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Publication Date

2025-08-01

DOI

10.7922/G25T3HVP

Between the Forest and the Trees: Community Strategies to Transform Roadways in California's San Joaquin Valley

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August 2025

Technical Report Documentation Page

1. Report No. UC-ITS-2023-38		2. Government Accession No. N/A		3. Recipient's Catalog No. N/A	
4. Title and Subtitle Between the Forest and the Trees: Community Strategies to Transform Roadways in California's San Joaquin Valley				5. Report Date August 2025	
				6. Performing Organization Code ITS-Irvine	
7. Author(s) Douglas Houston, Ph.D., http://orcid.org/0000-0002-3901-6072 Gregg P. Macey, Ph.D., J.D., http://orcid.org/0000-0002-1712-0565 Jeannine M. Pearce, https://orcid.org/0009-0002-0741-5359 Catherine Garoupa, Ph.D., https://orcid.org/0009-0003-2702-1151				8. Performing Organization Report No. N/A	
9. Performing Organization Name and Address Institute of Transportation Studies, Irvine 4000 Anteater Instruction and Research Building Irvine, CA 92697				10. Work Unit No. N/A	
				11. Contract or Grant No. UC-ITS-2023-38	
12. Sponsoring Agency Name and Address The University of California Institute of Transportation Studies www.ucits.org				13. Type of Report and Period Covered Final Report (September 2022 – June 2024)	
				14. Sponsoring Agency Code UC ITS	
15. Supplementary Notes DOI:10.7922/G25T3HVP					
16. Abstract Expanding participation of historically disenfranchised groups within decision-making processes is an important strategy to increase equity within transportation planning but traditional engagement practices (e.g., public meetings, focus groups) have historically done little to address the needs of disadvantaged communities. This study evaluates the opportunities and barriers to using a community steering committee participation model within transportation planning to advance equity and environmental justice. It utilizes interview and case study analysis to examine the experiences of residents and community leaders in prioritizing community-identified strategies to mitigate roadway hazards in three AB 617 communities in California's San Joaquin Valley – Stockton, South Central Fresno, and Arvin/Lamont. It investigates the role resident and CBO members played in the prioritization, approval, and implementation of three strategies to transform roadways and mitigate air pollution, noise, dust, and safety hazards: (1) new vegetative barriers between major roadways and sensitive land uses; (2) expanded sidewalk infrastructure; and (3) revised heavy-duty truck route designations. Findings demonstrate that "meaningful involvement" for impacted communities within transportation planning will require officials, residents, and organizations to commit to an ongoing process of experimentation and learning about the most effective approaches for advancing transportation equity and environmental justice.					
17. Key Words Public participation, Transportation equity, Environmental justice, Transportation planning, Air quality management				18. Distribution Statement No restrictions.	
19. Security Classification (of this report) Unclassified	20. Security Classification (of this page) Unclassified	21. No. of Pages 37	22. Price N/A		

Form Dot F 1700.7 (8-72)

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Acknowledgments

This study was made possible with funding received by the University of California Institute of Transportation Studies from the State of California through the Road Repair and Accountability Act of 2017 (Senate Bill 1). The authors would like to thank the State of California for its support of university-based research, and especially for the funding received for this project. The authors also thank the AB 617 Community Steering Committee members who shared their experiences and perspectives for this research during interviews and the Central Valley Air Quality Coalition for advising the study design, outreach, and interpretation of results. We also appreciate Amalia Mejia's support for Spanish-language outreach and translation for interviews.

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Executive Summary

Executive Summary

Expanding participation of historically disenfranchised groups within decision-making processes is an important strategy to increase equity within transportation planning. However, traditional engagement practices (e.g., public meetings, focus groups) have historically done little to address the needs of disadvantaged communities. This study evaluates the opportunities and barriers to using a community steering committee participation model within transportation planning to advance equity and environmental justice by evaluating public engagement processes within the Community Air Protection Program. This program was launched by the California Air Resources Board in 2018 in response to California Assembly Bill 617 (AB 617). Since then, CARB has selected nineteen communities considered “disadvantaged” under state law to form Community Steering Committees (CSCs) comprised of residents, representatives of community- and faith-based organizations, and industry representatives. CSC members advise the development of enhanced air pollution monitoring within CARB-approved AB 617 planning areas and develop strategies and associated funding allocations to reduce local air emissions.

This study utilizes interview and case study analysis to examine the experiences of residents and community leaders in prioritizing community-identified strategies to mitigate roadway hazards in three AB 617 case study communities—Stockton, South Central Fresno, and Arvin/Lamont—which are located in California’s San Joaquin Valley, the region with the most “disadvantaged” and heavily-polluted census tracts in the state. It investigates the role resident and CBO steering committee members played in the prioritization, approval, and implementation of three community-identified strategies to transform roadways and mitigate air pollution, noise, dust, and safety hazards: (1) new vegetative barriers between major roadways and sensitive land uses; (2) expanded sidewalk infrastructure; and (3) revised heavy-duty truck route designations. These strategies address racial and economic disparities in exposure to roadway hazards that remain stubbornly persistent due to structural inequalities embedded in the built environment.

Although steering committee processes expanded opportunities for disenfranchised groups to consult agencies on air quality concerns and mitigation priorities, participation was time-intensive and overwhelming for residents who were already impacted by economic constraints and other community and family obligations. Residents successfully elevated community concerns during these steering committee meetings but described how community-identified emission reduction strategies were often deprioritized within state-driven processes. Once adopted, these strategies often faced implementation delays and funding was often insufficient to implement them at the scale needed to address disparities. At times, CSC processes did not provide sufficient opportunities for resident oversight of the implementation of community-identified priorities. Our findings demonstrate that “meaningful involvement” for impacted communities within transportation planning will require officials, residents, and organizations to commit to an ongoing process of experimentation and learning about the most effective approaches for advancing transportation equity and environmental justice.

Contents

Introduction

Racial and economic disparities in exposure to roadway hazards remain stubbornly persistent due to structural inequalities embedded in the built environment. Research has consistently documented racial/ethnic and socioeconomic disparities in exposure to traffic nationwide, including heightened exposure to heavy-duty truck traffic, a significant source of noise and pollution (Antonczak et al., 2023; Collins et al., 2020; Demetillo et al., 2021). Exposure to vehicle-related emissions is associated with a range of adverse health effects including mortality, heart disease, reduced lung function, asthma, and adverse birth outcomes; exposure to roadway traffic noise is associated with ischemic heart disease and severe sleep disturbance (Boogaard et al., 2022; Hänninen et al., 2014). Truck-related noise and roadway damage can be particularly intense for communities along goods movement corridors or near distribution centers (Fried et al., 2024; Houston et al., 2008; Nowlan, 2023). Furthermore, racial/ethnic and socioeconomic disparities in the provision of protective infrastructure such as sidewalks, bike lanes, and street trees exacerbate environmental justice concerns. In addition to helping mitigate roadway dust, noise, and pollution, these amenities can increase pedestrian safety, encourage walking and greater physical activity, and generate public health benefits (Barajas, 2018; Brooks et al., 2016; Corning-Padilla and Rowangould, 2020). These alarming disparities in exposure to roadway hazards are directly linked to historically uneven land use development, racial segregation, and discriminatory lending, zoning, and decision-making processes (Lane et al., 2022; Houston et al., 2004; Rothstein, 2017).

Expanded participation of historically disenfranchised groups within governmental decision-making processes is an important strategy to address past and ongoing environmental injustice and increase equity within transportation planning (Schweitzer and Valenzuela, 2004). Engaging marginalized groups in the transportation planning process can shape selected interventions and achieve greater benefits in mobility and accessibility. However, current public participation practices should be part of a continuous, bidirectional dialogue that meaningfully shapes transportation programs or interventions before project plans are solidified (Brown, 2022). In practice, traditional public involvement approaches to achieve transportation equity (e.g., public meetings, advisory committees) have done little to address the needs of disadvantaged communities, but several expanded strategies could help ensure more meaningful participation at the plan, program or project level: identify current unmet needs of disadvantaged communities, provide resources to facilitative meaningful engage impacted populations, allocate funding to meet identified needs, and measure progress using tailored metrics (Karner and Marcantonio, 2017). Even the most empowering types of engagement processes, such as using a community steering committee to lead a participatory budgeting process, can be impeded by practical barriers such as compressed timelines and lack of technical support for residents (Karner et al., 2019).

California's Assembly Bill 617 (AB 617) provides a valuable opportunity to understand the ways in which a community steering committee process could be used to advance equity and environmental justice within transportation planning. AB 617 was adopted as a "course correction" to the flawed implementation of the equity components of California's Assembly Bill 32 (AB 32), California's landmark climate legislation which, in

2006, established the world's second-largest carbon market through an emissions trading ("cap-and-trade") program. Advocates, including most members of the AB 32 Environmental Justice Advisory Committee, grew concerned that implementation of this market-based approach to reduce greenhouse gas emissions did not adequately address, and even exacerbated local air pollution problems for the state's most overburdened communities and fiercely opposed its renewal. A compromise reached with some environmental justice organizations enabled renewal of the cap-and-trade program for another decade (AB 398) based on a promise that the state take stronger action to address localized air pollution and air quality at the neighborhood level through new legislation, such as AB 617 which was adopted in 2016. AB 617 provided unprecedented support for public participation in the development of community-level emission reduction plans and granted new regulatory authority and funding to expand pollution monitoring in local pollution hotspots (Fowlie et al., 2020).

Under AB 617, the California Air Resources Board (CARB) launched its Community Air Protection Program (CAPP) in 2018. Since then, CARB has selected nineteen communities that are considered "disadvantaged" under state law, in large measure due to air pollution exposure burdens such as ozone, diesel and fine particulate matter concentrations, toxic releases from facilities, and traffic density. Communities selected to participate in the CAPP form Community Steering Committees (CSCs) comprised of residents, representatives of community- and faith-based organizations, industry and business representatives, local school officials, and regional air district and CARB staff. In addition to advising air district and CARB staff on the development of enhanced air pollution monitoring within CARB-approved AB 617 planning areas, each CSC works with their region's air pollution control district to develop a Community Emission Reduction Program (CERP) that details community-approved strategies and associated funding allocations to reduce localized air emissions beyond existing air pollution reduction programs that are already administered by CARB and the relevant air district (CARB, 2023).

While AB 617 and the Community Air Protection Program were hailed as a transformational opportunity to help agencies such as CARB and the air districts reimagine community involvement in air pollution planning, implementation has been marked by both collaboration and conflict. A major concern of residents and community-based organizations (CBOs) has been whether CSCs are vested with true decision-making authority or whether their involvement—which is both intensive and exhausting—is merely advisory with no real power or agency. In practice, AB 617 decision-making processes have varied depending on each CSC's adopted charter, which sets out the initial leadership structure and decision-making processes for the committee. CSC leadership models have ranged from "district-driven," in which air district staff set meeting agendas and often run meetings with outside collaborators, to "co-Leadership," in which district staff and a resident or CBO representative design and run meetings together (London, 2020; MacIver et al., 2022). In some cases, even with substantial resident CSC participation, the dynamics of AB 617 implementation have muted resident calls for stronger regulatory restrictions on hazardous industries due to the disproportionate influence those industries have over regulatory decision-making (Harrison and Contreras, 2023). This observation aligns with previous public participation research which finds that, even when impacted communities directly engage in consultative or collaborative engagement activities, community concerns and lived experience are often

deflected or dismissed within state-led processes that favor agency priorities, timelines, and established scientific and policy expertise and modes of knowledge production (Arnstein, 1969; Houston et al., 2024a; Houston et al., 2024b; Karner et al., 2019; Marantz and Ulibarri, 2022).

In response to these concerns, our case study examines the role of residents and community leaders in developing and implementing community-identified strategies to mitigate roadway hazards in three AB 617-designated communities in California’s San Joaquin Valley—Stockton, South Central Fresno, and Arvin/Lamont—to better understand the opportunities and barriers to using a community steering committee participation model within transportation planning to advance equity and environmental justice. We draw on interviews with CSC members and case study analysis to investigate the perspectives and experiences of resident and CBO members during the prioritization, approval, and implementation of three community-identified CERP strategies to transform roadways to mitigate air pollution, noise, dust, and safety hazards: (1) new vegetative barriers between major roadways and sensitive populations and land uses; (2) expanded sidewalk infrastructure; and (3) revised heavy-duty truck route designations. We provide an overview of the three case study areas and interview and case study methodologies before we present our findings and insights about resident and community leader engagement in CSC processes. We discuss the progress and challenges that emerged using the AB 617 community steering committee approach and assess whether it provided a useful platform for residents of these three heavily burdened communities to advance community-identified priorities. We conclude by discussing the implications of our research for advancing equity and environmental justice within transportation planning processes.

Data and Methods

Case Study Areas

The three AB 617 case study communities—Stockton, South Central Fresno, and Arvin/Lamont—are located in California’s San Joaquin Valley, a region with the most “disadvantaged” and heavily-polluted census tracts in the state as defined by state CalEnviroScreen air pollution, socioeconomic, and public health screening criteria (Flores-Landeros et al., 2022; OEHHA, 2024). The three AB 617 planning areas are located within the San Joaquin Valley Air Pollution Control District (SJVAPCD, referred to as the “Air District” herein), which facilitates CSC activities, coordinates the development of local objectives and decision-making of the three CSCs, and aligns CSC monitoring and emissions reduction strategies with state-level policies administered by CARB. The Air District, which is focused on planning and implementing local and regional air control policies, is also tasked with connecting the CSCs with other government agencies with authority over factors impacting local air quality, such as transportation, land use, agricultural pesticide use, oil and gas production and refining, dairies, and warehousing and goods movement.

The Stockton AB 617 community is located at the northern end of the San Joaquin Valley and includes central portions of the City of Stockton near the Port of Stockton. It is heavily impacted by pollution from major freeways (Interstate 5 and State Routes 4 and 99), the Port of Stockton, industrial facilities, and railyards. The South Central (SC) Fresno AB 617 community is located in the center of the San Joaquin Valley and covers portions of the City of Fresno and the unincorporated communities of Calwa and Malaga. It is heavily impacted by pollution from freight operations, industrial facilities, fossil fuel power generation, and multiple freeways (State Routes 41, 99, and 180). The Stockton and SC Fresno communities were selected to host stations for the future California High-Speed Rail project. The Arvin/Lamont AB 617 community includes small, rural communities near the City of Bakersfield at the southern end of the San Joaquin Valley, at the base of the Tehachapi mountain range, which traps regional air pollution from agricultural operations, warehousing and distribution centers, and oil and gas production facilities.

The three case study communities each contain one or more census tracts designated as “disadvantaged” by the state’s CalEnviroScreen screening tool, which indicates they are within the 75th percentile of tracts with the highest levels of air pollution and percentage of vulnerable populations relative to the state as a whole (OEHHA, 2024) (Table 1). In addition, the case study communities have higher poverty rates (22%-35%) than the state as a whole (12%) and are comprised of predominately Hispanic residents (67%-92%) relative to the state as a whole (40%).

Case Study Materials and Interviews

Our case studies of AB 617 processes in the three San Joaquin Valley communities were based on analysis of a variety of sources. We utilized studies of the history, goals, and actions of AB 617 in the peer-reviewed academic literature, media accounts of related projects and decision-making processes, and initiative and agency documents and media. For each study community, we reviewed AB 617 CERP documents, the CERP strategy progress tracker maintained by the Air District, monthly CSC meeting agendas and recordings, and agency presentations. Case study maps were generated using ArcGIS software based on jurisdictional boundary, transportation, and land use map layers obtained from CARB and city and county GIS portals and using CERP vegetative barrier and sidewalk strategy map layers based on CSC presentation materials and project documentation. GIS layers for proposed AB 617 roadway and truck reroute plans were obtained from the SC Fresno AB 617 Community Truck Reroute Study (ARCADIS et al., 2024). The GIS layer for Stockton's proposed bicycle improvements were created based on the city's Bike Master Plan (City of Stockton, 2017).

We conducted 24 interviews with members of the AB 617 CSC in Stockton (11), South Central Fresno (7), and Arvin/Lamont (6) from May 2023 to December 2023. Interviewees included representatives of community-based and faith-based organizations (10), and industry (2) as well as residents who were not representing an organization (12). We protected interviewee identity in the analysis by not referring to them by name or affiliated organization, using anonymous interviewee codes (i.e., I-08, I-15, I-23) for quotations, and using gender-neutral pronouns (they, them, their). Study procedures were classified as exempt by the University of California, Irvine's Institutional Review Board (IRB) and did not require IRB approval. All interviewees provided informed consent before they participated in the study.

Each interview lasted between one and two hours. We asked CSC members questions about their original motivation and expectations when joining the CSC, the process of working with the Air District on the CERP, challenges that arose during prioritization of emission reduction strategies and coordination with multiple state and local agencies, and perceptions of CSC participatory and decision-making processes. Two interviews were conducted in Spanish and translated and transcribed into English for analysis. We extracted portions of interviews that referenced CERP air emissions reduction strategies such as protective vegetative barriers and roadway improvements. Excerpts were sorted into three categories—strategy definition and prioritization, strategy development and approval, and strategy implementation—which were then inductively sorted based on emerging themes. We compared similarities and differences in observations across interviews in a process of constant comparison to shape interpretations. Conclusions were developed by comparing patterns that emerged from interviews with case study documentation and maps.

Table 1. AB 617 Study Area Characteristics.

Characteristics	California	AB 617 Area ^a		
		Arvin/ Lamont	SC Fresno	Stockton
Square Miles	163,696	15	35	16
<i>Sociodemographic Characteristics^b</i>				
Total Blockgroups	25,607	27	90	60
Total Population	39,455,353	42,343	130,426	76,958
Race^c				
White/Caucasian Alone (%)	52%	66%	48%	38%
Black or African American Alone (%)	6%	0%	7%	12%
Asian Alone (%)	15%	1%	9%	10%
Other Alone (%)	17%	22%	20%	25%
Multi-racial (%)	11%	11%	16%	14%
Hispanic Status				
Hispanic (%)	40%	92%	72%	67%
Non-Hispanic (%)	60%	8%	28%	33%
Non-Hispanic White (%)	36%	6%	11%	8%
Poverty Status				
Persons in Poverty (%)	12%	30%	35%	26%
Household Income				
< \$49,000 (%)	30%	62%	64%	56%
\$ 50,000 - \$ 74,499 (%)	15%	18%	16%	18%
\$ 75,000 - \$ 99,999 (%)	12%	10%	8%	10%
\$ 100,000 - \$ 149,999 (%)	17%	7%	8%	11%
More than \$ 150,000 (%)	25%	3%	4%	5%
Housing Tenure				
Own (%)	55%	48%	32%	39%
Rent (%)	45%	52%	68%	61%
<i>Pollution Burden^d</i>				
Total Tracts	8,035	8	34	16
Cumulative Impacts	50%	80%	96%	94%
Pollution Burden Percentile (Mean)	50%	68%	86%	82%
Population Characteristics Percentile (Mean)	50%	81%	96%	95%

^aReflects AB 617 community boundaries approved by the California Air Resources Board.

^bSource: American Community Survey 2017-2021 blockgroup data.

^c“Alone” refers to those who selected a single racial category. “Other Alone” includes those who selected one of the following single racial categories: “American Indian or Alaskan Native,” “Native Hawaiian or Pacific Islander,” or “Other.”

^dSource: CalEnviroScreen 4.0 (CES) tract data, OEHHA. Represents tract-level percentile relative to the rest of the state. Higher percentiles = greater burden.

Results – Community Strategies to Transform Roadways

Protective Vegetative Barriers – Not a “garbage” decision

Parallel Processes Excite and Empower Residents

Residential members of the three AB 617 Community Steering Committees analyzed in this study became excited about vegetative barriers as they learned about the potential benefits of this design strategy to mitigate near-roadway exposures through meetings organized and facilitated by CBOs. Vegetative barriers consist of continuous plantings of bushes, shrubs, or trees along a freeway, major arterial, or truck route to mitigate the impact of vehicle emissions and roadway noise for nearby sensitive receptors such as residences, schools, and medical facilities. Taller barriers with multiple rows and a variety of bushy shrubs and trees with full vegetative coverage from the ground to the top of the canopy generally result in greater reductions in downwind pollutant concentrations. The effectiveness of vegetative barriers depends on the type of near-roadway pollutant, barrier configuration, and plant composition (Baldauf, 2017).

A CBO CSC member in Stockton described facilitating a “parallel process” outside of the official CSC meetings to help residents understand decision-making processes, agency roles, and the science underlying proposed strategies. These parallel meetings helped resident CSC members understand “what the Air District was doing, and then we would use the information we generated from that, and the consensus that we built, to then fill in these spreadsheets” on which CSC members recorded their concerns and priorities to provide to Air District staff (I-1). This parallel process included study sessions to review in-depth information received from the Air District, including research on the effectiveness of vegetative barriers. Residents also learned about pollution reduction strategies such as vegetative barriers from other AB 617 sites: “Luckily, Stockton wasn’t the first community that was coming up with some of these issues...we drew a little bit from Fresno and let community residents know what other communities were doing and offered them those as a starting point, potential solution” (I-2).

In addition, community leaders “did a lot of their own research too...folks were able to agree that vegetative barriers make sense given all of the freeway impacts that are happening” (I-2). Understanding research about vegetative barriers generated excitement among residents about this strategy: “I think there’s just so much research in support of vegetative barriers and urban greening projects that folks got really excited about those” (I-2). Given resident excitement, the Trees Subcommittee was the first CSC subcommittee formed in September 2021 for the Stockton CSC. The subcommittee’s goal was to develop urban greening and vegetative barrier strategies: “That subcommittee that was the first one formed, that one had the most people in attendance and there were some real go-getters on there and they really did a good job and followed through” (I-17).

The “parallel process” facilitated by CBO leaders raised resident awareness about the science regarding the pollution-reducing potential of vegetative barriers and other strategies. In turn, residents were able to generate questions and suggestions before CSC meetings, to push back when the Air District “tried to dumb it down and make it as vague as possible” (I-1). It also prompted residents to shift from “trusting whatever the government said” to “question or ask for more precise information” (I-5). As members of CSCs, they also called for a robust monitoring plan to understand the effectiveness of “planting trees and vegetative barriers. We need monitoring in the area. We need to see the results of before and after. That’s why we wanted the air monitoring to start way back [in] the first year...because we really want to see if this is going to make a difference” (I-6).

Silos Slow Adoption of Community Policies

CSC members grew frustrated when they were told that vegetative barriers and other resident recommendations were beyond the Air District’s expertise and authority. CSC members described how vegetative barriers “didn’t even seem to be anywhere close to the district’s radar” (I-5), that district staff “didn’t really know anything about that” (I-5), and that staff told members they “‘don’t ‘do vegetative barriers’ and don’t ‘plant trees’...but that’s something that everybody [residents] is really clear that they wanted” (I-4). District staff told CSC members they would “look into it” but a CSC CBO member indicated they “never really came back with any data, or a plan” and that they “had no idea how to work with anyone at Caltrans anyway” (I-5).

Such delays were a common CSC experience that often resulted in a lack of basic information about potential emissions reduction strategies and added months to the CSC process. A CSC CBO member indicated a major cause for the delays was that governmental agencies operated in “silos” and that they “just don’t know how to work with each other” (I-5). This member described how their organization conducted its own outreach to Caltrans, gave their staff a tour of impacted areas, and reviewed community health outcome data. They recalled standing in front of a freeway and saying to Caltrans staff, “you didn’t build this freeway, but your predecessors did and you’re now in a position to do something about it” (I-5). They recalled Caltrans staff expressed a willingness to work to address near-roadway impacts. Their experience demonstrated how residents and community organizations must often conduct their own outreach to overcome governmental silos and that waiting for the Air District to connect CSC members with relevant agencies was in many cases a dead end.

CSC members in Arvin/Lamont learned from members of the AB 617 CSC in Shafter that substantial delays can emerge when a community proposes a new strategy such as vegetative barriers that has not previously received serious consideration by the Air District or CARB. One resident lamented that “it’s very slow when it comes to community projects” (I-24) and described how Shafter’s first vegetative barrier was about to be installed after four years of delay because “those are not already approved projects. Those need to go, you know, [through] approval from the community, then approval from the Air District board, and then approval by the CARB, so the bureaucratic process is exhausting” (I-24).

Residents Struggle to Fund Community Priorities at Scale

CSC members in all three AB 617 communities described how residents struggled to gain approval and funding for community recommendations such as vegetative barriers. In Fresno, members were also concerned about how long it took to implement these community priorities and the limited scale of the final CERP commitment to the vegetative barrier strategy: “Are they going to do it at the scale that people were talking about? Absolutely not” (I-18). The Air District’s overall approach to community priorities left resident CSC members disheartened. They described the Air District as “just wanting us to know what you can’t do” and that the Air District was “already showing that [they’re] not interested in actually addressing the issues” (I-18).

A CBO CSC member in Stockton also indicated that urban greening and vegetative barrier strategies were allocated less funding in the final CERP: “More individual health protective measures that I was most interested in got some of the least amount of funding” (I-2). This member was told by the Air District staff that vegetative barriers would take longer to plan and implement because the strategy was relatively new to the agency and that it was taking more time to figure out the logistics of this strategy, unlike other strategies the district was already prepared to implement. Another CSC member in Stockton described disappointment with the final CERP priority setting and funding allocation process, stating: “My priorities are children and elderly and that doesn’t match with what [the Air District’s] priorities are. So, we kind of get lost in the shuffle” (I-19). They described how use of cost-benefit assumptions provided by the Air District during strategy selection “doesn’t quite work” and that “[w]e’re going to sacrifice the barriers, vegetative and physical barriers, along freeways and along my routes. We’re going to sacrifice not being able to re-route trucks away from my school and other school areas” (I-19).

Residents who served on Arvin/Lamont’s CSC had been advocating for years to make their County Agricultural Commissioner require the installation of protected vegetative barriers to mitigate dust from agricultural operations, such as almond harvesting, to no avail. One resident described how dust from agricultural fields along Comanche Drive on the western edge of the City of Arvin created roadway hazards: “There have been accidents on the avenue because you can’t see anything because of the dust” (I-28). Despite the urgency of calls by Arvin/Lamont CSC members for vegetative barriers, residents described how the Air District prioritized funding for truck conversions rather than vegetative barriers. Residents said that the dismissal of community priorities undermined the original purpose of the CSC: “that’s why they asked the community to be part of it [the CSC] because we are the ones who live here, we are the ones living in the pollution and we know what is needed to reduce all this pollution” (I-27). Another resident suggested that companies which receive substantial AB 617 incentives to convert machinery to cleaner technologies “should be willing to, you know, plant green barriers. I think giving back to the community is just, in my opinion, just the right thing to do” (I-24).

CSC resident members also faced pushback from CSC members who represented industry. One industry representative dismissed vegetative buffers as “community beautification projects” in which residents came up with a justification for “a whole bunch of trees” and recounted how all of the trees in a previous barrier died due to drought conditions (I-20). Another described how vegetative barriers could exacerbate respiratory

illness: “The joke is we’re planting more trees to reduce CO₂ [carbon dioxide], right? Where do we get pollen, and where do we get dust, and where do we get mold? I mean, the leaves from the trees” (I-11). However, this same CSC member recommended that residents who wanted to “plant a bunch of trees” could partner with industry. They recalled telling CSC resident members, “let me know if you need more trees. I bet we can get some money from business to buy more trees.’ But they wouldn’t talk to me about that” (I-11).

Resident CSC members actively pushed back against assertions that installing vegetative barriers would be a “garbage decision” that would do little to mitigate air pollution (I-24). One resident recounted how they “have not taken my finger off the line to follow those vegetative barriers” when the Air District or industry tried to de-prioritize dust as an air pollution concern: “It’s not the dust, it’s the contaminants that dust brings. All the pesticides that are sprayed but fall to the ground. And all that dust goes to the community....They began to see the problem of dust” (I-28). Resident advocacy resulted in vegetative barriers being funded in the adopted CERP of the three AB 617 communities analyzed. The Arvin/Lamont CSC allocated \$500,000 to vegetative barriers and the Stockton and SC Fresno CSCs each allocated \$1 million to vegetative barriers, representing two to three percent of total emission reduction funding allocated across the three adopted CERPs (SJVAPCD, 2024d). Despite this relatively modest allocation to vegetative barriers, residents expressed a sense of accomplishment that the strategy was included in each of their CERPs: “that’s a project that communities believe can help them a lot, you know, on their daily lives. It may not be like a valley-wide solution, but for specific communities, it can be a solution” (I-24).

Locating Barriers

After adopting CERP strategies, each CSC shifted from advocating for emission reduction priorities to advising the Air District on finalizing programs, selecting contractors, and guiding project implementation. Although the Arvin/Lamont CSC is in the early stages of developing a call for proposals for a vegetative barrier contractor, the other two CSCs are consulting with their selected contractors and the Air District to finalize vegetative barrier plans. In April 2023, the SC Fresno CSC selected Tree Fresno to analyze two to three potential vegetative barrier locations within the AB 617 boundary area given their experience installing vegetative barriers in the Fresno area. In 2000, Tree Fresno contracted with Caltrans to install a row of trees between residences and State Route 99 near State Route 41; in 2022 they contracted with Fresno Unified School District to plant a barrier between Tehipite Middle School’s athletic fields and the interchange of State Routes 41 and 180 in South Central Fresno (Lopez, 2020; Panoo, 2022).

A Tree Fresno representative described their vegetative barrier partnership with the City of Fresno during SC Fresno’s December 2022 and January 2024 CSC meetings. They presented plans to install Fresno’s first AB 617 vegetative barrier in the center median of Golden State Boulevard between Fourth Street and Orange Avenue (SJVAPCD, 2022a; SJVAPCD, 2022b). This northwest-southeast roadway runs between and parallel to the future California High-Speed Rail project to the east and State Route 99 to the west (Figure 1). The Tree Fresno representative described how the project would mitigate air pollution generally within this major transportation corridor. However, residents observed that the proposed location was surrounded by vacant lots and industrial and commercial operations and did not meet the basic requirement of the vegetative barrier

strategy: to create an immediate protective barrier between a source of emissions and sensitive populations. They described how a vegetative barrier in the median of Golden State Boulevard would have little impact on near-roadway pollution given there are no schools nearby and the closest homes are located across the High-Speed Rail tracks and a multi-track railroad transfer yard from the project location, in the unincorporated community of Calwa. Despite resident objections, Tree Fresno and City representatives had already invested resources to study this location and did not change course during the January 2024 CSC discussion (SJVAPCD, 2024a). Instead, Tree Fresno defended this misguided location and promised that remaining AB 617 vegetative barrier funding would be used to construct one or two barriers adjacent to schools or public housing.

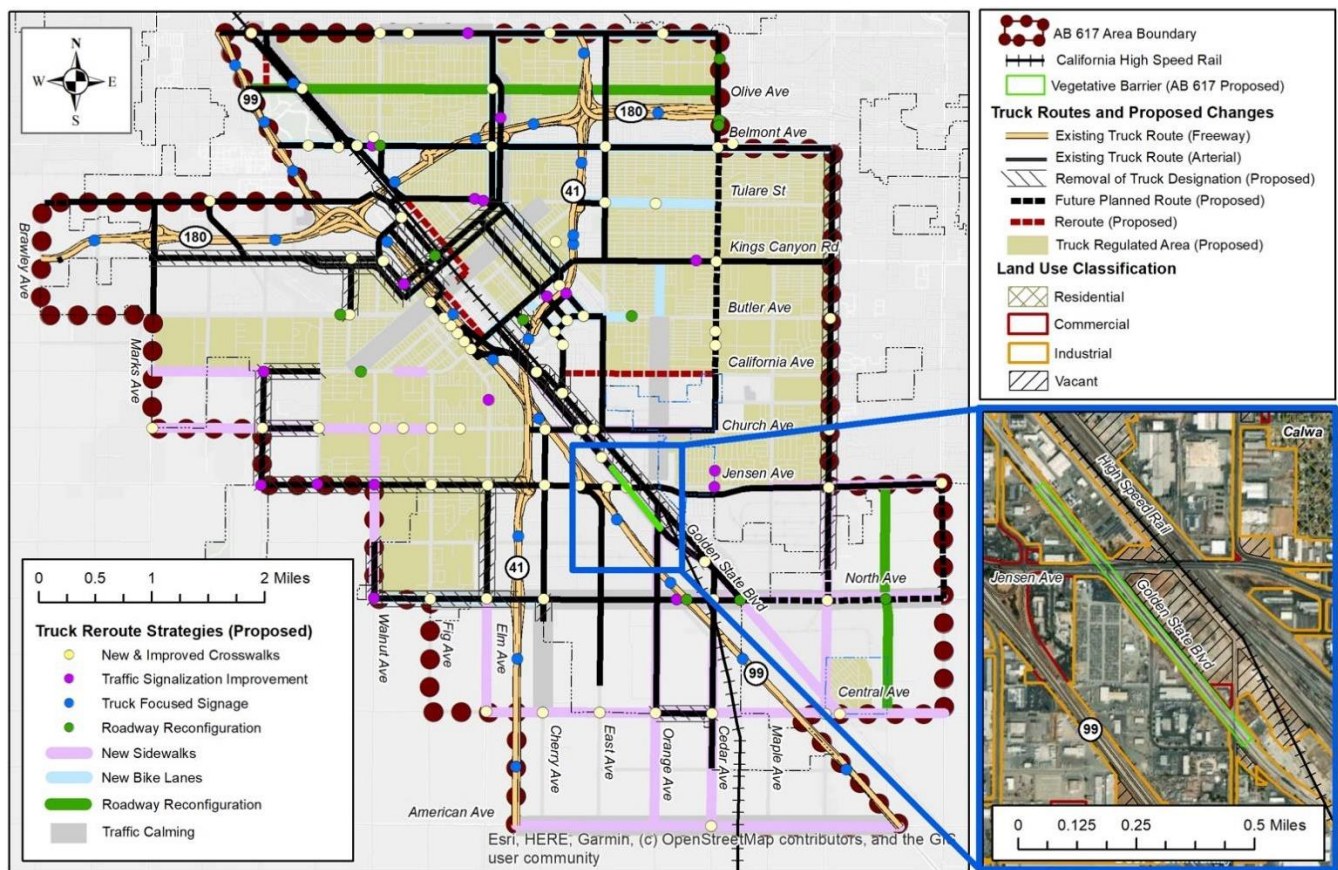


Figure 1. SC Fresno AB 617 Strategies: Vegetative Barrier and Truck Reroute Proposals.

Stockton's CSC Trees Subcommittee held three meetings in early 2023 to review Urban Greening and Vegetative Barriers program proposals submitted by Little Manila Rising, a community organization serving the South Stockton community, in response to the Stockton CSC's July 2022 RFP. These program proposals drew on the knowledge and partnerships that Little Manila Rising gained since launching its Urban Forestry Program in January 2022, which is funded by California's Transformative Climate Communities (TCC) program. Its goal is to train residents of South Stockton in urban greening and conservation career pathways. During the January 2023 Trees CSC Subcommittee meeting, a Little Manila Rising representative described how they expected

funding from TCC and AB 617 state programs to build necessary local capacity to apply for additional federal funding under the Inflation Reduction Act: “TCC helped us get started with a pilot, and AB 617 is going to turn us into frankly a bad ass urban forestry crew” (SJVAPCD, 2023a). They described how their proposed AB 617 programs utilize a workforce development model from the Urban Forestry Program which “train[s] formerly incarcerated people who have a hard time getting a job and we bring them home and give them a dignified job that inspires them so they are part of saving their own neighborhood, earning a respectful wage, and being brought back into society” (SJVAPCD, 2023a). The early 2023 Trees Subcommittee meetings provided a forum for CSC members and Air District staff to ask the Little Manila Rising team to clarify their scope of work, equipment, labor costs, and proposed vegetative barrier locations. Addressing concerns about the limited scope of their AB 617 proposal, a Little Manila Rising representative clarified:

Absolutely, if I had all the resources in the world, I’d start at the top left of the map and work my way through the whole city and reforest the whole thing, but even a million dollars isn’t enough to do everything that we want. We are essentially doing demonstration projects that help grow the capacity of communities to plant and maintain their own trees, to garner future awards from the state (SJVAPCD, 2023a).

The Little Manila Rising vegetative barrier proposal included a subcontract with Hyphae Design Laboratory, which previously carried out project design, air pollution monitoring, and dispersion modeling for the West Oakland Environmental Indicators Project to identify vegetative barrier locations that maximize health benefits, prioritize sites, and improve barrier design.

Little Manila Rising’s update to the Trees Subcommittee in April 2024 described progress identifying local contractors, budgeting labor and materials, and developing required partnerships with the Stockton Unified School District and Caltrans (SJVAPCD, 2024b). Little Manila Rising presented three potential locations along major roadways in the Stockton AB 617 area for which they were assessing costs for concrete removal, soil grading and amending, and planting and irrigation. The first proposed project would be positioned between Hazelton Elementary and the I-5 freeway immediately to the west of the campus (Figure 2). It included a two-acre barrier extending along the embankment owned by Caltrans along the I-5 freeway from south of the school extending one block north of the school to separate adjacent multifamily homes from the freeway. It also included a vegetative barrier on three sides of the open field of the school property closest to the freeway. A second location under evaluation was the embankment below the sound wall separating residences and an elementary school from the intersection of State Routes 4 and 99. A third location included the right-of-way on both sides of Charter Way and MLK Boulevard to the west of State Route 99 to protect adjacent single family and mobile home locations. These proposed vegetative barriers were in close proximity to new bike infrastructure proposed in the City of Stockton’s 2017 Bike Master Plan. During the May 2024 Stockton CSC meeting, members evaluated a proposal to provide AB 617 funding to the city to install a small portion of these bike lanes to reduce vehicle travel and increase safety along routes to nearby schools (SJVAPCD, 2024c).

Comparing the Fresno and Stockton CSC processes to locate vegetative barriers illustrates challenges to implementing this strategy. Although Tree Fresno’s proposed vegetative barrier project along the center

median of Golden State Boulevard in Fresno would bring greening to an industrial area near the recently rebuilt intersection of State Route 99 and the future High-Speed Rail tracks, their proposal got lost within the forest of urban greening design principles, rather than focusing on the installation of trees as a protective barrier immediately adjacent to sensitive land uses to minimize exposure to roadway pollutants. In contrast, after months of consultation with a CSC subcommittee and analysis of potential sites, Little Manila Rising's proposed locations and configuration of potential vegetative barriers in Stockton align closely with the goal of mitigating air pollution exposure for adjacent land uses and sensitive populations. The process made visible for CSC members that CERP-related funding would only be sufficient to construct one or two barriers in each AB 617 area. These demonstration projects could result in localized reductions but will not provide the community-wide protections that some residents had hoped to achieve if barriers were installed closer to the scale necessary to mitigate near-roadway air pollution and noise exposures.

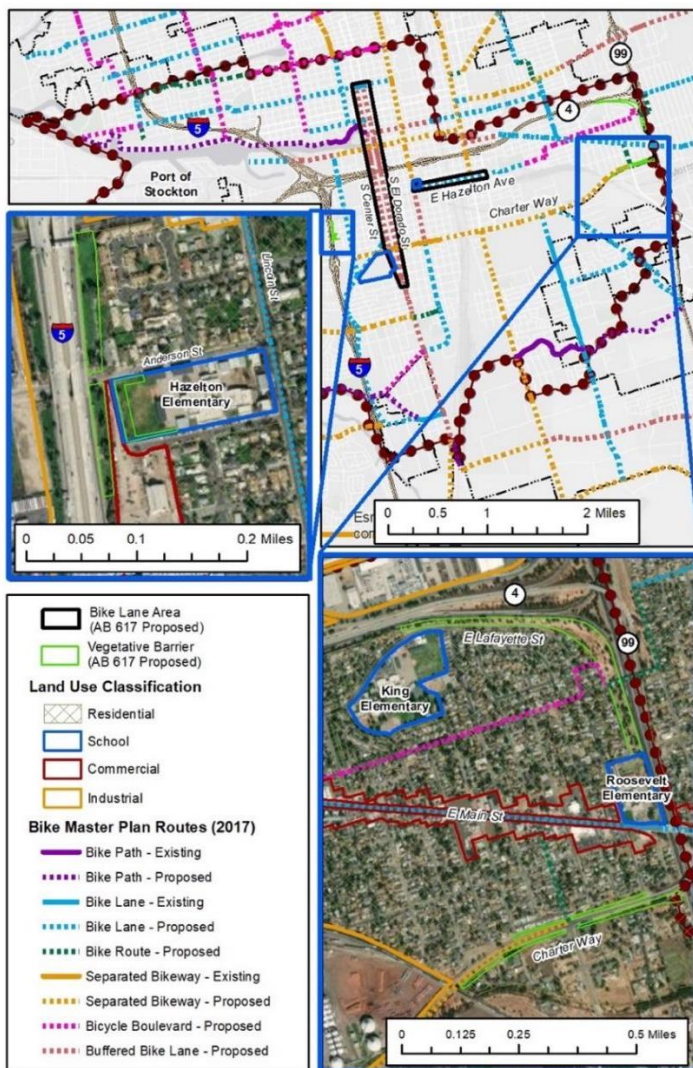


Figure 2. Stockton AB 617 Strategies: Vegetative Barrier and Bike Lane Proposals.

United for Sidewalks in Arvin/Lamont – “The residents are the ones who decide”

Residents Unite: How a Community-Identified Project Prevailed

CSC members in Arvin/Lamont allocated nearly 40 percent of their AB 617 funding to sidewalk infrastructure in March 2023, based on a shared understanding that sidewalks embody the structural inequities that underly disparities in access to amenities and exposure to air pollution and pesticide-laden dust: “The good thing about AB 617 is that we have managed to get the sidewalks allocated. We are going to have that now, which is a good thing” (I-27). As a CSC resident described, “Just like we have a lack of access [to] clean air, we also have lack of access to certain infrastructure like roads, sidewalks that would make easier commutes [for] the communities” (I-26). They described the injustice of seeing sidewalks, trees, and people walking their dogs when visiting a more affluent neighborhood nearby compared to living in Arvin/Lamont where most roads have no or incomplete sidewalks (I-26). They observed that Arvin/Lamont is “in the middle of an agricultural development” and that most farmworkers “walk to convenience stores or to the local grocery store” (I-26).

However, CSC members reported that Air District staff were upset when residents advocated for substantial funding for road and sidewalk improvement projects. They recalled that the district used a cost-benefit tool to push or intimidate CSC members into choosing Air District priorities: “They brought this graph where every time you would change an amount [allocated to a mitigation strategy]...it reduced the carbon pollution that they would [reduce]” (I-26). Although this CSC member was committed to funding sidewalk improvements, they reported the cost-benefit tool made clear that sidewalk improvements could make a difference but that “there goes all your money” in the CSC’s budget allocation (I-26).

Another CSC member described how residents prevailed

because we united as residents, and we knew what was needed. It was a challenge, because they [the Air District] would tell us that this was not the best form to reduce emissions. But we would demonstrate to them that when...the wind comes, and when the children walk to school, they are inhaling the dust with contamination. This is how I think we convinced them, that collectively we were all on the same page and advocated for the sidewalks (I-27).

Residents also argued that the provision of sidewalks would support broader emission reduction goals for the planning area: “If you have less access to roads and sidewalks, you drive a vehicle more. But as long as we promote more alternative methods of transportation, like walking, sidewalks, or even public transit, then you have a reduction in pollution because less vehicles means less pollution” (I-26).

Residents recounted how the Arvin/Lamont CSC process was guided by a strong resident vision, unlike the CSC process in the nearby AB 617 community of Shafter which was heavily influenced by industry. During their application process to become an AB 617 site, Arvin/Lamont residents attended Shafter CSC meetings and learned from Shafter residents and organizations that strong resident CSC representation was critical to

advancing community priorities in the AB 617 process. Once approved, Arvin/Lamont residents “tried to advocate [for] having more residents than actual representatives of corporations” and they sought “to have residents that would stay on there for a long time” (I-26).

Strong resident CSC representation in Arvin/Lamont “seems to be pulling less from the big companies and pulling towards community projects” and resulted in a greater focus on community-identified projects rather than allocating funding strategies to benefit industry or business such as buying “a farmer a new [lower emissions] tractor” (I-26). As one CSC CBO member described, “In Arvin/Lamont, we said, ‘No, we are going to give the priority to the community-identified projects. You’re not going to start, you know, with just distributing the funding to growers and all of that’” (I-24). On the other hand, a CSC industry member complained that the approach of resident members at CSC meetings was “to be argumentative on the whole thing and stymie and stop the process or ‘Give us millions of dollars. We want to repave our road. We want to put the sidewalks in. We want to make a beautiful city that’s a nice utopia’” (I-20).

Although such industry perspectives were represented on the Arvin/Lamont CSC, CSC residents succeeded in advancing their priorities and allocated \$12 million to sidewalk installation, spread equally across the communities of Arvin and Lamont. This allocation represented 39 percent of the total funding allocated by the CSC to emission reduction strategies, which also included \$11 million to replace heavy-duty trucks, school buses, and agricultural equipment and \$4 million for passenger vehicle replacement. This sizeable allocation for sidewalk infrastructure was motivated by the fact that residents observed that a smaller allocation of \$2.8 million by the Shafter CSC for sidewalk and roadway improvements was only sufficient to support two projects.

CSC residents also learned from the Shafter AB 617 CSC that because “community-identified projects are going to take longer to be approved, let’s start with those because if we leave those at the end, years will pass and we will not see any improvement” (I-24). Community-identified projects “take time because they need to go through a process and the others are already approved from the state” (I-24). This reflects how some emission reduction strategies adopted by the CSC, such as heavy-duty trucks, school buses, and agricultural equipment replacement, were already “pre-approved” by CARB and could move toward implementation quickly. Other strategies that were not part of this suite of pre-approved strategies, such as sidewalk installation, required the Air District to develop a project plan on behalf of the CSC which then had to be reviewed and approved by CARB at the state level, a process that can produce substantial delay.

County Advocacy Elevates Resident Priorities

The CSC prioritization of sidewalks resulted from years of community-driven advocacy with Kern County. A CSC CBO member recalled how their organization had advocated with the County Public Works Department for over a decade during its annual budget allocation. Each year, their organization generated a list of priority community infrastructure projects such as roadway and sidewalk improvements with residents. Each year, they carried forward any unfunded priorities as requests in subsequent years (I-24). A CSC resident member described how residents advocated by “taking pictures, proof, specific projects that we want them to work on and that is how we advocate together. We have one-on-one advocacy meetings, budget meetings. This is how

we do advocacy meetings for sidewalks” (I-27). A CSC CBO member described how “the support of the community was already there” for roadway and sidewalk improvements and how their organization and residents were already well aware of “those streets that we knew were our needs” before the launch of the AB 617 process (I-24).

In December 2022, six months after their CERP was adopted, Arvin/Lamont CSC members met in person for the first time at the Bear Mountain Community Center after an extended period of online CSC meetings due to pandemic restrictions. This meeting included dinner and community engagement activities about CERP incentive and enforcement measures, including a mapping exercise in which CSC members were invited to visit a wall of county-generated maps that displayed major roadways in several parts of the AB 617 planning area. CSC members were invited to identify on the map areas they recommended for the location of two resident-prioritized incentive measures. They placed green circle stickers on the maps to represent locations recommended for vegetative barriers and yellow stickers for locations recommended for roadway improvements (road paving and sidewalk and bike lane installations).

At the January 2023 online CSC meeting, a representative of County Public Works reviewed the results of this road improvements mapping exercise. They discussed the minimum roadway requirements for the installation of sidewalks, presented maps that compiled individual stickers and post-it notes from the December meeting’s maps, and described preliminary cost estimates for installing sidewalks along four priority roadways in order “to focus limited resources where the greatest benefit for the most people is” (SJVAPCD, 2023b). They described the project as “strictly a sidewalk project. There’s no paved roads being proposed as part of the four proposals. It will just be to fill in the sidewalk gaps where none currently exist. And so, it will be a curb and a gutter where they don’t exist and then tie into the road. And it’s usually only about two feet” (SJVAPCD, 2023b).

After the meeting, CSC residents worked with an advocacy group to collect 135 signatures from residents living along the priority roadways for a petition stating, “We support the county recommendation to [allocate] funds from AB 617 to build sidewalks in our streets that will reduce pollution and make our streets safer to walk to stores, schools and other services” (SJVAPCD, 2023c). The signatures and community documentation of areas in need of improvement empowered residents to tell the Air District, “So here’s our proof. You need to fast track this. You need to take it to CARB governing body...so they can push to release the allocation of the funds” (I-26). A CSC resident recounted the process residents used to prioritize sidewalks: “The residents are the ones who decide...what is needed: We want sidewalks. We here in Lamont identify the streets that do not have sidewalks, that children struggle to walk on when it rains with the mud. We identify those streets, and we are going to take photos, in rainy weather especially, so that the [county] supervisors can see that how muddy the streets are” (I-27).

During the March 2023 CSC meeting, members approved the allocation of \$5.8 million to sidewalk improvements for the four priority areas in Lamont that were identified through the December 2022 community mapping exercise (SJVAPCD, 2023c). The roadways are in an unincorporated area within the county’s jurisdiction and the plan includes the installation of sidewalks along the east-west Panama Road and

several residential streets to the north and south, and along the east-west Mountain Avenue with residential properties and Mountain View Middle School to the north and agricultural fields to the south (Figure 3). CSC members also identified Comanche Avenue on the border between the City of Arvin and the county as a priority for sidewalk improvements and reserved \$6 million in AB 617 funding for these improvements. However, as a CSC CBO member explained, approval of sidewalk improvements in Arvin were delayed for over a year because the city lacked the engineering staff capacity to generate estimated costs for sidewalk improvements.

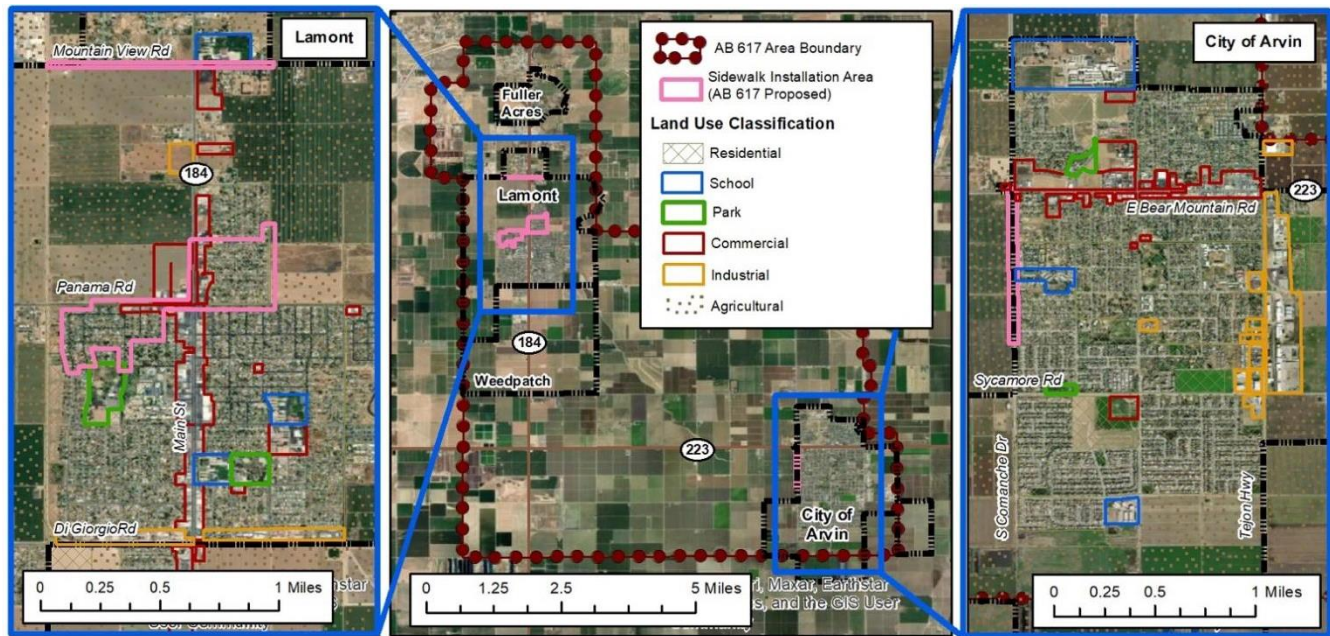


Figure 3. Arvin/Lamont AB 617 Strategies: Sidewalk Installation Proposals.

Roadway Truck Impacts in South Central Fresno – “The CSC won”

Trucks are the Problem – Air Pollution, Roadway Damage, Safety Concerns

Resident members of the SC Fresno CSC consistently identified heavy-duty truck impacts on local roadways as a major concern: “The biggest issue there for residents was so many trucks going through their communities all the time from these warehouses and distribution centers” (I-7). They described how heavy-duty trucks caused substantial damage to roadway infrastructure: “when you’re having diesel truck traffic through your neighborhood on a daily basis...the roads, they just can’t keep up” (I-18). A CSC resident described the daily impacts of trucks this way: “[A] lot of people live with their windows open and are living in homes that are not sealed like mine and are overly exposed to the emissions and pollutants in their area. They are near warehouses where there are trucks, semi-trucks, coming in with diesel [exhaust]. So that’s part of the hot spot problem. They are near warehouses” (I-9). Safety concerns related to truck traffic were a high priority for residents: “The

main thing turned out to be more safety-related than it was emission-related. People just don't want these trucks running in their neighborhoods where their kids are playing and they're living and recreating" (I-7).

A CSC industry member recounted that resident members of the SC Fresno CSC "want absolute control over where trucks can go, how they can go, how many trucks can go, what the roads are if you are going" but also acknowledged that residents should help "determine the best [truck] routes that are the least oppressive to the community." They acknowledged that "there was consensus and, quite frankly, I don't need to argue about it" (I-11). They indicated how they would explain a community-informed truck routing plan to the business community: "If it's inconvenient for your business, I'm sorry...you know, this is what it is, and this is what you need to do" (I-11).

CSC members relayed a shared understanding that truck-related safety and air pollution exposure were the direct result of a long history of discriminatory housing, lending, and land use practices: "Southwest Fresno was redlined from the get-go. Over time, they've also been completely surrounded by heavy industry. It goes back again to the powers that be, and the politicians that work with them have decided that these are the communities that are okay to pollute" (I-18). Residents advocated for years for the City of Fresno to reduce industrial operations near sensitive land uses in South Central Fresno and to revise the city's outdated 2005 truck route designations to protect community health. Residents laid out a vision to achieve these goals through the City of Fresno's Southwest Fresno Specific Plan (SWFSP), which was adopted in 2017 and has been hailed as a model for equitable planning processes (Werner, 2024). This plan provided guidelines for infrastructure, development, land use, and housing in the northwestern portion of the AB 617 planning area and included a detailed, resident-driven vision and map for eliminating truck routes that pass through residential neighborhoods to reduce near-roadway air pollution and address safety concerns (City of Fresno, 2017).

Getting the City Onboard

After years of inaction by the city, residents and community leaders sought to leverage the AB 617 process and funding to implement their vision for the entire SC Fresno AB 617 planning area, but getting the city's cooperation was a major challenge. CSC members noted that initially, "there just was not the desire to mitigate the issue from the city" (I-16). They described how "[t]here was a lot of back and forth to get them [the city] to enter into an MOU," (I-8) or a Memo of Understanding, a written cooperation agreement. They recounted, "The decision was made to ask the city to do a truck reroute study. The Air District offered up \$500,000 [of AB 617 funding] to match whatever the city would put in to hire a contractor" (I-7). A CSC truck subcommittee was "formed to watchdog this" and, although "[i]t has taken longer than people would have liked it to, in the end, the committee...was able to get a study design that will give us the information that we need and to finally get a contractor working on it" (I-7).

The City of Fresno entered into an MOU with the AB 617 CSC and, in consultation with a CSC subcommittee, selected a consulting firm, ARCADIS, to identify, analyze, and evaluate strategies to reduce truck impacts in SC Fresno. The study's Technical Steering Committee coordinated community feedback from city, county, and Air

District staff and a Community Advisory Committee, including SC Fresno AB 617 CSC members, other residents, business leaders, and representatives of community-based organizations and school districts. The study's outreach included an online health survey conducted by UC Merced, stakeholder interviews, and community-wide pop-up booths (ARCADIS et al., 2024).

ARCADIS presented its Truck Reroute Study findings to the SC Fresno CSC during its January 2024 meeting. Their analysis of existing conditions identified and mapped pedestrian and bicyclist safety concerns including missing sidewalks and crosswalks and the lack of bike lanes, truck behavior concerns including unsafe driving speeds and truck idling at intersections, and infrastructure concerns including surface street damage and potholes (ARCADIS et al., 2024). The firm recommended and mapped nine roadway improvement strategies across the AB 617 planning area that were identified through community input, analysis of existing conditions, and review of best practices in other jurisdictions. Their recommendations included street maintenance, traffic calming, and installation of new sidewalks and bike lanes, traffic signalization improvements, and new and improved crosswalks (Figure 1).

The study also proposed revisions to the city's outdated 2005 truck route designations, including elimination of truck routes through newly designated "truck regulated areas" that include sensitive receptors such as residences and schools (Figure 1). Proposed revisions included removal of truck designations from surface streets including portions of east-west California, Church, Jensen, and North Avenues and portions of north-south Walnut and Elm Avenues and the addition of new alternative surface street truck routes along the northwest-southeast State Route 99 and High-Speed Rail corridor. The unincorporated community of Malaga east of State Route 99 to the south of the AB 617 planning area was also designated as a "truck regulated area," even though it currently lacks an adjacent truck route. This seems to anticipate proposals to expand industrial uses nearby. Public review of the truck reroute plan was extended through June 2024. The plan must be reviewed by the city's planning commission before it is submitted to the city council for approval.

After attending a CSC truck subcommittee before the ARCADIS recommendations were released, a CSC member stressed the importance of "making sure local government knows what we're doing and inviting them into the conversations." They described the collaboration with the city and consultant as "really innovative" and "a model" that can be used to "create change" that should be replicated by other AB 617 communities (I-7). Another CSC member recalled how during the CSC's push to get the city onboard, "[t]here was lots of frustration, anger, all those kinds of things but in the end, I think it was successful....At the end of the day, the CSC won" (I-8).

Discussion

The steering committee processes of the three AB 617 communities that we analyzed expanded opportunities for residents of historically disenfranchised communities to consult with Air District and CARB staff and identify local air quality concerns, prioritize air pollution mitigation strategies, and oversee strategy implementation. Residents successfully elevated community concerns during these processes. However, CSC resident members shared numerous examples where their insights and proposed emissions reduction strategies were deprioritized within state-driven processes informed by agency priorities, timelines, scientific justifications, and existing incentive programs. In turn, residents participated in “parallel processes” that were facilitated by CBO leaders outside the formal CSC process in order to develop a deeper understanding of agency decision-making, establish a shared understanding of the science underlying topics under CSC consideration, and learn about alternative mitigation strategies implemented elsewhere. These sessions gave residents the means to shift CSC processes from a model in which the Air District developed a list of projects for CSC members to approve, often through rushed exercises and voting, to a model in which residents generated their own list of projects for CSC consideration. However, these sessions, in addition to CSC participation under the formal process, were time-intensive and overwhelming for residents who were already impacted by economic constraints and other community and family obligations.

In this context, resident frustration was common among the three AB 617 CSCs. Despite high levels of enthusiasm among residents for community-identified projects such as vegetative barriers and sidewalk improvements, CSC members struggled to convince Air District staff to embrace the legitimacy and potential effectiveness of these strategies which were outside the typical categories of air quality control measures deployed by the Air District and lacked established agency precedent to guide decision-making. Resident and CBO CSC members went to great lengths to advocate for community concerns and recommendations. At times, they leveraged existing relationships with other agencies in order to convince the Air District to adopt community-identified strategies in a robust way. Even after community-identified projects were included in the adopted CERPs, however, their implementation often faced long delays. Unlike emissions reduction strategies that were pre-approved by CARB, Air District staff had to develop program plans for new types of community projects with little guidance, which caused substantial delays and required multiple levels of review and approval by CARB and other government entities.

In response to these tensions, CARB revised its Community Air Protection Incentives Guidelines in April 2024 to provide guidance to air districts on the requirements for project plans for the community-identified strategies discussed in this study and other strategies that emerged through the AB 617 process (CARB, 2024). The revised guidance is a direct response to the persistence of CSC members. For instance, guidelines for project plans for “Urban Greening and Vegetative Barriers” and “Paving, Sidewalk, and Bike Path Projects” were adapted in part from the plans developed by the Air District in the study communities after substantial pressure and advocacy by residents and CBO leaders. These community-identified strategies are now eligible for an abbreviated and streamlined approval process for AB 617 communities with an approved CERP. In the

future, this could help avoid delayed CERP implementation and provide greater flexibility to accommodate community-identified projects that do not fit easily within an established emissions reduction category. CARB's revised guidance also points to the institutional learning and procedural changes that are necessary across multiple levels of governance to adapt to the feedback and challenges that emerge from participatory processes such as AB 617.

Although many residents joined the CSC to ensure that tens of millions of dollars in state AB 617 funding would be prioritized for community-identified projects over incentives for industry to convert to cleaner technologies, residents found available funding insufficient to implement their priorities at a necessary scale to address disparate air pollution exposures and impacts. In response, they worked to ensure implementation of a limited number of vegetative barriers and roadway improvement demonstration projects rather than more expansive, transformational changes that many envisioned when they joined the CSC process. While limited in scope, these victories proved substantial for residents and CBO leaders who engaged deeply in AB 617 CSC processes to ensure that their voices were heard and prioritized within this agency-led decision-making process. Resident experiences with the budget allocation process also revealed a general lack of transparency in AB 617 decision-making as the Air District largely retained control over the funding allocation process. Without budgeting information and authority, residents lacked sufficient mechanisms to ensure that CERP implementation would meet community needs (London et al., 2022).

At times, CSC processes did not provide sufficient opportunities for resident oversight of the implementation of community-identified priorities. For instance, in December 2022 SC Fresno CSC members raised concerns that the Tree Fresno proposal to implement a vegetative barrier in the median of Golden State Boulevard did not align with the central objective of this strategy, because it was located far from sensitive residential and school land uses and therefore provided no direct pollution mitigation beyond more generalized benefits associated with enhanced greening of a highway and rail infrastructure corridor. When Tree Fresno and the City of Fresno presented more detailed plans for implementation of a vegetative barrier along the median of Golden State Boulevard in January 2024, with no project adjustments based on previous CSC objections, residents again raised their concerns that the project did not meet criteria established by the community and the scientific literature for a vegetative barrier to mitigate roadway emissions. At the meeting, residents received no assurance that the project location would be reworked or that Tree Fresno or the city would be held accountable for proposing an inappropriate location for a vegetative barrier. In contrast, the proposed locations for vegetative barriers recommended by Stockton's Little Manila Rising closely aligned with the central objective that vegetative barriers must be designed and placed to protect sensitive land uses from near-roadway impacts.

In other instances, residents and CBO leaders successfully deployed CSC processes and funding to secure expanded city and county cooperation to address resident priorities. For instance, CSC members in Arvin/Lamont leveraged their experience working with the county in its annual prioritization for infrastructure improvements to facilitate cooperation between the Air District and the County Public Works Department for new sidewalks. This process involved identifying priority streets through a resident participatory mapping exercise during an in-person CSC meeting and translating these priorities into specific cost estimates by county

staff so that CSC members could consider and approve funding allocations for sidewalk improvements in the unincorporated community of Lamont. Although residents also identified priority sidewalk improvements along Comanche Drive, which is within the City of Arvin, CSC allocation of funding for these improvements was delayed because the city did not have sufficient engineering resources to generate cost estimates for CSC consideration. In addition, after much frustration, CSC members in Fresno secured the city's cooperation in hiring a consultant to study existing roadway and truck traffic conditions and to propose revisions to the city's outdated 2005 truck route designations. The resulting proposal, which must be reviewed by the city's planning commission and approved by the city council, includes new designations of areas with sensitive residential and school land uses as "truck restrictive" areas, removal of truck route designations within those areas, and implementation of a variety of roadway improvements including new crosswalks, sidewalks, and bike lanes.

Our study detailed some of the progress and challenges that emerged as residents and community leaders used the AB 617 CSC process in three San Joaquin Valley communities to identify, prioritize, and implement strategies to transform roadways to mitigate air pollution, noise, dust, and safety hazards. CSC members reported the CSC process was time- and resource-intensive and at times exhausting given the level of engagement required both within and outside CSC meetings to understand and engage with decision-making processes, to align resident experiences and local knowledge with scientific data and standards, and to recruit and build relationships with agencies beyond the Air District that were critical to implement change but lacked a mandate or incentive to participate. While residents achieved several incremental victories in prioritizing and funding community-identified priorities, the scale of resulting projects and plans was modest relative to the substantial community needs of the three study areas, each of which have suffered from disinvestment, disparate impacts of air pollution and other hazards, and structural inequities for decades.

Given the challenges that have emerged across the nineteen designated AB 617 communities across the State of California, CARB is currently transitioning the program to reflect other models of engagement that seek to preserve the focus on community engagement while more equitably distributing limited AB 617 state funding to a broader set of overburdened communities. Several community organizations that have deeply engaged AB 617 processes in Stockton, South Central Fresno, and Arvin/Lamont proposed a revised approach whereby disadvantaged communities could apply for CARB Community Air Grant funding to develop their own local community emissions reduction plans (L-CERPs) (CARB, 2023). These organizations are engaging with community members to understand how emission reduction strategies developed in other AB 617 communities could serve as models for communities that take part in an L-CERP process. This emergent new phase of AB 617 implementation demonstrates that the expanded scope of "meaningful involvement" of impacted communities within transportation planning will require officials, residents, and organizations to commit to an ongoing process of experimentation and learning about the most effective approaches for advancing transportation equity and environmental justice.

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