Overnight rebalancing plan — Friday, May 15, 2026

From: Demand Forecasting | To: Rebalancing Operations | Issued: Thursday May 14, 5:00 pm | Forecast horizon: next day

Bottom line: Expect a typical demand of **~171,000 trips** system-wide tomorrow. Position capacity for **up to ~198,000** (the 90th-percentile scenario). Conditions favor high ridership: dry, 66 °F, Friday.

WHY PLAN TO THE 90TH PERCENTILE, NOT THE AVERAGE

A dock that sits over-stocked tomorrow costs us one wasted truck-slot. An empty dock at 8 am costs a lost ride, a service-level penalty, and a rider who trusts us a little less — roughly nine times worse by our cost accounting. When being short is 9× as costly as being long, the profit-maximizing plan covers the 90th percentile of demand, not the middle of the range. That is a standard inventory result (newsvendor rule), not a judgment call.

STATION-LEVEL PLAN — TEN LARGEST POSITIONS FOR TOMORROW

Station	Typical (median)	Plan to (90th pct)	Buffer
W 21 St & 6 Ave	593	691	+98
Pier 61 / Chelsea Piers	513	645	+132
Broadway & E 14 St	483	609	+126
Cooper Sq & Astor Pl	497	604	+107
University Pl & E 14 St	471	577	+106
7 Ave & Central Park S	423	572	+149
9 Ave & W 33 St	467	564	+97
Broadway & E 21 St	467	560	+93
W 31 St & 7 Ave	445	552	+107
Broadway & W 58 St	418	536	+118

Departures per station-day, one-day-ahead forecast. "Plan to" is the calibrated 90th percentile; "buffer" is the extra positioning above the median plan. Full 50-station table available on request.

HOW MUCH TO TRUST THESE NUMBERS

- Over the past 12 months of live-condition backtesting, the median forecast has been off by an average of **39 trips per station-day** — half the error of the "same as last Friday" rule of thumb.
- The 10th–90th percentile band has contained the actual outcome **79.5% of the time** against an 80% design target — the band means what it says.
- Known weakness: in fast seasonal ramps (June, November, March) the model runs slightly low. May is not a ramp month; no manual adjustment recommended.

Hindsight note (added after the fact, for the portfolio reader): actual demand on May 15, 2026 came in at **172,545 trips** — within 0.7% of the median forecast above, and inside the planning band. This memo is a reconstruction of what the system would have issued on May 14 using only information available that day; every number is from the backtest's out-of-sample predictions, not fit after the fact.