

# Comprehensive Service Request Performance Analysis

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# Chapter 1

## Acknowledgment Time Analysis

### 1.1 Statistical Overview

The analysis of service request acknowledgment times reveals a complex distribution pattern with the following key statistics:

- Median: 688.0 minutes (11.47 hours)
- Mean: 2,890.31 minutes (48.17 hours)
- Standard Deviation: 12,265.92 minutes
- Range: 0 to 462,087 minutes (0 to 321.59 days)

The substantial difference between mean and median (2,890.31 vs 688.0) indicates a heavily right-skewed distribution, suggesting that while most requests are acknowledged within a reasonable timeframe, there are significant outliers that pull the average higher.

### 1.2 Time-Based Response Analysis

#### 1.2.1 Response Time Distribution

The cumulative response distribution shows:

- Within 1 hour: 6.16% of requests
- Within 2 hours: 7.21% of requests
- Within 4 hours: 8.25% of requests
- Within 8 hours: 9.18% of requests
- Within 24 hours: 14.16% of requests

## 1.3 Temporal Response Patterns

### 1.3.1 Weekly and Daily Patterns

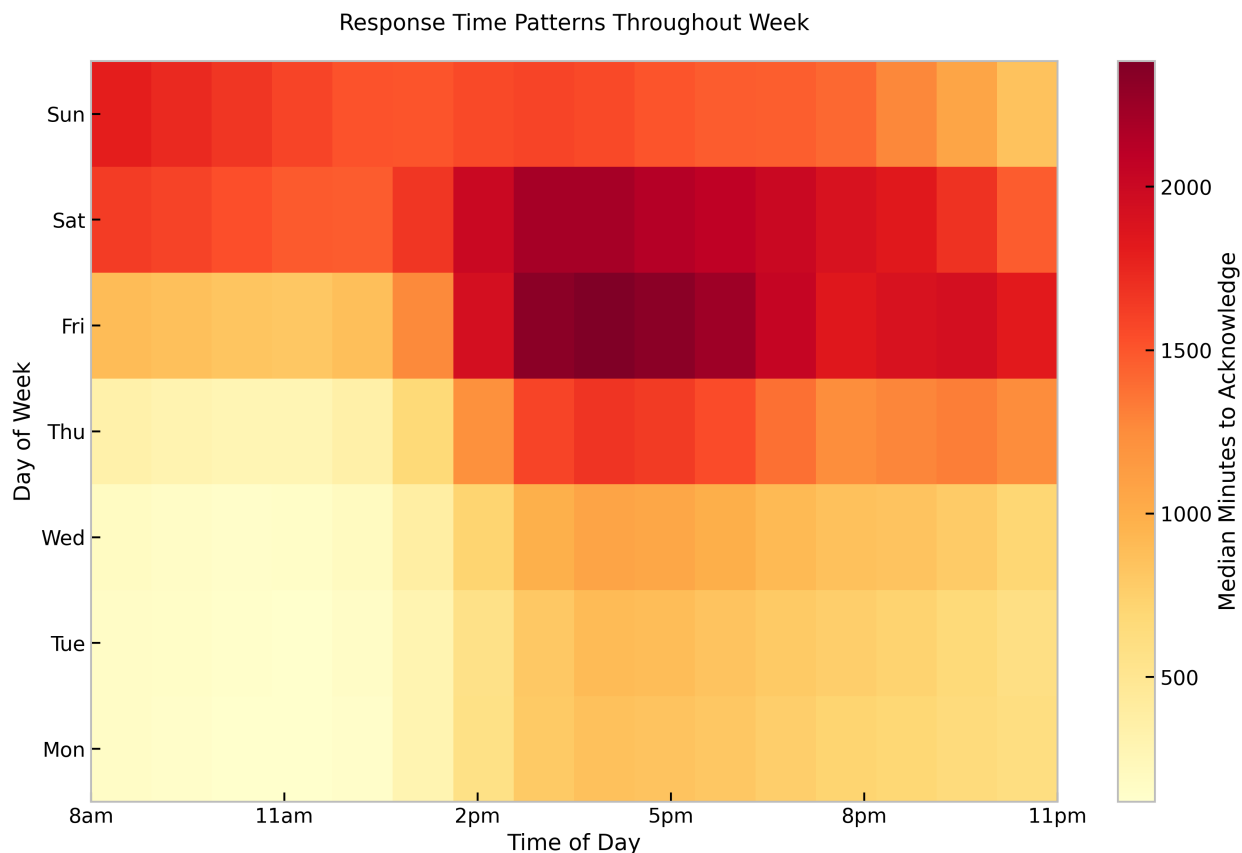


Figure 1.1: Response Time Patterns Throughout Week

The heatmap visualization reveals several critical patterns in response times. Most notably, there is a significant slowdown in response times during weekends and Friday afternoons. The data shows:

- Early weekday mornings (8am-11am) demonstrate the fastest response times
- Friday afternoons show a marked increase in response times, indicating potential end-of-week staffing challenges
- Weekend response times are consistently slower across all hours
- A clear "hot spot" of slower responses appears during Friday and Saturday afternoons
- Late evening hours (8pm-11pm) show gradually increasing response times

## 1.4 Agency Performance Analysis

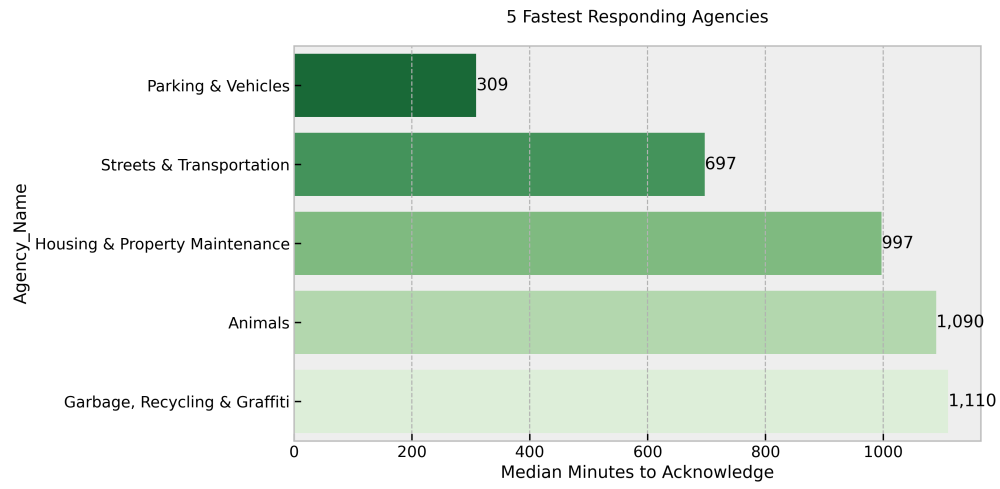


Figure 1.2: Top 5 Fastest Responding Agencies

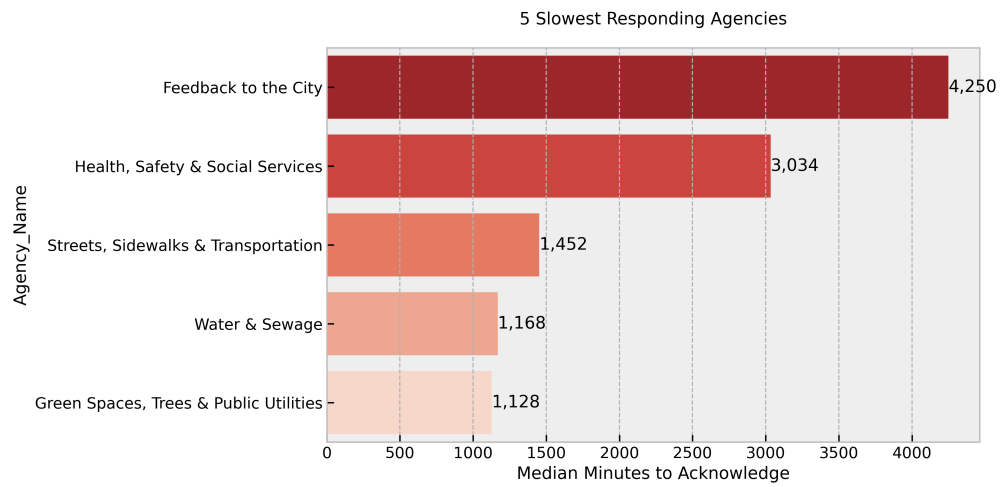


Figure 1.3: Top 5 Slowest Responding Agencies

## 1.5 Assignee Performance Analysis

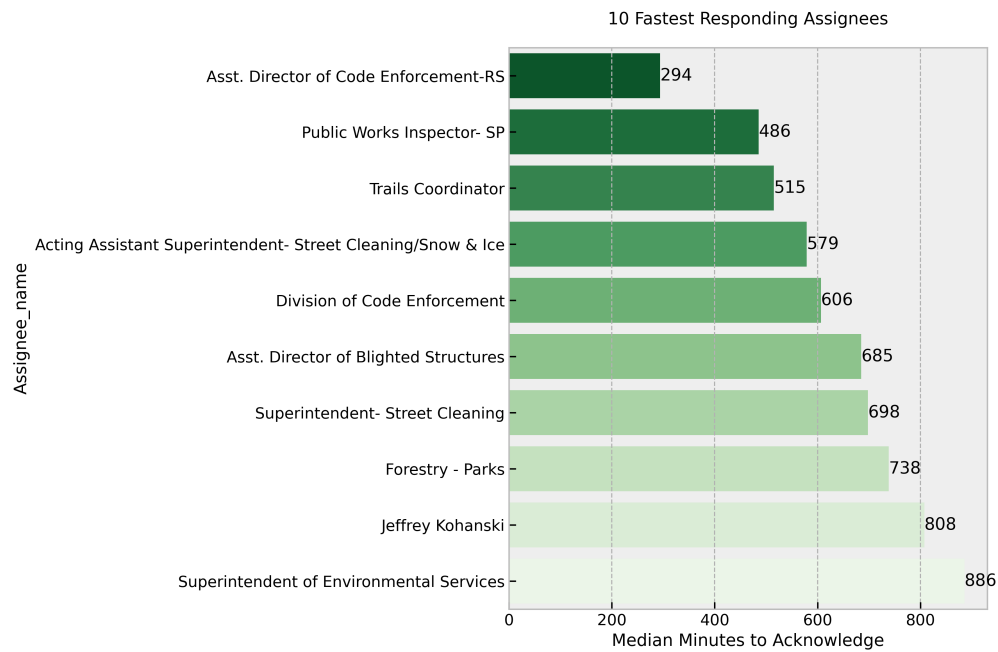


Figure 1.4: Top 10 Fastest Responding Assignees

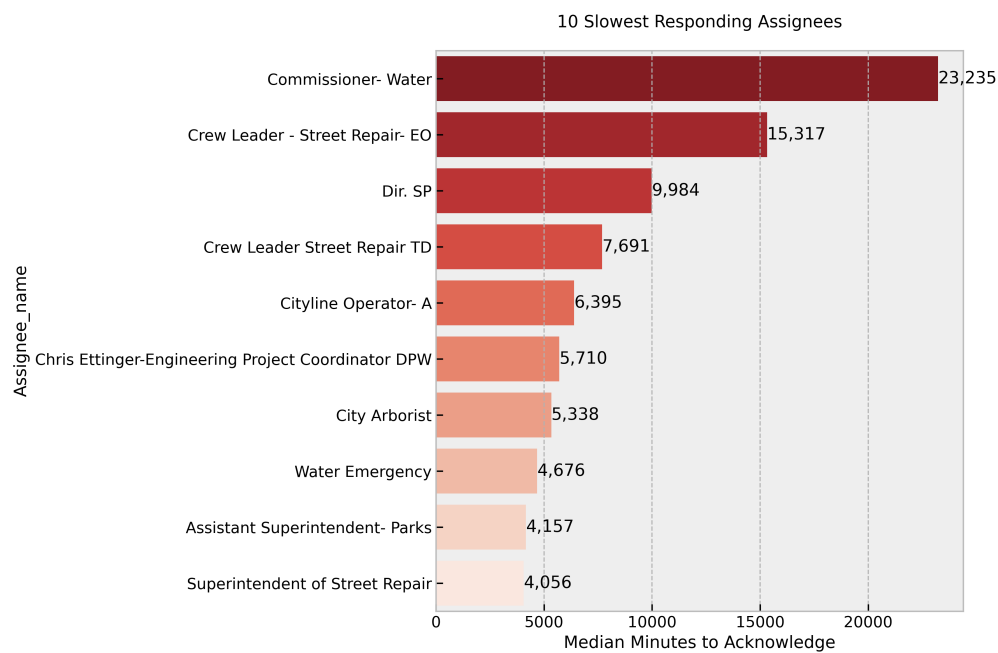


Figure 1.5: Top 10 Slowest Responding Assignees

## 1.6 Category Performance Analysis

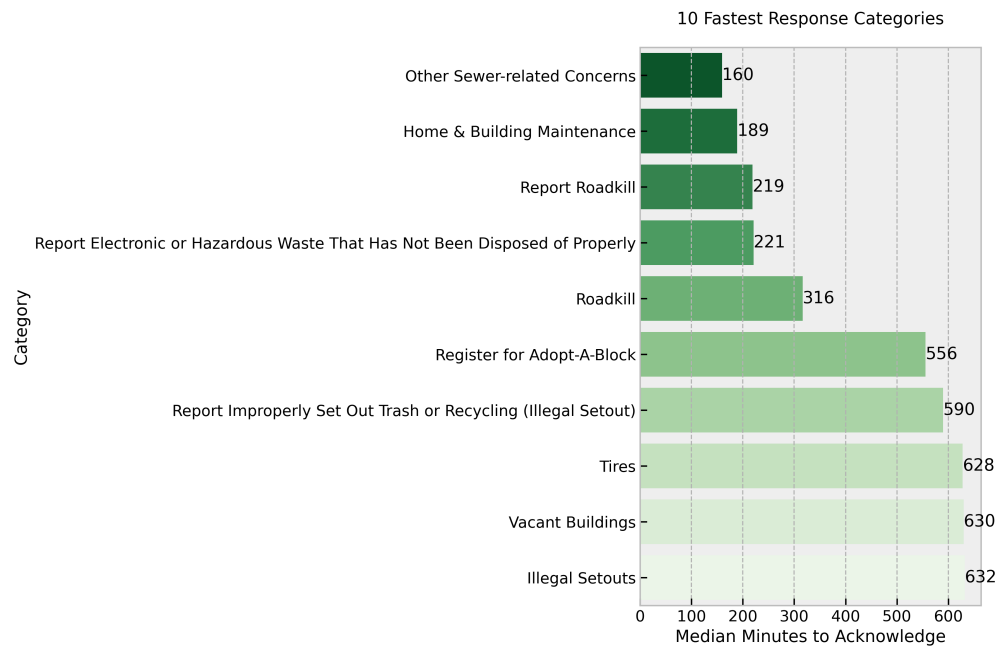


Figure 1.6: Top 10 Fastest Acknowledged Categories

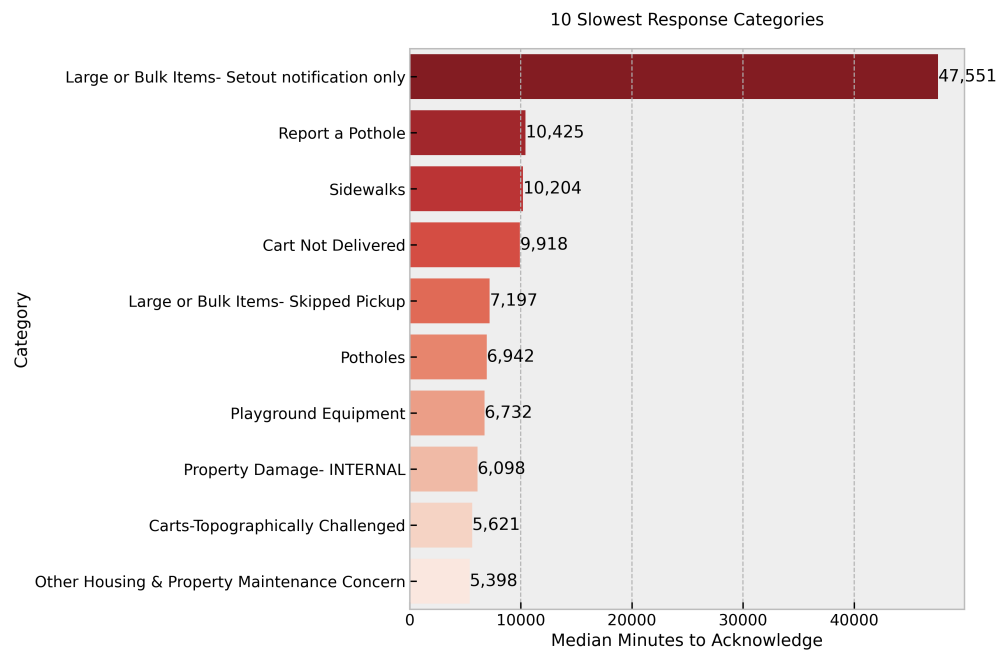


Figure 1.7: Top 10 Slowest Acknowledged Categories

# Chapter 2

## Compliance Rate Analysis

### 2.1 Overall Compliance Patterns

The analysis reveals significant variations in compliance rates across different service categories, ranging from 18.3% to 97.3%. This wide range suggests systematic differences in either the difficulty of tasks, resource allocation, or process efficiency across different service types.

### 2.2 Agency Compliance Analysis

#### 2.2.1 Agency Performance Overview

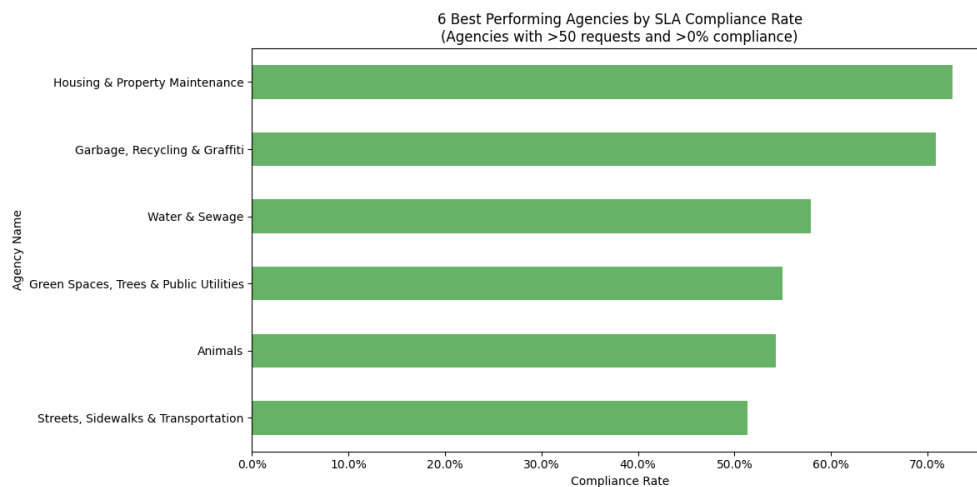


Figure 2.1: Best Performing Agencies by Compliance Rate



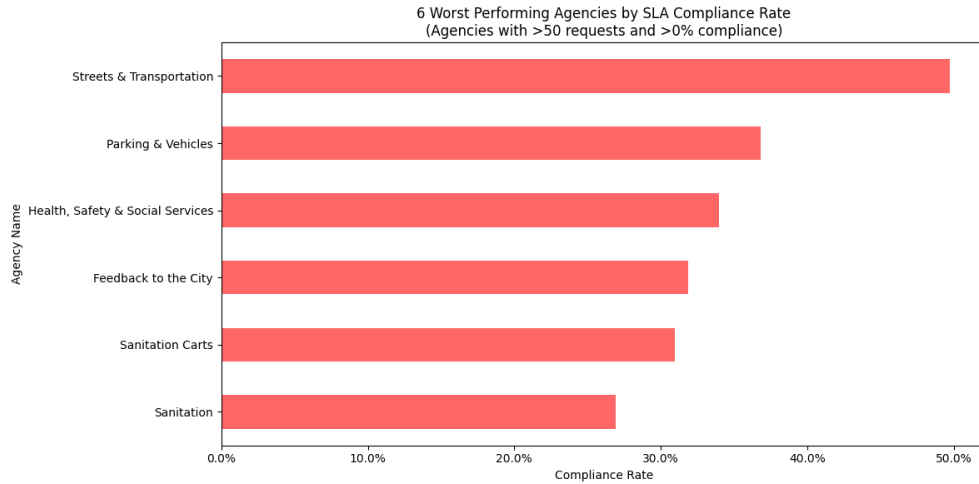


Figure 2.2: Worst Performing Agencies by Compliance Rate

The analysis shows a stark contrast between high and low-performing agencies, with compliance rates ranging from 72.6% to 26.9%. Housing & Property Maintenance leads with the highest compliance rate while handling a substantial volume of requests.

## 2.3 Assignee Compliance Analysis

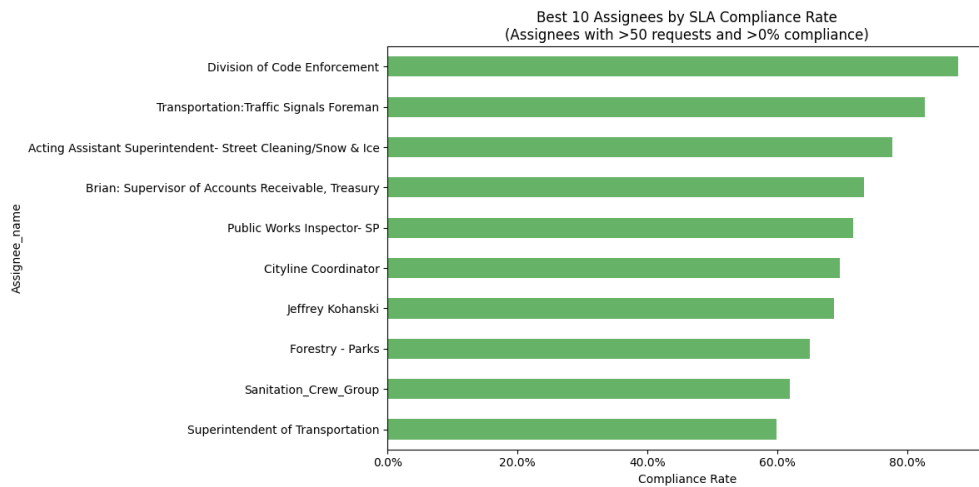


Figure 2.3: Best Performing Assignees by Compliance Rate

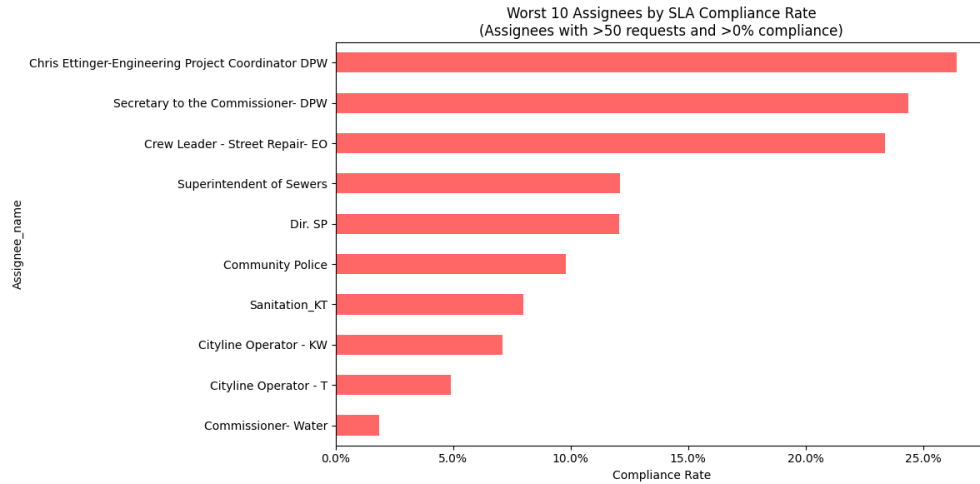


Figure 2.4: Worst Performing Assignees by Compliance Rate

Individual assignee performance shows significant variation, with the Division of Code Enforcement achieving the highest compliance rate at 87.8% while handling a substantial volume of 7,839 requests.

## 2.4 Category Performance Analysis

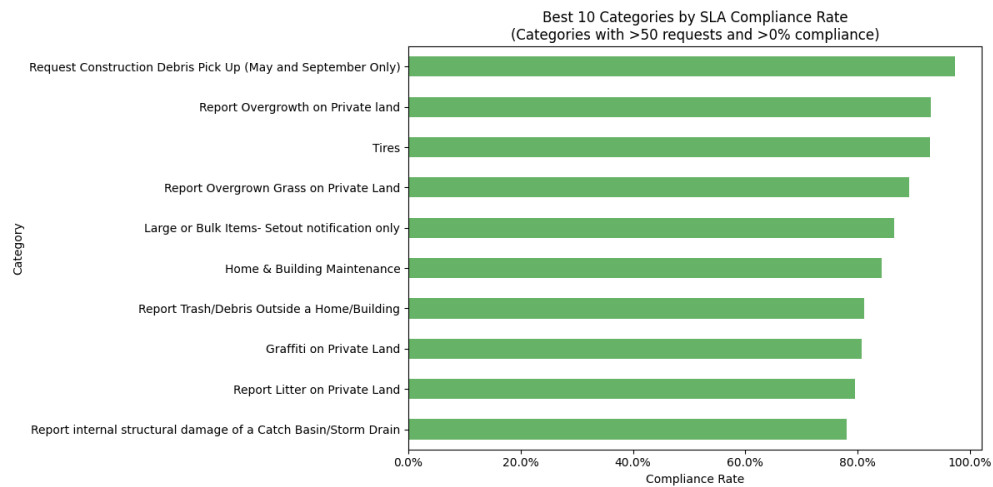


Figure 2.5: Best Performing Service Categories by Compliance Rate

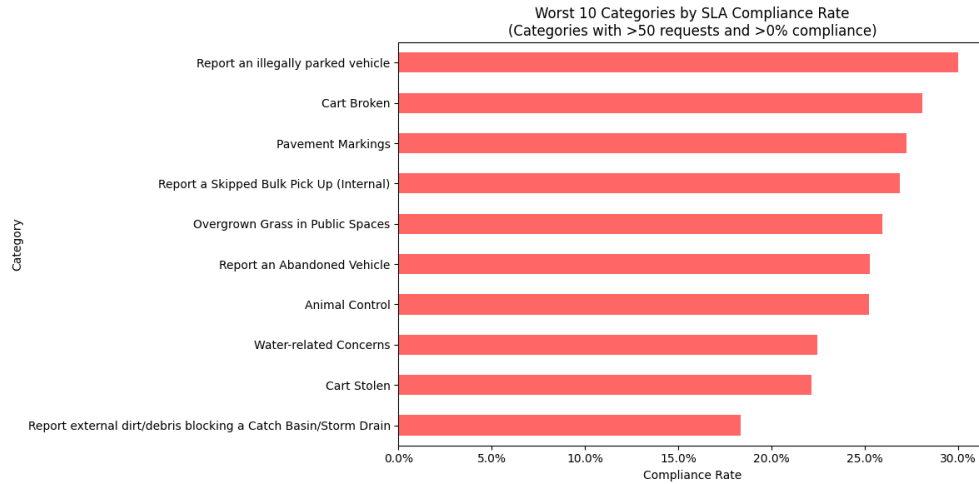


Figure 2.6: Worst Performing Service Categories by Compliance Rate

## 2.5 Cross-Dimensional Analysis

The data reveals several key patterns across agencies, assignees, and categories:

- Property-related services generally show higher compliance rates
- Emergency or time-sensitive services often have lower compliance rates
- High-volume categories tend to have more standardized performance
- Specialized services show greater variation in compliance

These patterns suggest that service complexity, resource allocation, and process standardization all play crucial roles in determining compliance rates.

# Chapter 3

## Recommendations and Insights

### 3.1 Key Findings

1. Historical performance metrics are the strongest predictors of future compliance
2. Temporal factors (day of week, year) significantly impact service delivery
3. Public engagement (followers) influences request completion
4. Significant disparities exist in performance across agencies and categories
5. Weekend and Friday afternoon response times show consistent delays

### 3.2 Actionable Recommendations

1. Implement targeted training for low-performing assignees
2. Review and optimize processes for categories with compliance rates below 30%
3. Develop standardized response protocols for high-volume request types
4. Consider workload reallocation based on historical performance metrics
5. Strengthen weekend and Friday afternoon staffing levels