

# Measuring Profile Under Varied Conditions and Sites

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RESEARCH  
ASSOCIATES, INC.**  
An Employee-Owned Company

# Profiling Equipment

## ■ High-Speed Profilers

- Network PMS Surveys
- Construction Acceptance Testing



## ■ Light-Weight Profilers

- Construction Acceptance Testing
- Pedestrian/Bicycle Pathways



# Network-Level Surveys

## ■ State Highway Systems

- NCDOT, VDOT (HPMS), NYSDOT (HPMS & Touring System)

## ■ Tollway Authorities

- ISHTA & NTTA

## ■ County Roads Systems

- Broome County, NY; Lee & Escambia County, FL; NYS HPMS

## ■ Urban Systems

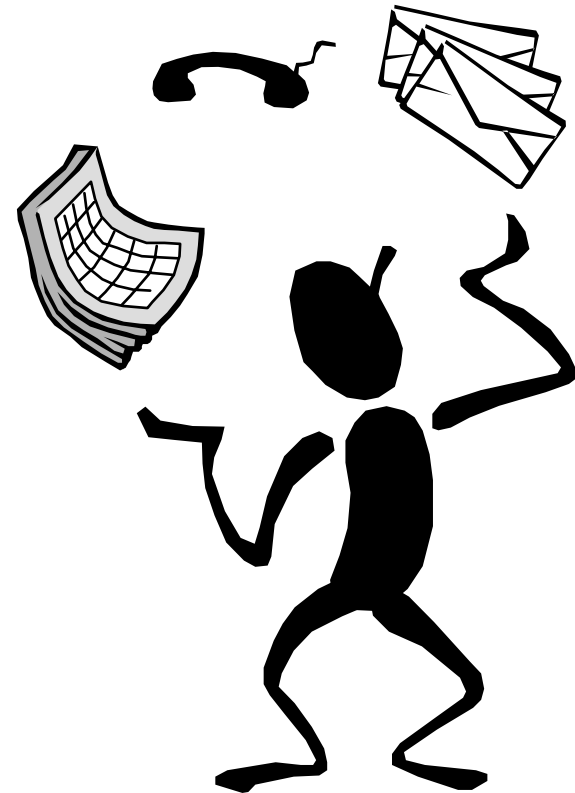
- Military bases; Denton & Arlington, TX; Lincoln, NE; Jupiter & Fort Myers, FL; Washington, DC; & NYS HPMS (NYC)

## ■ Airfield Pavements

- JFK, Newark, LaGuardia, Teterboro

# Network Survey Considerations

- Location Referencing
- Data Requirements
- Congestion
- Site Conditions



# Location Referencing

- What network information does the agency have available?
  - Paper or electronic maps
  - GIS system
- How good is the available network information?
  - Last updated
  - Contain PMS sections
- How does the agency reference their PMS & Profile data?
  - Control sections/segments
  - Intervals

# Data Requirements

- What roughness data are to be delivered?
  - IRI (quarter-car), Half-car, RN, RMS
- How are the roughness data to be reported?
  - Control section, Interval, Interval tied to MP
- What is the data delivery format?
- Are there special data collection requirements?
  - All-in-one surveys, daytime or nighttime only, escort required, wheel paths tested, wavelengths used

# Congestion

- High Volume Roadways
- Rush Hour Traffic
- Urban Traffic
- Pedestrian Traffic
- Construction back-ups
- Traffic Accidents
- Special Events
  - Sports
  - Concerts
  - Political Rallies

# Site Conditions

## ■ Roadways

- Security
- Restricted Access
- Restricted Times
- Dead Ends
- Stream Crossings
- Debris

## ■ Airfields

- Security
- Operations
- Layout
- Limited Access/Times
- Limited Space
- Wheel paths
- Other Contractors



# Construction Acceptance Testing

## ■ Light-Weight Profilers

- PennDOT (contractors)
- PA Turnpike (contractors)
- District DOT (agency)

## ■ High-Speed Profilers

- NYSDOT (agency)
- Mass. Turnpike (contractor)
- MDSHA (contractor)
- OH Turnpike (contractors)
- District DOT (agency)

# Construction Acceptance Testing Considerations

- Certification
- Specifications
- Project Factors

# Certification

- What gets certified?
  - Equipment
  - Operator
  
- How often?
  
- Recognizes other agency certifications?

# Specifications

- Who is responsible for the testing?
  - Agency
  - Contractor
  - Construction Manager
- What criteria are used?
  - Incentive only
  - Incentive - Penalty
  - Penalty only
- What are the testing timing requirements?
- What are the reporting requirements?
  - Data Reported
  - Units to be used
  - Summary Reports
  - Profile Plots
  - Data files

# Project Requirements

- Construction Limits
- Project Stationing
- Traffic Control
- Excluded Areas
- Short Notice
- Inspection Staff
- Regional Variability

# Successful Profiling

- Good Location Information
- Clear Data Requirements
- Information on Special Conditions
- Flexible Scheduling/Planning

# Questions?

