

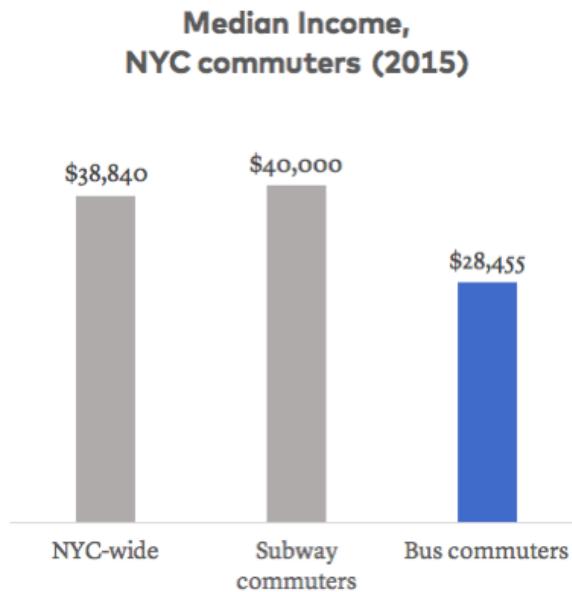
Data-Driven Advocacy For Better Buses in NYC

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TransitCenter // @transitcenter

Why Buses?
Why Now?

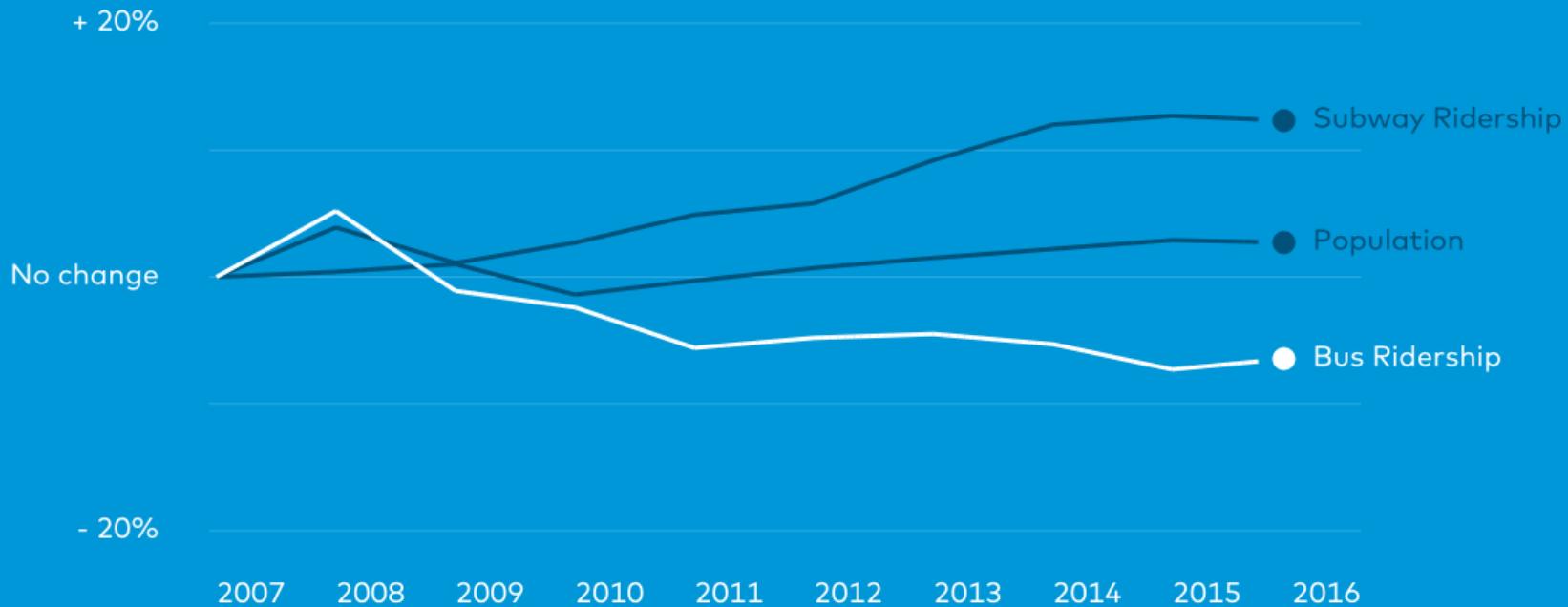
Have you met NYC's Buses?

- 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- Outdated system design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

TransitCenter

RIDERS
ALLIANCE

TRI-STATE TRANSPORTATION CAMPAIGN
Mobilizing the Region

NYPIRG
Straphangers
Campaign

Queens

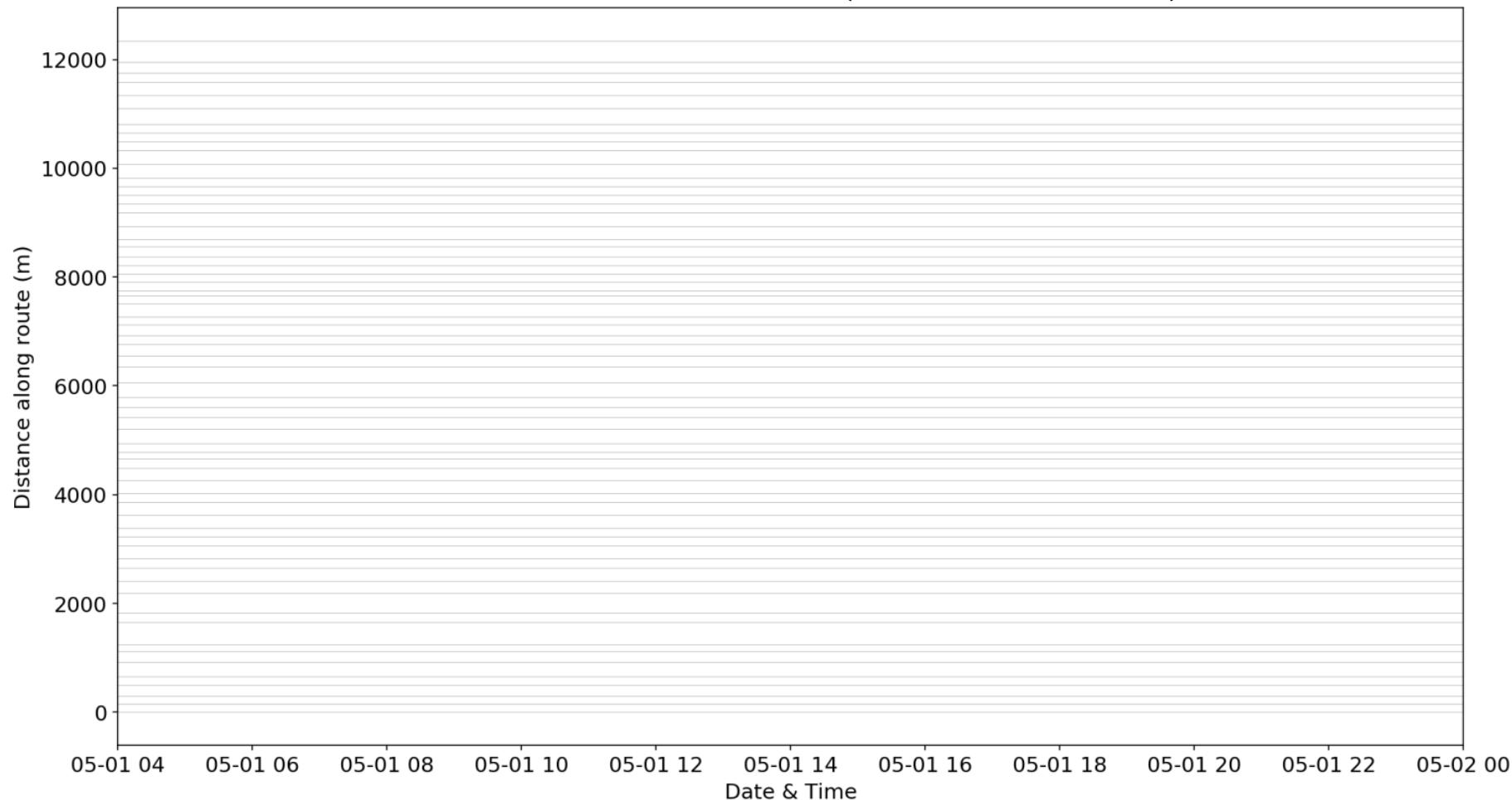
Q06	Q07	Q08	Q09	Q1	Q10	Q100	Q101	Q102	Q103
F	F	F	D	C	C	C	D	D	B
Q104	Q11	Q110	Q111	Q112	Q113	Q114	Q12	Q13	Q15
D	D	C	F	D	F	F	C	C	B
Q15A	Q16	Q17	Q18	Q19	Q2	Q20A	Q20B	Q21	Q22
B	B	F	D	D	C	D	D	D	D
Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q3	Q30	Q31
F	F	F	C	F	D	D	C	F	D

Processing data from GTFS

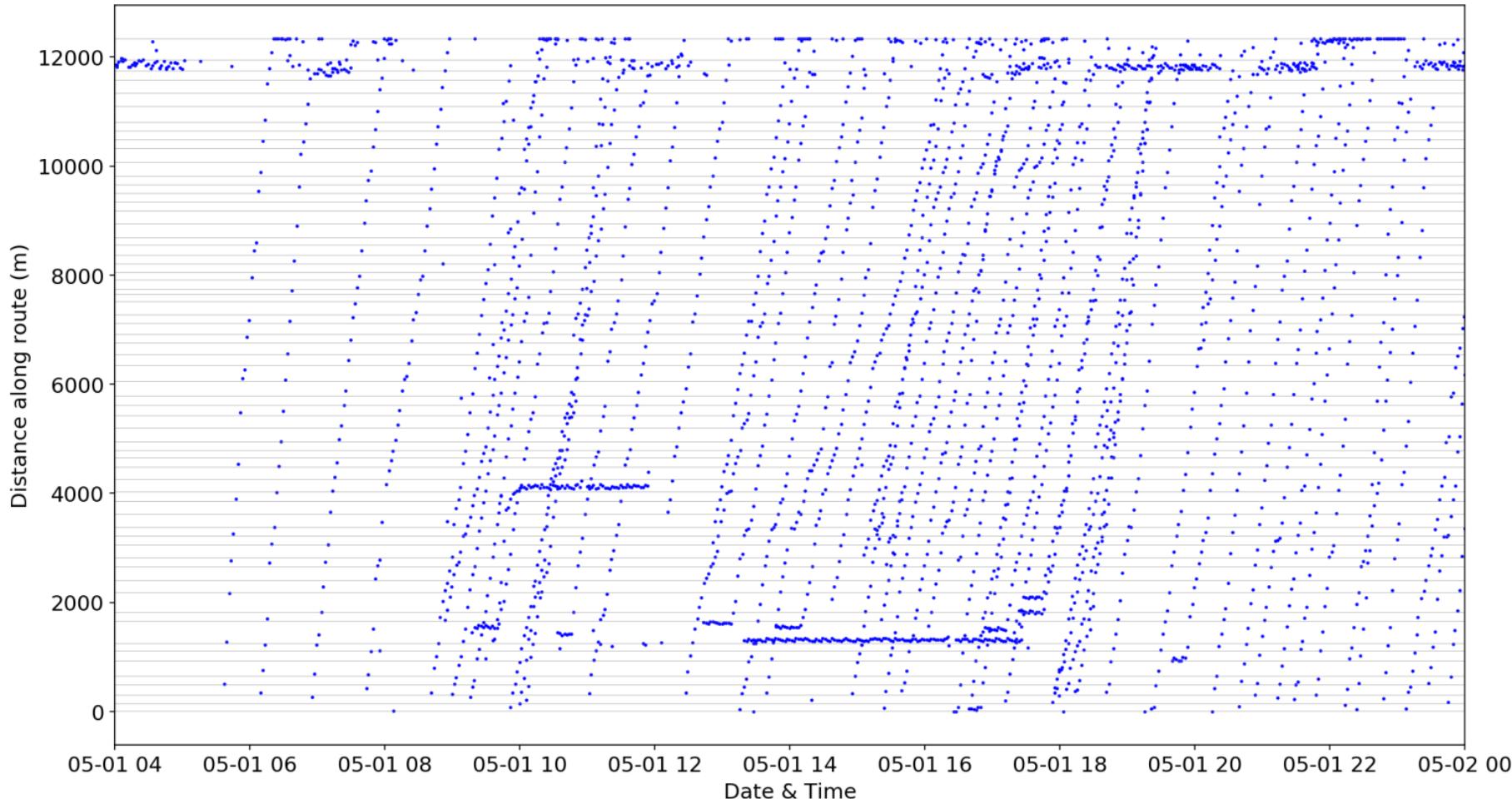
Every minute	MTA's GTFS-Realtime bus position data saved	PostgreSQL database
Daily	Archived to CSV (for storage)	CSV
Semi-annually	Raw position data & GTFS schedule extracted	PostgreSQL
	Data cleaned	PostgreSQL, PostGIS
	Data transformed into calls specific data requests	PostgreSQL, Python (Numpy)
	Summarize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

Cleaning and
prepping the data is
the hard part

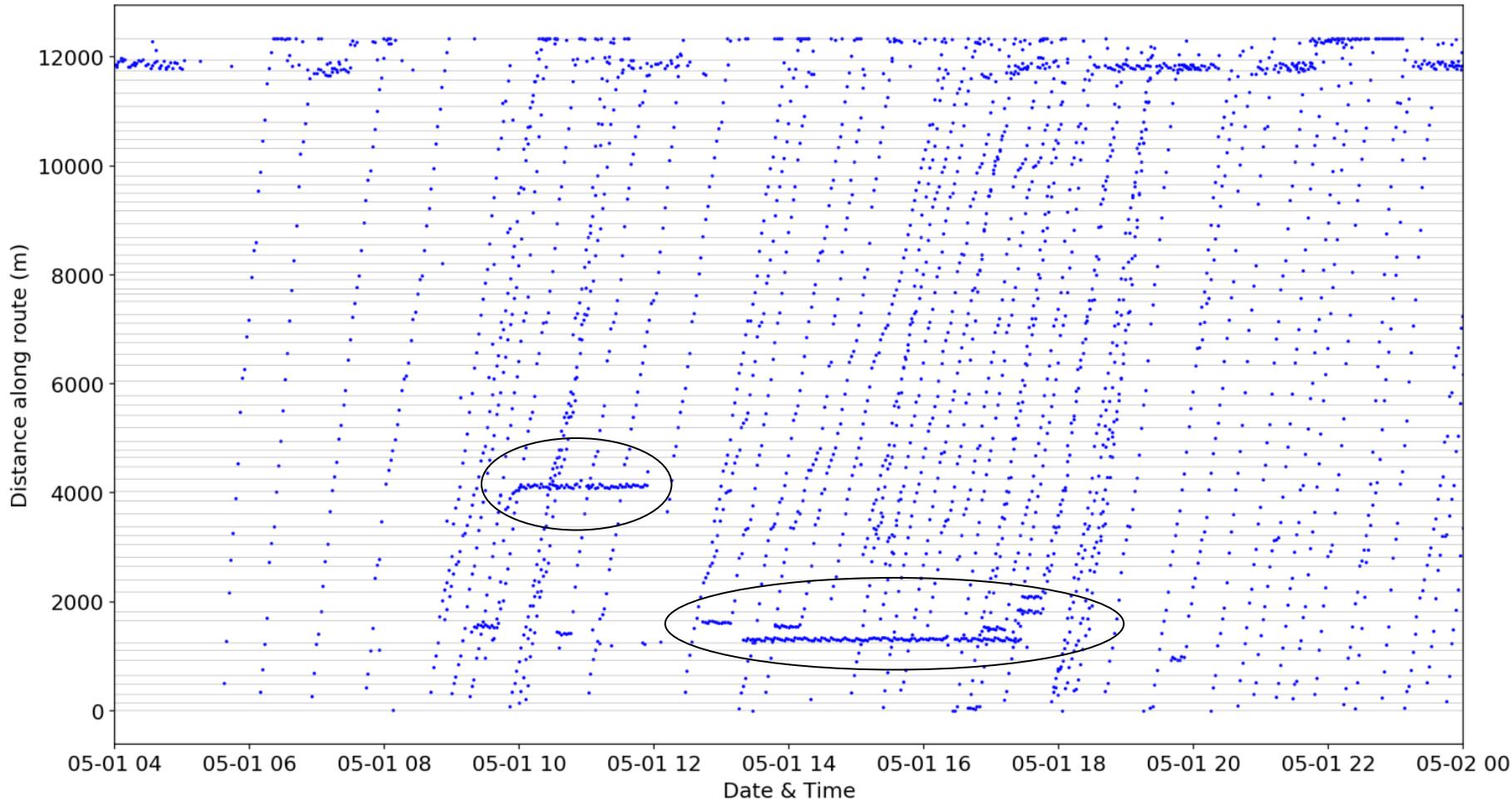
The M1 (Downtown-bound buses)



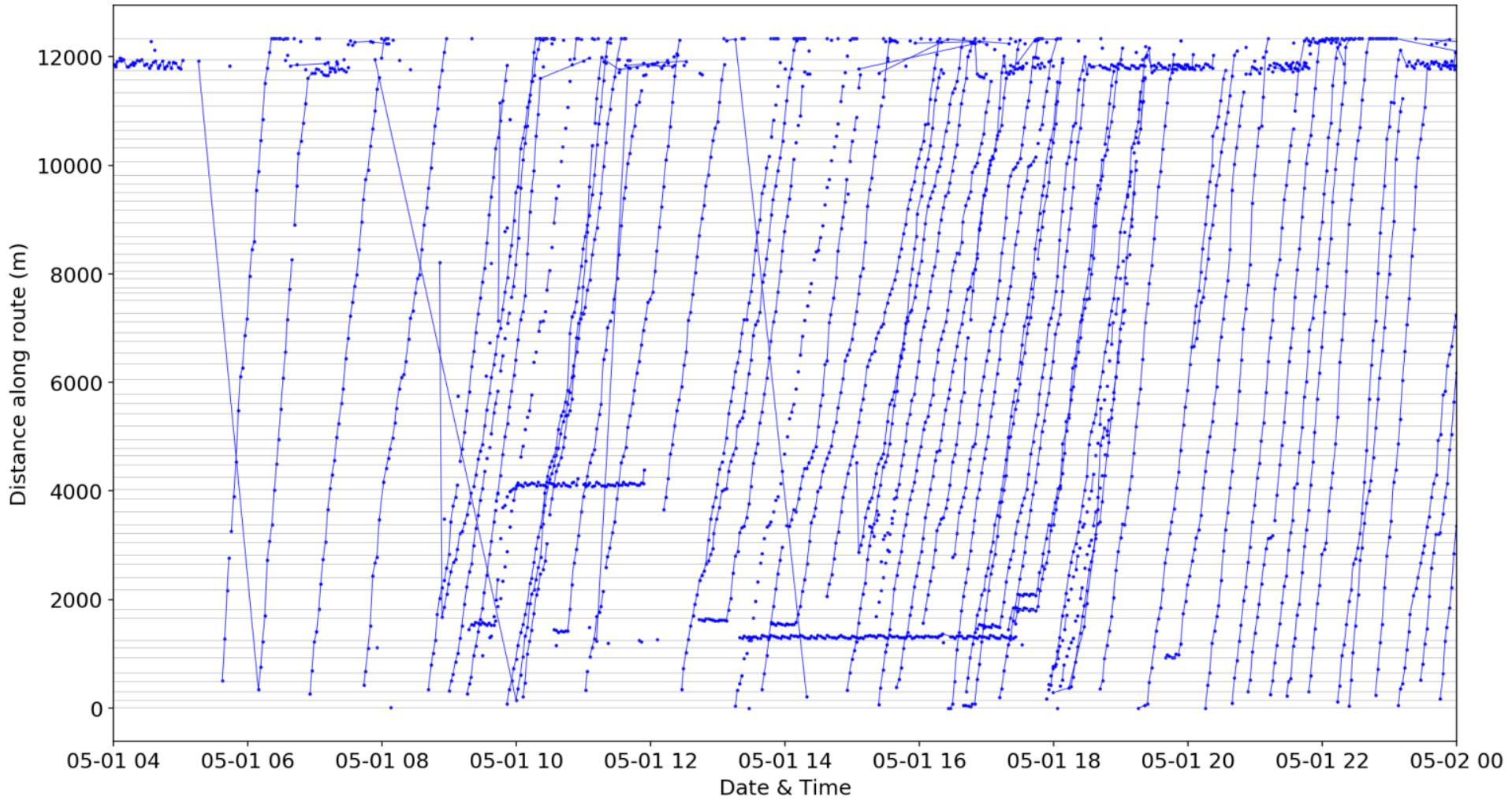
M1 Positions (2018-05-01) (Downtown-bound buses)



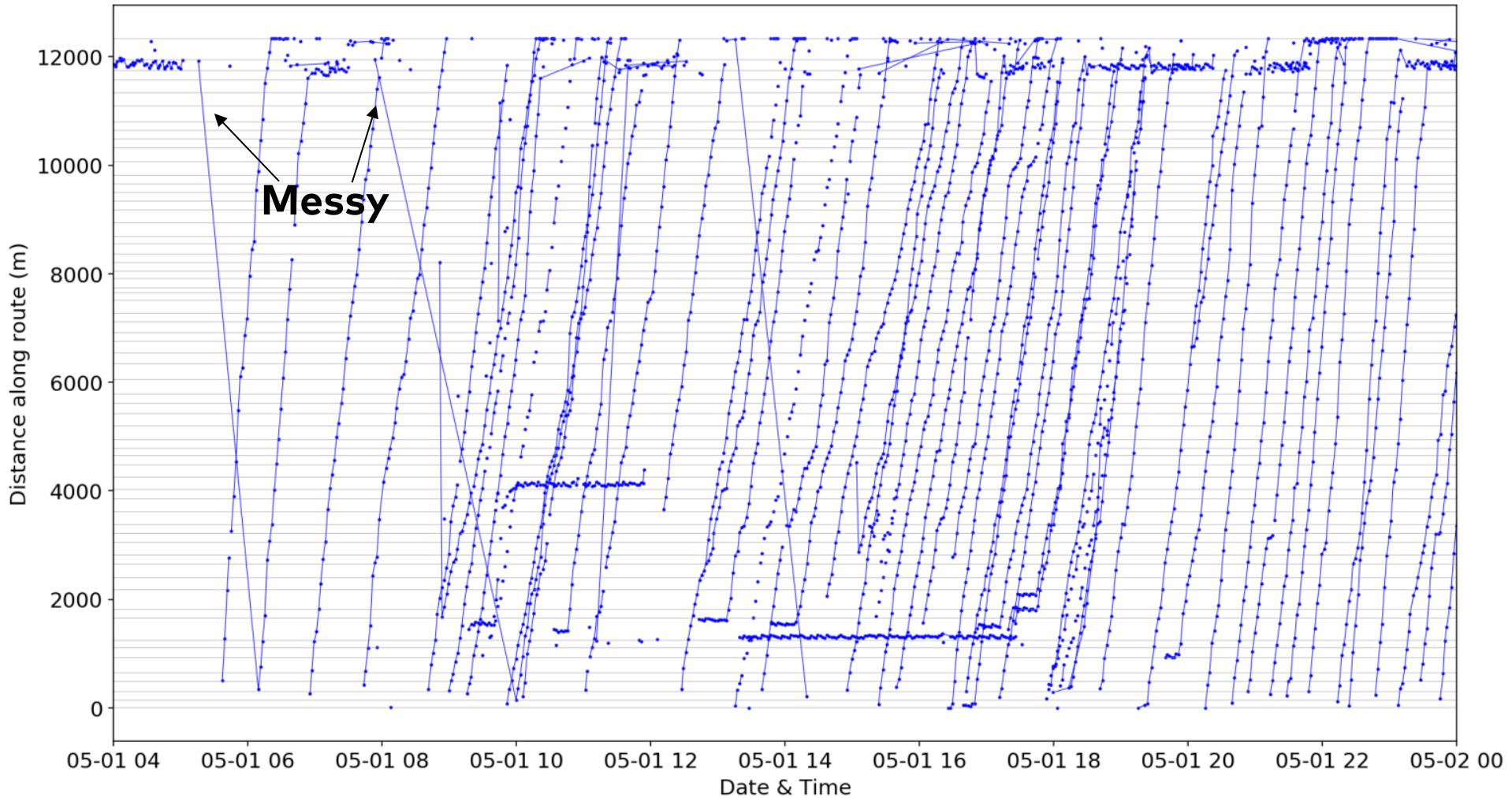
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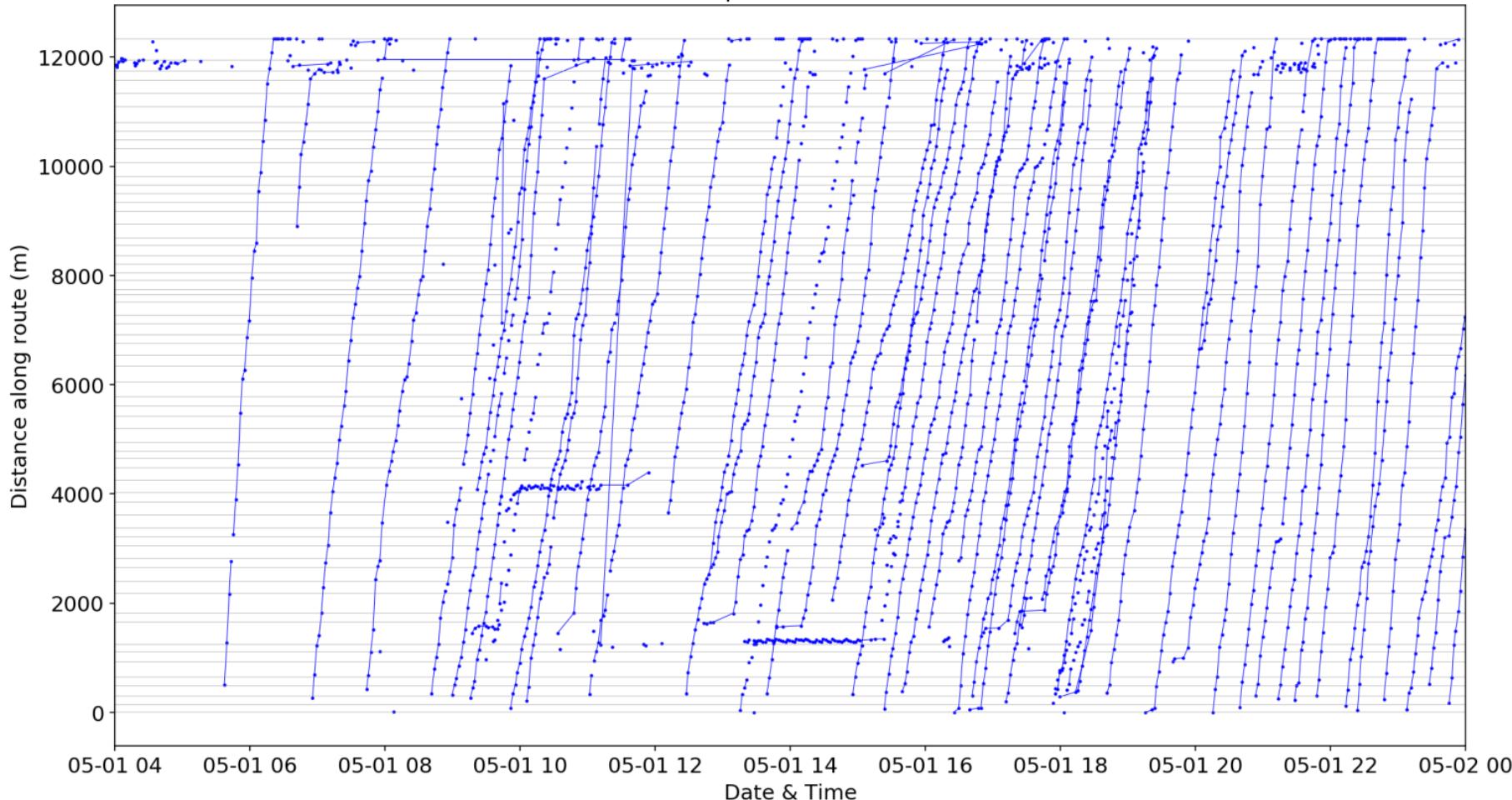
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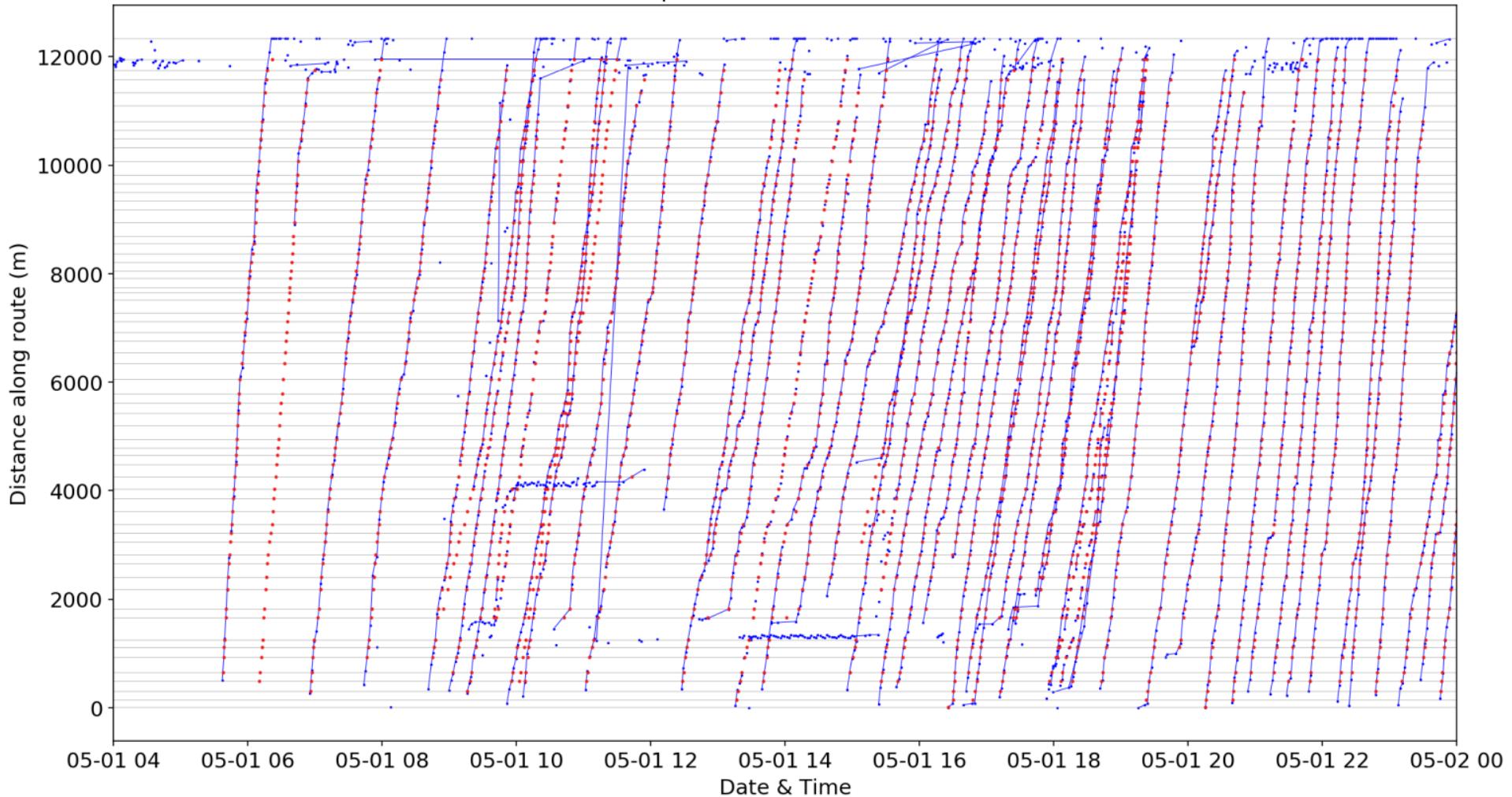
M1 Positions (2018-05-01) (Downtown-bound buses)



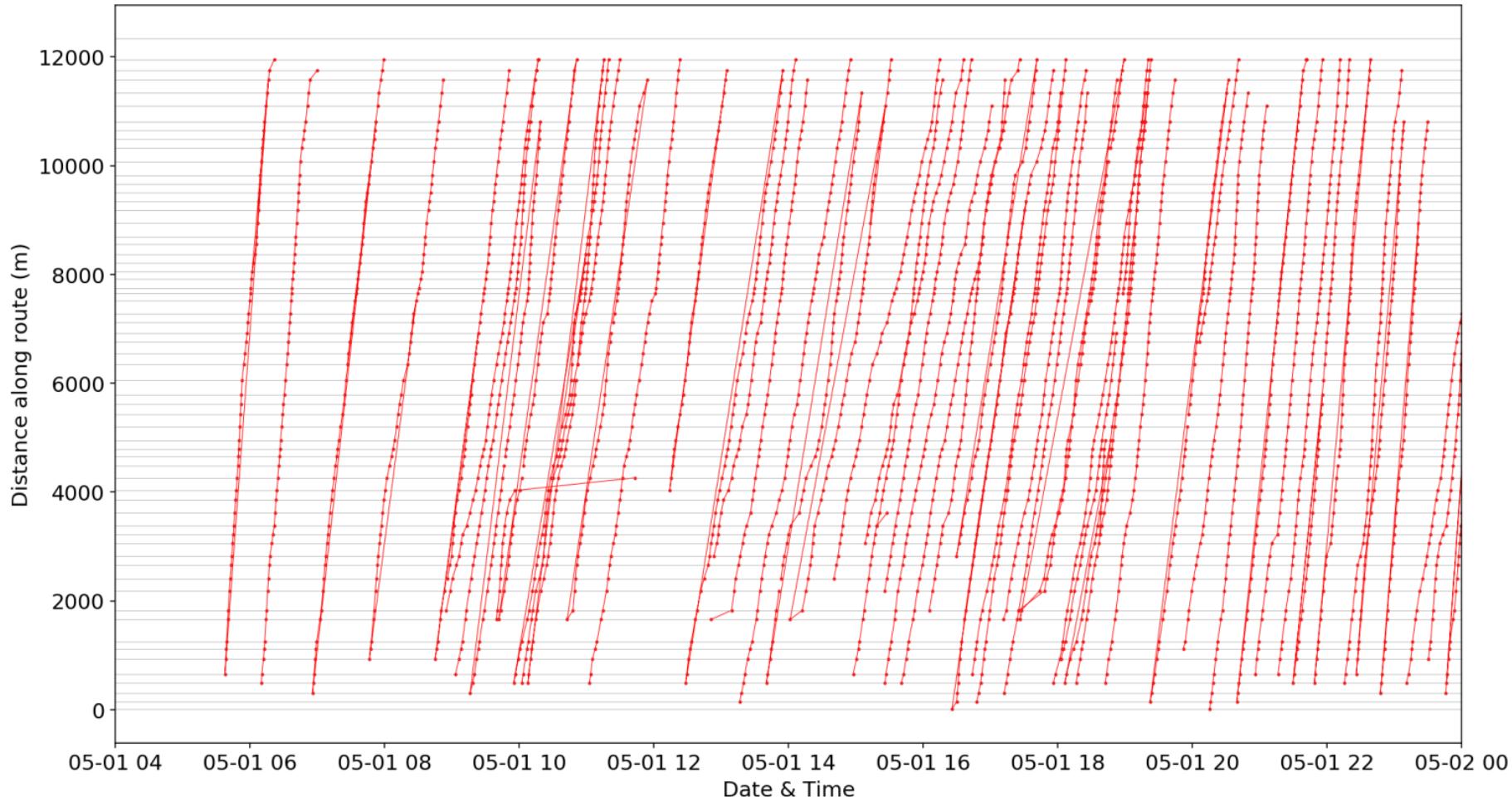
M1 Cleaned-up Positions (2018-05-01) (Downtown-bound buses)



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



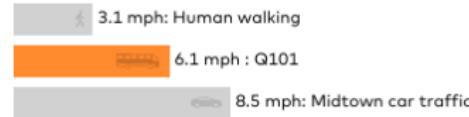
M1 Calls (2018-05-01) (Downtown-bound buses)



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)

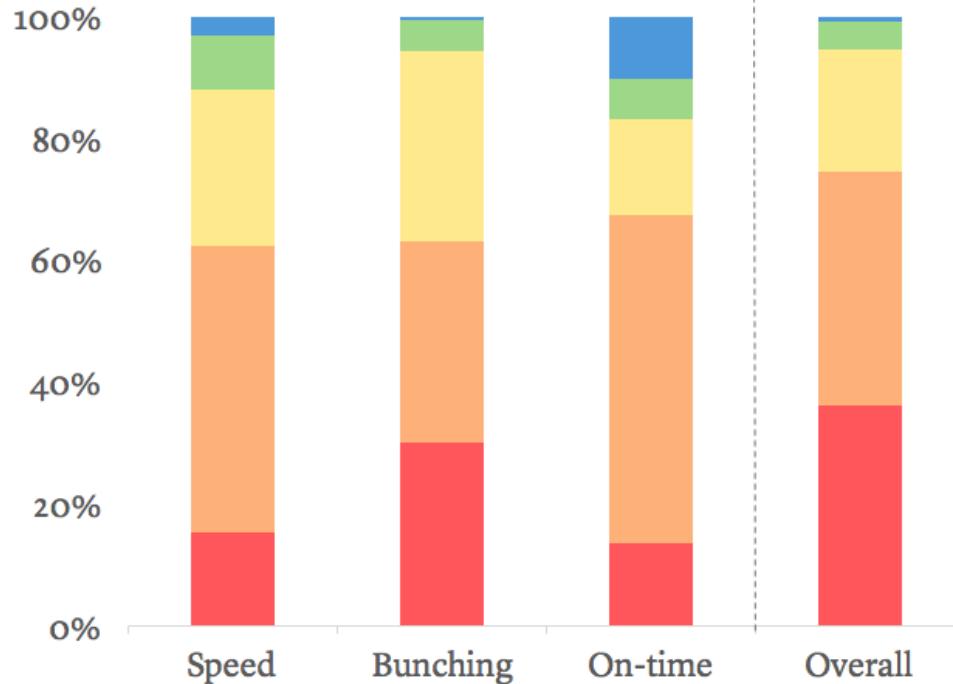


Assigning grades

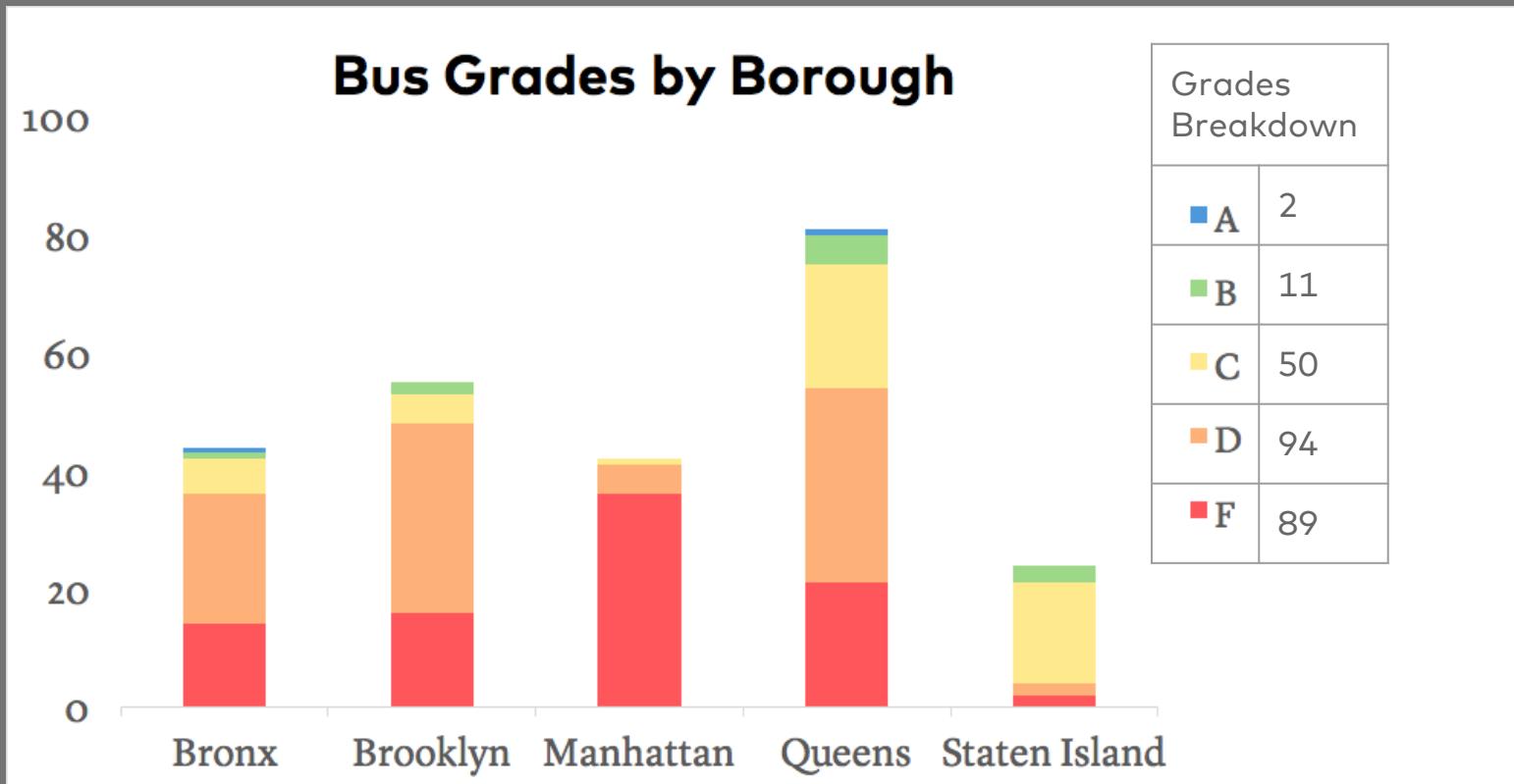
- Grade based on cumulative GPA
- Thresholds based on performance goals
- Automatic Fs for very poor service in any one area

	Speed	Reliability	
		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



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
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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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