WMATA'S RUN TIME ANALYZER
Optimizing On Time Performance

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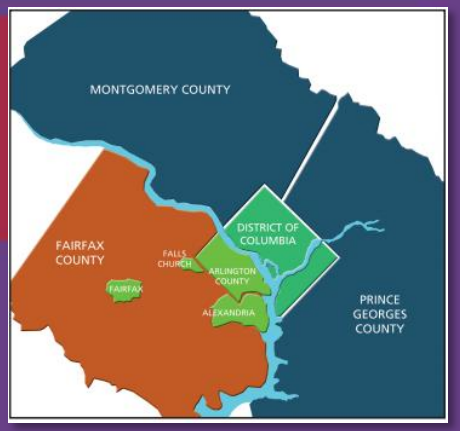
WMATA Facts



- 1,500 square-mile service area
  - District of Columbia
  - Maryland counties of Montgomery and Prince George's
  - Northern Virginia counties of Arlington, Fairfax and Loudoun and cities of Alexandria, Fairfax and Falls Church
- No dedicated operating funds
  - 57.6% from fares and other revenues
  - 42.4% from state and local govt. subsidies

MetroBus Facts

- 6th largest in US
- 323 routes on 169 lines
- 11,490 bus stops
- 500,000 runs per year
- 124,173,000 bus passenger trips last year
- 9 bus garages – soon to be 10
- 1492 active fleet buses
- 1266 peak fleet Requirement

What is WMATA's RTA ?

- Web based tool
- Ties Running Time design to On Time Performance (OTP)
- Standardizes how Running Time for each Time Point segment is set
- Simple by design
- Available to all stakeholders

What OTP?

- Performance measure for service effectiveness
- Customer centric measure
- No apparent standard
  - WMATA – 2 min early and 7 min late
  - MARTA – 20 sec early and 5 min 30 sec late
  - Ride On – 2 min early and 5 min late
  - MTA NYC – 1 min early and 5 min late
  - SEPTA – 0 min early and 4 min late
  - MDT – 50 sec early and 4 min 59 sec late
- Further complicated by how OTP measured

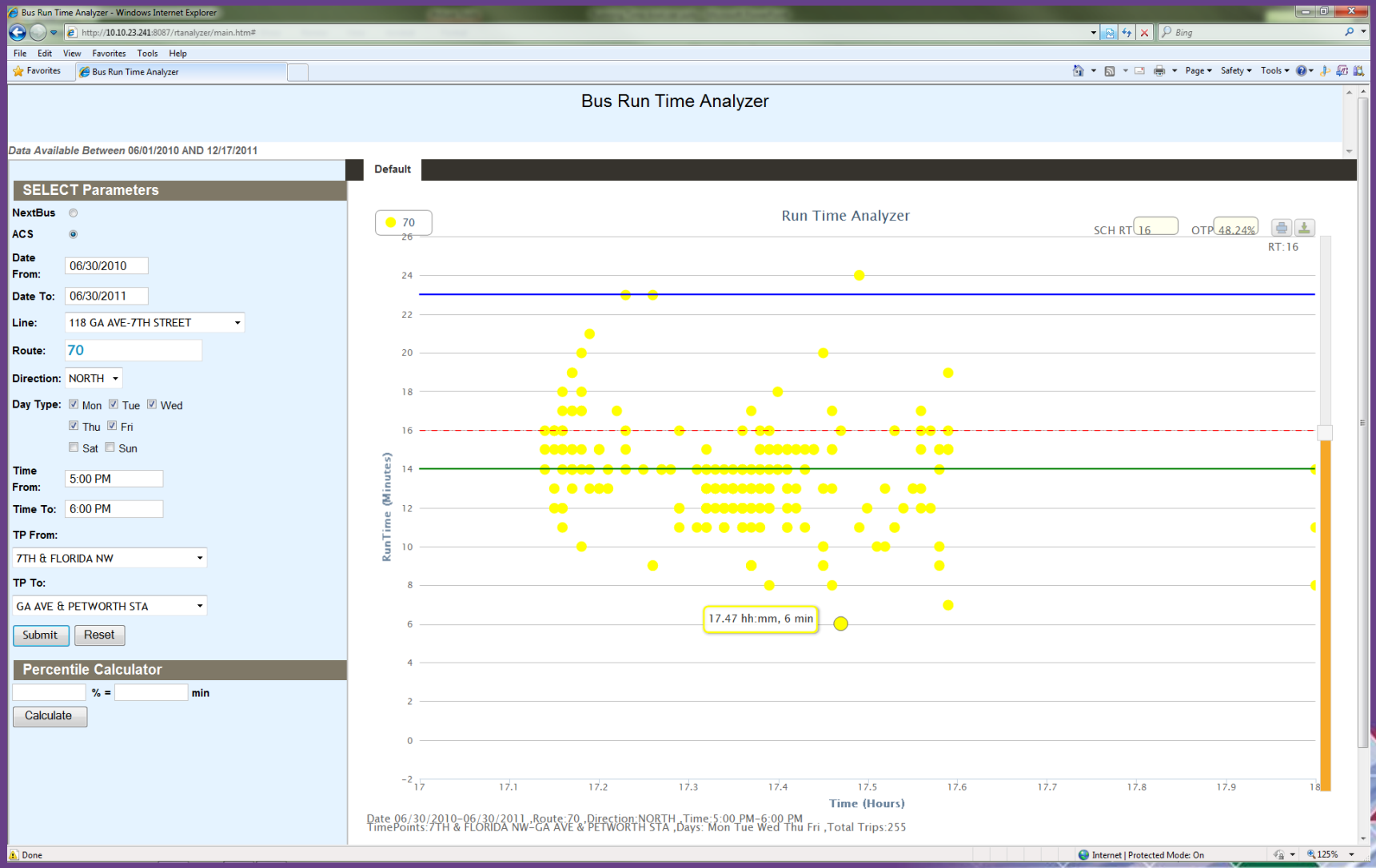
Standards on setting RT?

- Direct impact to operators, customers and transit authorities
  - *Too little – adverse to operator work quality; safety problems*
  - *Too much – inefficient; contributes to running hot/early*
  - *Inaccurate – missed transfers, complaints, time consuming schedule changes*

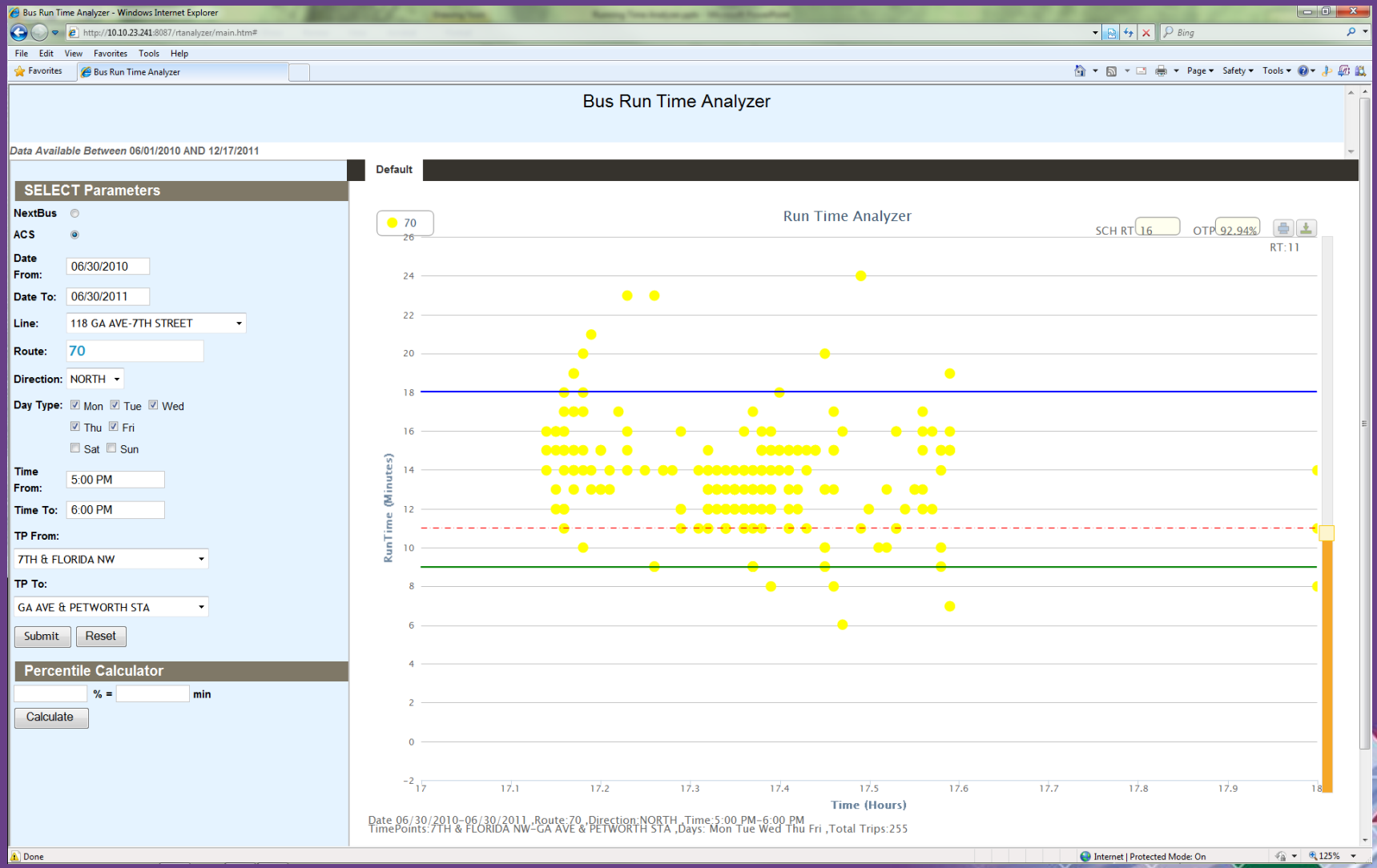
from TCRP Report 30

- Direct Impact to OTP
  - Use of average (50%), 40%, 60% time may not be the right answer…

Run Time Analyzer



Run Time Analyzer



Sample RTA Adjustment

Route 90 OTP Improvement Sample

North Bound / MTWT 4 -6 PM

Time Point Segment	Current Run Time	Current OTP	Optimized Run Time	Optimized OTP	Segment Run Time
Anacostia Sta. - 13th & Good Hope	5	97%	4	97%	4
Anacostia Sta. - Navy Yard	10	86%	7	95%	3
Anacostia Sta. - 8th & D SE	14	84%	11	94%	4
Anacostia Sta. - 8th & H NE	23	77%	22	79%	11
Anacostia Sta. - Florida & N. Capitol	34	66%	32	72%	10
Anacostia Sta. - Florida & GA Ave. NW	40	52%	36	66%	4
Anacostia Sta. - Reeve CTR-U st&14th	45	65%	45	65%	9
				Total	*45*
		Avg. OTP		75%	81%

INCREASE OF 6% OTP

Lessons Learned

- Data warehouse needed
- Data source critical
  - AVL not too reliable – 70% rule; 1st and last TP often not captured
  - Bus arrival prediction system data not pure enough
  - APC data is the right source – need analytics and data warehouse to be useful
- Not necessary to have all data

Q&A


L2
15
M.P.H.
WHEN
CHILDREN
ARE PRESENT
NO
STANDING
7-9:30AM
4-6:30PM
CHASE BANK