NEW YORK STATE
THRUWAY AUTHORITY
Traffic Data System
Designed for Future Demands

New York State Thruway Authority
Department of Planning Services
Office of Transportation Statistics
About the NYSTA

- 641 Mile Toll Road System – Longest in the World
- Opened 1954, includes I-90, I-87, I-84 & 3# interstates
- Largely Self Funding (2002 Toll Related: $570M, $39M Fed Aid)
- Experts with Toll Collection Issues/ Innovation/ Expectations

- Major Trade Route from Canada & USA Points West and East Coast
- Limited “Congestion Pricing” at Tappan Zee Bridge (Bridge Toll)
Tolls & NYSTA

Congestion/Value Pricing/”Whatever You Label It” are TOLLS!!

TOLLS = RESPONSIBILITY

NEW DATA CUSTOMERS

Finance/Auditors

Pricing Model

“When Money Comes into the House, Friendship Goes out the Door”
TRAFFIC DATA COLLECTION
CHALLENGES

- **Accuracy** – Satisfy Auditor’s Requirements
- **Accountability** – Data to Maintain Public Trust that $ = “There”
- **Responsiveness** – Provide Finance & Model Required Data
- **Reliability** – NO “HOLES” in the Data

(There is Serious Money and Policy Riding on This!!!!!)

- **Timeliness** – Provide Product when Required, no “if and or buts”
CAN YOUR MONITORING PROGRAM SATISFY FINANCIAL AUDITORS & PRICING MODELS ???
ANTICIPATE YOUR CUSTOMER’S NEEDS

- Marry ITS & Planning Data Collection
- Be Demanding – Demand Data Accuracy
- Partner – Work with IT to Develop Data & Com Structure

NYSTA

- 163 Functioning Monitoring Stations
- 30 Planned, Nearly Every Segment Instrumented!
- “Real Time Ready,” No Data Quality Sacrifice
- Looking Towards Future Decision Support Demands
- Employs ADUS Concepts
NYSTA TDS Monitoring Stations

Features

- 90 % Solar Powered / 10% AC
- 100 % Cellular Communications
- “Real Time” Ready
- ITS Deployment Platform
Establish Desktop Control of Sites
Employs Supervisory Control and Data Acquisition (SCADA) Concepts

Some Software Screen Shots

Drill Down to Site
Select Site & Assume Control
Database Layout

Features

- Oracle Based
- Relational Database
- Holiday & Event Tags
- "Bad" Count Tags
- "Suspect" Count Tags
- Per Lane Detail
- "Hooks" to External Database
- Speed/Length/F-Class BINS
Data Processing QA/QC CHECKS

Features

- Seven “Automatic” Errors
- Eleven “Suspect” Reporting
- Daily E-Mail Summary of QA/QC Check Outcome
- Suspect Data Review Interface
- Holiday/Event ID Interface

Example QA/QC Check Flowchart
Reporting

Features

- Browser Based
- Counts/Length/Speed/% Trucks
- 1, 7, 31 Day Self E-Mail Spreadsheets
- Next Day Availability
- 3 Year Full Detail On Line
- ID QA/QC Check Outcome
- Interface w/Toll Collection Data
- Counter Status & Configuration
- “Canned” Summary Reports
HCS LOS Features

- Browser/Arcinfo Based
- Underlying SAS HCM Software Implementation
- Employs Tolls, TDS Counts
- Hourly LOS on 176 Ramps
- All LOS Metrics Archived

Coming Soon/Underway

- Hourly Link Level LOS
- Speed Violation & Congestion Indices
- System Reliability Indices
TDS Cost & Timeframe

- Fully Operational Q1 2004, Begun 2001
- Total Cost: $3.1 M (Reused existing loops)
- In House Design, In House Software, Contracted Physical Construction
Improving Reliability

Reason: Construction Removes Loops, Lessening Reliability

Challenges
- Retire Pavement Intrusive Technology
- No Departure from Loop Accuracy
- Learn New Technology Pros/Cons
- “Marry” into Existing TDS Structure

Non-intrusive Detector Test
Audit and Tolling Models Require Accurate Metrics – Maintains Accountability & Trust

Timely - Web Distribution, User Gets When Wanted

Responsive – Metrics Support Pricing and Other Analytical Needs

Reliable – Automated System Built with Low Downtime, Looking for Increased Future Reliability
NEED TO KNOW MORE?

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