Restaurant Inspection Analysis

A Data-Driven Insights Report

Introduction

This dashboard helps health department officials, restaurant owners, and food safety stakeholders track and analyze inspection results across regions, violation types, and time periods in Los Angeles County. It provides data-driven insights to identify problem areas, optimize inspection resources, and improve overall food safety performance. The Key Stakeholders are:

- Health Department Administrators
- Food Safety Inspectors
- Restaurant Owners/Operators
- City Planning Officials
- Public Health Researcher

Objective

- Monitor inspection compliance by tracking key metrics including total inspections, violation rates, and sanitation grades
- Analyze and compare violation trends across different regions to prioritize inspection resources
- Identify common violation types to target for education and prevention
- Track progress toward food safety goals across the country
- Pinpoint geographical areas needing additional oversight or support

Key Questions

- Which regions have the highest violation rates and need focused attention?
- Which areas are meeting or exceeding food safety goals?
- Where should we allocate additional inspection resources?
- What are the most common types of violations occurring?

Restaurant Inspection Analysis

Home | Detail

7/1/2021 — 12/31/2023

Inspector Name: All

Violation Code: All

Current Month Inspection

5,901

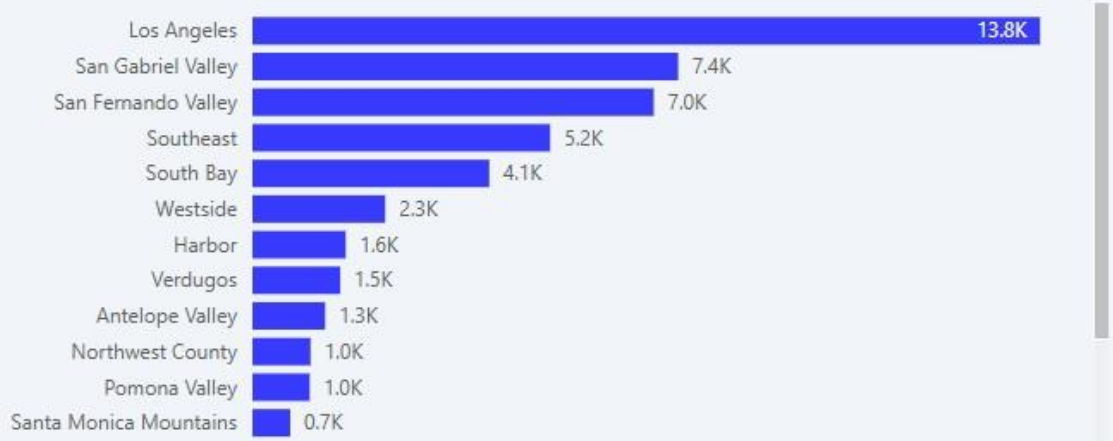
Goal: 6,061 (-2.64%)

Average Sanitation Grade

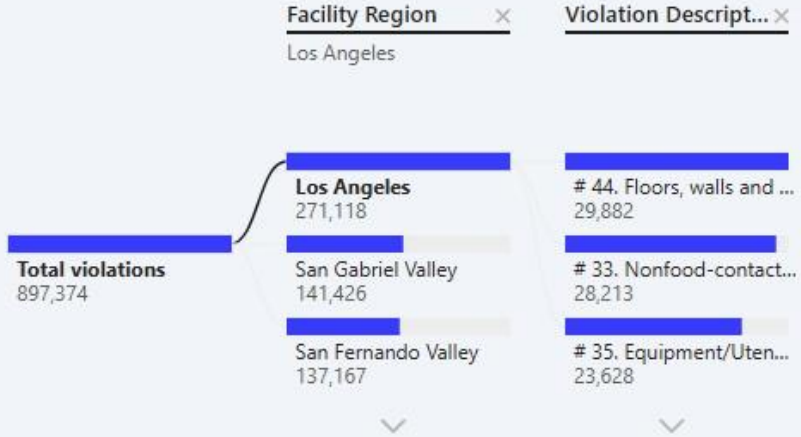
92.28

Goal: 91.97 (+0.33%)

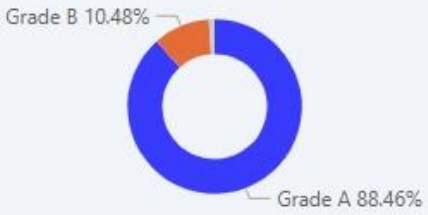
Inspection by Region & Restaurant Name



Violations by Region & Type



Sanitation Grade



Restaurant Zip code

Violation Trend

Key Metrics

Insights

- The total number of restaurant inspections conducted in the current month by comparing it to previous month, helps assess whether health departments are meeting inspection targets
- The mean inspection grade across all restaurants inspected in current month by comparing it to previous month, Indicates strong/weak compliance with food safety standards.

Measures (DAX Query)

- Total Inspections = COUNTROWS(VALUES(R_Restaurant_Inspection_Data[record_id]))
- Total violations = COUNT(R_Restaurant_Inspection_Data[violation_code]) - COUNTBLANK(R_Restaurant_Inspection_Data[violation_code])
- Previous month sanitary grade = CALCULATE([Avg sanitary grade],DATEADD(R_Calendar_Lookup[Transaction_Date],-1,MONTH))
- Previous month Inspections = CALCULATE([Total Inspections],DATEADD(R_Calendar_Lookup[Transaction_Date],-1,MONTH))
- All Violations = CALCULATE([Total violations],ALL(R_Restaurant_Inspection_Data))
- All inspections = CALCULATE([Total Inspections],ALL(R_Restaurant_Inspection_Data))
- % of all Inspections = DIVIDE([Total Inspections],[All inspections])
- % of all violations = DIVIDE([Total violations],[All Violations])
- Avg sanitary grade = AVERAGE(R_Restaurant_Inspection_Data[score])
- Grade A = CALCULATE(COUNT(R_Restaurant_Inspection_Data[grade]), R_Restaurant_Inspection_Data[grade] = "A")

Inspection by Region & Restaurant Name

Insights

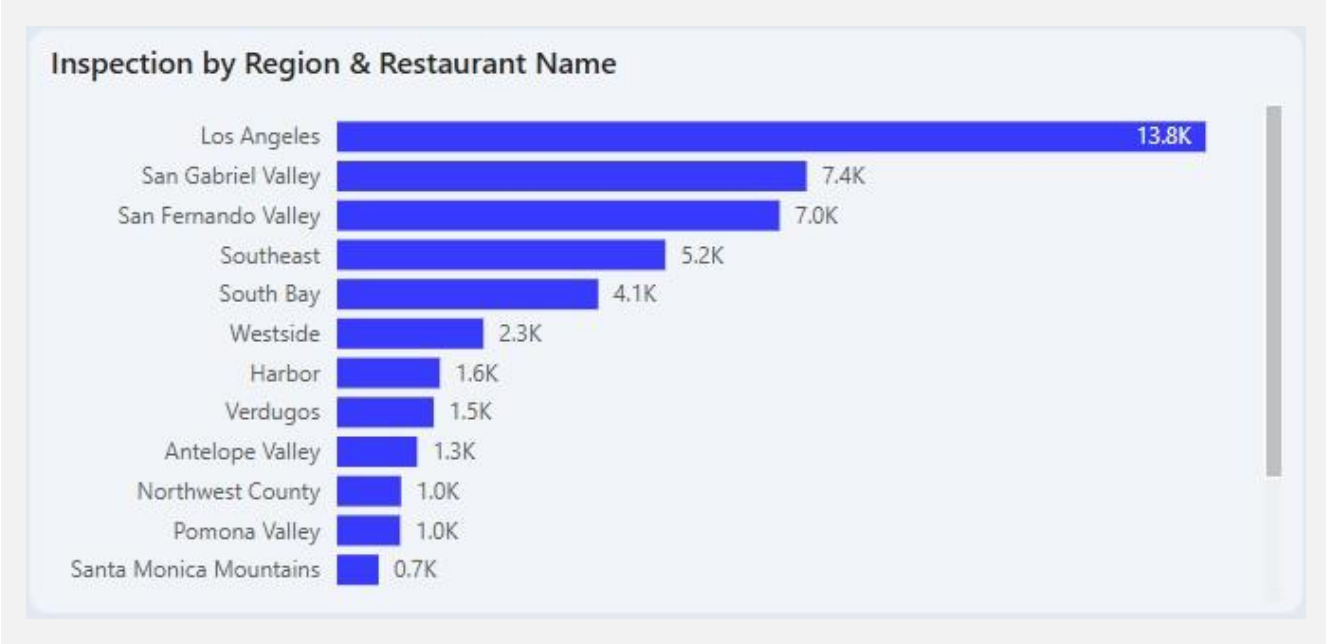
- Los Angeles have the highest inspection volumes, suggesting either higher restaurant density
- Central LA, Eastside, Northeast LA has the lowest inspection volume—could indicate underserved areas or fewer restaurants.

Challenges

- High-volume regions may strain inspector bandwidth, leading to rushed inspections.
- Lower-volume regions might lack consistent oversight, masking recurring violations.

Recommendations

- For High-Volume Regions: Deploy additional inspectors or automate scheduling to reduce backlogs.
- For High-Violation Regions, Launch targeted training for common violations
- Use predictive analytics to shift inspectors to regions with rising violation trends
- Publish restaurant-grade distributions by region to incentivize compliance



Violations by Region & Type

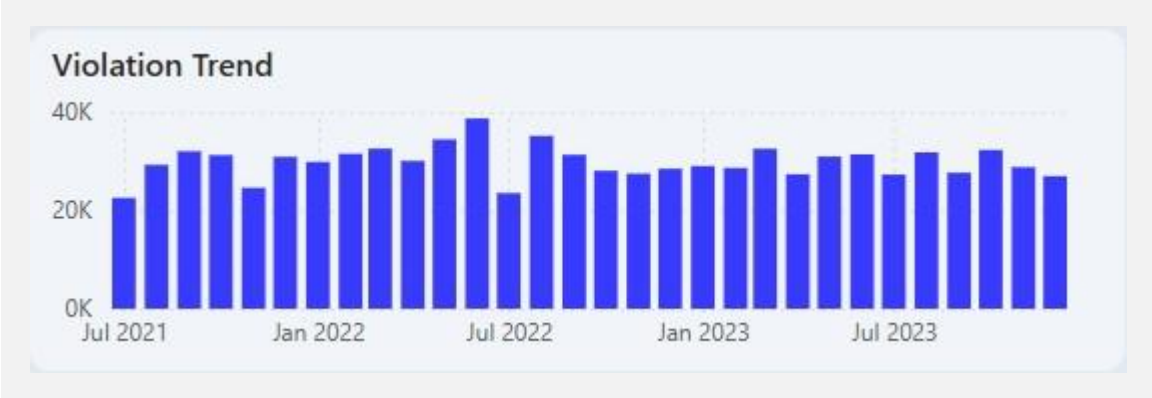
Insights

- Decomposition Tree is used to show Regions and their violation types alongside specific violation counts
- Los Angeles has the highest total violations with floor/wall maintenance being the most frequent, likely due to higher restaurant density.
- High-violation regions may need more inspectors, but budget constraints could limit coverage.
- Repeat violations indicate poor adherence to standards despite inspections.
- Advocate for stricter penalties for repeat offenders in high-violation regions.

Violation Trend

Insights

- Violations peak in may, June, august months, possibly due to higher restaurant activity or perishable food risks and lowest in July month.
- High-violation regions (e.g., LA) may need more inspectors, while low-volume areas could be underserved.
- Violation spikes in certain months may correlate with seasonal factors (e.g., summer crowds, holiday rushes).



Sanitation Grade

Insights

- 88.46% Grade A: Indicates strong overall compliance, but 10.48% Grade B and any Grade C restaurants still pose risks.
- San Gabriel Valley and San Fernando Valley have high inspection volumes, but their violation trends suggest maintenance challenges.
- Grade B/C restaurants: Mandate corrective action plans. Low inspection frequency in some regions could mask hidden risks.
- Reward top performers (e.g., "A+ Certification" for consistent Grade A restaurants)

Restaurant Zip Code

Insights

- Zip codes with the big bubble size have the most violations, suggesting areas needing urgent intervention.
- Zip codes with high violations likely correlate with lower sanitation grades (B/C).
- Busy restaurants may struggle with consistent compliance.
- Aging equipment/facilities may lead to more violations
- Mandatory staff training for restaurants with repeat violations.
- Proactive maintenance programs for older restaurants and Public health campaigns in high-risk zones to educate owners & customers

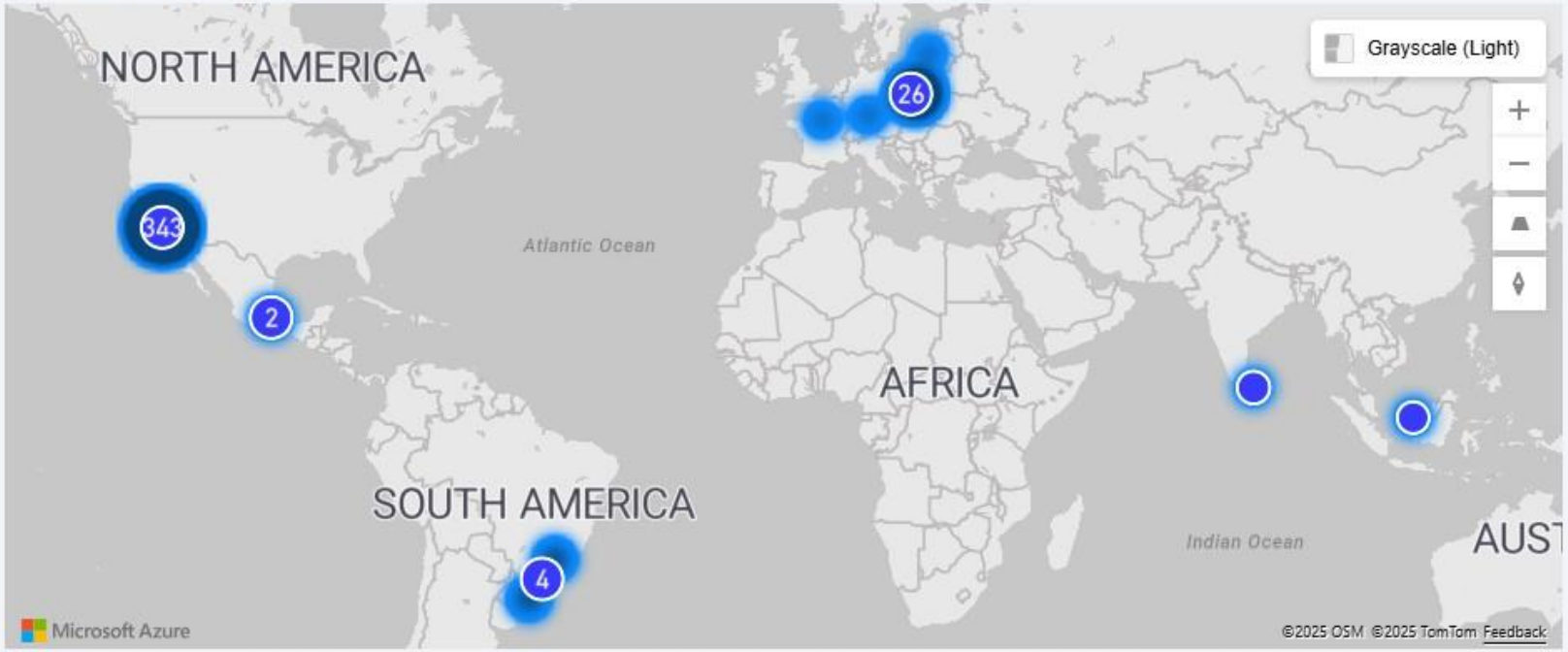
Restaurant Inspection Detailed Analysis

Home | Detail

Facility Region

- Select all
- Angeles Forest
- Antelope Valley
- Central L.A.
- Eastside
- Harbor
- Los Angeles
- Northeast L.A.
- Northwest County
- Pomona Valley
- San Fernando Valley
- San Gabriel Valley
- Santa Monica Mountains
- South Bay
- Southeast
- Verdugos
- Westside

Total violations by zip code



Monthly total violations

Restaurant Inspection Detailed Analysis

This dashboard provides a geographical analysis of restaurant health code violations across different regions, zip codes, and time periods. To Track violation trends, Identify high-risk areas, Allocate inspection resources effectively.

Objective

- Monitor Violation Hotspots – Pinpoint zip codes with the highest violations.
- Regional Comparison – Compare performance across regions

Insights

- Geographic visualization of violations, with data point cluster with heatmap indicating higher violations in region.
- High-risk zip codes likely have older restaurants or high density, Low-risk zip codes may reflect better compliance.
- Seasonal spikes (e.g., summer months due to higher dining activity).
- Root Cause -Are violations due to negligence, outdated facilities, or insufficient training?
- Priority inspections in top-violation zip codes and training for restaurants
- Stricter penalties for repeat offenders.
- Incentives for consistent "A" grade restaurants.
- Integrate customer complaint data for a fuller risk assessment.

Outcome

By leveraging the insights and data-driven strategies from this dashboard, stakeholders can expect:

- Targeted Inspections: Focus resources on high-violation regions (e.g., Los Angeles, San Fernando Valley) and common violations
- Higher Sanitation Grades: Reduce Grade B/C restaurants by addressing recurring violations
- Trend-Based : Use violation trends (seasonal spikes) to deploy inspectors or training programs.
- Reduced Violations: Proactively address frequent issues to lower violation rates MoM
- Accountability: Clear regional benchmarks help track progress and justify resource allocation.
- Staff & Budget Prioritization: Redirect efforts to regions with rising violations or low inspection volume.

As a result, A safer, more efficient, and transparent food safety ecosystem, where: Restaurants meet higher cleanliness standards, boosting public trust. Health departments optimize inspections, saving time and costs. Communities benefit from reduced foodborne illness risks and equitable oversight.

By acting on these insights, stakeholders will create a data-driven, proactive, and high-compliance food safety environment across California

Thank You!