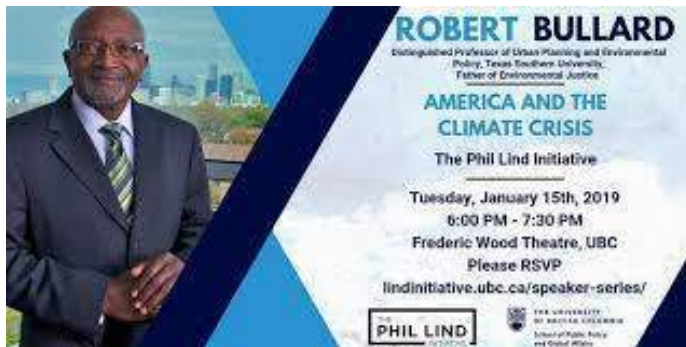
- This discovery prompted Bullard to begin a long academic and activist campaign against environmental racism.
- “Without a doubt”, Bullard has said of his experience, “it was a form of apartheid where whites were making decisions and black people and brown people and people of color, including Native Americans on reservations, had **no seat at the table.**”

Robert D. Bullard- “Father of Environmental Justice”

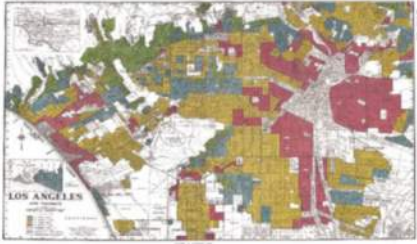
- Over the 1980s Bullard widened his study of environmental racism to the whole American South, focusing on communities in Houston, in Dallas, Texas, Alsen, Louisiana, Institute, West Virginia, and Emelle, Alabama. Again he found a clear overrepresentation of environmental hazards in black areas as compared to white areas, causing increased health risks to black citizens.
- In 1990 Bullard published his first book, *Dumping in Dixie: Race, Class and Environmental Quality*. In the book, Bullard wrote that the Environmental Justice Movement, a grassroots movement by people of color then spreading across America to protest environmental racism, signified a new convergence of the civil rights movement and the environmental movement of the 1960s.

Robert D. Bullard- “Father of Environmental Justice”

- In 2006 when asked what keeps him going in his quest for environmental justice, Bullard answered, "People who fight... People who do not let the garbage trucks and the landfills and the petrochemical plants roll over them. That has kept me in this movement for the last 25 years. And in the last 10 years, we've been winning: lawsuits are being won, reparations are being paid, apologies are being made. These companies have been put on notice that they can't do this anymore, anywhere."
- He is currently a Distinguished Professor at Texas Southern University and still working on Environmental Justice issues.



Redlining in Los Angeles



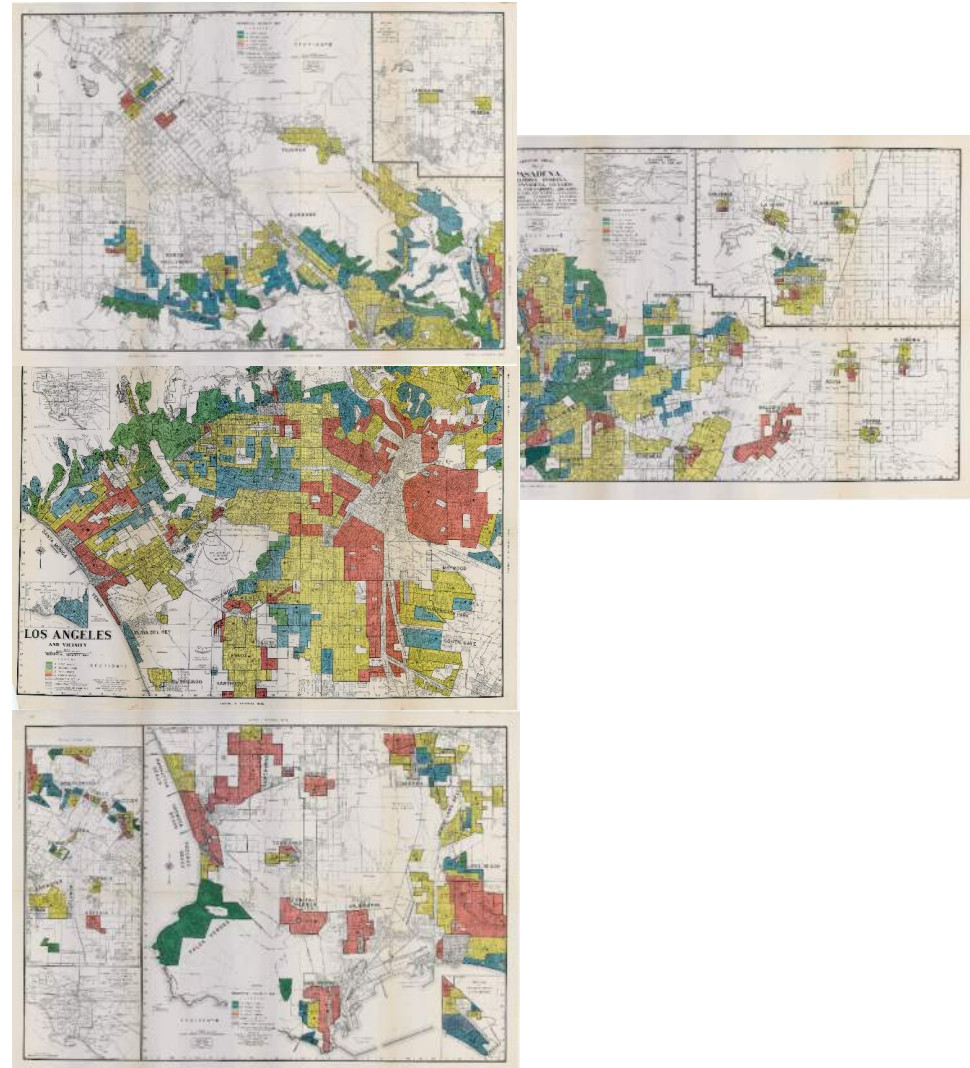
- Few facets of American citizenship embody the national ideal more than homeownership.
- Redlining was a systematic denial of economic investment, largely on the basis of race, that was codified into federal policy in the 1930s.”
- In 1933 Franklin Delano Roosevelt created “The New Deal” that provided assistance to many Americans in buying and keeping homes.
- Two agencies created during this time were the Home Owners Loan Corporation (HOLC) and its parent agency, the Federal Home Loan Bank Board. The HOLC relied on local real estate agents and lenders to figure out the investment risks in various cities so banks could determine where to give out loans. These agents and lenders judged neighborhoods based on racial and socioeconomic makeup and biases of the time.

*From Segregation in the City of Angels: A 1939 Map of Housing Inequality in L.A.,
By Ryan Reft in KCET’s Lost LA: Coded Geographies*

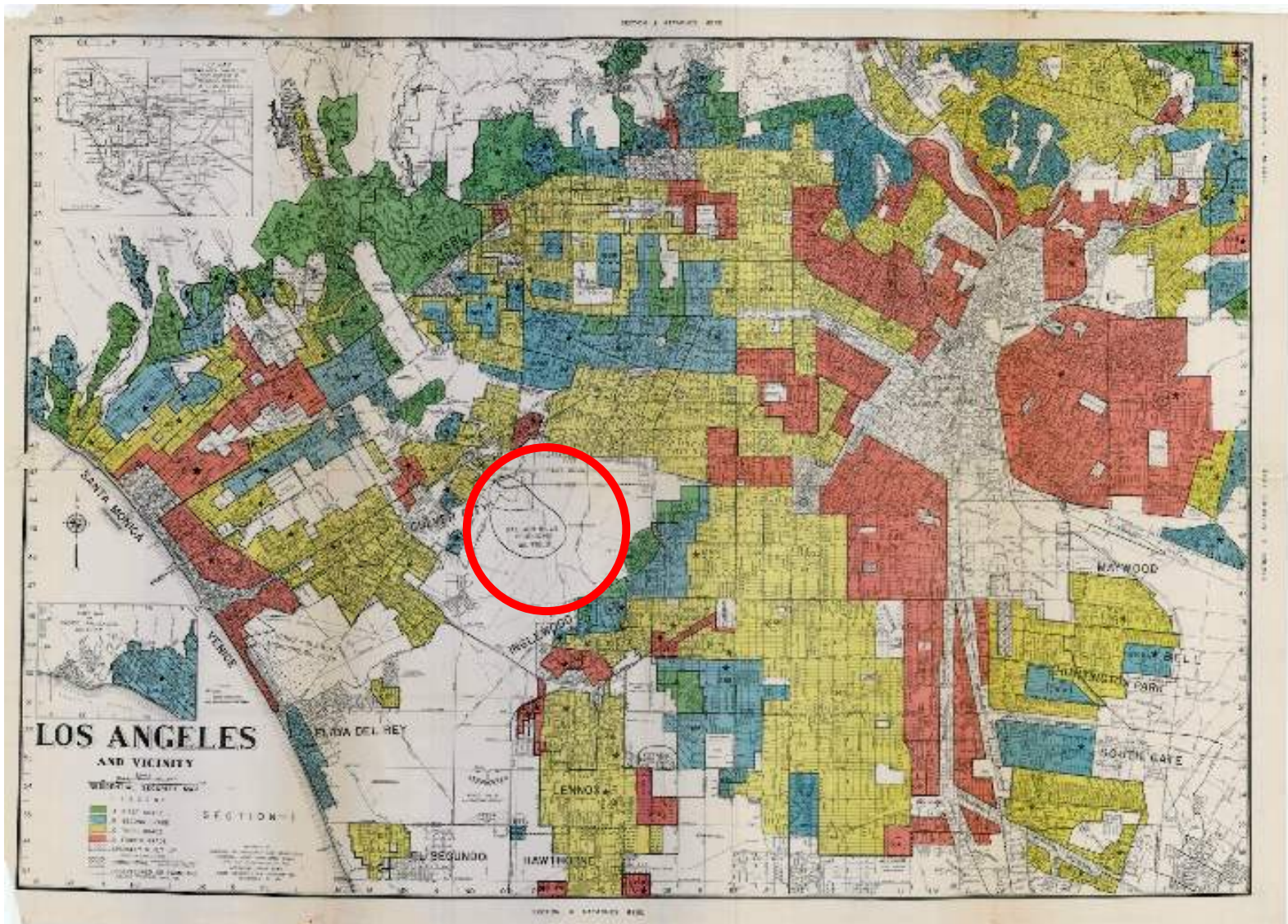
Redlining in Los Angeles

Regions were divided by color on maps:

- First Grade-A neighborhoods in green denoting “most desirable” or best investments
- Second Grade-B areas in blue, “still desirable”
- Third Grade-C areas in yellow “in decline”, and
- Fourth Grade-D neighborhoods in red “hazardous”. Thus the origin of the term redlining.



From *Segregation in the City of Angels: A 1939 Map of Housing Inequality in L.A.*,
By Ryan Reft in KCET's *Lost LA: Coded Geographies*



Redlining in Los Angeles

- The HOLC and FHA valued homogeneity over heterogeneity, particularly in regard to ethnicity and race.
- Those communities depicted in “red” usually contained minorities: African-Americans, Mexican-Americans, Asian-Americans, and sometimes newly arrived immigrant groups like Slavs, Jews, and Italians. Such policies demonstrate that the FHA and HOLC established a **caste system** of race and ethnicity. Assessors in Los Angeles, saw Asians and Africans as the most “subversive.” Working class and white ethnic communities fared better, but were also penalized, often receiving C and sometimes D ratings.
- This system of redlining ultimately drew private investment away from heterogeneous communities like Boyle Heights and Watts.
- Central Los Angeles dismayed appraisers due to its “highly heterogeneous” population and “sprinkling of subversive racial elements,” the latter comment a reference to its “concentrations of Japanese and Negroes.”

From Segregation in the City of Angels: A 1939 Map of Housing Inequality in L.A., By Ryan Reft in KCET's Lost LA: Coded Geographies

Redlining in Los Angeles

- Redlined communities struggled to receive federally backed home loans, making property ownership much more difficult for residents.
- Moreover, it made getting loans for home improvements- maintenance, upkeep and renovation- though not impossible, very likely.
- Neighborhoods fell into a vicious circle of decline: the inability to access capital lead to disrepair and the physical decline of a communities' housing stock, which in turn reinforced the redline designation.
- C and D rating areas have some of the lowest rates of homeownership and are ground zero for gentrification. These communities have the least ability to **self-determine**.
- Redlined communities also sat closer to industrial areas, vice districts, and **environmentally compromised settings**, exposing residents to **health risks** and crime.

*From Segregation in the City of Angels: A 1939 Map of Housing Inequality in L.A.,
By Ryan Reft in KCET's Lost LA: Coded Geographies*

Redlining in Los Angeles

- Racial discrimination in housing was legal until 1968 in the U.S.
- Redlining became equated with race and class and led to the naturalization of segregation; white, working-class homeowners often sought to exclude those populations seen as threatening to home values.
- Individuals and homeowner associations in white neighborhoods also manipulated property values by adding restrictive covenants to real estate contracts.
- For example, a covenant may stipulate that the buyer could not open a liquor store, build additional structures, or **sell** the property to **members of specific ethnic groups**.
- **Note:** The Baldwin Hills/Windsor Hills/The Dons areas were one of the few places upper middle class African-Americans could buy sizable homes earning the area the term “**Black Beverly Hills**”

*From Segregation in the City of Angels: A 1939 Map of Housing Inequality in L.A.,
By Ryan Reft KCET's Lost LA Coded Geographies*

Redlining in Los Angeles

- According to the Digital Scholarship Lab at the University of Richmond, “scholars have characterized HOLC's property assessment and risk management practices, as well as those of the Federal Housing Administration, Veterans Administration, and US. Housing Authority, as some of the most important factors in preserving racial segregation, intergenerational poverty, and the continued wealth gap between white Americans and most other groups in the U.S.”
- These agencies simultaneously assured that growth would remain accompanied by real estate speculation and environmental degradation – meaning disinvestment, neglect, and **unjust placement of environmental hazards.**

From “*Mapping Inequality*,” *American Panorama*, ed. Robert K. Nelson and Edward L. Ayers— The Mapping Inequality project is a collaboration of scholars at Virginia Tech, Johns Hopkins, and the University of Maryland and directed by Robert K. Nelson and Brent Cebul of the University of Richmond

Redlining in Los Angeles

- Historically, highway projects were weaponized to bulldoze through neighborhoods assigned ratings of D, in red, by HOLC.
- In Boyle Heights, 100% of proposed freeway projects were approved, leading to the neighborhoods of the Eastside being bisected and disrupted by freeways. This destroyed communities, causing displacement of over 10,000 people at that time, disrupting community dynamics, and reducing the stock of homes in the area.
- By contrast, in other areas with higher ratings from HOLC in Los Angeles County, only 61% of freeway projects planned were built. Famously, the 710 freeway extension has been embattled for over 60 years.

From Estrada, G. (2018, November 19). The Historical Roots of Gentrification in Boyle Heights.

Redlining in Los Angeles: The 10 Freeway

- In August 1955 the entire route – known originally as the Olympic Freeway – would span 16.6 miles between the East L.A. Interchange in Boyle Heights and Pacific Coast Highway in Santa Monica, barreling through quiet bedroom communities on its path to the sea.
- Hundreds of churches, homeowners groups, and other community organizations rallied against the proposal, focusing their opposition on the 6.6-mile stretch west of La Cienega Boulevard.
- Channeling the ire of his West L.A. constituents, State Assembly Member Thomas Rees declared at a public hearing that the proposed freeway "would constitute a wall diagonally across this area," adding that it would pass menacingly close to several schoolyards. Others raised concerns about air pollution, while Superior Court Judge Stanley Mosk spoke on behalf of a local orphanage over which he presided, warning that the freeway would disrupt the lives of 200 orphans.
- Although planners rejected the Venice proposal, in April 1956 they did revise their original route in the face of community opposition. But while the new route saved 47 homes, it largely **shifted the freeway away from the domains of its most vocal opponents and into new neighborhoods**. Local opposition persisted, but the highway commission held firm.

From Creating the Santa Monica Freeway, By Nathan Masters KCET's Departures

Redlining in Los Angeles: Homelessness

- Black people make up 8 percent of Los Angeles County's population, but 42 percent of those who are homeless. More than 60,000 Black Angelenos experienced homelessness in 2019, county records show.
- In a crowd of 100 Black Angelenos 8 were homeless at some point this year. Among ALL Angelenos the rate was 1 in 100. (Rates of homelessness among white Angelenos are similar to those of Latinos, at about 1 in 100 residents. Asians and Pacific Islanders in Los Angeles experience homelessness at even lower rates.)
- The problem is driven in part, officials say, by the city's history of **redlining**, in which majority-black neighborhoods were marked as undesirable for investment, preventing residents from obtaining home loans.

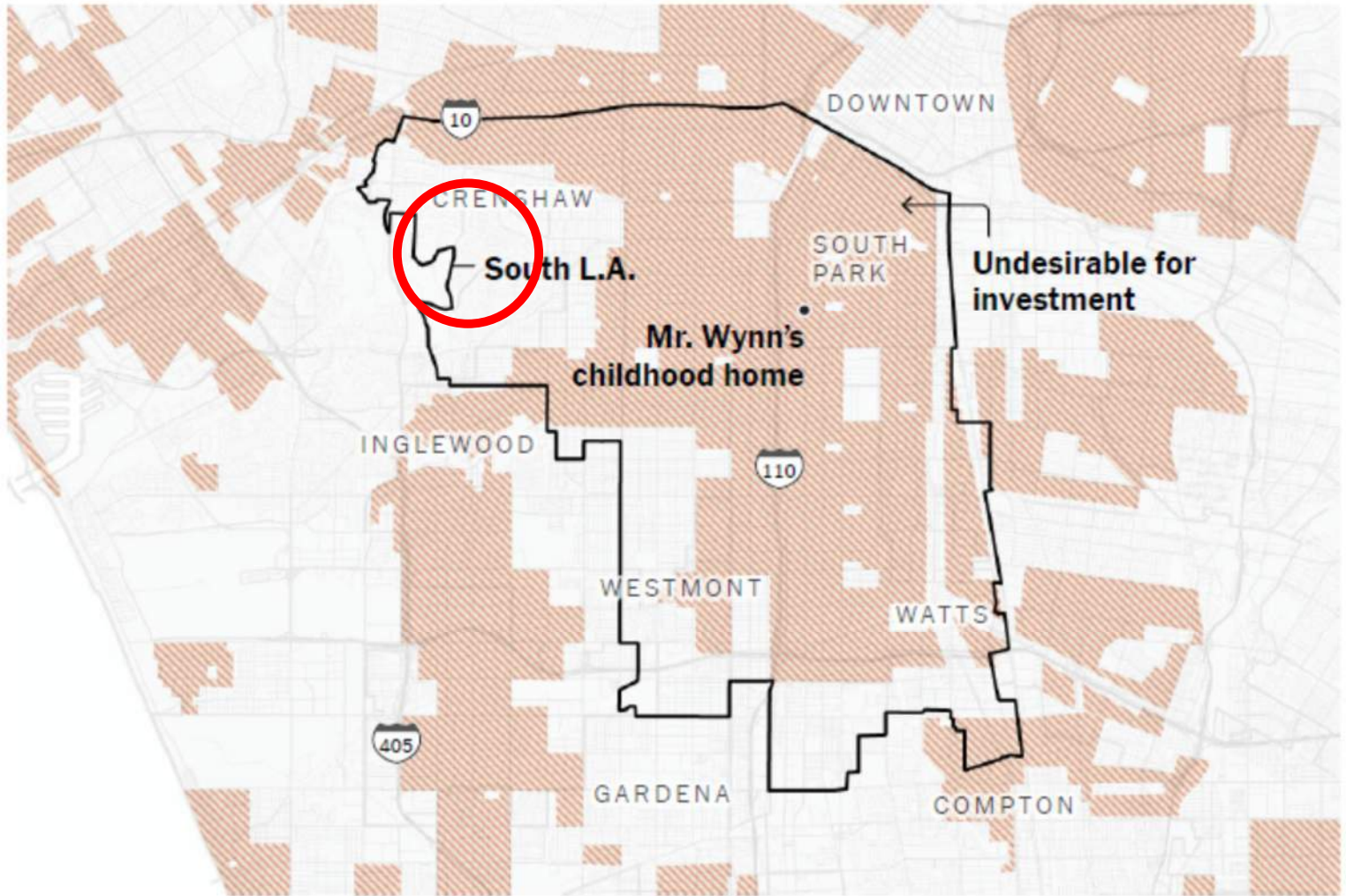
*From Black, Homeless and Burdened by L.A.'s Legacy of Racism
By Jugal K. Patel, Tim Arango, Anjali Singhvi and Jon Huang New York Times Dec. 22, 2019*

These maps show the loss of majority-black neighborhoods in Los Angeles County over the last 50 years.

By The New York Times Source: Social Explorer analysis of census data.

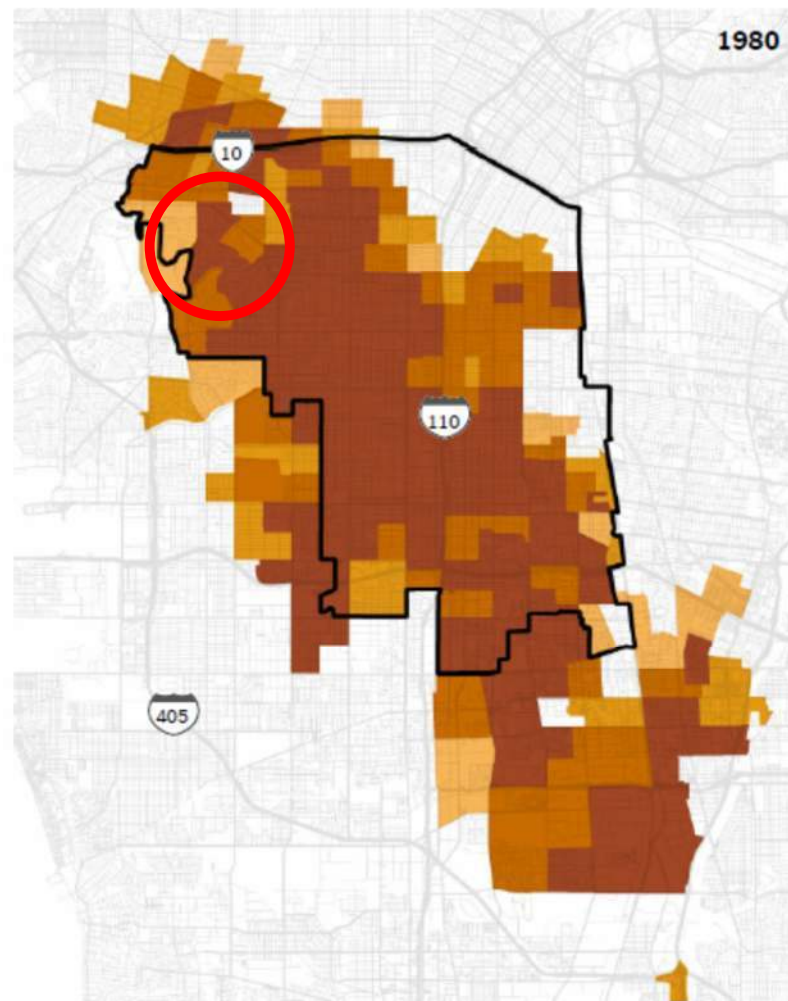
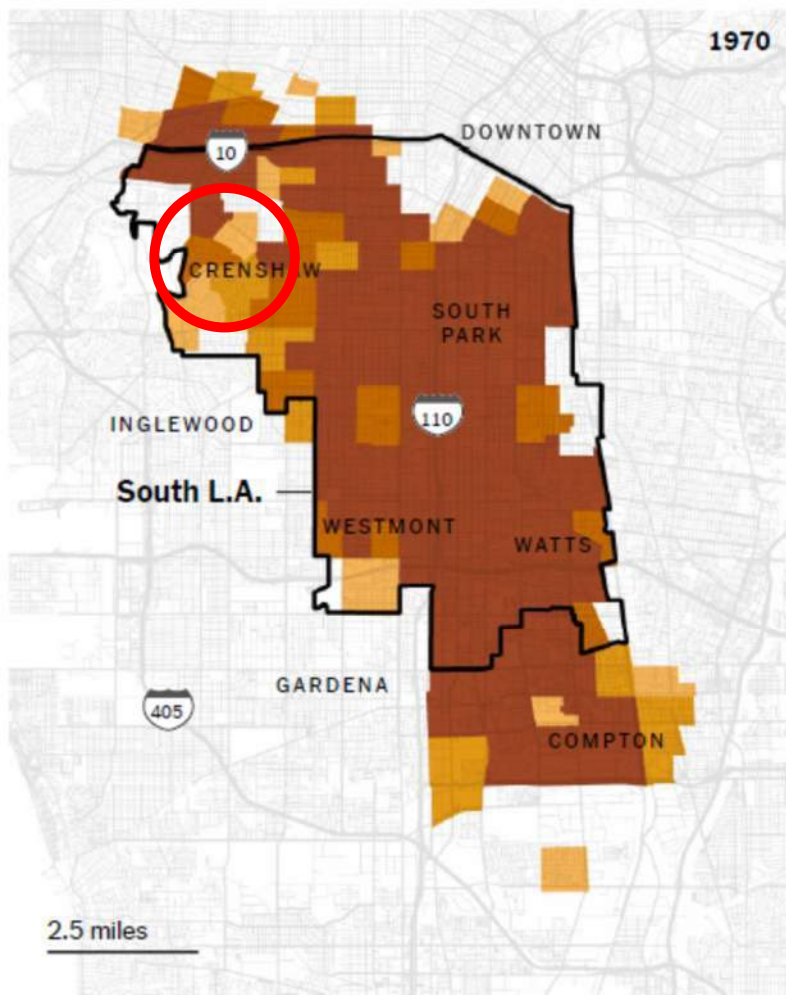
From Black, Homeless and Burdened by L.A.'s Legacy of Racism

By Jugal K. Patel, Tim Arango, Anjali Singhvi and Jon Huang Dec. 22, 2019

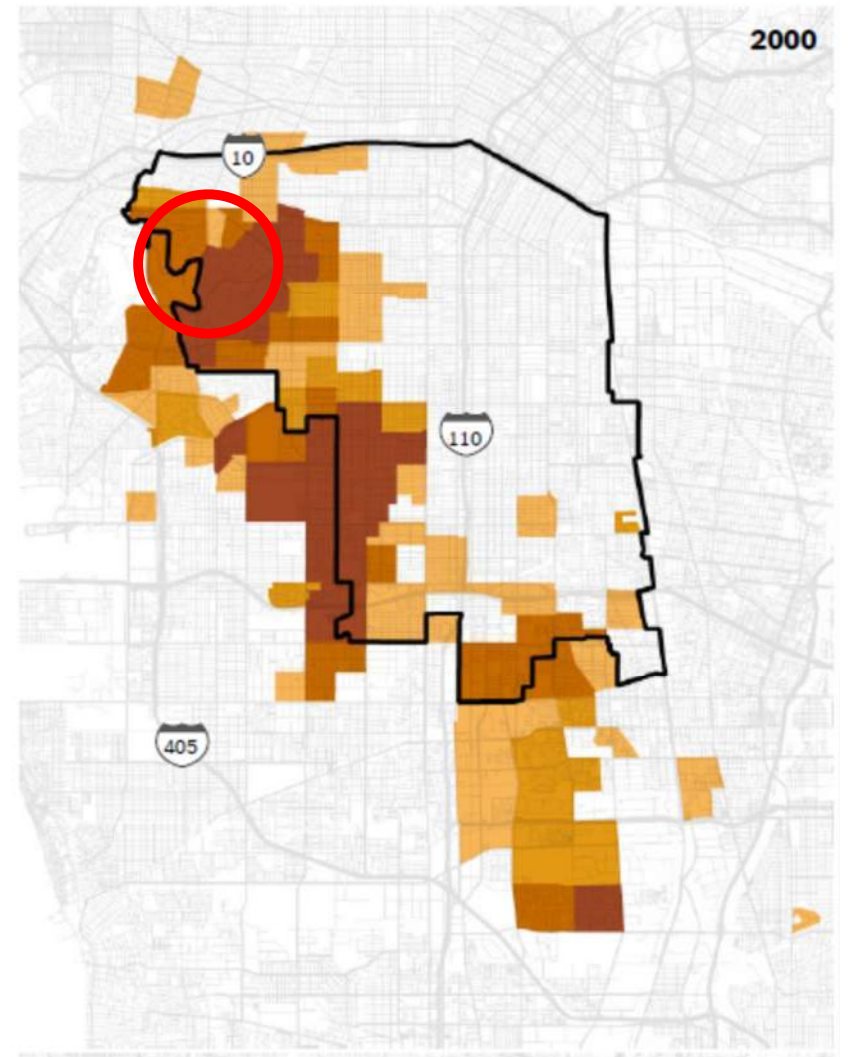
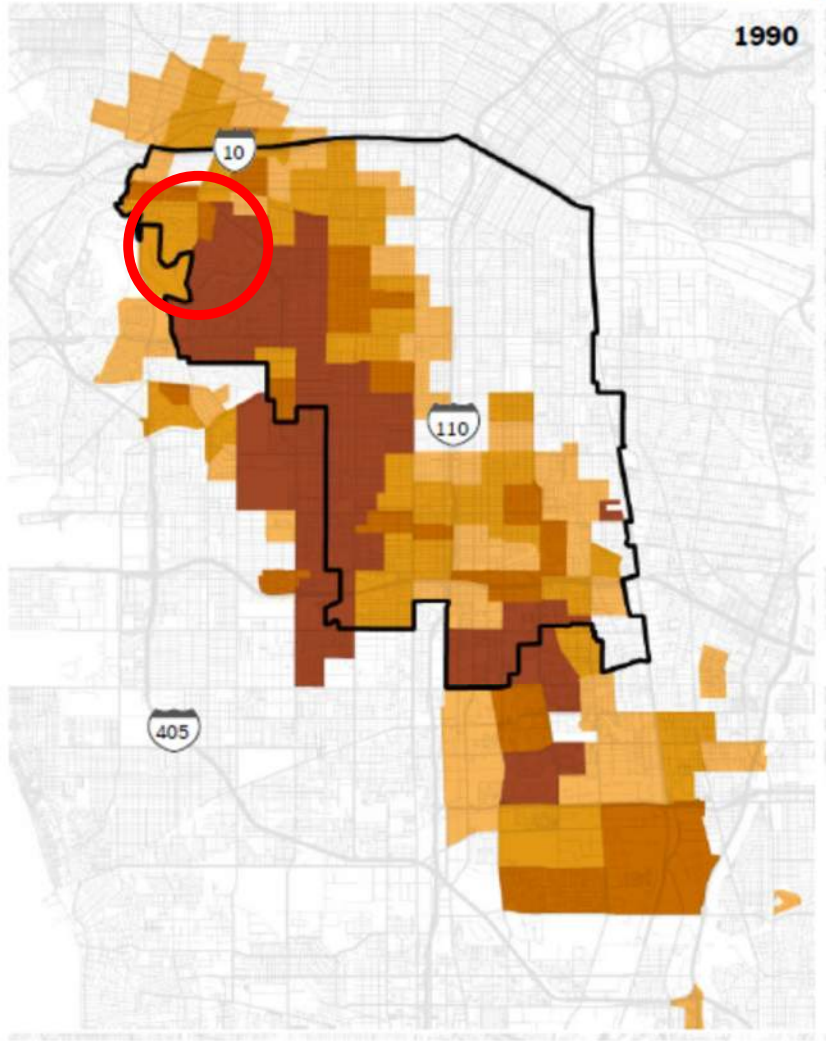


Source: Home Owners' Loan Corporation

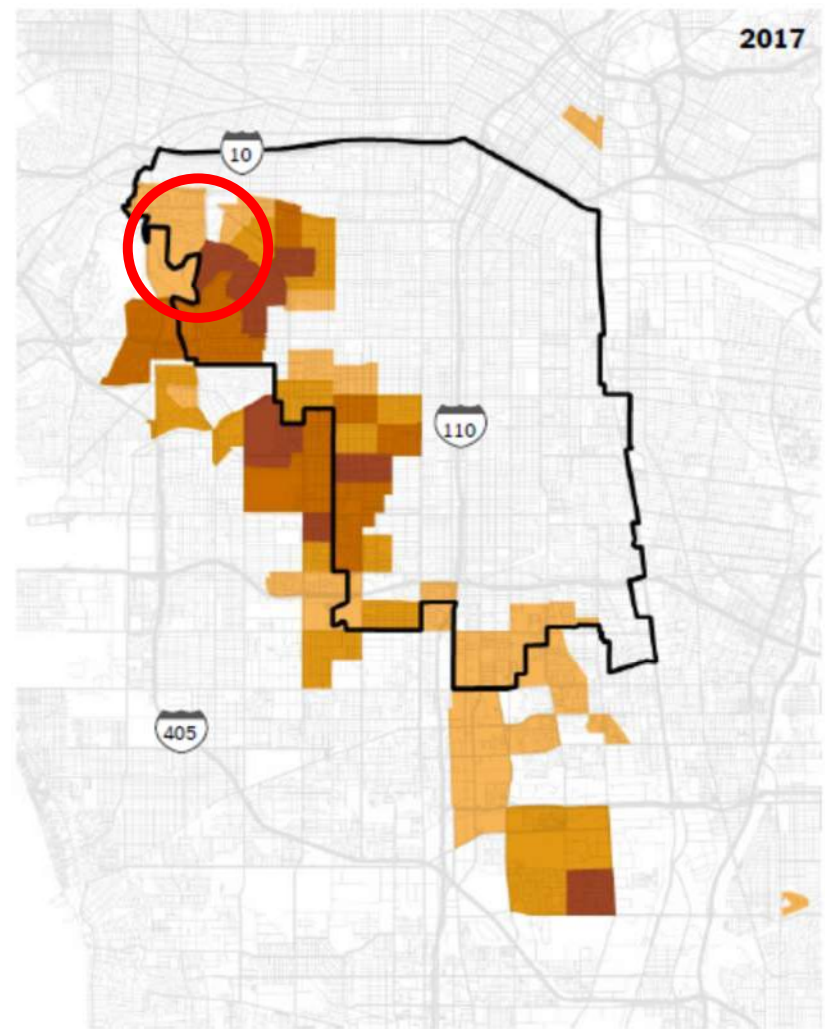
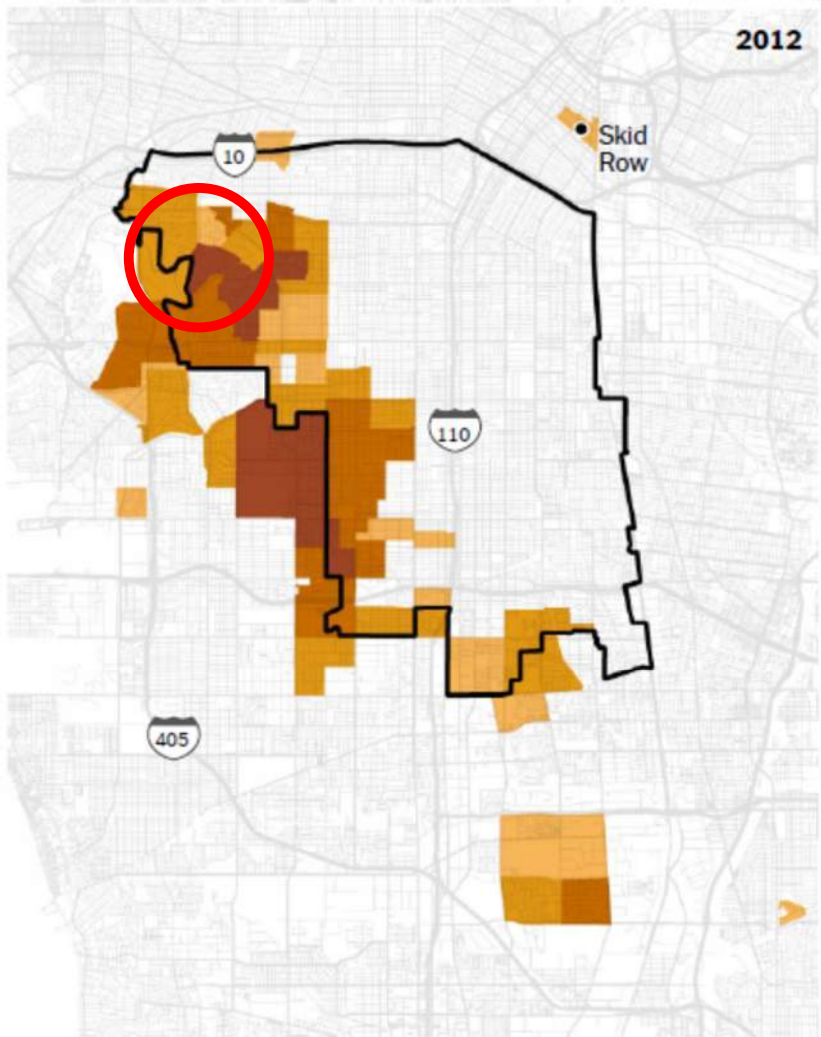
Black share of population 60 70 80%



Black share of population 60 70 80%



Black share of population 60 70 80%



Redlining in Los Angeles

- HOLC Maps codify inequity that already existed in urban spaces and created numerous problems going forward.
- Residents frequently express amazement at how much the old HOLC view corresponds to the new view. As far as redlined communities go, other than the beach communities, there hasn't been a lot of variation in social or economic changes and who was advantaged or disadvantaged and it is all correlated to race and class.
- Too often Americans think of racial sorting as a natural process of the market, but HOLC maps force us to see how structured the processes are.
- Although the New Deal and resulting federal housing programs aided many people, the same policies disadvantaged people of color.

*From Segregation in the City of Angels: A 1939 Map of Housing Inequality in L.A.,
By Ryan Reft KCET's Lost LA Coded Geographies*

CalEnviroScreen 3.0 Overall Results and Individual Indicator Maps

from OEHHA

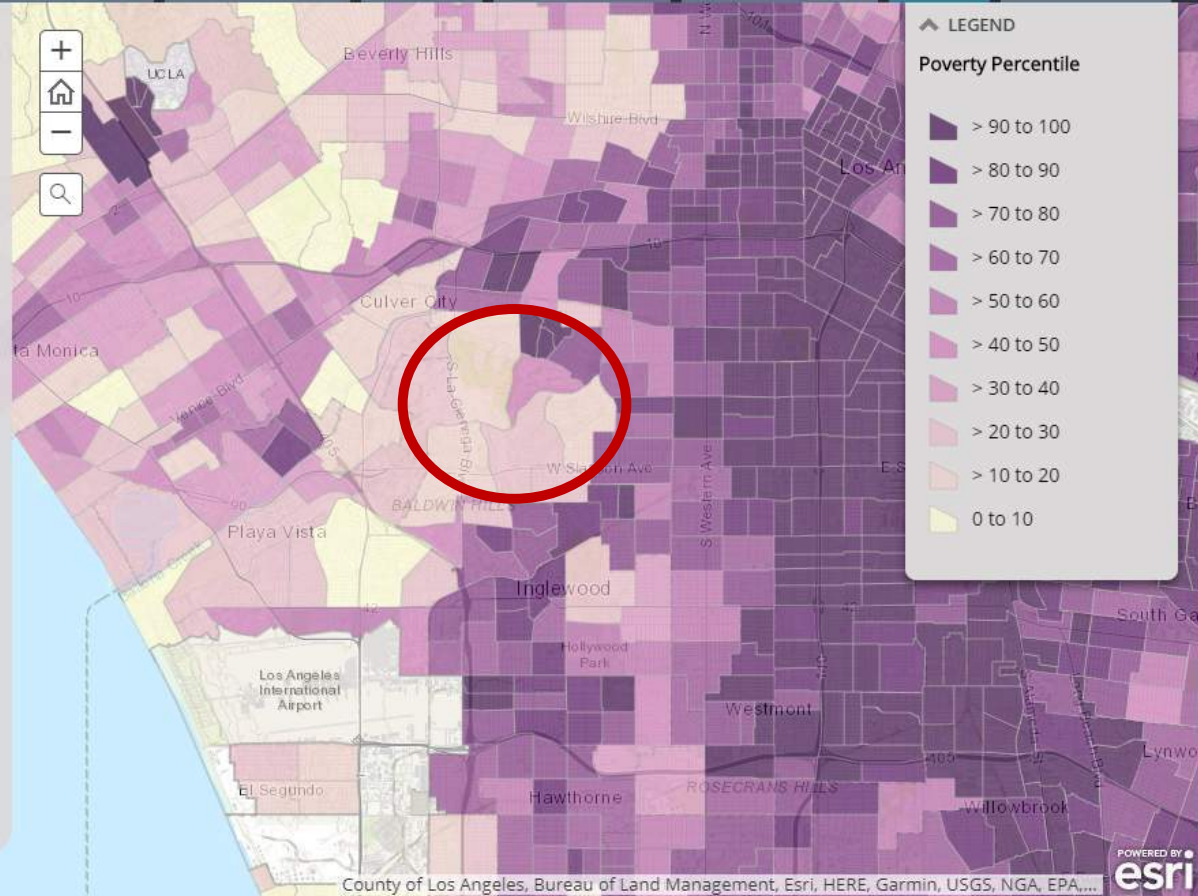
[Pollution Burden](#)[Population Characteristics](#)[Overall Results](#)[Population Characteristics](#)[Asthma](#)[Cardiovascular Disease](#)[Low Birth Weight](#)[Education](#)[Housing Burden](#)[Linguistic Isolation](#)[Poverty](#)[Unemployment](#)

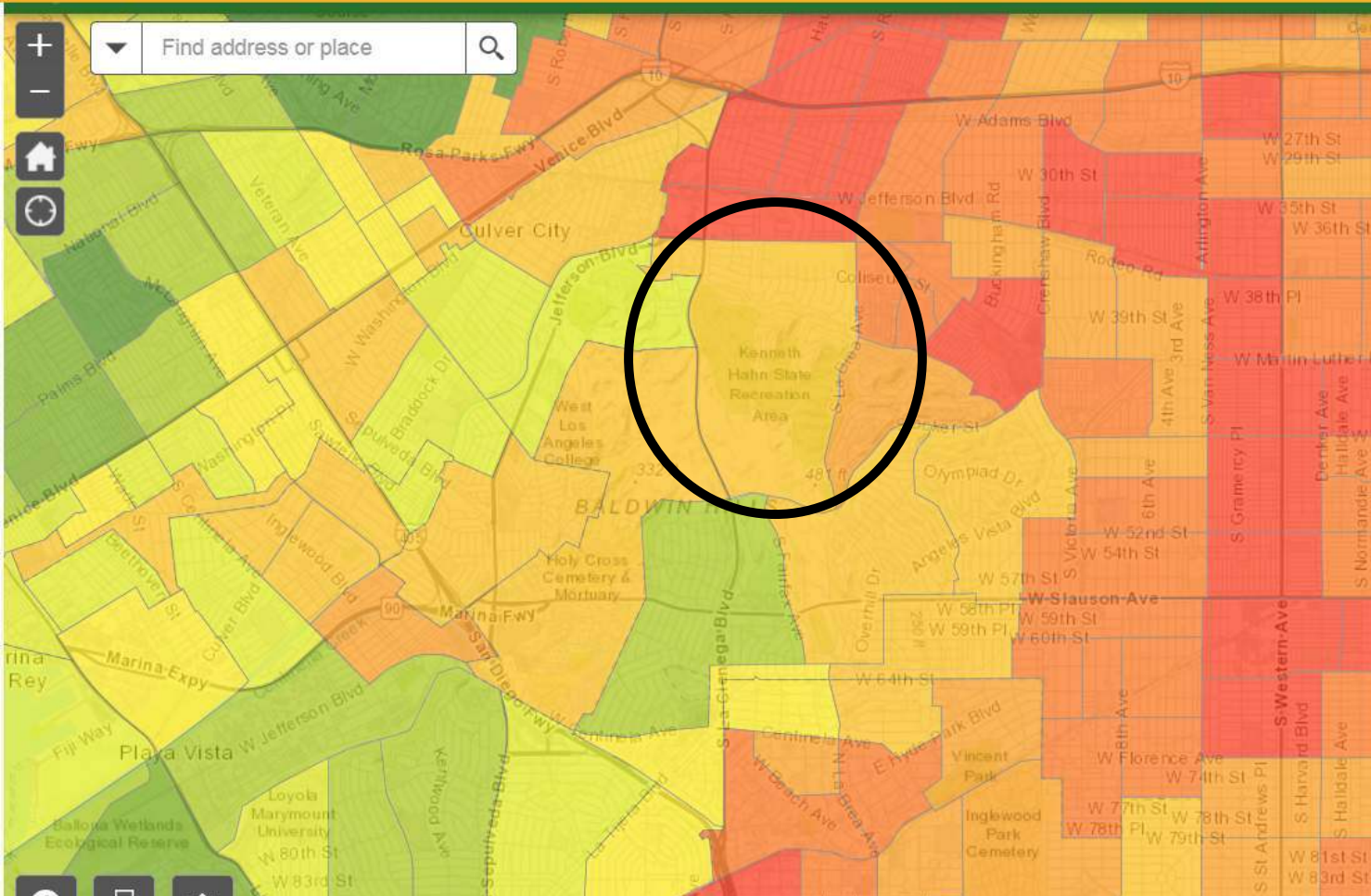
What is poverty?

The U.S. Census Bureau determines the federal poverty level each year. The poverty level is based on the size of the household and the age of family members. If a person or family's total income before taxes is less than the poverty level, the person or family are considered in poverty.

Many studies have found that people living in poverty are more likely than others to become ill from pollution.

More information can be found in the [Poverty chapter](#) in the CalEnviroScreen 3.0 report.






Legend

CalEnviroScreen 3.0 Results (June 2018 Update)

- 91 - 100% (Highest Scores)
- 81 - 90%
- 71 - 80%
- 61 - 70%
- 51 - 60%
- 41 - 50%
- 31 - 40%
- 21 - 30%
- 11 - 20%
- 1 - 10% (Lowest Scores)

High Pollution, Low Population



CalEnviroScreen 3.0 Overall Results and Individual Indicator Maps

from OEHHA

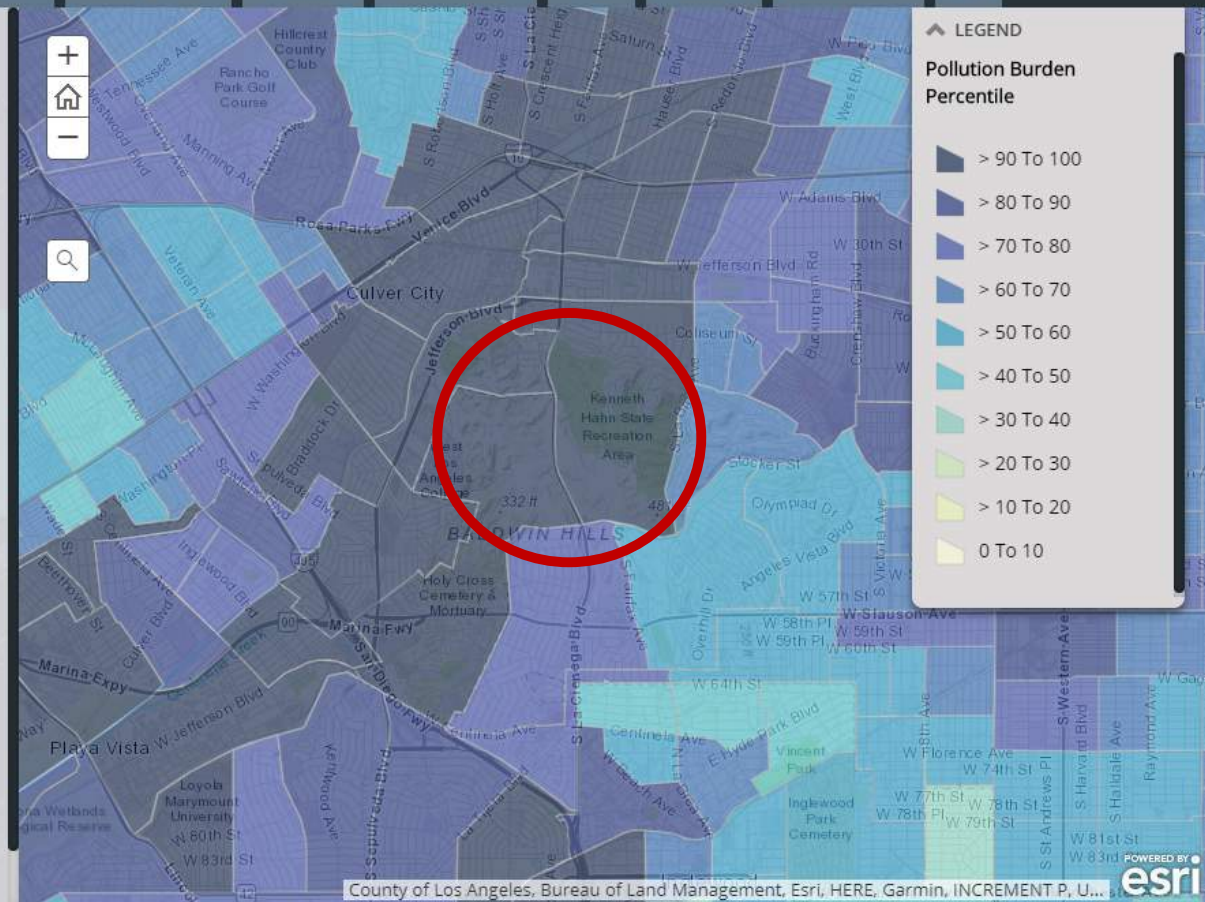
[Pollution Burden](#)[Population Characteristics](#)[Overall Results](#)[Pollution Burden](#)[Ozone](#)[PM 2.5](#)[Diesel PM](#)[Drinking Water](#)[Pesticides](#)[Toxic Releases](#)[Traffic](#)[Cleanups](#)[Groundwater](#)

Overall CalEnviroScreen scores are calculated from the scores for two groups of indicators: **Pollution Burden** and **Population Characteristics**.

This map shows the combined Pollution Burden scores, which is made up of indicators from the Exposures and Environmental Effects components of the CalEnviroScreen [model](#). Pollution burden represents the potential exposures to pollutants and the adverse environmental conditions caused by pollution.

To explore this map, zoom to a location or type an address in the search bar. Click on a census tract to learn more about the indicator data. The 12 Pollution Burden indicator maps can be viewed by clicking on the tabs across the top. Click on the Population Characteristics tab at the very top to access the 8 Population Characteristics maps.

A [report](#) with detailed description of indicators and methodology and downloadable results are available at the [CalEnviroScreen 3.0 website](#).



Broad Study Design Scenarios

Scenarios

1. **Secondary data analysis** – analyze existing publicly available data (available at the household level)
2. **Collect individual-level data from residents** - conduct household survey and bio-metric measurement(s); similar to study examples (Murphy, AllenCo, North Carolina hog farm) provided by Dr. Johnston
3. **Both 1 and 2** - analyze existing publicly available data and conduct household survey with bio-metric measurements

Scenarios Reviewed

Scenario	Funding	Health Outcomes	Potential Bio Metrics	Possible Study Population Subsets	Strengths	Limitations
1	\$	a. Birth Outcomes b. Cancer Rates c. Mortality Rates	N/A	Mothers Infants	<p>*Potential for marginally better data than 2012 study (due to more data available since 2012)</p> <p>*Data reported by doctor (or coroner)</p> <p>*Birth outcome data available at household level</p> <p>*Birth outcome data (birth certificate) provide multiple data points (gestational age, birth weight, abnormalities)</p> <p>*Birth outcome data limit exposure time to approximately 9 months and minimizes impacts of moving and other exposures.</p>	<p>*Data available for cancer and mortality rates not available at household level / unlikely to be able to improve analyses done in 2012</p> <p>*No information on length of time at residence</p> <p>*Existing data only reports causes of death and not morbidity (underlying issue)</p> <p>*Sample size may still be small due to low prevalence of particular cancers</p> <p>*Cannot control for other pollution sources or behavioral risk factors</p> <p>*Accessing birth outcome data may require 4-6 months to obtain IRB approval</p> <p>*Limited studies on the impact of fracking on birth defects exist</p>
2	\$\$	a. Mental/Emotional Well-being b. Respiratory Illnesses (chronic and/or acute) c. Cardiovascular Disease d. Cancers e. Acute Symptoms (various) f. Dermatological g. Birth Outcomes	Lung function Blood Pressure	Mothers Infants Elderly Race (?) Income (?) Geographic proximity(?)	<p>*Will allow analysis and statistical control of behavioral risk factors and other individual-level factors</p> <p>*Will allow better precision in exposure measure</p> <p>*Will allow analysis of a wider range of outcomes</p> <p>*May allow analysis stratified by different population subgroups</p>	<p>*In interest of cost, time, and human subjects considerations, non-invasive bio metric data only</p> <p>*Self-reported data are subject to more limitations than standardized, existing data sets, such as recall problems and self-presentation bias</p> <p>*Participation can be challenging leading to low participation rates and small sample size.</p> <p>*Expensive and time-consuming</p>

Recruitment

Community Participation

- ▶ Promotora Model
- ▶ Community spaces
- ▶ Door Knocking
- ▶ Community Organizations

Exposure Metrics

Anticipated Exposure Metrics Proposed

Potential Exposure Metrics

- ▶ Number of Wells
- ▶ Types of Wells
- ▶ Distance from Wells
- ▶ Age of Well
- ▶ Density of Wells
- ▶ Operation frequency
- ▶ Time spent near site
- ▶ Odor
- ▶ Maintenance activity
- ▶ Well Depth
- ▶ Production volume
- ▶ Stimulation activities

Potential Sources

- ▶ CARB SNAPS Air Monitoring data
- ▶ GEM/DOGGR Oil and Gas Production Data
- ▶ SCAQMD Chemical Use Reports
- ▶ SCAQMD monitored Air Emissions
- ▶ Household survey
- ▶ Department of Regional Planning (MRS Environmental)

Debrief

Next Steps

- ▶ Final Meeting Notes
- ▶ Summary Report
- ▶ Draft Scope of Work to include:
 - Background
 - Goals and Objectives
 - Methods
 - Estimated Costs



CREATE AMAZING.

Burns & McDonnell World Headquarters
9400 Ward Parkway
Kansas City, MO 64114
O 816-333-9400
F 816-333-3690
www.burnsmcd.com