

Rethinking Level of Service

Tom Maguire

Assistant Commissioner

New York City Department of Transportation



Three Streets



Level of Service?

Engineering or Planning?

Intersection LOS is a measure of delay aggregated across a group of **drivers** under **specific** traffic conditions... so it's **good** for evaluating **engineering** decisions:

- How well have I allocated signal time and phases at an intersection?
- How well have I allocated vehicle lanes among competing drivers?

Engineering or Planning?

Intersection LOS is a measure of delay aggregated across a group of **drivers** under **specific** traffic conditions... so it's **bad** for evaluating **planning** decisions:

- How safe is this street?
- How well does this street work for pedestrians, bus riders, and cyclists?
- How well does this street work for all drivers?

Engineering or Planning?

Why do we use a metric suited to engineering individual intersections to plan entire streets, an even entire cities?

Our Metrics Must Evolve

Goals

Design for **safety**

Design for **all users of the street**

Design **great public spaces**

Strategies

Designing safer streets, to provide safe and attractive options for all street users ...

Building great public spaces to create economic value and neighborhood vitality ..

Improving bus service to bring rapid transit beyond the subway

Reducing delay and speeding to allow for faster, safer travel

Efficiency in parking and loading to improve access to businesses and neighborhoods

Metrics

- **Crashes and injuries** for motorists, pedestrians, and cyclists
- **Volume** of vehicles, bus passengers, bicycle riders, and users of public space
- **Traffic speed**, aiming to move traffic not too slowly, but also not too fast
- **Economic vitality**, including growth in retail activity
- **User satisfaction**
- **Environmental** and **public health** benefits



Measuring the Street:
New Metrics for 21st Century Streets



Our Metrics Must Evolve

METRICS

Mobility – Automobile

- **Volumes** (ATR, MTC, class'n)
- **Vehicular LOS** (delay, V/C, etc)

Safety

- **Crash Total** (all, by mode, etc)
- **Exposure** (crashes/volume)

Access/Mobility – Multimodal

- **Multimodal volumes & LOS**
- Curb/parking availability

Public Health

- Minutes/physical activity/day
- Rates of obesity, diabetes, etc

Economic Development

- # of businesses, employment
- Retail sales, visitor spending

Environmental Quality

- Air quality, water quality
- Urban heat island, energy

Livability/Quality of Life

- User satisfaction
- “Staying” activities, events

Better metrics: For all users

Crash reduction

**West 181st Street,
Manhattan**



Better metrics: For all users

Crash reduction

Crashes with Injuries

West 181st Street from Riverside Drive to Amsterdam Avenue

	Before* (three previous years)			After
Total Crashes with Injuries	88	108	96	38.8
Number of Crashes with Injuries to:				
Motor Vehicle Occupants	47	60	60	21.9
Pedestrians	40	42	32	14.8
Bicyclists	2	8	5	2.1

Better metrics: For all users

Transit ridership

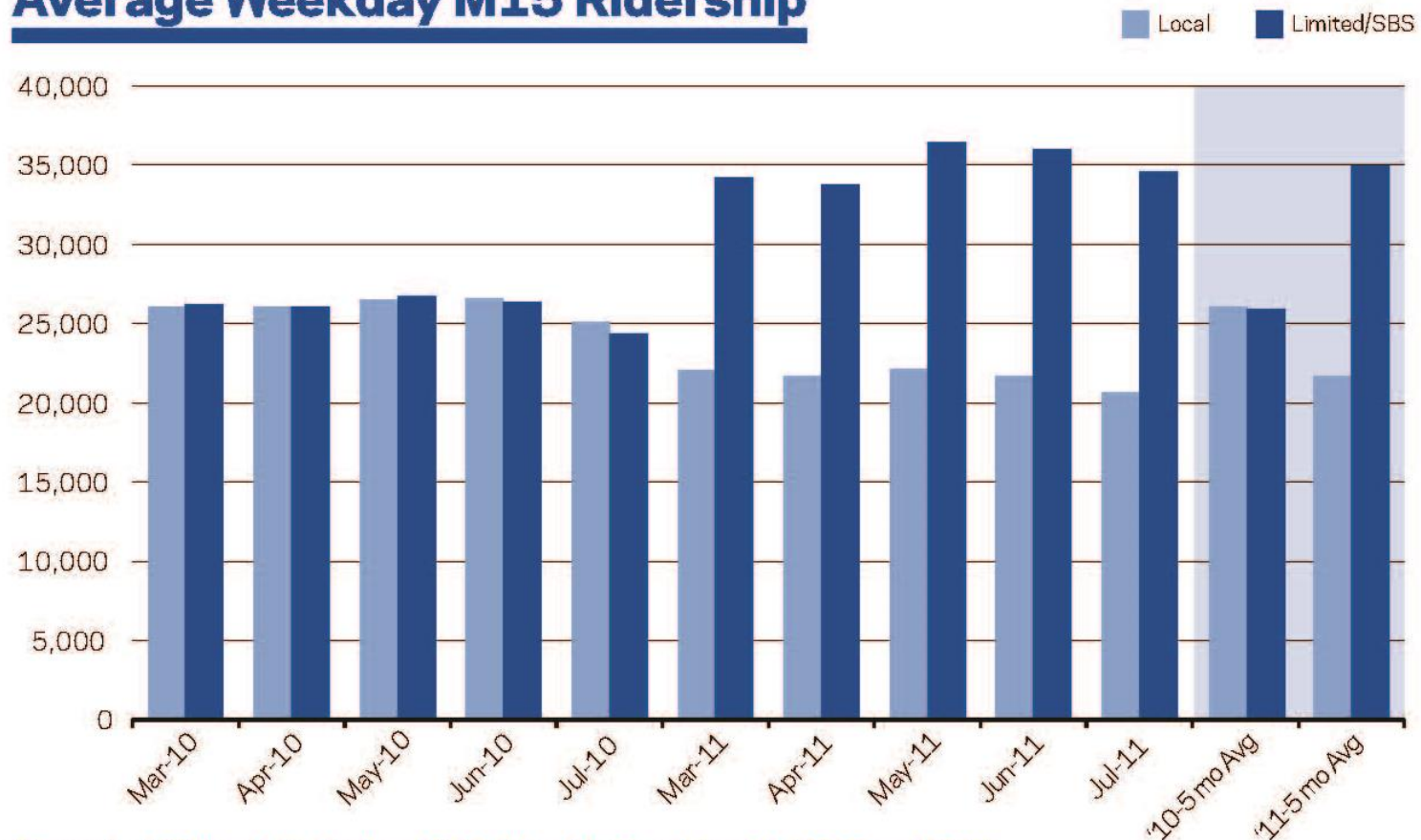


First Avenue,
Manhattan

Better metrics: For all users

Transit ridership

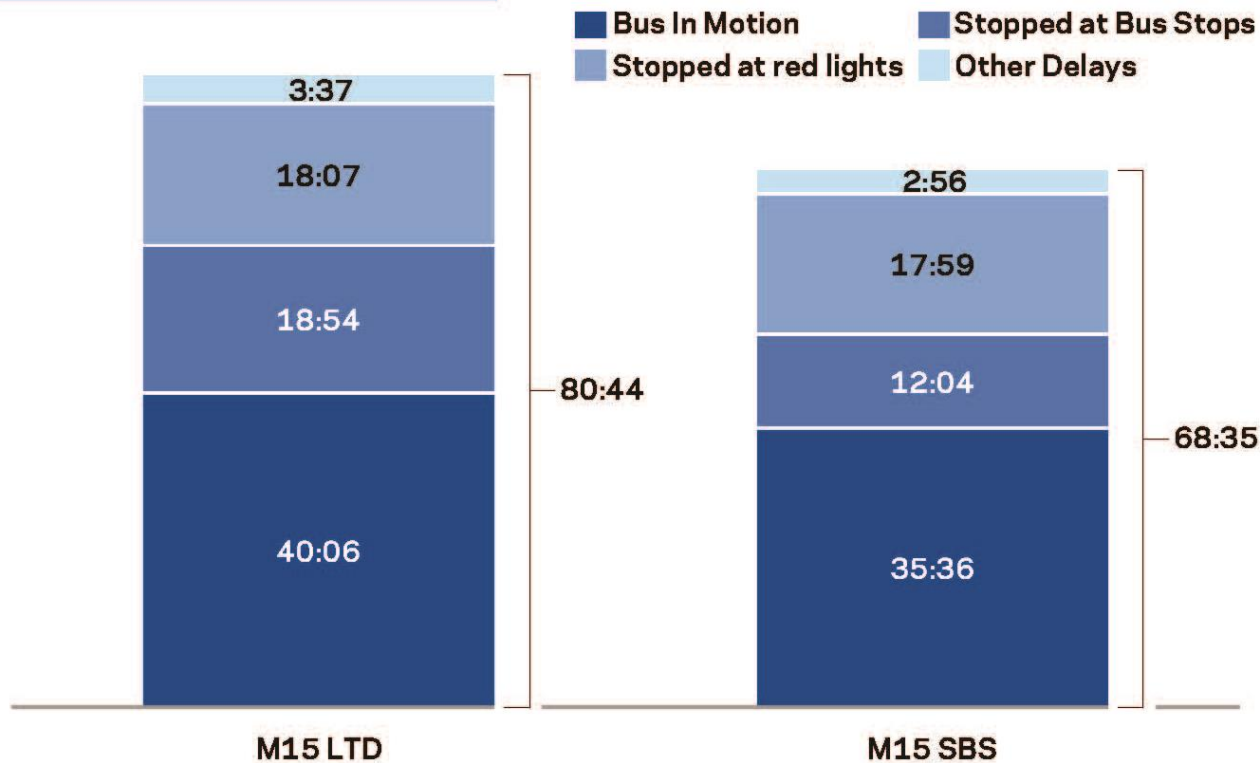
Average Weekday M15 Ridership



Better metrics: For all users

Transit ridership

M15 Limited vs. M15 SBS



Better metrics: For all users

Economic benefits

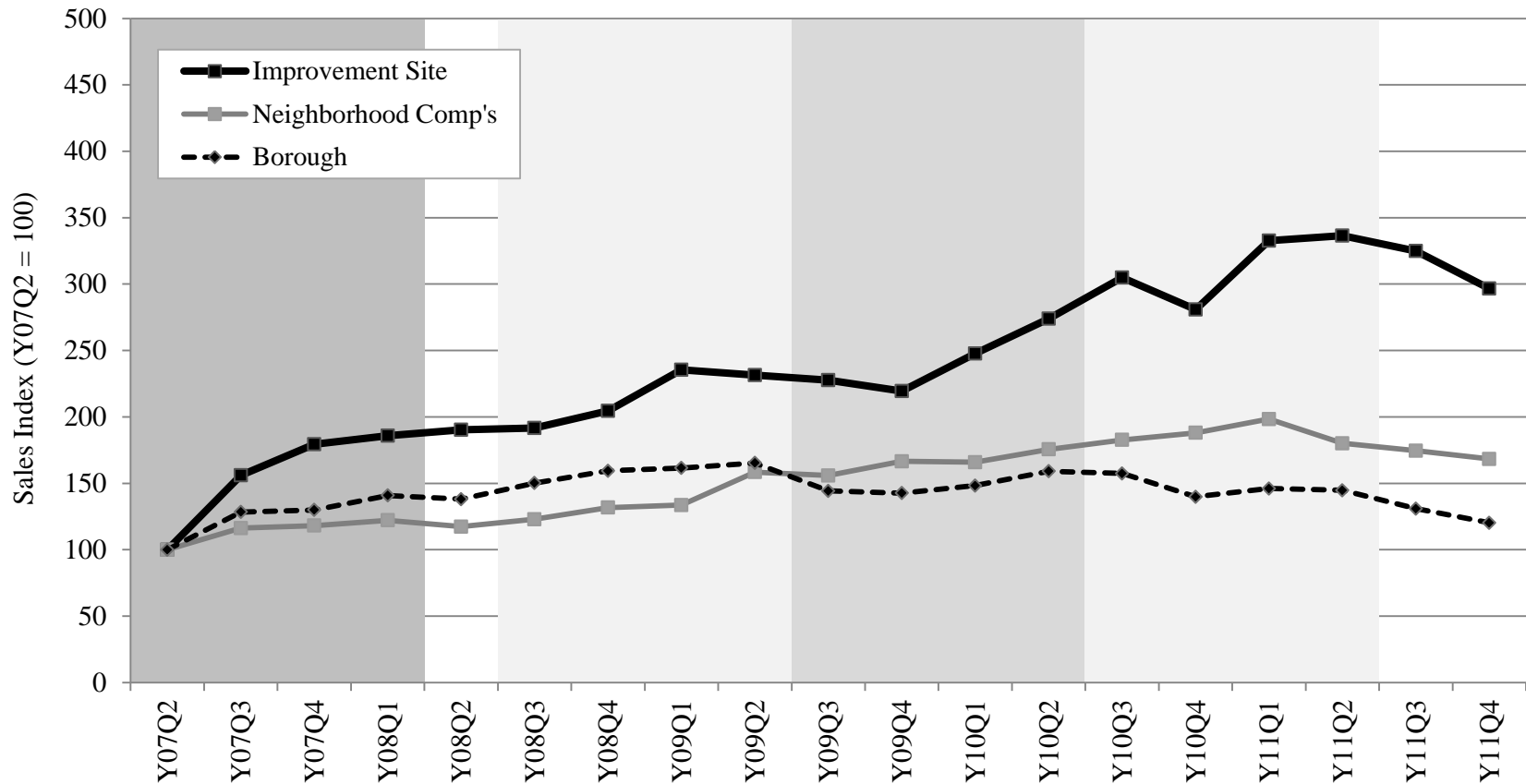


**Vanderbilt Avenue,
Brooklyn**



Better metrics: For all users

Economic benefits



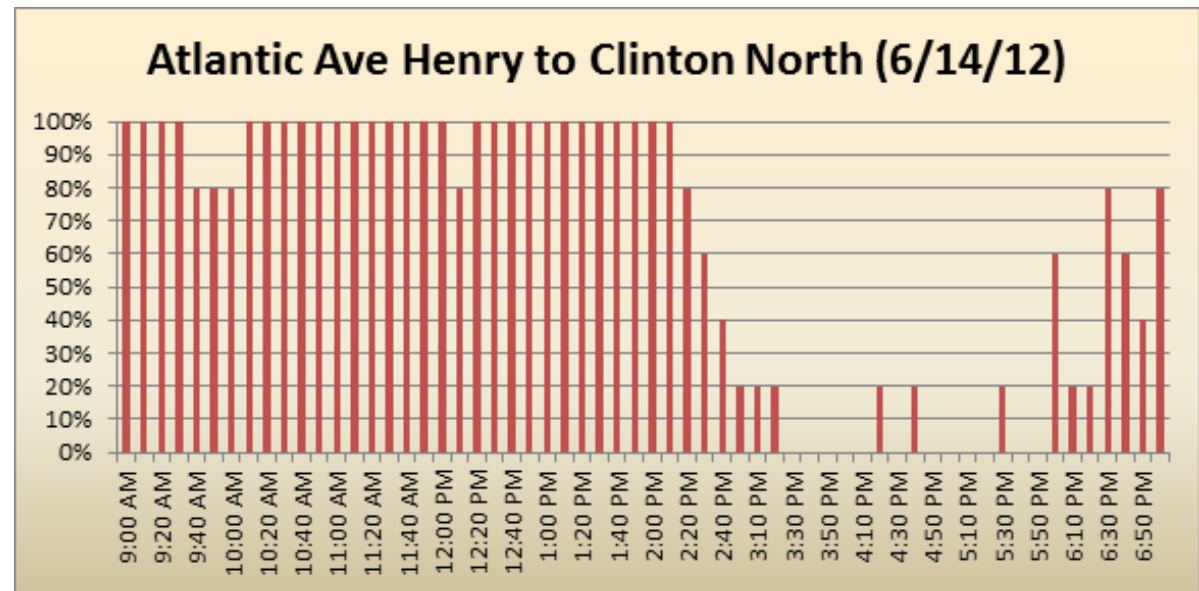
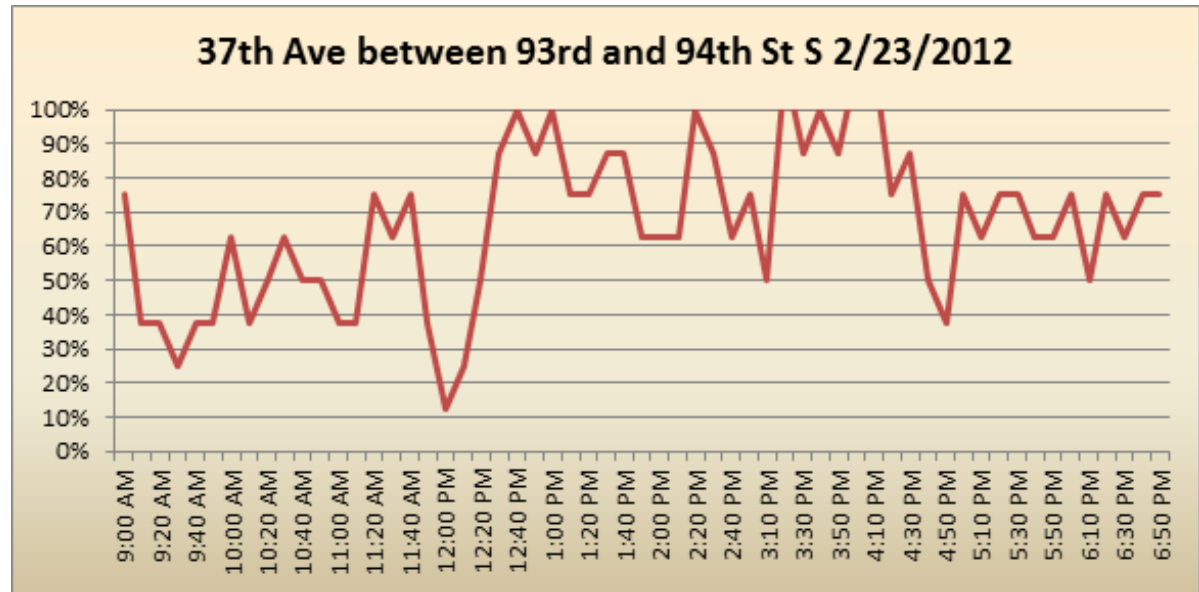
Better metrics: For drivers

Accessibility



Better metrics: For drivers

Accessibility



Better metrics: For drivers

Reliability



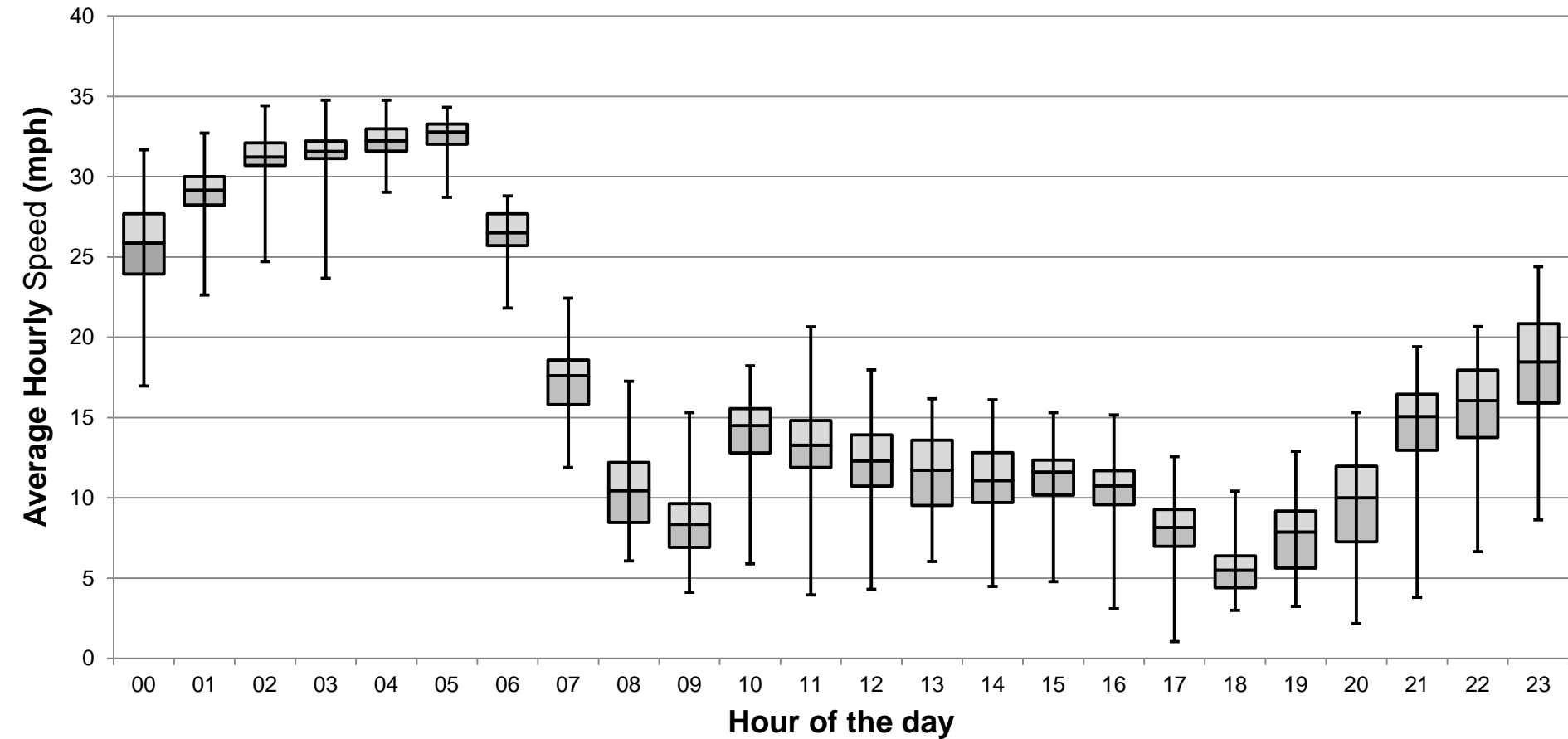
Same street, same block,
same peak, same day...
which will you experience?

Better metrics: For drivers

Reliability

5th Avenue [49th St to 42nd St]

Non-holiday weekdays | September - November 2011

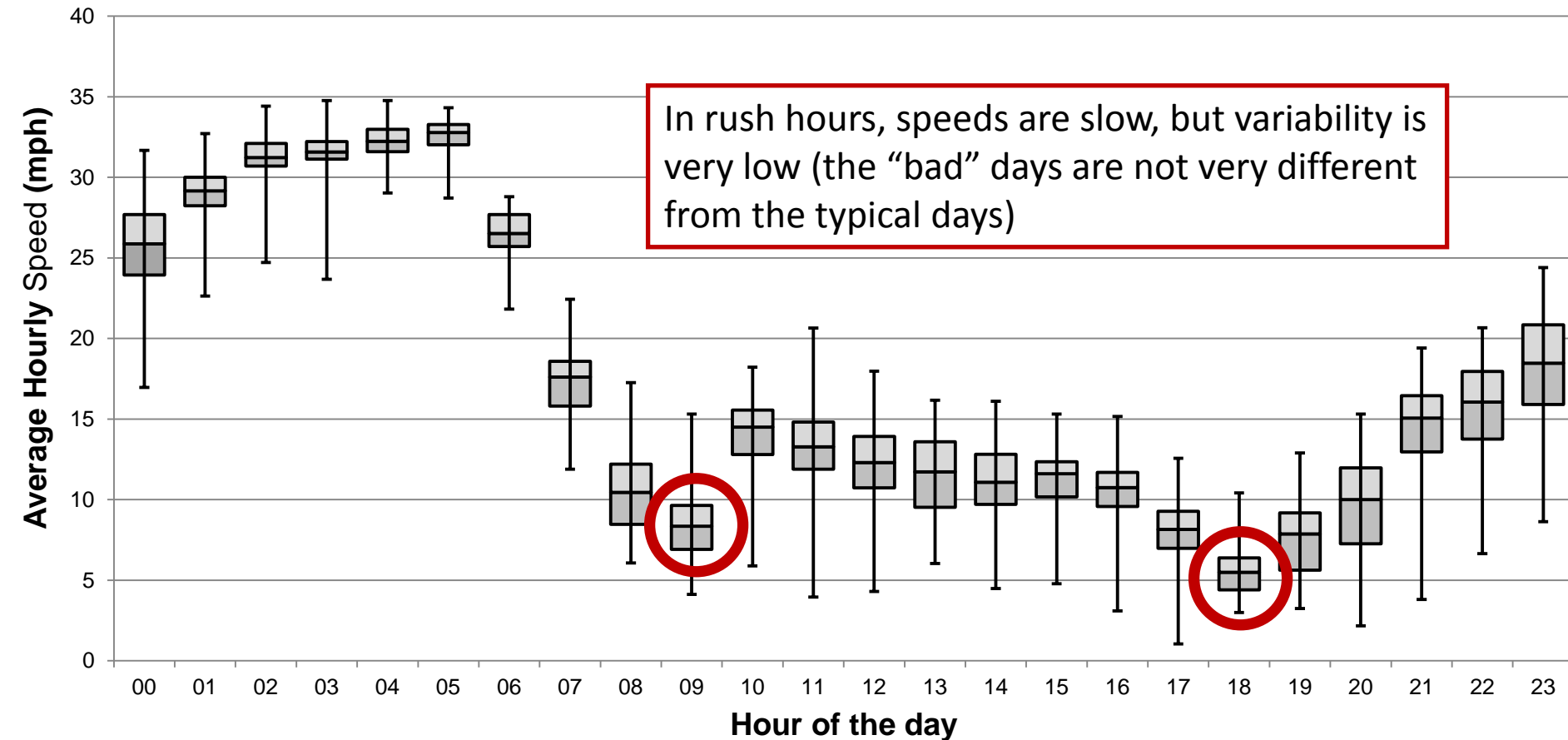


Better metrics: For drivers

Reliability

5th Avenue [49th St to 42nd St]

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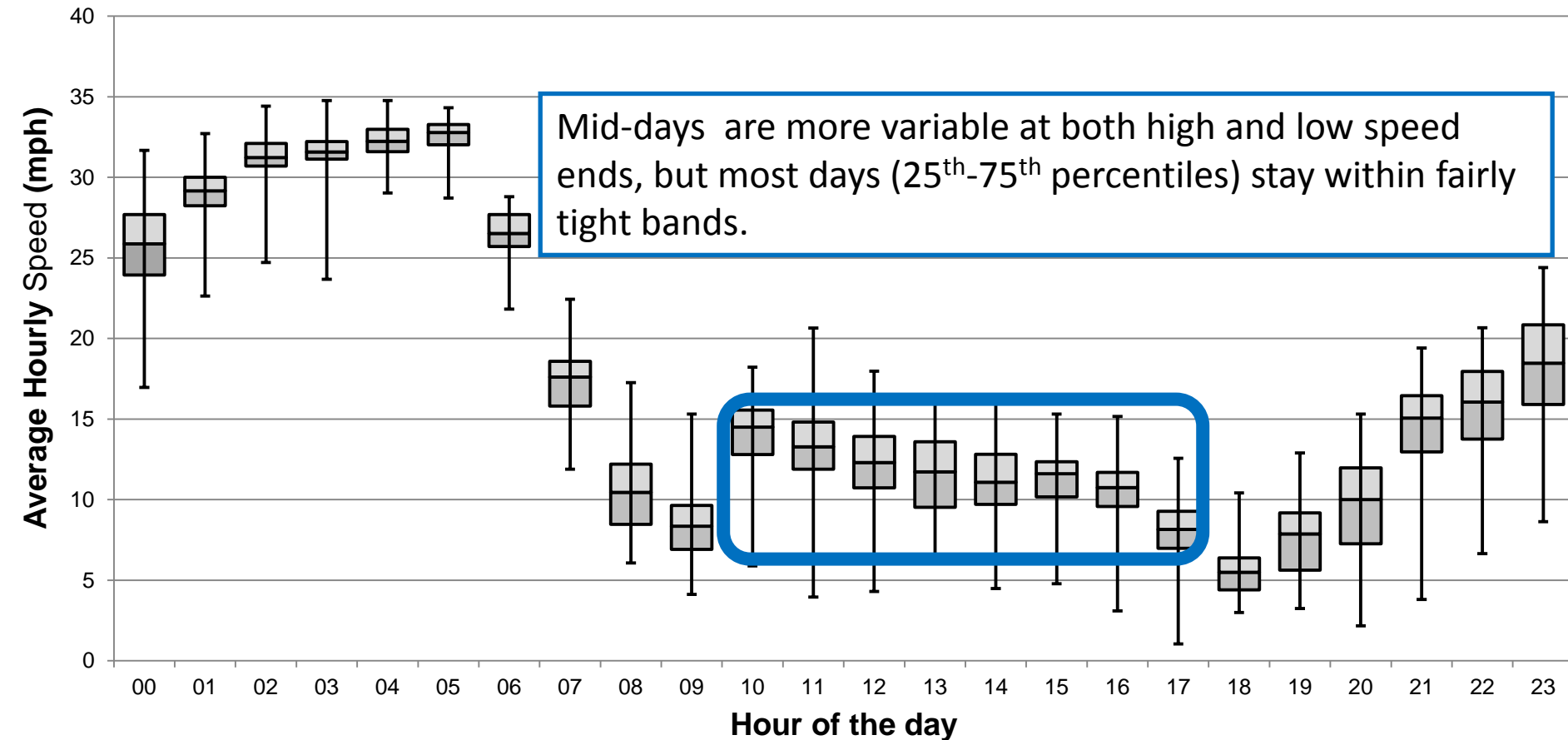


Better metrics: For drivers

Reliability

5th Avenue [49th St to 42nd St]

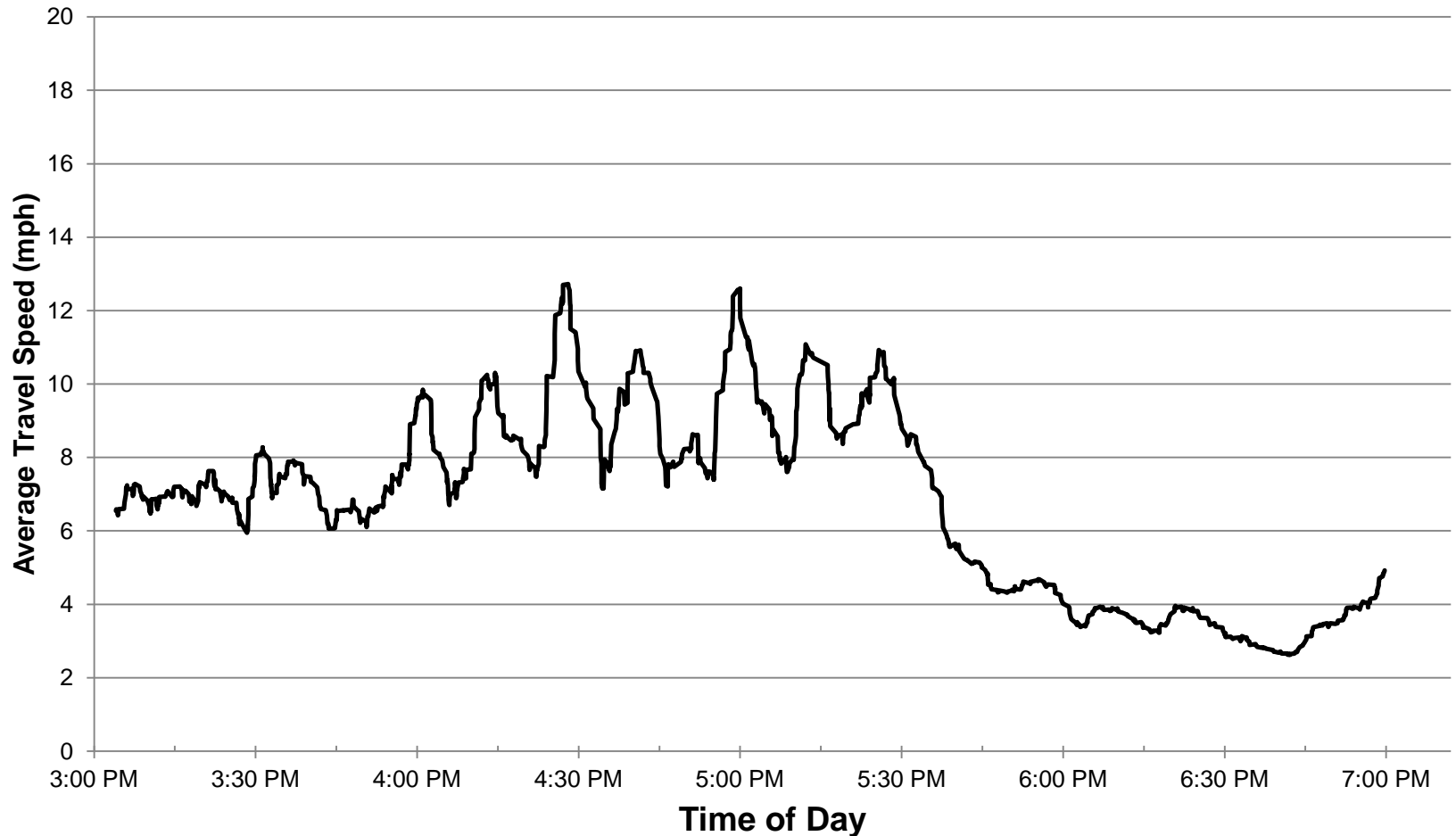
Non-holiday weekdays | September - November 2011



Better metrics: For drivers

Reliability

5th Avenue [49th St to 42nd St] – PM PEAK



Questions?

Tom Maguire

tmaguire@dot.nyc.gov

