

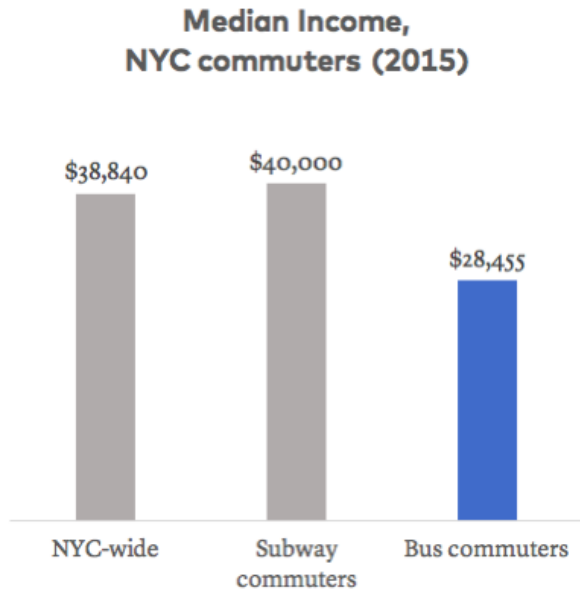
Data-Driven Advocacy For Better Buses in NYC

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TransitCenter // @transitcenter

Why Buses?
Why Now?

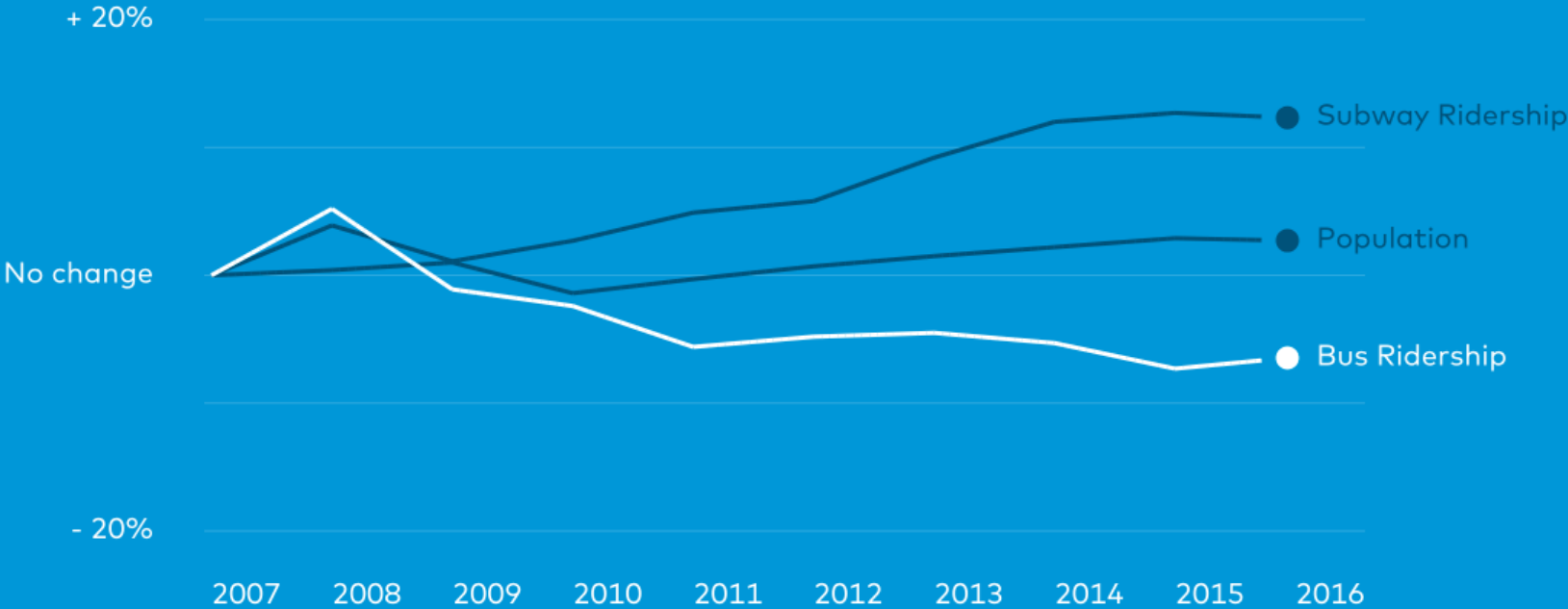
Have you met NYC's Buses?

- Over 2 million riders per weekday
- Bus ridership is higher...
 - In outer boroughs
 - Among low-income riders
 - Among people of color
 - Among immigrants
 - Among older riders



Source: 2011-15 ACS, NYC Controller's Office

New York City's buses are in crisis.



Speed down

6.6 mph

Unreliability up

9% bunched, 59% on time

2017 medians

- Increasing congestion
- Outdated system design
- Overlooked in public discourse & agency investment



Turnaround: Fixing New York City's Buses



Bus Turnaround Coalition

New Yorkers advocating for policy reform to make high quality buses in New York City.

- Bus lanes
- All-door boarding
- Signal priority
- Bus network redesign

Queens

Q06	Q07	Q08	Q09	Q1	Q10	Q100	Q101	Q102	Q103
F	F	F	D	C	C	C	D	D	B
Q104	Q11	Q110	Q111	Q112	Q113	Q114	Q12	Q13	Q15
D	D	C	F	D	F	F	C	C	B
Q15A	Q16	Q17	Q18	Q19	Q2	Q20A	Q20B	Q21	Q22
B	B	F	D	D	C	D	D	D	D
Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q3	Q30	Q31
F	F	F	C	F	D	D	C	F	D

Processing data from GTFS

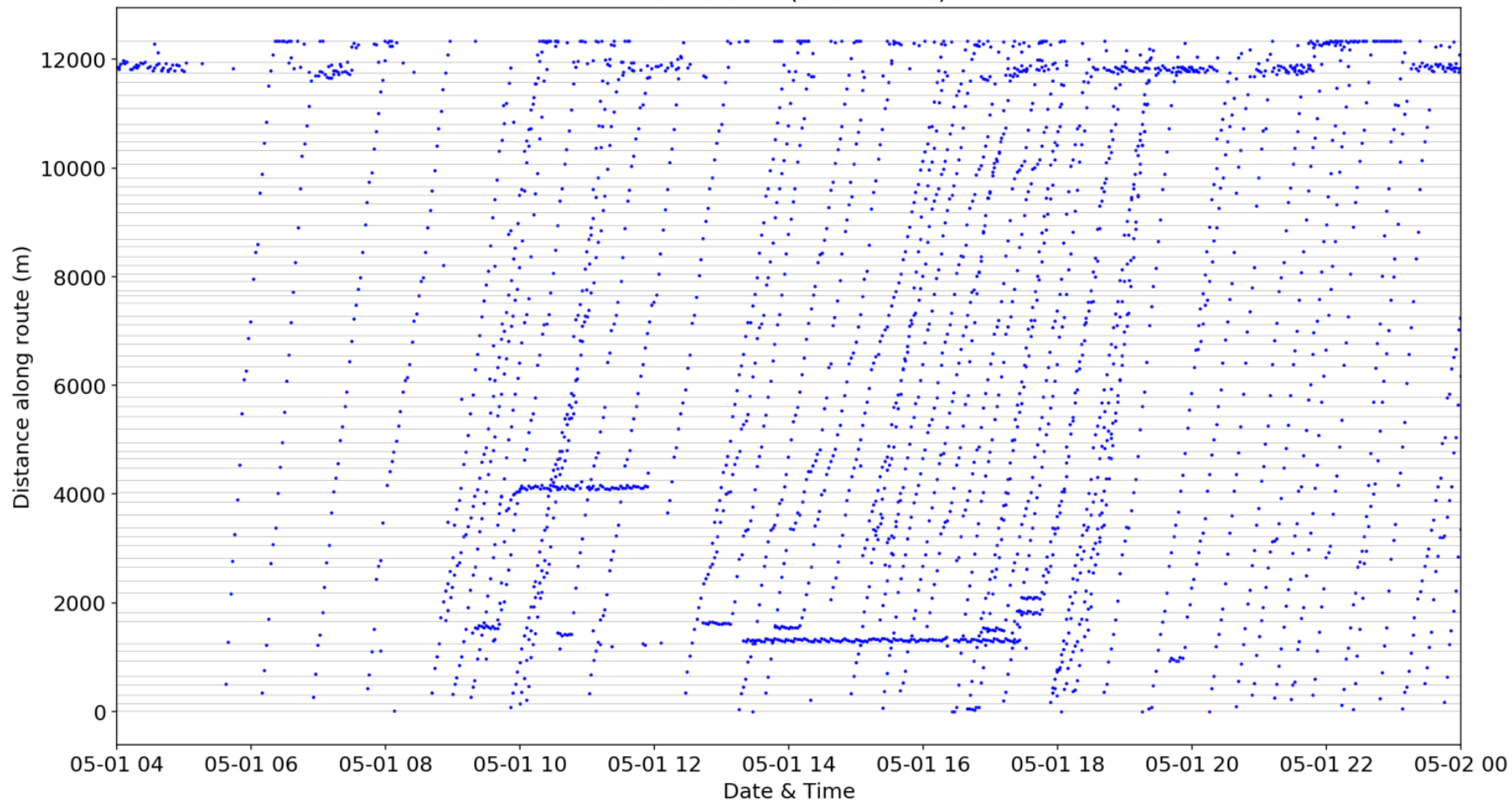
Every minute	MTA's GTFS-Realtime bus position data saved	PostgreSQL database
Daily	Archived to CSV (for storage)	CSV
Semi-annually	Raw position data & GTFS schedule extracted	PostgreSQL
	Data cleaned	PostgreSQL, PostGIS
	Data transformed into calls specific data requests	PostgreSQL, Python (Numpy)
	Summarize calls into stats	PostgreSQL

**Cleaning and
prepping the data is
the hard part**

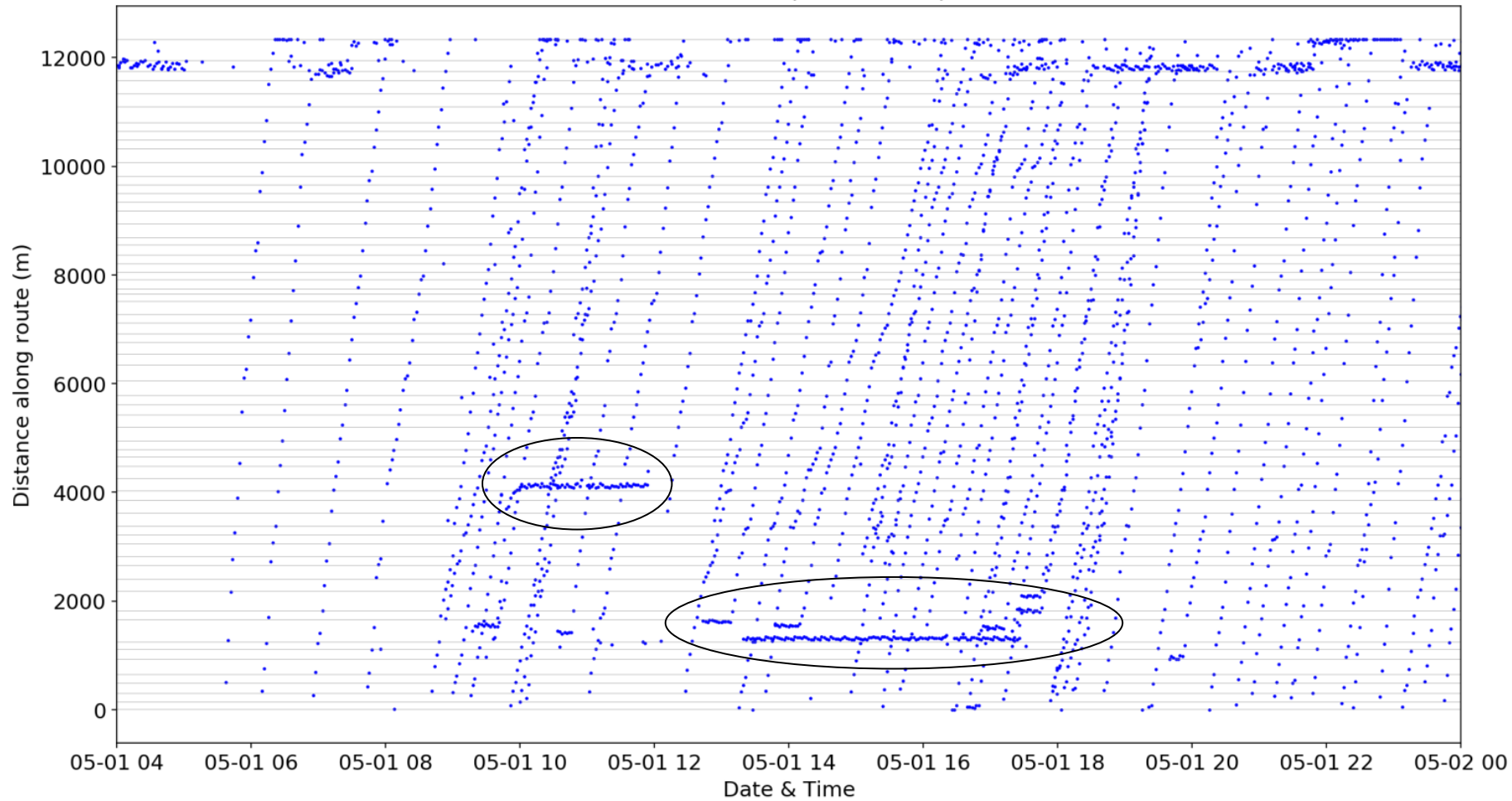
The M1 (Downtown-bound buses)



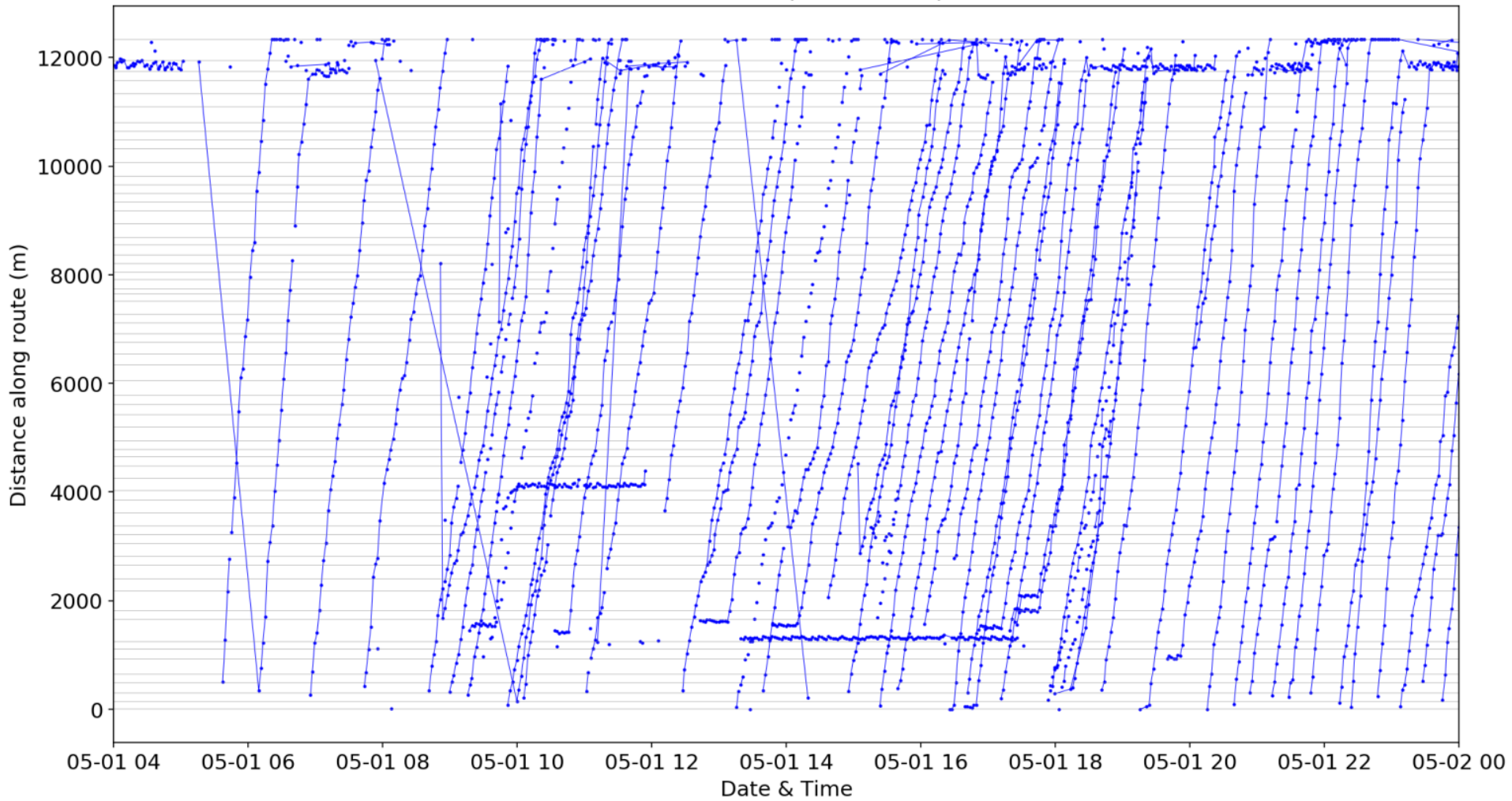
M1 Positions (2018-05-01) (Downtown-bound buses)



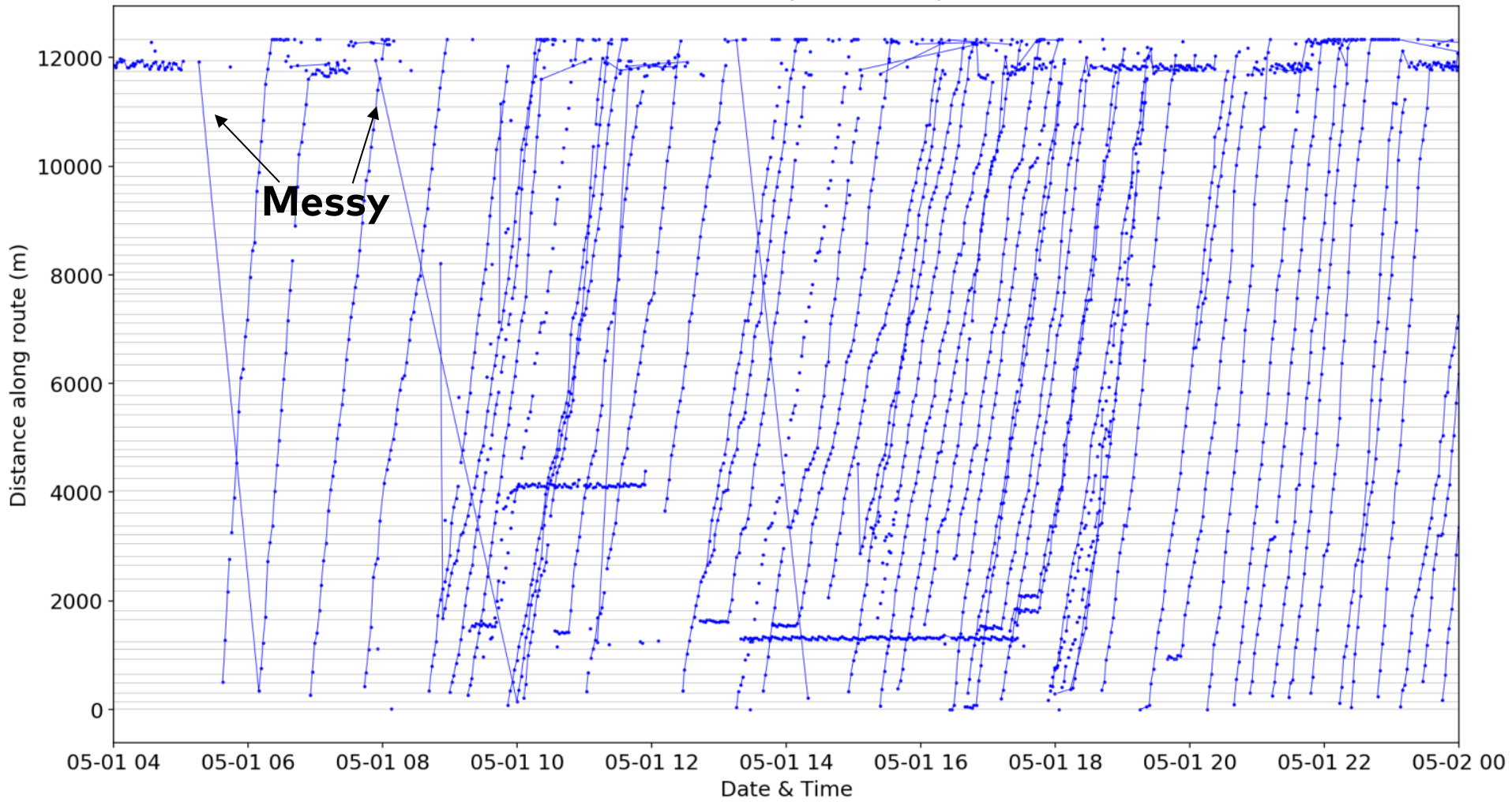
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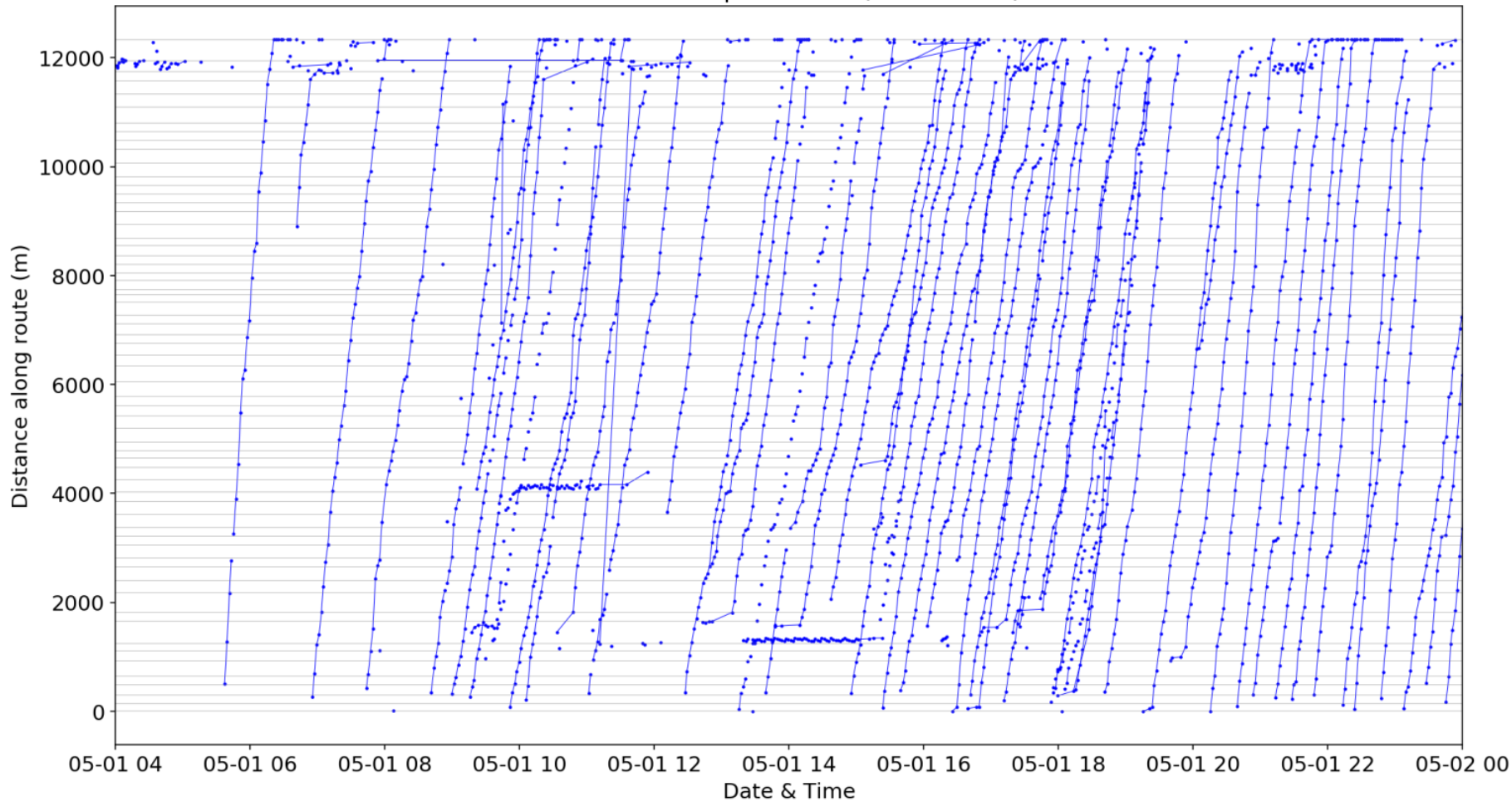
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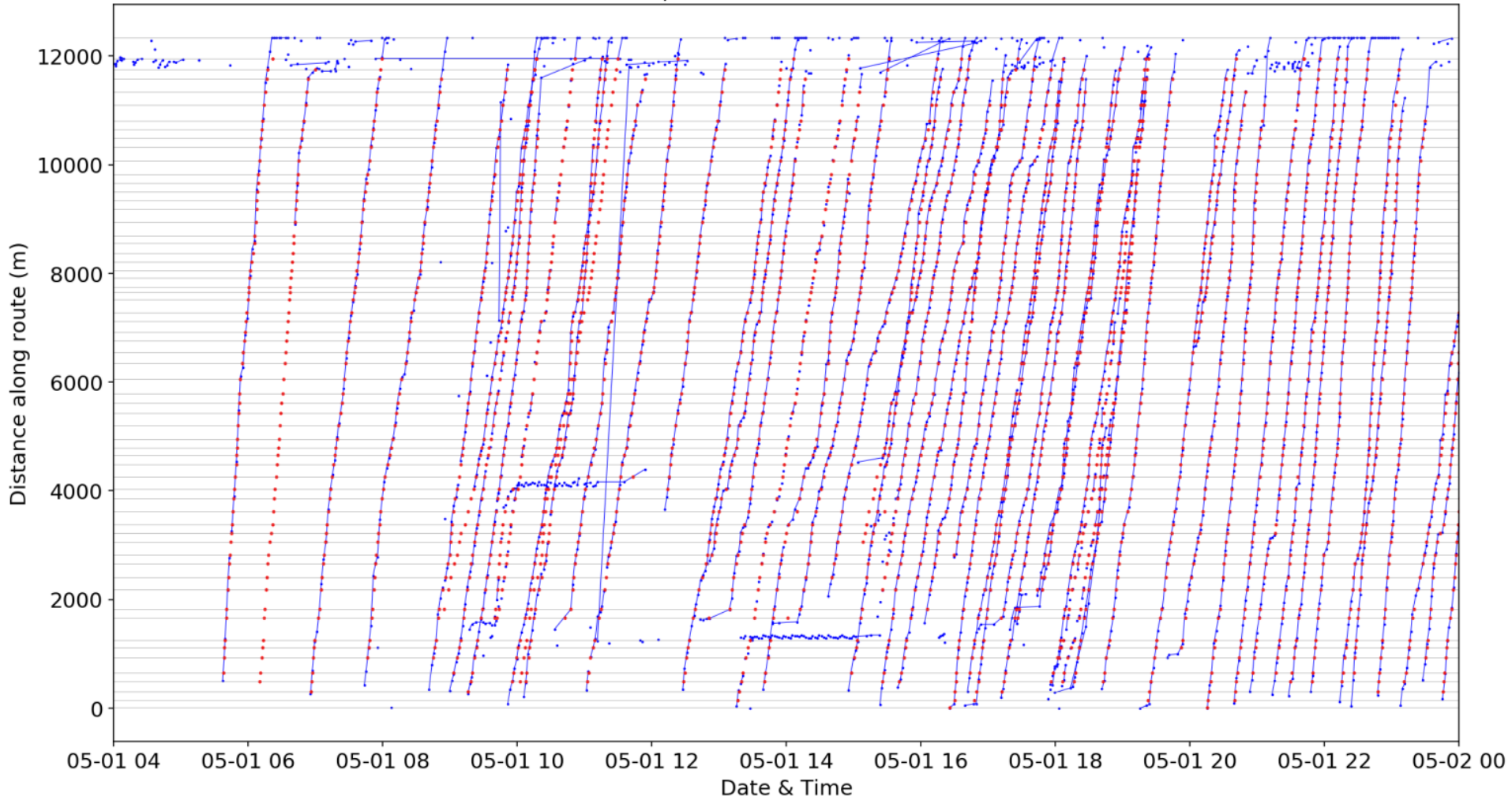
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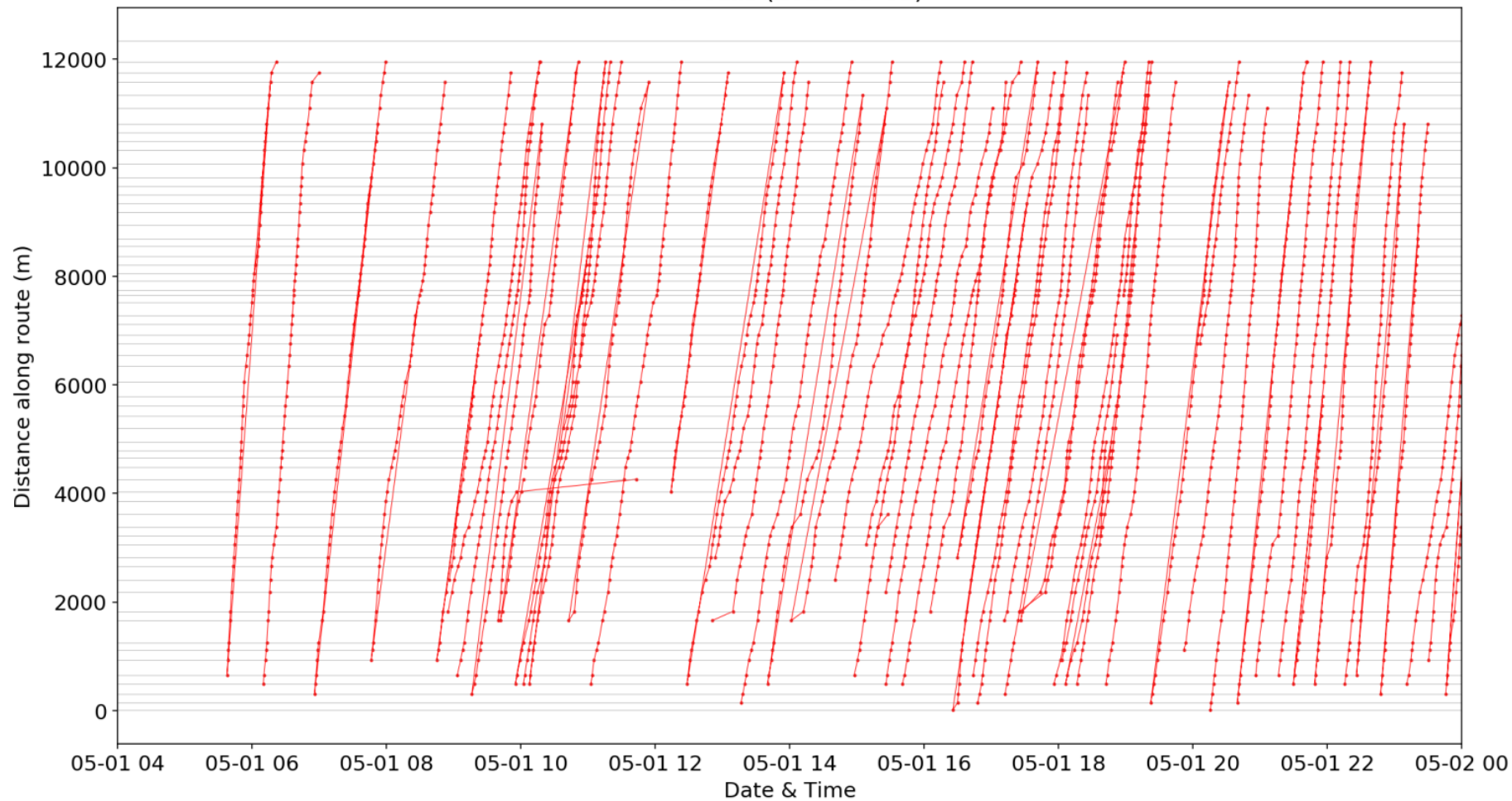
M1 Cleaned-up Positions (2018-05-01) (Downtown-bound buses)



M1 Cleaned-up Positions and Calls (2018-05-01)(Downtown-bound buses)



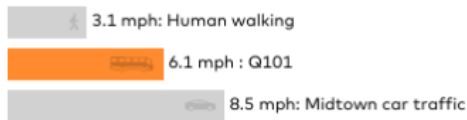
M1 Calls (2018-05-01) (Downtown-bound buses)



Data analysis

- Assessed aspects of service that captured the rider's experience
- Reviewed methods with NYCT staff

Speed



Reliability

Bunching

Frequent buses (4 or more buses per hour)



On-time performance

Non-frequent buses (Less than 4 buses per hour)

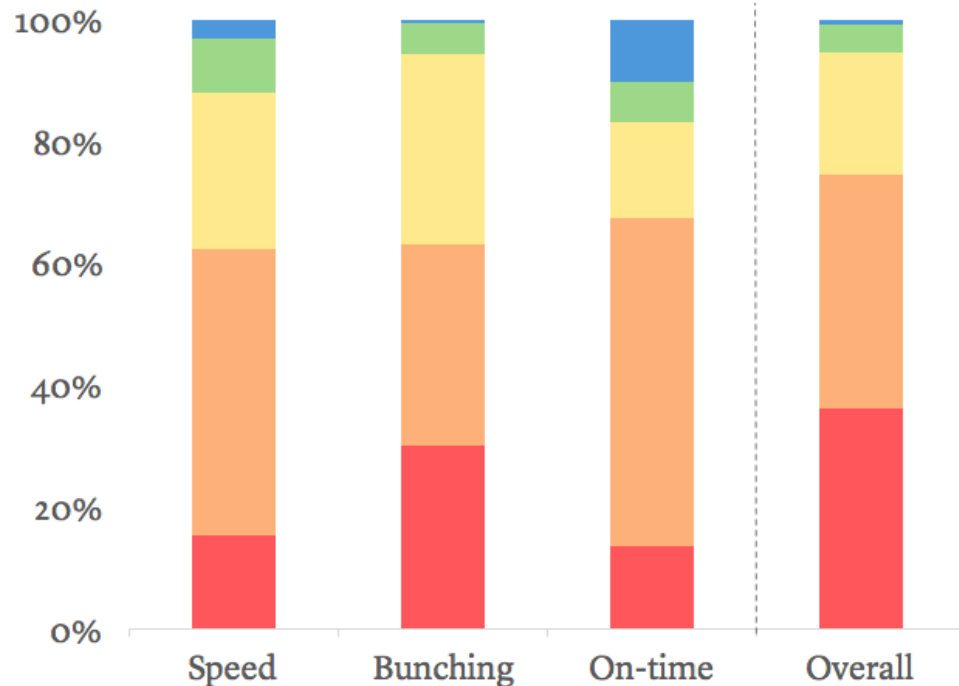


Assigning grades

- Grade based on cumulative GPA
- Thresholds based on performance goals
- Automatic Fs for very poor service in any one area

	Speed	Reliability	
	All	Bunching (Frequent)	OTP (Non-Frequent)
A	> 12.5 mph	< 2.5%	> 80%
B	10-12.5	2.5-5%	75-80%
C	7.5-10	5-10%	65-75%
D	5-7.5	10-15%	50-65%
F	< 5	> 15%	< 50%

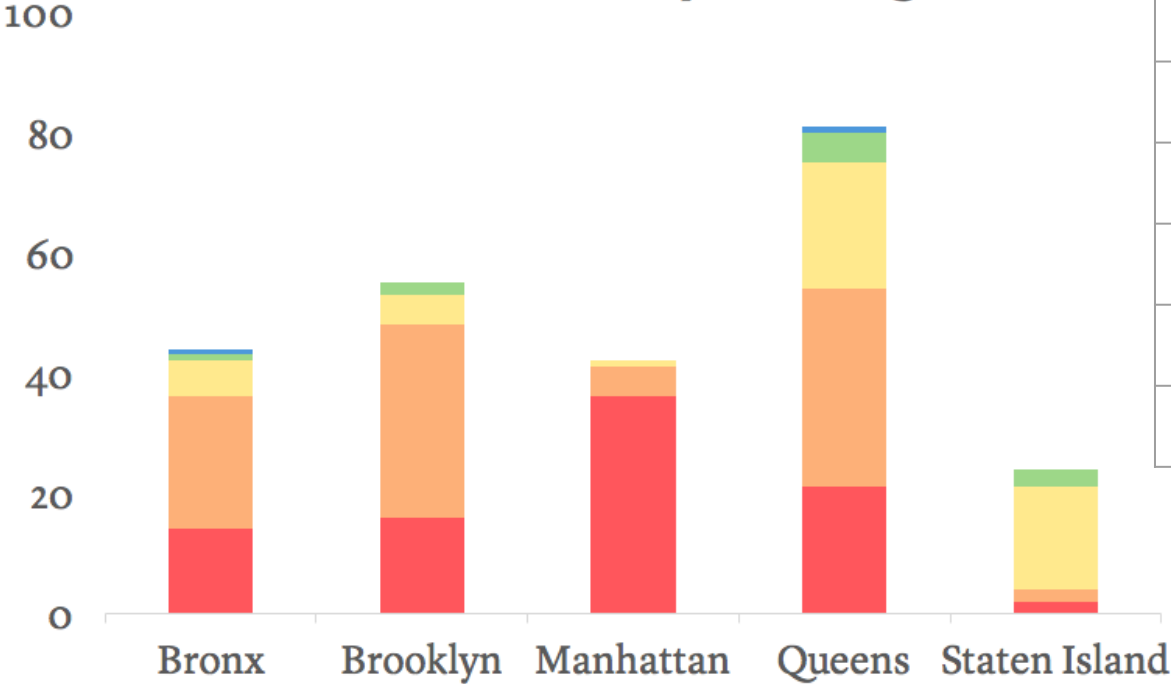
Bus Grades by Performance Metric



Grades Breakdown

A	2
B	11
C	50
D	94
F	89

Bus Grades by Borough



Grades Breakdown	
A	2
B	11
C	50
D	94
F	89

Queens

How is your local bus doing?

Q06	Q07	Q08	Q09	Q1	Q10	Q100	Q101	Q102	Q103
F	F	F	D	C	C	C	D	D	B
Q104	Q11	Q110	Q111	Q112	Q113	Q114	Q12	Q13	Q15
D	D	C	F	D	F	F	C	C	B
Q15A	Q16	Q17	Q18	Q19	Q2	Q20A	Q20B	Q21	Q22
B	B	F	D	D	C	D	D	D	D
Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q3	Q30	Q31
F	F	F	C	F	D	D	C	F	D

What's next?

There's hope for buses...

Andy Byford,
NYCT President (!!)



Check up on your
local buses with
our report cards

Share your bus
woes with
@NYCMayor &
@JoeLhota using
#busturnaround

Get involved with
Bus Turnaround



...But work still to do

Evaluate NYC's Buses for yourself

Campaign

- Bus Turnaround site: <http://busturnaround.nyc/>
- Bus Turnaround report cards: <http://busturnaround.nyc/#bus-report-cards>

Data

- Our GitHub repositories: <https://github.com/Bus-Data-NYC>
- Bus Turnaround API: <http://api.busturnaround.nyc/>
- NYCT Bus performance dashboard: <http://busdashboard.mta.info/>
- Portal to MTA's GTFS: <http://datamine.mta.info/>

Contact us:

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