

SB1140 Performance Based Operating Funding Allocation Phase 3 – 2016 and Beyond

Read-Ahead Material for
Working Group Meeting
February 20, 2014



Contents

- Data Collection
 - National Transit Database
 - Other States' Practices
- *Note: Contents will be discussed (but not presented) at the February 20, 2014 Working Group Meeting*

STRATEGIC CONSULTING SERVICES

Data Collection

NTD

NTD - Contents

- At the January 28 Working Group meeting, questions were raised about NTD data definitions, verification processes and other matters relative to the data collection, reporting, and verification processes for state operating funding assistance in Virginia.
- Accordingly, on February 6, Parsons Brinckerhoff interviewed NTD Program Manager Keith Gates, and Andrew Lofton of Boyd Caton & Grant who is responsible for NTD's Operations Center and Validation Services.
- The following slides present relevant findings from that interview, to augment the Working Group's understanding of the similarities and differences in the NTD and DRPT processes and potentially inform its recommendations.

NTD Data Collection/Validation

- Has evolved over 30 years existence
 - original model assumed stand-alone transit authority; NTD adjusted to reflect industry of multiple organizational/governance models for public transportation
- Just contracted for adjusting definitions and online reporting system (ORS) changes in ca. 2 years
- \$3.5M/annual Operations Center, with analysts assigned to each transit agency “reporter”
- No performance metrics except STIC (see following slide); tries to capture needs
 - Nothing on effects on traffic congestion, or service to transit dependent populations

NTD's One Use of Performance Metrics

- STIC (Small Transit Intensive City) Program -- 1.5% of 5307 funds -- for small urbans (50K-200K pop.)
 - Rewards for performance measured against averages calculated for larger (200K-1M pop.) systems
 - 6 factors:
 - Vehicle revenue miles per capita
 - Vehicle revenue hours per capita
 - Passengers per capita
 - Passenger miles traveled per vehicle revenue mile
 - Passenger miles traveled per vehicle revenue hour
 - Passenger miles traveled per capita

NTD Data Reporting Categories

- Reporting category definitions driven by Uniform System of Accounts
 - Reporting categories/measures are derived from farebox
 - NTD provide guidance on sampling and verification methods, e.g., ride along/ride checking
 - Sampling only needed for some measures, e.g., passenger miles to get average passenger trip length (15% sample, boarding/ existing points; guidance requires rotating among routes, times)
 - 2 years ago provided model/Excel spreadsheets for sample size
 - In next ORS revision:
 - Examples of new definitions: how to break out costs among bus, commuter bus, BRT
 - Likely to provide guidance on incorporating APC data for validation, specifically for some measures, e.g., average passenger trip length

NTD Option for Smaller Agencies; Reporting Process

- Existing NTD provides option for reduced reporting requirements for smaller agencies
 - Eliminates eligibility for 3 STIC categories; state data requirements may discourage use
- Reporting deadlines staggered - 3 groups/year
 - Audited data submissions due 4 months following end of FY (in October, January, and April*)
 - Goal of reconciling issues/anomalies within 3 months after submission
 - Average of 3 back-forth iterations/agency
 - Must close-out by July*; FTA apportionment in August

*April group must reconcile all issues within max. of 3 months

NTD Verification/Validation Process

- Multiple “tiers” of verification/validation
 - Automated validation pre-submission
 - System compares with past reports, industry normal range for each data point
 - Calculates system ratios, e.g., average speed, and compares to norm for type of system
 - Raises validation flags
 - Reporters must respond/explain or correct error
 - CEO/GM certifies initial submission
 - NTD analyst reviews submittals
 - Reviews responses/explanations to flags
 - Creates new flags and follows-up with agency reporter
 - Up to 6 iterations may follow (sometimes only 1)
 - In revised System of Accounts may require CEO/GM to re-certify revisions

NTD Technical Assistance to Transit Agencies

- NTD provides various types of technical assistance to agencies
 - Analyst assigned to every reporter
 - 1-on-1 screen sharing; walk-throughs
 - Can work with computer unskilled
 - Also works with paper-records-only agencies
 - On-site training
 - Manuals; PowerPoint presentations
 - Webinars, e.g., “Sampling Technical Assistance Package”
 - Regional NTI 2-day training on how to report
 - Next NTI trainings this year in Springfield, IL and New Jersey
 - Could Virginia host in future?

Data Collection

Other States (in this package):

Kansas

New York

Ohio

Pennsylvania

Other States - Contents

- Previous research conducted in response to Virginia legislation and TCRP (and similar) studies indicated that Kansas, New York, Ohio, Pennsylvania and North Carolina may have considered or developed processes for allocation of state assistance to transit agencies based on system characteristics including performance.
- Much of that research was dated, and knowledge of what current processes were in each state was unknown.
- Accordingly, Parsons Brinckerhoff conducted interviews with each state regarding the parameters of its current programs, data collection and verification processes, and “lessons learned” of potential value for Virginia and DRPT.
- Some of the findings from the interviews was reported at the January 28 Working Group meeting; other relevant findings regarding four of those states are reported in the following slides.
- These findings may inform the Working Group’s consideration of potential data collection “standards” and other recommendations.

Kansas: Current Program

- Current transit operations funding program (2010-present):
 - Urban formula (5 agencies; soon 6):
 - Service area population 40%
 - Annual ridership 40%
 - Revenue miles 20%
 - Rural: based on past year funding with incorporation of cost increase; subjective process between KDOT program administrator and transit agency

Kansas: New Program for Rural Agencies

- In 2012, KDOT began roll out of the TRACK (Transportation for Regionally Accessible Communities) system for 5311 agencies
 - Measures:
 - Safety
 - Customer Satisfaction
 - Fiscal Efficiency
 - Customer and Operations Information
 - Regional Accessibility (if applicable)
 - Data now being collected for two years

Kansas: The TRACK Program Scorecard



Safety	
⇒ Preventive Maintenance	8.0
⇒ Inspection Deficiencies per Vehicle	7.0
⇒ Preventable Accident Rate	7.0
⇒ Operators Eligible	3.0
Total	30.0

Customer Satisfaction	
⇒ Customer Satisfaction	7.0
⇒ On-time Performance	7.0
⇒ Distance Between Failures	7.0
⇒ % of Population Served	9.0
Total	30.0

Fiscal Efficiency	
⇒ Cost Recovery	10.0
⇒ Cost per Mile	8.0
⇒ Customers per Mile	5.0
⇒ Contracted Service Revenue per Mile	2.0
Total	30.0

Customer and Operations Information	
⇒ Trip Purpose	3.0
⇒ Customer Demographics	4.0
⇒ Reported Fuel Cost	3.0
Total	10.0

Overall Total 100.0

Regional Accessibility

If you offer regional service, please provide the following information:

⇒ Cost per Mile for Regional Routes	
⇒ Regional Miles/Total Miles	

Kansas: TRACK Safety Metrics

- **Safety**

- Preventive Maintenance: % of preventive maintenance OEM items completed within the manufacturer-recommended mileage interval
- Inspection Deficiencies per Vehicle: Average # of deficiencies cited by KDOT inspectors for each inspected vehicle
- Preventable Accident Rate: # of accidents rated as preventable
- Operators Eligible: % of bus operators in compliance with KDOT physical examination requirements

Kansas: TRACK Customer Satisfaction Metrics

- **Customer Satisfaction**

- Customer Satisfaction: % of customers responding to a customer satisfaction survey expressing a satisfaction level of 8 or higher on a scale of 1 to 10
- Demand Response On-time Performance: % of scheduled time point encounters in which the actual pick-up time is within fifteen minutes (early or late) of the scheduled pick-up time
- Fixed Route On-time Performance: % of scheduled time point encounters in which the actual arrival/departure time is within five minutes (early or late) of the scheduled arrival/departure time
- Distance Between Failures: Average # of system miles between each bus failure that renders it unavailable for service
- Distance Between Failures: Average # of system miles between each bus failure that renders it unavailable for service
- Percent of Population Served: % of total population within service area that has access to service

Kansas: TRACK Fiscal Efficiency Metrics

- **Fiscal Efficiency**

- Cost Recovery: % of total operating expenses recovered by customer-generated and service contract generated revenue
- Cost per Mile: Average cost of operating each mile of service
- Customers Per Mile: Average # of customer trips per mile driven
- Contracted Service Revenue Per Mile: Average amount of subsidy revenue generated by each mile of service

Kansas: Other TRACK Data Collected

- **Customer and Operations Information** (Points assigned upon submission)
 - Trip Purpose: # of customer trips categorized as: Work related, Education related, Medical Related, or Other
 - Customer Demographics: # of customer trips categorized as: Senior, Disabled, or Other
 - Reported Fuel Cost: Average fuel cost at time of report (used for statistical normalization over time)

Kansas (conclusion)

- Use of TRACK formula for funding allocation will begin in December 2014
 - May incorporate TRACK into urban formula in future
- Verification process: KDOT staff regularly reviews agency data anomalies

New York: Different Process for Large and Smaller Agencies

- Separate operations funding formulas for larger and smaller systems
 - In early-mid 90's, state started to allocate funding for larger systems as line items in state budget
 - Each large agency's costs reviewed annually by NYSDOT; state may "cap" funding allowed for specific cost category increases, e.g., a 6% increase in labor costs does not mean that state will increase its allocation for those costs comparably
 - Formula (now just for smaller agencies):
 - Ridership: \$0.405/passenger
 - Passenger vehicle miles: \$0.69/passenger mile

New York: Current Year Operating Allocations

- Most recent funding allocation: \$4.9 billion
 - \$4.4 billion to MTA (New York City metropolitan area)
 - \$290 million to downstate agencies in New York City, Westchester, Nassau and Suffolk Counties
 - \$30 million allocated by formula to smaller agencies
 - \$177 million to upstate agencies
 - \$36.8 million allocated by formula to smaller agencies
 - \$140.2 million to authorities in Rochester, Buffalo, Syracuse, Albany

New York: Reporting and Verification Process

- Agencies submit data quarterly, 90 days following the previous quarter
- Funds are awarded quarterly, with annual “clean up” process to distribute remaining funds
 - NYSDOT is working with NY Transit Association to lower annual “clean up “ amount and distribute more funds during quarterly process
- State runs “exception reports” each quarter to flag data anomalies
- State has rescinded funding for inaccurate data

New York: Technical Assistance for Transit Agencies

- NYSDOT conducts a data audit program that provides technical assistance to agencies
 - Frequency of audit is dependent on historical risk of inaccurate data, missing or late data reports
- Holds Data Summits for agencies to review data standards and processes
 - Brings agencies to state capital for data collection, verification training

Ohio: Data Collection and Allocation

- Collecting performance measurement data for 40 years
- Funding amount decreased over time
 - \$43 million in 2000 to \$7 million currently
- Statewide Allocation:
 - \$3 million to 61 rural agencies
 - Based on past year's allocation, but performance formula is still being calculated and used as benchmark
 - Performance formula used in the past:
 - Trips per hour (20%)
 - Cost per mile (20%)
 - Number of public transportation trips (30%)
 - Cost per trip (15%)
 - Subsidy per trip (15%)

Ohio Allocation (continued)

- Statewide Allocation (continued)
 - \$1 million - agencies servicing disabled/elderly passengers
 - Allocation formula: Reimbursement of subsidy
 - Difference between lowest fare and full fare multiplied by number of passengers
 - \$ 3 million - 27 urban agencies
 - Agencies have dedicated operating revenue; in need of capital funding (allocated below):
 - Data measures (50%)
 - Ridership, service miles, farebox revenue
 - Performance measures (50%)
 - Cost/hr, passengers/mile, farebox recovery rate

Ohio: Verification Process Differs for Large and Smaller Agencies

- Different data verification process for larger and smaller systems
 - Large systems fill out “Certification of Data” form
 - State and agency go through review of data for anomalies before “signing-off”
 - Smaller systems send data to the state on quarterly basis (more oversight)
 - State verifies data by looking through driver manifests and scheduling software manifests
 - All agencies are subject to accountability policy

Ohio: Oversight and Technical Assistance

- Technical Reviews
 - Occurs once every 3 years
 - Triggered by frequent anomalies in data, change in data manager, late invoices or mistakes not resolved over time
 - Results in state staff working one-on-one with agency, or consultant sent to agency to help with data collection or processing issues

Pennsylvania: Operating Assistance for Urban Systems

- Pennsylvania has been funding transit agencies (eventually 14 programs) since 1987
- Act 44 (2007-09) consolidated programs into capital, operating, and programs of statewide significance – Operating Assistance Fund (currently \$866M) distributed to 37 urban fixed route systems
 - 75 other, non-fixed route systems in state receive no state operating funds
 - Programs of statewide significance (\$50M/year) = persons with disabilities outside Philadelphia, Pittsburgh; matching funds for JARC, Welfare to Work; intercity rail and intercity bus; technical assistance and demonstration projects; rail safety and transit security

Pennsylvania: Operating Assistance for Urban Systems (continued)

- Distribution formula developed by PennDOT and transit agencies
- “Base” continued (“hold harmless”) levels from earlier programs; Philadelphia (SEPTA) and Pittsburgh (Port Authority) had been getting 70% of total
- As total available fund has grown; base has grown from \$535M to \$840M

Pennsylvania: Operating Funding Formula; Transit Agencies Data Collection Practices

- Distribution formula:
 - Total Passengers 25%
 - Senior premium* (sr. trips/total trips) 10%
 - Total revenue vehicle hours 35%
 - Total revenue vehicle miles 30%
- Had consultant spend 2 years documenting how data collected, compiled, reported at each agency
 - Still a lot of driver manual data collection (is primary method for counting senior passengers), including on paper
 - Director of Bureau of Public Transportation would like to move to all registering fareboxes

* Senior trips are free

Pennsylvania: Previous Considerations; Current Process/Tools

- Considered recognizing/rewarding exceptional improved performance 8 years ago; unable to develop measure
- PennDOT process/tools
 - dotGrants (application, invoicing, executing agreements)
 - Data submitted quarterly, annually
 - Audited annual data submitted 180 days after FY
 - Created, mandated use of Excel spreadsheets for entering data, uploading to dotGrants
 - Publishes annual performance report with profiles of every agency, showing 3-4 year trends

Pennsylvania: Verification Process & Implications

- Data verification process
 - Check dotGrant data against Excel spreadsheets (annually)
 - Check NTD (annually)
 - PennDOT analysts question anomalies
 - Randomly selected compliance reviews (1/month); regular individual agency reviews (quarterly)
 - Created quality assurance procedures
 - Guidance document specifies verification techniques for each data type
 - Requires CEO to certify the method of verification used
- \$'s taken away from agencies when PennDOT finds pattern of unsubstantiated data

Pennsylvania: Required Certification of Agency Verification/Validation Methods

CEOs are certifying to data that is reported in dotGrant Legacy Budgets. To assure the accuracy of the data, the agency should have procedures in place to test and analyze data for quality/accuracy prior to submission/certification. Please use the space below to indicate which quality control activities your agency performed for each of the data elements. Following the checklist is a series of routine, “common sense” and “rule-of-thumb” tests that can be performed on data before it is certified as accurate by management. You may use these to answer the “Method(s) used for validation” question.

Total Passengers

Method(s) used for validation: _____

Senior Passengers

Method(s) used for validation: _____

Revenue Vehicle Hours

Method(s) used for validation: _____

Revenue Vehicle Miles

Method(s) used for validation: _____

Pennsylvania: Proscribed Ridership Verification Methods

TOTAL PASSENGERS

Total passenger counts come from both fare-paying and non-fare paying passengers.

Methods for verifying total passengers include:

- Compare farebox data with automated passenger counts
- Compare farebox data with video recordings
- Compare farebox data with ride checks performed by supervisors
- Compare farebox revenue and passenger counts for average fare calculation

When the average effective fare is less than 66% of the full boarding fare, management should look at individual routes, runs and drivers to see if there is a systemic reason for this as it is atypical to have effective fares lower than 66% of the full boarding fare.

Checks must be completed on at least two vehicles in revenue service for each fixed-route mode for the entire span of two randomly selected weekdays for the month.

Pennsylvania: Verification Methods for Free Fares (Seniors)

Methods for verifying senior passengers include:

- Compare senior passenger trips to total passenger trips. If total senior ridership accounts for more than 20% of a system's total ridership in a given month, it raises a "red flag" indicating an additional level of scrutiny is required. Management should summarize data for that month for each route and bus; divide the number of reported seniors by total ridership; and, then sort each of the three reports in descending order by the percentage of seniors reported. Logic and/or ride checks should be performed for outlier routes (i.e., highest percentage of seniors reported) to make sure the total number of passenger trips reported in the data is consistent with field observation.
- Compare senior passenger trips to fare-paying passenger trips. If a driver carries a disproportionate number of senior trips compared to fare paying trips, senior ridership reported by the driver should be further reviewed. Management can:
 - analyze data for that month by driver/by route
 - divide the number of reported seniors by total ridership for each driver/route
 - sort the report in descending order by the percentage of seniors reported by driver and by route

Pennsylvania: Cross Checking Between Data Sources

CHECKS AND REVIEWS THAT CAN BE USED TO FACILITATE THE ANALYSIS BY AGENCY MANAGEMENT OF OTHER STATISTICS

REPORTING SYSTEM CROSS-CHECKS

Some agencies use both GFI and Avail systems. Avail permits easy access to GFI databases for live queries and reporting on data stored in the GFI database. However, the key field mapping between the two systems must be the same so that reporting can be verified (rather than using just one of the systems to generate management reports). Any time either software system is updated or new fare policies/media are put in place, a thorough consistency check between the systems must be completed. Subsequently, a quarterly spot check and comparison should be made between ridership and revenues by fare type between the GFI and Avail reporting systems to ensure that ridership definitions are consistent and that all rider categories are being reported accurately by both systems.

FARE-PAYING PASSENGERS

Fare paying passengers are readily reconciled against fares collected. When the amount of in-vehicle fares collected varies by more than 5% from what is reported from the farebox twice in one month, a special audit is required. If farebox revenues are mixed prior to counting (thereby making it impossible to verify the source of the discrepancy) 10% of all vehicles in revenue service must be surveyed either by review of video (preferred) or ride checks.

Pennsylvania: Technical Assistance for Transit Agencies

- PennDOT technical assistance
 - Excel spreadsheets
 - Technical assistance (e.g., extracting data from registering fareboxes)
 - Performance reviews with individual agencies; now standardized (all agencies review in 3-yr cycle) – for organizational development/capacity-building purposes
 - Information; reports
 - Training
 - Board training (goals & objectives)
 - Agency training (outliers/benefits packages, healthcare; planning; organizational structure, job descriptions, policies & procedures; financial management + many capital project-related)