

ADHOC ANALYSIS INSIGHTS

1. CALL HANDLING EFFICIENCY ANALYSIS

BUSINESS CASE:

How efficient is the nypd in handling calls from arrival to closure?

	AZ type_desc_1	123 minutes
1	TRAIN RUN/MOBILE ORDER MAINTENANCE SWEEP	12.71
2	TRANSIT PATROL/INSPECTION BY NON-TRANSIT BUREAU PERSONNEL	14.99
3	BUS INVESTIGATION	21.85
4	TRAIN ORDER MAINTENANCE SWEEP (TOMS)	23.3
5	PANIC ALARM	24.18
6	ALARMS	24.79
7	OTHER CRIMES (IN PROGRESS)	25.04
8	DISORDERLY	26.56
9	YOUTH HOME VISIT	27.17
10	10-53 NO RMP REQUIRED	28.05
11	FIRE	28.62
12	EXPLOSIVE DEVICE OR THREAT	29.26
13	UTILITY TROUBLE (SPECIFY)	30.75
14	STATION INSPECTION BY TRANSIT BUREAU PERSONNEL	33.99
15	SUSP PACKAGE	35.79
16	VERIFY AMB NEEDED	38.56
17	BURGLARY (IN PROGRESS)	38.75
18	SEE COMPLAINANT	39.7
19	ROVING BAND	40.22
20	DISPUTE	41.3
21	HAZ MAT	42.33
22	VICIRH ITV PATROL	43.12

- **Fastest resolutions:** Transit-related maintenance calls (≈13–23 mins).
- **Moderate times:** Common alarms & disorderly incidents (24–30 mins).
- **Longest delays:** Serious crimes like **assaults & robberies** (70–86 mins) and officer assist (109 mins).
- Indicates **operational strain in handling high-priority incidents** compared to routine calls.

2. UNUSUAL DELAY DETECTING

BUSINESS CASE:

Some incidents have abnormally long durations. Nypd wants to identify potential outliers that may require investigation.

123 CAD_EVT_ID	AZ type_desc_1	AZ type_desc_2	AZ BORO_NM	ARRIVD_TS	CLOSNG_TS	duration
100,535,368	VEHICLE ACCIDENT	SPECIAL CONDITION	BRONX	2024-01-31 03:11:12.000	2024-03-16 09:36:09.000	45 days 06:24:57
101,983,805	INVESTIGATE/POSSIBLE CRIME	FIREARM/OUTSIDE	BRONX	2024-03-29 19:24:17.000	2024-04-09 05:11:48.000	10 days 09:47:31
100,841,416	LARCENY (PAST)	OTHER/INSIDE	MANHATTAN	2024-02-12 19:22:58.000	2024-02-16 09:42:56.000	3 days 14:19:58
100,606,792	AMBULANCE CASE	UNCONSCIOUS/INSIDE	QUEENS	2024-02-03 00:50:29.000	2024-02-05 09:25:01.000	2 days 08:34:32
100,840,488	DISPUTE	FAMILY	STATEN ISLAND	2024-02-12 18:41:00.000	2024-02-15 02:00:42.000	2 days 07:19:42
99,936,362	OTHER NON-CRIME INCIDENT (SPECIFY)	TRANSIT	MANHATTAN	2024-01-05 07:51:37.000	2024-01-07 06:34:04.000	1 day 22:42:27
100,289,674	VERIFY AMB NEEDED	VERIFY AMB NEEDED	BRONX	2024-01-20 13:58:33.000	2024-01-22 10:12:24.000	1 day 20:13:51
101,986,699	AMBULANCE CASE	CARDIAC/CPR GIVEN	QUEENS	2024-03-29 21:46:36.000	2024-03-31 09:52:19.000	1 day 12:05:43
101,273,748	ASSAULT (PAST)	OTHER/INSIDE	BRONX	2024-03-01 22:20:34.000	2024-03-03 08:34:25.000	1 day 10:13:51
101,503,809	HOUSE OF WORSHIP VISIT	HOUSE OF WORSHIP VISIT	BROOKLYN	2024-03-10 23:39:20.000	2024-03-12 04:48:48.000	1 day 05:09:28

- **Outliers found:** One vehicle accident case in the Bronx stayed open for **45+ days**.
- Several serious cases (firearm, larceny, ambulance, assault) remained unresolved for **2–10+ days**.
- Such prolonged durations may point to **system inefficiencies, ongoing investigations, or data quality issues** that require follow-up.

3. END-TO-END RESPONSE LAG AUDIT

BUSINESS CASE:

Measure overall system latency from when a call was added to when it was closed.

AZ BORO_NM	AZ week	123 Latency	123 avg_latency_per_borough
MANHATTAN	Friday	50	49.12
MANHATTAN	Wednesday	49	49.12
MANHATTAN	Tuesday	49	49.12
MANHATTAN	Thursday	51	49.12
MANHATTAN	Sunday	45	49.12
MANHATTAN	Saturday	47	49.12
MANHATTAN	Monday	49	49.12
BROOKLYN	Monday	55	53.49
BROOKLYN	Wednesday	53	53.49
BROOKLYN	Tuesday	54	53.49
BROOKLYN	Thursday	53	53.49
BROOKLYN	Sunday	50	53.49
BROOKLYN	Saturday	51	53.49
BROOKLYN	Friday	55	53.49
STATEN ISLAND	Wednesday	57	59.78
STATEN ISLAND	Friday	4	59.78
STATEN ISLAND	Monday	59	59.78
STATEN ISLAND	Saturday	1	59.78
STATEN ISLAND	Sunday	58	59.78
STATEN ISLAND	Thursday	59	59.78
STATEN ISLAND	Tuesday	58	59.78
QUEENS	Friday	12	72
QUEENS	Wednesday	11	72

- **Bronx** has the **slowest average latency (~85 mins)**, followed by **Queens (~72 mins)**.
- **Manhattan (~49 mins)** and **Brooklyn (~53 mins)** are faster, while **Staten Island (~60 mins)** sits in the middle.
- **Null borough entries** (unmapped records, ~118 mins) Has lowest Latency which is reasonable because of unknow borough.
- Overall, borough response times show **consistent weekly patterns**, but Bronx and Queens are lagging behind.

4. DISPATCH DELAY BUCKETS

BUSINESS CASE:

Classify response delays for dispatchers.

AZ PATRL_BORO_NM	AZ delay_dispatch	123 Total Calls	123 percentage
PATROL BORO BKLYN NORTH	less than 1 minute	597,414	11.34
PATROL BORO BRONX	less than 1 minute	575,976	10.94
PATROL BORO MAN SOUTH	less than 1 minute	515,836	9.79
PATROL BORO BKLYN SOUTH	less than 1 minute	495,532	9.41
PATROL BORO MAN NORTH	less than 1 minute	456,414	8.67
PATROL BORO QUEENS NORTH	less than 1 minute	273,303	5.19
PATROL BORO QUEENS SOUTH	less than 1 minute	247,080	4.69
PATROL BORO BRONX	more than 15 minutes	196,686	3.73
PATROL BORO BRONX	less than 5 minutes	170,537	3.24
PATROL BORO BKLYN SOUTH	less than 5 minutes	142,052	2.7
PATROL BORO MAN SOUTH	less than 5 minutes	140,554	2.67
PATROL BORO BKLYN NORTH	less than 5 minutes	130,811	2.48
PATROL BORO MAN NORTH	less than 5 minutes	121,516	2.31
PATROL BORO STATEN ISLAND	less than 1 minute	117,993	2.24
PATROL BORO QUEENS NORTH	less than 5 minutes	112,764	2.14
PATROL BORO QUEENS SOUTH	less than 5 minutes	98,092	1.86
PATROL BORO BRONX	less than 15 minutes	94,584	1.8
PATROL BORO BKLYN SOUTH	more than 15 minutes	72,613	1.38
PATROL BORO QUEENS NORTH	more than 15 minutes	72,135	1.37
PATROL BORO QUEENS SOUTH	more than 15 minutes	64,935	1.23
PATROL BORO BKLYN NORTH	more than 15 minutes	62,775	1.19
PATROL BORO MAN SOUTH	more than 15 minutes	61,941	1.18
PATROL BORO BKLYN SOUTH	less than 15 minutes	59,804	1.14

- Majority of calls are dispatched in **under 1 minute** across boroughs (Brooklyn North, Bronx, Manhattan South leading).
- A smaller but notable share (~3–4%) of Bronx calls face **15+ minute delays**, showing borough-specific lag.
- Staten Island generally has **fewer delays**, while Bronx and Queens stand out for slower dispatch cases.

5. CRIME IN PROGRESS — PERFORMANCE REVIEW

BUSINESS CASE:

Are CIP (crime in progress) calls handled faster?

A-Z cip_calls ▼	123 median_time ▼	123 avg_response_time ▼
N	0.03	19.25
Y	5.82	12.96

- **Median response times** are almost instant for non-CIP calls (0.03 mins) vs ~6 mins for CIP calls.
- However, **average response** is actually **faster for CIP (13 mins)** than non-CIP (19 mins), showing dispatch prioritization.
- CIP cases get **higher priority**, but variability suggests a few long delays pull up the averages.

6. INCIDENT VOLUME DEVIATION DETECTION

BUSINESS CASE:

Spot precincts with abnormal changes in call volume.

123 NYPD_PCT_CD ▼	A-Z previous_n_week ▼	123 percentage ▼	123 previous_week_percent ▼	123 absolute_diff ▼	123 relative_diff ▼	A-Z flag ▼
13	1	0.28	0.14	0.14	1	40% change
14	1	0.55	0.23	0.32	1.39	40% change
17	1	0.17	0.51	0.34	0.67	40% change
18	1	0.35	0.17	0.18	1.06	40% change
22	1	0.06	0.12	0.06	0.5	40% change
23	1	0.22	0.06	0.16	2.67	40% change
32	1	0.28	0.14	0.14	1	40% change
40	1	0.48	0.18	0.3	1.67	40% change
41	1	0.19	0.45	0.26	0.58	40% change
42	1	0.27	0.18	0.09	0.5	40% change
44	1	0.46	0.27	0.19	0.7	40% change
45	1	0.16	0.41	0.25	0.61	40% change
46	1	0.32	0.15	0.17	1.13	40% change
52	1	0.37	0.13	0.24	1.85	40% change
67	1	0.3	0.12	0.18	1.5	40% change
70	1	0.28	0.15	0.13	0.87	40% change
72	1	0.28	0.17	0.11	0.65	40% change
73	1	0.56	0.23	0.33	1.43	40% change
76	1	0.15	0.39	0.24	0.62	40% change
77	1	0.24	0.12	0.12	1	40% change
79	1	0.3	0.19	0.11	0.58	40% change
84	1	0.45	0.22	0.23	1.05	40% change

- Across the past 6 weeks, **multiple precincts showed >40% shifts in weekly call volumes**, but all flagged deviations were concentrated in the **final week of September**.
- This clustering suggests either a **genuine surge/drop in incidents citywide during that week** or a **data anomaly/reporting lag** (e.g., delayed entries or cutoff in records).
- Because deviations didn't occur earlier, this pattern likely reflects a **system-wide effect rather than isolated precinct behavior**.

7. TOP CALL TYPES BY GEOGRAPHIC SPREAD

BUSINESS CASE:

Which incident types occur across the widest area?

AZ type_desc_1	AZ BORO_NM	123 NYPD_PCT_CD	123 count
STATION INSPECTION BY TRANSIT BUREAU PERSONNEL	MANHATTAN	14	55,506
STATION INSPECTION BY TRANSIT BUREAU PERSONNEL	BROOKLYN	84	30,937
STATION INSPECTION BY TRANSIT BUREAU PERSONNEL	BRONX	40	29,085
VISIBILITY PATROL	BROOKLYN	73	28,752
VISIBILITY PATROL	STATEN ISLAND	120	28,605
VISIBILITY PATROL	BROOKLYN	75	27,528
VISIBILITY PATROL	BRONX	43	25,121
STATION INSPECTION BY TRANSIT BUREAU PERSONNEL	BROOKLYN	73	24,903
INVESTIGATE/POSSIBLE CRIME	BRONX	44	22,109
VISIBILITY PATROL	MANHATTAN	32	22,076

- **Station Inspections** and **Visibility Patrols** dominate across precincts and boroughs, making them the most geographically spread call types.
- These two categories appear consistently in **Manhattan, Brooklyn, Bronx, and Staten Island**, showing they're **citywide operational priorities**.
- Other categories like **Investigate/Possible Crime** also show presence across boroughs, but at relatively lower scale.
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8. ANALYZING CALL TYPES BY DAY VS. NIGHT ACTIVITY

BUSINESS CASE :

Which radio codes occur most frequently at night vs during the day?

AZ RADIO_CODE	AZ BORO_NM	AZ day/night	123 count
75S	BROOKLYN	Day	99,850
75S	MANHATTAN	Day	92,303
68Q1	BROOKLYN	Day	86,584
75D	MANHATTAN	Day	82,775
75D	BROOKLYN	Day	78,251
68Q1	MANHATTAN	Day	65,854
75S	BRONX	Day	53,797
75S	QUEENS	Day	48,172
68Q1	QUEENS	Day	41,246
75T	BROOKLYN	Day	40,401

AZ RADIO_CODE	AZ BORO_NM	AZ day/night	123 count
75D	BROOKLYN	Night	97,506
68Q1	BROOKLYN	Night	94,088
75D	MANHATTAN	Night	91,181
75S	MANHATTAN	Night	73,257
75D	BRONX	Night	70,562
75S	BROOKLYN	Night	70,477
68Q1	MANHATTAN	Night	64,266
75S	BRONX	Night	54,936
75M	MANHATTAN	Night	46,453
68Q1	QUEENS	Night	44,574
75T	BROOKLYN	Night	42,044

- **Night:** Codes **75D (Disorder)** & **68Q1 (Transit)** dominate in **Brooklyn/Manhattan**, each **90K+ calls**.
- **Day:** Code **75S (Suspicious activity)** leads in **Brooklyn/Manhattan**, with **~100K+ calls**; transit codes also strong in **Queens**.
- **Trend:** Nights = **urban hotspots** (Brooklyn, Manhattan). Days = **wider spread** into **Queens/Bronx** with more **transit-related calls**.

DESCRIPTIVE ANALYSIS INSIGHT'S

(Sample output screenshots)

1. TOTAL NUMBER OF CALLS (OVERALL + PER QUARTER)

123 Quarter[2024]	123 Total Calls
2	1,781,269
1	1,750,879
3	1,734,308

2. CALLS BY TYPE CATEGORY TOP 10

VISIBILITY PATROL	813,528
INVESTIGATE/POSSIBLE CRIME	776,319
SEE COMPLAINANT	569,985
STATION INSPECTION BY TRANSIT BUREAU PERSONNEL	525,529
AMBULANCE CASE	390,738
DISPUTE	272,067
TRAIN RUN/MOBILE ORDER MAINTENANCE SWEEP	235,933
TRANSIT PATROL/INSPECTION BY NON-TRANSIT BUREAU PERSONNEL	229,260
OTHER CRIMES (IN PROGRESS)	201,712
ALARMS	166,164

3. CALLS PER DAY OF WEEK

A-Z Day	123 Total Calls
Friday	787,267
Thursday	762,615
Saturday	759,740
Wednesday	745,168
Monday	742,126
Sunday	736,180
Tuesday	733,360

4. WHICH BOROUGH HAS THE HIGHEST VOLUME OF SERIOUS INCIDENTS?

A-Z BORO_NM	A-Z CIP_JOBS	123 count
MANHATTAN	Serious	34,242
BROOKLYN	Serious	29,964
QUEENS	Serious	25,765
BRONX	Serious	25,671
STATEN ISLAND	Serious	3,782

5. GROWTH/DECLINE IN CALLS ACROSS MONTHS (JAN–SEP 2024)

A-Z month ▼	123 total_calls ▼
January	561,763
February	552,557
March	636,559
April	583,559
May	608,773
June	588,937
July	582,798
August	582,918
September	568,592

6. % OF CALLS FLAGGED AS CRIME IN PROGRESS (CIP)

A-Z cip_calls ▼	A-Z type_desc_1 ▼	A-Z type_desc_2 ▼	123 percent ↓ ▼
Y	OTHER CRIMES (IN PROGRESS)	HARASSMENT/INSIDE	1.284
Y	LARCENY (IN PROGRESS)	OTHER/INSIDE	0.842
Y	OTHER CRIMES (IN PROGRESS)	HARASSMENT/OUTSIDE	0.832
Y	OTHER CRIMES (IN PROGRESS)	TRESPASS/INSIDE	0.397
Y	OTHER CRIMES (IN PROGRESS)	OTHER/TRANSIT	0.384
Y	ASSAULT (IN PROGRESS)	OTHER/FAMILY	0.372
Y	ASSAULT (IN PROGRESS)	OTHER/INSIDE	0.34
Y	ASSAULT (IN PROGRESS)	OTHER/OUTSIDE	0.336
Y	LARCENY (IN PROGRESS)	OTHER/OUTSIDE	0.225
Y	BURGLARY (IN PROGRESS)	RESIDENCE	0.222