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The Political Viability of Low Emission Zones in São Paulo: Opportunities, Challenges, and Pathways for Implementation

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EXECUTIVE SUMMARY

Key Findings

São Paulo, the largest city in the most populous metropolitan region of the Americas, faces mounting urban mobility and environmental challenges due to increasing vehicle emissions, traffic congestion, and declining public transportation usage. While São Paulo has ambitious environmental goals outlined in PlanClima SP—including the establishment of a Zero Emission Zone (ZEZ)—political, economic, and social factors have stalled the ZEZ implementation. This report finds that while Low Emission Zones (LEZs) can serve as an effective policy tool to reduce pollution and improve urban sustainability, their feasibility in São Paulo is contingent upon overcoming significant political and economic barriers.

Key insights from international case studies in London, Stockholm, Milan, and others suggest that successful LEZ policies require strong political leadership, clear public health messaging, and transparent reinvestment of generated revenues. For instance, London's Ultra Low Emission Zone (ULEZ) was justified primarily on public health grounds, emphasizing the dangers of air pollution and framing the initiative as a life-saving policy.

Recent findings from a new study by the Metrô de São Paulo indicate a major shift in mobility trends in São Paulo, with private transportation—cars, motorcycles, and ride-hailing services—surpassing public transit usage for the first time in 20 years. This underscores the urgency of addressing urban mobility challenges in the face of potential resistance from an increasingly car-reliant population.

Furthermore, São Paulo's strong political alignment with the automotive industry, car-dependent electorate, and economic disparities pose unique challenges that call for a tailored, phased implementation approach to establishing an effective LEZ. Despite these barriers, strategic partnerships—particularly with electric vehicle (EV) manufacturers—can help align industry incentives with LEZ adoption. Moreover, framing LEZs as a public health initiative, rather than just an environmental policy, may enhance public support and mitigate resistance from local businesses and private vehicle users.

Actionable Insights

- 1. Policy Considerations LEZ policies should align with São Paulo's broader urban mobility and environmental strategies under PlanClima SP, ensuring synergy with existing sustainability initiatives.
- 2. Political Strategy The strong center-right government in São Paulo, led by Mayor Ricardo Nunes, offers a stable legislative environment to advance LEZs. However, securing support from key stakeholders, including logistics operators and small businesses, will be crucial to overcome political resistance.
- Implementation Roadmap A structured, incremental approach, similar to Stockholm's congestion pricing trial, can help São Paulo build public trust and demonstrate tangible benefits before full-scale implementation.
- Industry Alignment Collaborating with EV manufacturers can help drive local adoption of cleaner technologies, reducing pushback from the automotive sector while positioning São Paulo as a leader in sustainable urban mobility.

Recommendations

The following recommendations are offered to improve the political viability of LEZs in São Paulo:

- Phased Implementation Start with a pilot LEZ in high-pollution districts within the Minianel Viário (Inner Ring Road) and gradually expand vehicles with high emissions restrictions based on public feedback and emissions data.
- 2. Stakeholder Engagement Establish a multi-sectoral LEZ task force involving government agencies, business leaders, environmental groups, and public health experts to ensure a collaborative policy approach.
- 3. Public Health Framing Position LEZs as a measure to combat respiratory diseases and improve public health, leveraging medical research and data-driven communication campaigns.
- 4. Economic Incentives Offer tax breaks, fleet transition subsidies, and logistical adjustments for local businesses and logistics service providers to reduce compliance costs.
- 5. Revenue Transparency Ensure that fines and fees generated from LEZs are reinvested in public transportation, electric vehicle infrastructure, and urban mobility improvements.
- 6. Public Awareness Campaigns Conduct targeted media outreach highlighting the success of LEZs globally, emphasizing their long-term economic and health benefits.

If strategically implemented, LEZs could significantly reduce São Paulo's air pollution levels, improve public health outcomes, and advance São Paulo's commitment to carbon neutrality. However, success will depend on sustained political momentum, strong governance, and the ability to balance environmental objectives with economic realities.

INTRODUCTION

Urban mobility and environmental sustainability are critical challenges for megacities worldwide, and São Paulo is no exception. As the biggest city of the largest metropolitan area in the Americas, São Paulo faces severe congestion, high pollution levels, and declining public transportation usage, all of which contribute to a deteriorating quality of life. São Paulo has historically struggled with the effects of rapid urbanization and increased motorization, with extensive vehicular emissions negatively impacting air quality and public health. Innovative policy measures that balance economic development with environmental responsibility are required to address these concerns.

One increasingly adopted solution worldwide is the implementation of LEZs. According to the Institute for Transportation and Development Policy (ITDP), LEZs are geographically defined areas where access for high-polluting vehicles is either restricted or regulated to reduce emissions and improve air quality. These zones typically function through restrictions such as banning non-compliant vehicles, imposing fines, or introducing fee-based entry systems. Their primary objective is to combat the health risks associated with vehicular air pollution, particularly from nitrogen oxides (NOx) and particulate matter (PM2.5 and PM10), which contribute to respiratory diseases, cardiovascular complications, and increased mortality rates.

While LEZs focus primarily on reducing emissions, some cities complement them with congestion pricing, a policy that charges vehicles for entering high-traffic areas to manage congestion and indirectly reduce pollution. Although slightly distinct in their objectives, both policies usually work in tandem to promote cleaner urban mobility and more sustainable transportation systems.

Globally, LEZs have been successfully implemented in cities such as London, Milan, and Stockholm, demonstrating their efficacy in reducing harmful emissions and fostering more sustainable urban environments. For example, London's ULEZ was introduced mainly as a public health measure, stressing the risks of air pollution and framing the policy as essential for protecting lives. In Milan, the transition from an emissions-based toll to a broader restriction involved gradual adaptation based on public feedback, ensuring broader acceptance and effectiveness. Similarly, Stockholm used a phased approach to congestion pricing, enabling citizens to witness tangible benefits before full implementation. These examples highlight the importance of strategic policy design, public engagement, and strong political leadership in advancing LEZs.

Despite their success abroad, the feasibility of LEZs in São Paulo remains uncertain. São Paulo presents unique challenges, including its heavy dependence on private vehicles, political alliances with the automotive industry,

and socio-economic disparities that influence public perception and policy acceptance. While São Paulo's government has outlined ambitious environmental goals through PlanClima SP, which includes a Zero Emission Zone (ZEZ) as a priority action, implementation has stalled due to political and economic barriers. São Paulo's governance structure, electoral considerations, and stakeholder influence all play a role in determining whether LEZs can become a viable policy solution.

Recent trends further complicate this landscape. A recent Origin/Destination study by Metrô of São Paulo found that, for the first time in two decades, individual transportation modes now account for a majority of trips in the metropolitan region. A decline in public transportation usage has been observed across all income groups and subregions, highlighting a broader behavioral shift in post-pandemic mobility patterns. These changes present additional challenges to the political feasibility of implementing LEZs, as measures restricting vehicle usage may face greater opposition from an increasingly car-dependent population.



Figure 1: The City of São Paulo surrounded by 38 municipalities that comprise São Paulo's Metropolitan Area (Source: wikimedia.org)

PROJECT OBJECTIVE

This consultancy report aims to assess the political feasibility of implementing LEZs in São Paulo. By examining governance structures, stakeholder interests, and historical precedents of LEZ adoption, this report will identify potential enablers and barriers to implementation, providing recommendations on how to navigate São Paulo's political landscape. The report will analyze key stakeholder positions, electoral implications, and public sentiment while drawing on international case studies to suggest viable policy strategies.

This project initially began as a consultancy in collaboration with SPTrans, the municipal agency responsible for managing public transportation in São Paulo. The objective was to assess the political feasibility of LEZs in alignment with the city's broader urban mobility goals.

However, one month into the project, Mayor Ricardo Nunes announced plans to dissolve SPTrans, citing governance restructuring and financial optimization as key motivations. As a result, the SPTrans team that initially collaborated on this project ceased participation, and no formal endorsement of the study was provided by the agency.

Despite this shift, the research remained relevant and continued independently, using publicly available data, stakeholder interviews, and case studies from international cities. While the potential dissolution of SPTrans introduces uncertainty regarding São Paulo's urban mobility governance, the findings and recommendations in this report remain applicable to the city's broader sustainability and mobility agenda.

Scope and Focus of This Report and Research Question

This report aims to provide strategic recommendations for policymakers, industry leaders, and urban planners seeking to advance sustainable mobility in Brazil's largest city by identifying the conditions necessary for a successful LEZ policy in São Paulo.

This report focused on the political viability of LEZs, rather than their technical or economic feasibility—analyzing governance structures, stakeholder positions, and potential pathways for policy adoption. It examines the key enablers and barriers to implementation, drawing insights from both São Paulo's political landscape and international case studies.

The research is guided by the central question:

"Is the implementation of Low Emission Zones in São Paulo politically viable?"

The report employs a qualitative political analysis, using:

- Case studies from cities that have successfully implemented LEZs.
- Stakeholder analysis to assess power dynamics and policy interests.
- Political and governance evaluations to explore legislative feasibility and potential resistance.

LIMITATIONS

While this report aims to provide a comprehensive political assessment, certain limitations must be acknowledged. Data availability on specific stakeholder positions was limited due to political sensitivities. Additionally, given the evolving nature of public discourse, shifting political priorities or unforeseen economic events could influence the feasibility of LEZ implementation in ways not accounted for in this report.

International Case Studies: Lessons for São Paulo

The implementation of LEZs and similar policies varies across cities worldwide, reflecting different political contexts, public perceptions, and institutional capacities. While some cities have been successful through strategic piloting, strong leadership, and transparent reinvestment of revenues, others have encountered resistance due to unclear communication, equity concerns, or political fragmentation. These case studies offer valuable insights into overcoming opposition, building public trust, and crafting policies that balance environmental, economic, and social interests. The following cases illustrate key strategies for and challenges to implementing LEZs, providing a framework for São Paulo to navigate its own policy landscape.

Stockholm, Sweden

Stockholm's experience demonstrates the power of pilot programs in building public trust and securing policy support. By implementing its Low Emission Zone (LEZ) policies through a trial period followed by a public referendum, the city effectively addressed initial skepticism. Residents experienced firsthand the benefits of reduced congestion and improved air quality, while public education campaigns reinforced these positive outcomes. The trial approach not only built confidence in the initiative but also facilitated broad support for its permanent adoption.

London, UK

London's case highlights the essential role of strong leadership, transparent governance, and public engagement in successfully implementing congestion charges and LEZ policies. Mayor Ken Livingstone's advocacy framed these measures as vital for public health and urban sustainability. The reinvestment of revenue into public transportation enhanced credibility, while robust public consultations ensured stakeholder concerns were addressed. These factors collectively helped overcome resistance and sustain long-term policy effectiveness.

Milan, Italy

Milan's approach underscores the importance of adaptability and equity in policy transitions. By evolving from an emissions-based toll to a broader congestion charge, the city actively responded to public concerns, particularly regarding fairness for businesses and residents. Targeted exemptions and pricing adjustments enhanced acceptance and demonstrated the value of iterative policy refinements to build public consensus.

Singapore

Singapore's success with its Electronic Road Pricing (ERP) system illustrates the benefits of leveraging advanced technology and sustained public education. Building on the earlier Area Licensing Scheme, Singapore introduced ERP as a seamless congestion management tool. Continuous education efforts reinforced public understanding of its benefits, while reinvested revenues bolstered trust in the system's long-term advantages.

Berlin, Germany

Berlin's LEZ policies exemplify how strategic framing and stakeholder engagement can generate broad support. By positioning the initiative as a public health measure rather than a traffic regulation, the city garnered buy-in from residents, businesses, and environmental groups. Early and comprehensive consultation ensured diverse perspectives were integrated into the policy design, strengthening its legitimacy and effectiveness.

Edinburgh, Scotland

Edinburgh's failed congestion charge initiative serves as a cautionary tale on the consequences of unclear communication and insufficient public engagement. Ambiguities surrounding costs and exemptions fueled misinformation, while the absence of strong political leadership weakened advocacy efforts. The rejection of the proposal in a referendum highlights the necessity of clear messaging, visible leadership, and demonstrated benefits in overcoming opposition.

New York City, USA

New York's congestion pricing program, launched in early 2025, underscores key lessons in policy implementation: strong leadership, evolving public perception, and the importance of addressing equity concerns. The program quickly led to reduced vehicle traffic, increased bus ridership, and improved travel times. However, challenges such as political resistance and concerns over disproportionate impacts on low-income groups remain. The Metropolitan Transportation Authority's (MTA) advocacy has been instrumental in sustaining momentum, while targeted investments in transit accessibility and pollution mitigation will be crucial in maintaining public support.

Several common themes emerge across these cases. Transparent communication of policy goals and benefits is essential, as evidenced by the successes in Stockholm, London, and Berlin. Public trials, as seen in Stockholm, can effectively build trust by allowing residents to experience benefits firsthand. Early and sustained stakeholder engagement, demonstrated in Berlin and Milan, ensures policies address diverse concerns and gain broader acceptance. Additionally, revenue transparency and equitable allocation, such as reinvesting funds in public transit or offering exemptions for low-income groups, help counter opposition and foster public trust.

On the other hand, failures in Edinburgh, Gothenburg, and Manchester reveal the risks of unclear communication, insufficient stakeholder involvement, and inadequate public buy-in. These cases underscore the importance of leadership, adaptability, and framing policies in ways that align with local priorities.

In conclusion, cities around the globe implementing LEZs and similar policies must navigate complex political dynamics with strategic planning, robust communication, and inclusive stakeholder engagement. By learning from these examples, cities can design policies that effectively address opposition, build support, and achieve their sustainability goals.

São Paulo's Urban Mobility & Environment Context

The city of São Paulo, part of the largest metropolitan area in the Americas, with a population of 23.4 million, faces profound challenges stemming from its expanding car fleet and declining public transportation usage. Despite comprising only 10% of Brazil's population, São Paulo holds over 30% of the national car fleet, totaling 6.5 million vehicles by 2023. Between 2019 and 2023, the car fleet grew by 6%, coinciding with a sharp decline in public transportation usage: subway ridership dropped from 5.2 million to 4.1 million daily users, while train ridership fell from 1.9 million to 1.5 million users per day.

New data from the new Origin/Destination study by the Metrô de São Paulo reveals that, for the first time in two decades, individual transportation modes—including private vehicles, ride-hailing services, and motorcycles now account for a majority (51.2%) of trips in the metropolitan region, surpassing public transit (48.8%). This shift signals a significant behavioral change in mobility patterns, reinforcing São Paulo's growing dependence on private vehicles, which further exacerbates congestion, air pollution, and economic losses—estimated at \$8 billion annually, or 7.5% of São Paulo's GDP. The problem deepened in 2024, a record year for vehicle registrations in Brazil, with 2.6 million new vehicles (14% more than in 2023). São Paulo, as the country's automotive hub, significantly influenced this surge, driven by the rise of subscription-based ownership models and large acquisitions by rental companies, which purchased approximately 650,000 vehicles. Additionally, Chinese automakers BYD and GWM gained traction, emphasizing the growing market for hybrid and zero-emission vehicles. While these developments reflect an evolving automotive market, they also reinforce São Paulo's car dependency and strain its urban mobility systems.

São Paulo's vehicle reliance has dire environmental and public health consequences. Light and heavy vehicles are the primary sources of pollution, accounting for 67% of nitrogen oxide emissions, over 80% of carbon monoxide emissions, and 40% of particulate matter. These pollutants contribute to severe health issues, including respiratory and cardiovascular diseases, reduced life expectancy, and escalating healthcare costs. Measures such as license plate restrictions, BRT systems, bike lanes, and subway expansions have failed to significantly curb private vehicle use or reverse declining public transportation ridership.

To address these challenges, São Paulo launched PlanClima SP in 2021, an ambitious climate action plan aiming for net-zero carbon emissions by 2050. The plan outlines 43 priority actions, including promoting renewable energy, enhancing sustainable mobility, and increasing urban resilience to climate change. A key initiative within PlanClima SP is the creation of a Zero Emission Zone (ZEZ), listed as Priority Action 10. The ZEZ aims to restrict polluting vehicles within São Paulo's Minianel Viário (Inner Ring Road)—where today a long- standing but ineffective licence plate restriction policy is in place—to reduce greenhouse gas emissions, lower particulate matter concentrations, and alleviate traffic congestion. However, despite its relevance in the plan, the ZEZ has seen little political momentum, reflecting historical difficulties in implementing transformative mobility policies. São Paulo's focus on automobile infrastructure and strong political alliances with the automotive sector pose significant obstacles to policies that would restrict vehicle use.

The São Paulo city administration, under Mayor Ricardo Nunes (MDB party) since 2021 and just reelected in 2024, has demonstrated a commitment to environmental and transportation reforms. São Paulo has set ambitious goals to reduce carbon emissions by 50% by 2028 and achieve full decarbonization by 2038. To support these objectives, São Paulo has secured US\$2 billion to introduce 2,600 electric buses by the end of 2024, aiming for 20% of its bus fleet to be powered by sustainable energy. In addition to public transportation advancements, São Paulo has focused on preserving green spaces. In February 2024, São Paulo declared the acquisition of 32 private green areas as a public utility, covering 16,531 hectares—11% of the city's territory. This initiative aims to enhance urban greenery and contribute to environmental sustainability.

Despite these environmental commitments, Nunes' administration remains heavily influenced by São Paulo's automobile industry. The city's car-dependent electorate further complicates the political feasibility of LEZs. Historically, São Paulo has struggled to implement bold urban mobility reforms due to public resistance, business lobbying, and lack of sustained political prioritization. This is being repeated today, where the ambitious plans outlined in PlanClima SP, such as the ZEZ, have yet to gain traction.

Political Landscape of São Paulo

The city of São Paulo's political environment is characterized by a strong center-right dominance, underpinned by the leadership of Mayor Ricardo Nunes (MDB party), who governs the city of São Paulo, and his strategic alliance with Governor Tarcísio de Freitas (Republicanos party), who leads the state of São Paulo. The São Paulo City Council, newly composed for the term beginning January 1, 2025, provides a stable foundation for Nunes' administration. With 37 of 55 seats secured by his coalition, and representing 67% of the council, Nunes commands a majority capable of approving most legislative proposals. This robust coalition enables him to navigate complex legislative matters, such as urban zoning and amendments to the municipal charter, with relative ease.

Regionally, the metropolitan area of São Paulo reflects a broader trend of center-right and right-leaning party dominance, with only three of its 39 municipalities governed by left-leaning parties. This signals a decline in traditional leftist strongholds, including the ABC Paulista region, historically associated with the Workers' Party (PT) due to its strong labor unions and role as Brazil's automobile industry hub, home to major manufacturers like Volkswagen, Mercedes-Benz, and General Motors. While once a PT stronghold, the ABC region has experienced a political shift, with centrist and right-wing candidates gaining influence in recent years. Nunes' re-election as mayor of São Paulo further consolidates this shift, reinforcing the city's position within a broader center-right political landscape as it remains the largest and most influential city in Brazil with 11.5 million inhabitants.



Figure 2: Party representation in the São Paulo City Council as of January 1, 2025, with orange indicating parties within Mayor Nunes' coalition (Source: https://www.saopaulo.sp.leg.br/)

At the state level, the partnership between Mayor Nunes and Governor Tarcísio strengthens their collective political influence. Tarcísio's active support of Nunes' re-election campaign underscores a shared agenda aimed at stabilizing their respective bases and countering opposition forces. This alliance positions Nunes as a pivotal figure in Tarcísio's broader political strategy, whether for consolidating power within São Paulo or preparing for a potential presidential bid.

Nationally, Nunes' position complicates President Luiz Inácio Lula da Silva's (PT) efforts to solidify alliances with the MDB, a party that plays a significant role in Brazil's political structure. While parts of the MDB align with Lula, Nunes' strengthened authority within the party introduces tensions that may challenge Lula's coalition-building strategy for the 2026's federal and state elections.

In sum, São Paulo's political dynamics reflect a fortified center-right leadership under Ricardo Nunes, the mayor, supported by Tarcísio de Freitas, the governor of the state of São Paulo. This alignment establishes a stable and influential foundation that extends from local governance to national political discourse.

Stakeholder Analysis: Power-Interest Matrix

The implementation of LEZs in São Paulo requires navigating a complex landscape of stakeholders with varying levels of power and interest. An analysis using Mendelow's Power-Interest Matrix (1991) identifies key actors, their positions, and potential challenges. While some stakeholders support LEZs for environmental and public health benefits, others view them as financial or operational burdens. Strategic engagement with high-power groups (e.g., government, automakers, and international climate organizations such as C40) and advocacy for high-interest but lower-power groups (e.g., environmental NGOs) is crucial to building political support and ensuring successful implementation. Organizations like C40 bring global expertise and funding opportunities, strengthening São Paulo's ability to implement LEZs despite local political resistance.

1. Local Governmental Bodies (High Power, High Interest)

The São Paulo municipal government, led by Mayor Ricardo Nunes (MDB), has ambitious environmental goals, including a 50% carbon emission reduction by 2028 and full decarbonization by 2038. Challenges: The administration must balance its green agenda with economic concerns from local businesses and logistics providers, who argue that LEZs increase operational costs. Opportunities: Political leadership can leverage financial incentives and tax benefits to ease compliance costs while using LEZs as a flagship policy to enhance São Paulo's environmental reputation.

2. Regional Government - São Paulo State (High Power, Medium Interest)

Governor Tarcísio de Freitas (Republicanos) leads the state of São Paulo and holds significant power over urban mobility policies, infrastructure, and law enforcement. While his administration supports economic development, its pro-business stance may lead to resistance against strict LEZ regulations. However, given São Paulo's economic importance, the state government cannot completely ignore environmental policies. Challenges: The state controls major highways, freight routes, and emissions-related enforcement mechanisms, which could be used to either support or block municipal LEZ initiatives. Additionally, political tensions between Tarcísio and the federal government could further complicate negotiations. Opportunities: If framed as a job-creation and business opportunity, rather than purely environmental regulation, LEZs could gain state support. Public-private partnerships for EV fleet conversion, infrastructure investments, and tax incentives could align with the state's economic priorities.

3. Federal Government of Brazil (High Power, Medium-Low Interest)

President Luiz Inácio Lula da Silva's administration has a strong environmental agenda, but its direct involvement in São Paulo's LEZ policy is limited due to political tensions with Governor Tarcísio de Freitas and Mayor Ricardo Nunes. While the federal government supports national climate commitments (e.g., Paris Agreement, Net-Zero goals), its priorities lie in broader environmental and economic policies rather than municipal-level initiatives. Challenges: Lula's administration may not prioritize direct support for São Paulo's LEZs, particularly because Nunes and Tarcísio belong to opposing political camps. Additionally, federal-level interests, such as protecting automobile industry jobs and logistics operations, may create indirect barriers to stricter emission regulations. Opportunities: The federal government can provide funding, tax incentives, and regulatory frameworks that facilitate the adoption of clean energy transportation. São Paulo's municipal leadership could align LEZs with national sustainability goals to secure international climate funding (e.g., IDB, World Bank, UN programs) without relying directly on federal political backing.

4. Residents (Medium Power, Medium-High Interest)

Public opinion on LEZs is divided. Wealthier residents in central areas may support them due to improved air quality and reduced congestion, while those in peripheral areas may experience increased traffic and costs. Challenges: Public skepticism arises from concerns over fairness, procedural transparency, and potential indirect consequences, such as increased congestion outside LEZ zones. Opportunities: Engaging residents through clear communication, public hearings, and transparent impact assessments can boost trust. Framing LEZs as a public health initiative could strengthen public support.

5. Local Businesses (High Power, Medium-Low Interest)

Many local businesses within São Paulo's LEZ zones, particularly those dependent on transportation, may oppose restrictions due to increased costs related to upgrading vehicle fleets or operational changes. Challenges: Small and medium-sized businesses are particularly vulnerable to compliance costs and may lobby against LEZs. Opportunities: The government can introduce financial incentives such as tax breaks, subsidies for fleet electrification, or exemptions for certain sectors to ease the transition.

6. Logistics Service Providers (LSPs) (Medium-High Power, Low Interest)

LSPs play a vital role in São Paulo's economy but often resist LEZ restrictions. They may relocate operations to peripheral areas, worsening congestion and pollution outside central zones. Challenges: LEZs could unintentionally push emissions to the outskirts of the city rather than reducing them overall. Opportunities: Developing infrastructure for urban freight consolidation centers and subsidizing electric vehicle (EV) adoption among LSPs could mitigate unintended consequences.

7. Environmental Organizations (Medium Power, High Interest)

Advocacy groups such as Greenpeace Brazil and Instituto Socioambiental are strong supporters of LEZs, seeing them as critical to reducing pollution and improving urban sustainability. Challenges: Ensuring that LEZ initiatives are rigorously implemented and not weakened by political or economic pushback from other stakeholders. Opportunities: Environmental NGOs can act as watchdogs, ensuring government accountability and advocating for additional measures such as public transportation improvements.

8. International Climate Organizations (C40) (Medium-High Power, High Interest)

C40 Cities, a global network of mayors committed to addressing climate change, plays an influential role in São Paulo's sustainability policies. The organization provides technical support, funding, and global best practices for urban climate initiatives, including LEZs. C40's close collaboration with São Paulo's municipal government under PlanClima SP strengthens the political and technical foundation for implementing emissions-reduction policies. Challenges: Lacks direct regulatory power; depends on local political will and can face resistance from local business and automotive sectors. Opportunities: Can leverage global case studies, secure international funding, and strengthen São Paulo's credibility in climate leadership.

9. Traditional Automobile Manufacturers (High Power, Medium Interest)

Automakers like Volkswagen, GM, and Toyota recognize the shift toward electric and hybrid vehicles but face challenges in adapting to stricter emissions regulations. Challenges: The transition requires significant investments in EV production, charging infrastructure, and incentives to make low-emission vehicles accessible to consumers. Opportunities: Public-private partnerships could accelerate fleet electrification, with automakers benefiting from incentives while supporting LEZ implementation.

10. Chinese EV Manufacturers - BYD & GWM (High Power, High Interest)

Chinese EV manufacturers have rapidly gained market share in Brazil, with BYD and GWM making significant investments in local production. BYD has established an EV plant in Camaçari, Bahia, while GWM has repurposed a former Mercedes-Benz facility in Iracemápolis, São Paulo. Challenges: Despite their role in promoting sustainable transportation, Chinese manufacturers face scrutiny over labor practices, local industry competition, and regulatory concerns. The influx of Chinese EVs has also led to logistical bottlenecks, with thousands of unsold vehicles congesting ports. Opportunities: Their support for LEZ policies aligns with business interests, as stricter emissions regulations drive demand for EVs. By investing in charging infrastructure and forming partnerships with local governments, BYD and GWM can further integrate into São Paulo's sustainability agenda and increase adoption of electric vehicles.



Figure 3: Stakeholder Analysis: Power- Interest Matrix (Source: Self-produced)

Political and Stakeholder Considerations for LEZ Implementation in São Paulo

The political viability of LEZs in São Paulo depends on navigating powerful automotive interests, public resistance, and governance challenges, while leveraging industry trends and environmental advocacy. A successful strategy must balance economic concerns with sustainability goals, while ensuring broad stakeholder support across municipal, state, and federal levels.

Key Challenges

- Automotive Industry Influence: São Paulo's strong economic ties to traditional automakers (Volkswagen, GM, Toyota) and growing Chinese EV manufacturers (BYD, GWM) create conflicting pressures. While automakers may resist emissions restrictions, some EV manufacturers may align with stricter policies to expand their market share.
- **Public Resistance:** Car owners, local businesses, and logistics operators reliant on vehicle access may oppose LEZs, especially the small retailers and residents in peripheral areas who are concerned about increased costs and accessibility.
- **Governance & Public Trust:** A history of intergovernmental tensions and skepticism toward environmental policies could hinder support. Cooperation between municipal, state, and federal authorities will be critical to ensuring a cohesive regulatory framework.
- Equity Concerns: If LEZs are perceived as disproportionately affecting low-income residents, opposition could grow, requiring policies that ensure fairness in implementation.

Opportunities for LEZ Implementation

- Strategic Political and Industry Partnerships: Collaboration with state and federal agencies can unlock funding mechanisms to support LEZ adoption, particularly through infrastructure investments and fleet transition incentives. Additionally, C40 can facilitate international funding and policy expertise, reinforcing São Paulo's ability to implement emissions-reduction policies.
- **Public Health Framing:** Positioning LEZs as a public health initiative, emphasizing their role in reducing respiratory diseases and hospitalizations, can build broad-based political and public support.
- **Revenue Reinvestment:** Directing LEZ-generated fines toward public transport improvements, EV infrastructure, and mobility equity programs can enhance legitimacy and counter opposition.
- **Phased Implementation:** A gradual rollout, starting with high-pollution districts or specific vehicle types, can ease resistance and demonstrate benefits before expanding citywide.

Strategic and Political Recommendations for Implementing LEZs in São Paulo

The successful implementation of LEZs in São Paulo depends on balancing environmental goals with economic realities, securing political and public support, and structuring an effective rollout strategy. This section outlines key strategies to navigate stakeholder concerns and ensure a phased, transparent, and sustainable LEZ implementation.

1. Securing Political and Stakeholder Support

For LEZs to be politically viable, São Paulo must align LEZ policies with broader climate commitments, build industry partnerships, and ensure public engagement. Key recommendations include:

- **Building Political Consensus:** Position LEZs as part of São Paulo's PlanClima SP goals, securing backing not just from the City Council, but also from the São Paulo State Government, which controls key transportation infrastructure, and federal agencies, which can provide regulatory support and funding.
- Engaging Key Stakeholders: Work with automakers, logistics providers, and local businesses to align sustainability efforts with economic incentives. Leverage C40's expertise to apply global best practices and secure additional funding.
- Strengthening Public Trust & Transparency: Clearly communicate how LEZ-generated revenues will be reinvested in public transit, EV infrastructure, and mobility equity programs, ensuring tangible benefits for residents.
- Framing LEZs as a Public Health Initiative: Emphasize the health benefits of improved air quality to reduce opposition from local businesses and car users. Successful LEZ implementation in Berlin and London used this strategy to shift public perception.

2. Phased Implementation Strategy

A gradual rollout allows stakeholders to adjust over time, ensures data-driven policy refinement, and demonstrates measurable benefits before full-scale adoption.

Pilot Phase (Year 1–2): Testing & Awareness

- Implement a small-scale LEZ in a high-emission district (Minianel Viário), prioritizing congested and polluted areas.
- Target government fleets, corporate vehicles, and public transit for compliance first, avoiding an immediate burden on private citizens.
- Offer financial incentives for small businesses and low-income drivers to transition to cleaner vehicles.
- Launch public education campaigns to highlight the economic and health benefits of LEZs.

Expansion Phase (Year 3–5): Strengthening the Model

- Gradually extend LEZs to additional districts, increasing restrictions on high-emission vehicles.
- Strengthen partnerships with automakers (BYD, GWM, Volkswagen) to facilitate more affordable EV adoption.
- Ensure transparent reinvestment of LEZ-generated fines into public transportation and urban mobility improvements.

Full Implementation (Year 5+): Citywide Adoption

- Expand LEZ coverage citywide and integrate congestion pricing where necessary.
- Mandate progressive emissions standards for all vehicles entering restricted zones.
- Scale up EV charging infrastructure and alternative mobility solutions to ensure accessibility for all economic groups.

This approach follows global best practices, such as Stockholm's phased congestion pricing trial and Milan's iterative LEZ adjustments based on public feedback.

3. Overcoming Resistance & Ensuring Public Buy-In

Resistance from local businesses, logistics operators, and car users is expected. Strategic communication and economic incentives can mitigate opposition.

- Engaging Local Businesses & Logistics Providers: Offer tax breaks and fleet transition subsidies, develop urban freight consolidation centers, and phase in compliance gradually.
- **Political Alliances & Advocacy:** Secure support from São Paulo City Council members, particularly those aligned with climate and urban mobility policies.
- Federal Alignment for Economic Incentives: The Lula administration supports national climate goals but may not prioritize São Paulo's LEZs. Aligning the policy with federal sustainability programs can help secure funding without requiring direct political endorsement.
- **Equitable Policy Framing:** Address equity concerns by highlighting subsidies for low-income drivers and ensuring LEZ funds directly improve mobility options in affected areas.

4. Public Engagement & Communication Strategies

Since public resistance is a key barrier, a data-driven, transparent communication plan is essential

- Use Data & Visualizations: Show real-time emissions reductions to demonstrate tangible benefits.
- **Highlight International Success Stories:** Showcase economic and health improvements in cities like London, Stockholm, and Milan.
- **Involve the Public:** Organize community forums and public consultations to integrate feedback into the rollout.
- Leverage Health Experts & Trusted Voices: Work with medical professionals and urban planners to reinforce the benefits of LEZs.

5. Data-Driven Decision Making for Long-Term Success

For LEZs to remain effective, policy adjustments must be based on continuous data collection and analysis.

- Air Quality Monitoring: Establish baseline pollution levels and track LEZ impact.
- Economic Impact Assessments: Evaluate effects on business revenue, logistics costs, and employment.
- Traffic Pattern Analysis: Assess whether LEZs displace congestion rather than reduce it.

6. Institutionalizing LEZs for Sustainable Urban Mobility

Beyond immediate rollout, São Paulo must ensure LEZs become a permanent, integrated part of urban planning.

- **Create a Multi-Sector LEZ Task Force:** Include government, businesses, environmental groups, and transportation planners to oversee policy evolution.
- Expand EV & Public Transit Accessibility: Invest in electric buses, charging stations, and nonmotorized mobility solutions.
- Leverage Global Climate Commitments: Align LEZs with São Paulo's climate neutrality targets, attracting international funding and reinforcing its leadership in urban sustainability.

CONCLUSION

The implementation of LEZs in São Paulo presents both significant opportunities and formidable challenges. This report has examined the political feasibility of LEZs in the city by drawing insights from international case studies, and by analyzing stakeholder interests and governance structures. Our findings highlight that while there is strong environmental justification for LEZs, their political viability hinges on strategic stakeholder engagement, careful policy framing, and a phased implementation approach.

Summary of Key Findings

São Paulo faces severe urban mobility and environmental challenges, including rising vehicle emissions, declining public transportation usage, and worsening air quality. These issues are exacerbated by São Paulo's deep-rooted car culture, political alliances with the automotive industry, and socio-economic disparities that complicate policy implementation. The recent shift in mobility trends, with private transportation surpassing public transit for the first time in 20 years, further underscores the complexity of introducing LEZs.

Despite these barriers, the report finds that LEZs could be politically viable if positioned strategically. International examples from cities such as London, Stockholm, and Milan demonstrate that successful LEZ policies require strong political leadership, transparent revenue reinvestment, and clear public health messaging. Moreover, a phased rollout—starting with high-pollution areas and gradually expanding—can ease resistance while showcasing tangible benefits. Additionally, the presence of global electric vehicle manufacturers such as BYD and GWM in Brazil offers a unique opportunity to align industry interests with LEZ implementation, mitigating opposition from the automotive sector.

At the political level, Mayor Ricardo Nunes' administration enjoys a strong majority in the City Council, providing a potential legislative pathway for LEZ adoption. However, his ties to the automotive industry and reliance on a cardependent electorate pose obstacles that must be navigated through targeted policy incentives and stakeholder negotiations. Furthermore, while São Paulo has ambitious sustainability commitments under PlanClima SP, the stalled implementation of the Zero Emission Zone (ZEZ) highlights the difficulties in executing transformative urban mobility policies.

Answering the Research Question: Is the Implementation of LEZs in São Paulo Politically Viable?

The political viability of LEZs in São Paulo depends on a combination of policy design, stakeholder alignment, and public perception management. Based on this report's findings, LEZs are feasible if implemented through a structured, incremental approach that builds public trust and secures economic incentives for key stakeholders. However, without strong governance, clear communication, and strategic partnerships, political resistance could hinder progress.

Final Recommendations

To enhance the political feasibility of LEZs, we recommend:

- 1. Phased Implementation: Introduce LEZs in a stepwise manner, beginning with a pilot zone in the city's most congested and polluted districts. Expand gradually based on data-driven impact assessments.
- 2. Strategic Political and Stakeholder Engagement: Establish a multi-sectoral LEZ task force, including municipal, state, and federal representatives, as well as business and environmental groups.

- 3. Public Health Framing: Position LEZs primarily as a public health initiative to reduce respiratory diseases and hospitalizations, leveraging medical data and expert endorsements to strengthen public support.
- 4. Economic Incentives and Compensation Measures: Offer financial support for affected local businesses, including tax breaks for fleet electrification, subsidies for small businesses, and logistical adjustments for delivery services.
- 5. Revenue Transparency and Public Investment: Allocate revenue from LEZ penalties toward public transportation improvements, electric vehicle infrastructure, and equitable mobility initiatives to counteract potential backlash.
- 6. Public Awareness and Communication Campaigns: Conduct targeted outreach emphasizing the benefits of LEZs, using international success stories to build credibility. Incorporate public consultations and participatory budgeting mechanisms to enhance transparency and trust.

Potential Impact

If successfully implemented, LEZs could yield significant environmental, health, and economic benefits for São Paulo. LEZs have the potential to reduce vehicular emissions, lower respiratory-related hospital admissions, and enhance overall urban livability. Moreover, by aligning LEZs with broader climate goals under PlanClima SP, São Paulo can position itself as a regional leader in sustainable urban mobility.

Politically, a well-executed LEZ strategy could strengthen São Paulo's environmental governance framework, demonstrating the viability of green policies in a car-dependent metropolis. By engaging key industry players, such as automakers and logistics firms, the city can foster private sector cooperation, paving the way for broader sustainable mobility initiatives.

However, the policy's long-term success will depend on maintaining political momentum, ensuring equitable enforcement, and continuously adapting to emerging challenges. While resistance from local businesses and car owners is likely, the combination of economic incentives, public health framing, and visible reinvestment in transport infrastructure can mitigate opposition and build lasting support.

In conclusion, this report finds that while the implementation of LEZs in São Paulo is politically challenging, it remains a viable policy option if executed strategically. By leveraging lessons from successful international cases, aligning LEZs with economic incentives, and fostering transparent governance, São Paulo can establish itself as a pioneering city in Latin America's transition to sustainable urban environments. The policy's success will depend on sustained political leadership, industry alignment, and a clear commitment to public health and environmental objectives.

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