

# Low- and Zero-Emissions Zones

## *Opportunities and Challenges in Designing Equitable Transportation Policies*

Low- and zero-emissions zones (LEZs and ZEZs)—designated areas of a city in which vehicles must meet certain emissions requirements to enter—are a policy tool available to cities to improve air quality, reduce congestion, raise revenue, and achieve climate goals. If thoughtfully developed and implemented, these zones can also address racial and economic equity in communities disproportionately burdened by vehicle pollution.

This document summarizes the key findings of a primer developed by the Union of Concerned Scientists and the Greenlining Institute. The primer is not meant to be prescriptive; rather, it should help policymakers and stakeholders understand and evaluate the utility of LEZs and ZEZs for their communities, and provide considerations toward equitable policymaking should they choose to pursue such zones.

### **Making Equity Real in ZEZs**

The primer investigates whether ZEZs can be designed equitably and, if so, how such zones can be implemented in California while considering the diverse needs of each community as well as regulatory constraints.

Equity concerns about existing ZEZs include a general lack of information and education for laypeople about these zones; the ability to pay fees, fines, and penalties for using a gasoline or diesel vehicle within the zone; ensuring a focus on the greatest sources of pollution inequity—often medium- and heavy-duty vehicle emissions; potential economic and pollution displacement burdens on low-income communities and communities of color; and the fair use of revenue generated from ZEZs.

The Greenlining Institute gathered qualitative information from various stakeholders working on air pollution mitigation efforts in communities located in East Los Angeles, Fresno, the Inland Empire, San Diego, and Stockton. The following six points consistently emerged from the stakeholder interviews, and are critical to consider in the development of any ZEZ:

- Risk of burden on local residents
- Enforcement and accountability concerns
- Trust between local government and community members
- Distribution of benefits and complementary policies to achieve increasing equity benchmarks
- Targeting emissions sources that are appropriate for a given community
- Funding oversight

### **How LEZs and ZEZs Can Benefit Communities**

One of the major potential benefits of a ZEZ is a reduction in harmful tailpipe pollution. Exposure to air pollution generated from on-road vehicles harms people and is linked to many ailments, including asthma, cardiovascular disease, and stroke.

ZEZs have the potential to eliminate tailpipe emissions in a targeted area. By replacing combustion engines with electric motors, the vast majority of vehicle emissions can be eliminated. If these zones are placed to benefit disadvantaged communities that currently have high exposure to air pollution, the zones have the potential to start to reduce existing inequities in pollution burden between racial and economic groups. While a community-wide ZEZ may not be possible today, even a partial removal of tailpipe pollution via a ZEZ for larger trucks would have benefits; see the table on the next page for a summary of the ways in which emissions zones can make a difference in communities.

### **Policy Recommendations**

Where needed, states should make regulatory changes to allow LEZs to be designed by cities such that specific needs of the communities are addressed, and encourage these zones to be developed with public oversight and stakeholder engagement. They should also provide cities with technical assistance, funding, and measurement, evaluation, and learning resources needed to make the most of pilot projects, especially in under-resourced communities.

If local entities are interested in designing an LEZ pilot, they can help maximize a zone's benefits and mitigate potential harms by communicating early and often with their stakeholders, including vulnerable communities and affected businesses; conducting comprehensive feasibility and risk assessments and communicating the results; and seeking and incorporating public feedback at all stages of design, implementation, management, and operation.

There are additional factors to consider when considering these zones in communities of color. Enforcement mechanisms must not perpetuate systems of oppression; for example, it is not recommended that police enforce the zone, and fines must not further harm the most economically disadvantaged individuals. Community stakeholders also must be at the table to decide what enforcement mechanisms—such as automatic license plate readers—may be appropriate.

## Summary of Congestion and Emissions Zones

	Zero-Emissions Zone	Low-Emissions Zone	Congestion Zone
<b>Primary Benefits</b>	Reduces global warming emissions Improves air quality	Reduces global warming emissions Improves air quality	Reduces traffic Raises revenue
<b>Other Potential Benefits</b>	Encourages zero-emissions vehicle (ZEV) infrastructure and adoption Raises revenue Reduces traffic Reduces noise Contributes to bike/pedestrian safety	Encourages ZEV infrastructure and adoption Raises revenue Reduces traffic Reduces noise Contributes to bike/pedestrian safety Emissions target can be lowered over time	Contributes to bike/pedestrian safety Reduces noise Improves air quality Reduces global warming emissions Can facilitate future land-use changes
<b>Examples of Parameters</b>	Only ZEVs can enter the zone Any vehicle can be prohibited from entering the zone	Can apply only to certain types of vehicles (for example, light-, medium-, heavy-duty) Can apply only during certain times Can require that vehicles meet certain pollution standards to enter	All vehicles may be subject to fee, permit, or fine to enter the zone Can be tailored to certain classes or types of vehicles
<b>Enforcement Mechanism Options</b>	Checkpoints and tolls Cameras, registrations, and ticketing Visual inspection and ticketing	Checkpoints and tolls Cameras, registrations, and ticketing Visual inspection and ticketing	Checkpoints and tolls Cameras, registrations, and ticketing Visual inspection and ticketing
<b>Common Exceptions</b>	Low-income drivers Those who live within the zone Public transit Vehicles for disabled persons Emergency vehicles	Nonregulated types of vehicles (for example, light-duty vehicles in a medium- or heavy-duty zone) Low-income drivers Those who live within the zone Public transit Vehicles for disabled persons Emergency vehicles	Low-income drivers People who live inside the zone People who pay for a permit to operate inside the zone Public transit Other shared mobility modes ZEVs for dual-purpose zone Vehicles for disabled persons Emergency vehicles
<b>State Approval Needed? (CA)</b>	Yes	Yes	No

FIND THIS DOCUMENT AND RELATED MATERIALS ONLINE:

[www.ucsusa.org/resources/low-and-zero-emissions-zones](http://www.ucsusa.org/resources/low-and-zero-emissions-zones)  
[www.greenlining.org/publications/reports/2021/equitable-low-zero-emission-zones](http://www.greenlining.org/publications/reports/2021/equitable-low-zero-emission-zones)

*The Union of Concerned Scientists puts rigorous, independent science to work to solve our planet's most pressing problems. Joining with people across the country, we combine technical analysis and effective advocacy to create innovative, practical solutions for a healthy, safe, and sustainable future.*

*The Greenlining Institute works toward a future when communities of color can build wealth, live in healthy places filled with economic opportunity, and are ready to meet the challenges posed by climate change. To achieve this vision, Greenlining is committed to building a just economy by acting as an incubator of new policy ideas, a bridge builder between diverse partners, and an advocate to build momentum for transformative change.*