

PENNSYLVANIA STATE TRANSPORTATION ADVISORY COMMITTEE

TRANSIT OPERATOR PERFORMANCE MEASURES



FINAL WHITE PAPER

JULY 2007



The Pennsylvania State Transportation Advisory Committee (TAC)

The Pennsylvania State Transportation Advisory Committee (TAC) was established in 1970 by Act 120 of the State Legislature, which also created the Pennsylvania Department of Transportation (PennDOT). The Committee consults with and advises the Secretary of Transportation and the State Transportation Commission and undertakes in-depth studies on important issues as appropriate. Through its public members, the Committee also serves as a valuable liaison between PennDOT and the general public.

The Advisory Committee consists of the following members: The Secretary of Transportation; the heads (or their designees) of the Department of Agriculture, Department of Education, Department of Community and Economic Development, Public Utility Commission, Department of Environmental Protection, and the Governor's Policy Office; two members of the State House of Representatives; two members of the State Senate; eighteen public members; six appointed by the Governor, six by the President Pro Tempore of the Senate, and the Speaker of the House of Representatives.

Public members, with experience and knowledge in the transportation of people and goods, are appointed to represent a balanced range of backgrounds (industry, labor, academia, consulting, and research) and the various transportation modes. Appointments are made for a three-year period and members may be reappointed. The Chair of the Committee is annually designated by the Governor from among the public members.

The Advisory Committee has two primary duties. First, the Committee "consults with and advises the State Transportation Commission and the Secretary of Transportation on behalf of all transportation modes in the Commonwealth." In fulfilling this task, the Committee assists the Commission and the Secretary "in the determination of goals and the allocation of available resources among and between the alternate modes in the planning, development and maintenance of programs, and technologies for transportation systems." The second duty of the Advisory Committee is "to advise the several modes (about) the planning, programs, and goals of the Department and the State Transportation Commission."

***The Committee
"consults with and
advises the State
Transportation
Commission and the
Secretary of
Transportation on
behalf of all
transportation
modes in the
Commonwealth."***



TAC Members

Chairman

H. Michael Liptak, Highway Equipment & Supply, Dauphin County

Members

Hon. Allen D. Biehler, P.E., Secretary, Pennsylvania Department of Transportation

Dr. Roy E. Brant, Ph.D., Edinboro University (ret.), Crawford County

Hon. Brad Cober, Commissioner, Somerset County

Ms. Donna Cooper, Director, Governor's Policy Office

Mr. Thomas Geanopoulos, Marketing Consultant (ret), Allegheny County

Hon. Anthony V. Herzog, Commissioner, Wayne County

Hon. Wendell F. Holland, Chairman, Pennsylvania Public Utility Commission

Hon. Richard A. Kasunic, Pennsylvania State Senate, Fayette County

Mr. Joseph Mangarella, Carol Ann Fashions (ret.), Cambria County

Hon. Kathleen McGinty, Secretary, Pennsylvania Department of Environmental Protection

Mr. Larry C. McCrae, Larry C. McCrae, Inc., Philadelphia County

Ms. Fran O'Brein, Delaware River Port Authority, Philadelphia County

Hon. David Reed, Pennsylvania House of Representatives, Indiana County

Hon. Robert Regola, Pennsylvania State Senate, Westmoreland County

Mr. Sean M. Reilly, Esq., Attorney, Montgomery County

Mr. Leonard A. Ross, Montgomery County

Mr. William J. Rossman, Blair County

Mr. Jack Rutter, IA Construction Corporation, York County

Mr. Gustave Scheerbaum, P.E. TAC Member

Mr. Louis C. Schultz, Jr., P.E., Transportation Consultant, Cumberland County

Mr. Ronald G. Wagenmann, Manager, Upper Merion Township, Montgomery County

Mr. Charles F. Welker, C.E., EADS Group, Inc., Blair County

Hon. Dennis Wolff, Secretary, Pennsylvania Department of Agriculture

Ms. Mary Worthington, Wellsboro Area Chamber of Commerce, Tioga County

Hon. Dennis Yablonsky, Secretary, Pennsylvania Department of Community and Economic Development

Hon. Gerald Zahorchak, D.Ed., Secretary, Pennsylvania Department of Education



TAC White Paper

The State Transportation Advisory Committee typically conducts studies through a task force structure. Each study task force consists of a Chairman (named by the TAC Chairman) and TAC members. Task force membership is often augmented by PennDOT subject matter experts and/or others representing state agencies, academia, local government, associations or private organizations. The task force directs each study effort and forwards its findings to the full TAC for its consideration.

TAC recognizes the need from time to time to produce shorter term white papers such as this study. It was carried out over several weeks rather than a few months as is usually necessary to accommodate the task force process.

The white paper provides an opportunity for TAC to rapidly address a timely issue of immediate interest and the need for a quick assessment. Because this does not involve a study task force, an effort is made to involve a member or members who are interested in the topic in a more ad hoc way. That occurred with this study as TAC member Louis C. Schultz interacted regularly with the Department Project Manager and the consultant team.

TAC may choose to adopt a white paper formally or just receive it as informational. In either case the report would typically be forwarded as well to the Secretary of Transportation and the State Transportation Commission, TAC's statutory audience.

Study Team Note: *The Gannett Fleming consultant team wishes to express its appreciation to TAC member Lou Schultz for his involvement and insight. The team is also appreciative of the involvement and availability of Acting Deputy Secretary of Local and Area Transportation, Toby Fauver, and LaVerne Collins and John Dockendorf of the Bureau of Public Transportation. Last, but certainly not least, we express our appreciation to Jim Arey from PennDOT's Center for Program Development and Management for his day-to-day guidance throughout this study.*

This project was led by Keith Chase as Project Manager and Joe Daversa as Senior Analyst.





Table of Contents

Executive Summary	i
Study Objective	1
Background	1
Methodology	5
Public Transportation Performance Measures – Definition	6
Pennsylvania’s Experience With Performance Measures	8
Literature Search Methodology and Results	15
Outreach to Other States and Regional Agencies – Approach and Results.....	19
Recommendations	27
Policy Implications and Implementation Issues	47
Appendix	53



Executive Summary

Study Purpose

The purpose of this study is to document the current state of the practice regarding application of performance measures and standards in (a) the management and oversight of state public transportation funding programs, and (b) in the evaluation of the delivery of public transportation services. The study results and recommendations are intended to inform the process of implementing the recommendations of the Pennsylvania Transportation Funding and Reform Commission, and to provide the necessary background information to assist PennDOT and others in the drafting of legislation related to reforming the structural basis and the management approach for the Commonwealth's public transportation funding programs. In addition, as of June 28, 2007, the Pennsylvania General Assembly was considering proposed transportation legislation that would address both funding levels and transit performance and accountability issues.



Research Conclusions

Conclusions from the literature search and interviews of other states are:

1. Of the states interviewed that use performance measures for allocating funding, there is nearly an even split between those that use the measures to distribute both transit operating and capital funding on a block grant basis (5 states), and those that use the measures to distribute only operating funds (4 states).
2. Most funding allocation formulas and performance measures used by other states have been in place for relatively long periods of time.
3. By a significant margin, peer groupings for purposes of evaluating performance and allocating funding are most often done on a geographic basis. For example, providers serving urban areas are compared to each other or against the group average; and providers serving rural areas are separately grouped and compared against each other or against that group's average.
4. Most states compare providers against peer group performance rather than against pre-determined standards such as 4 passengers/vehicle mile, or \$65/vehicle hour. One exception is



the cost recovery measure (revenue ÷ expense) where specific targets or minimums are often stated.

5. Data timeliness and reliability is a common concern, with no real breakthroughs found through this research.

Recommendations

Three levels of performance-oriented recommendations are presented.

- **Public Transportation Performance Measurement System (PTPMS)** - The first and highest level presents a systematic, overall policy framework for managing transit grant programs for enhanced performance.
- **Grants Management Process Flow** - The second level recommendations address the grants management process and include both enhanced inputs and outputs of the various grants process steps.
- **Performance Measures** - The third and final set of recommendations is for use in evaluating transit providers. A recommended approach to establishing relevant peer groups is also presented.

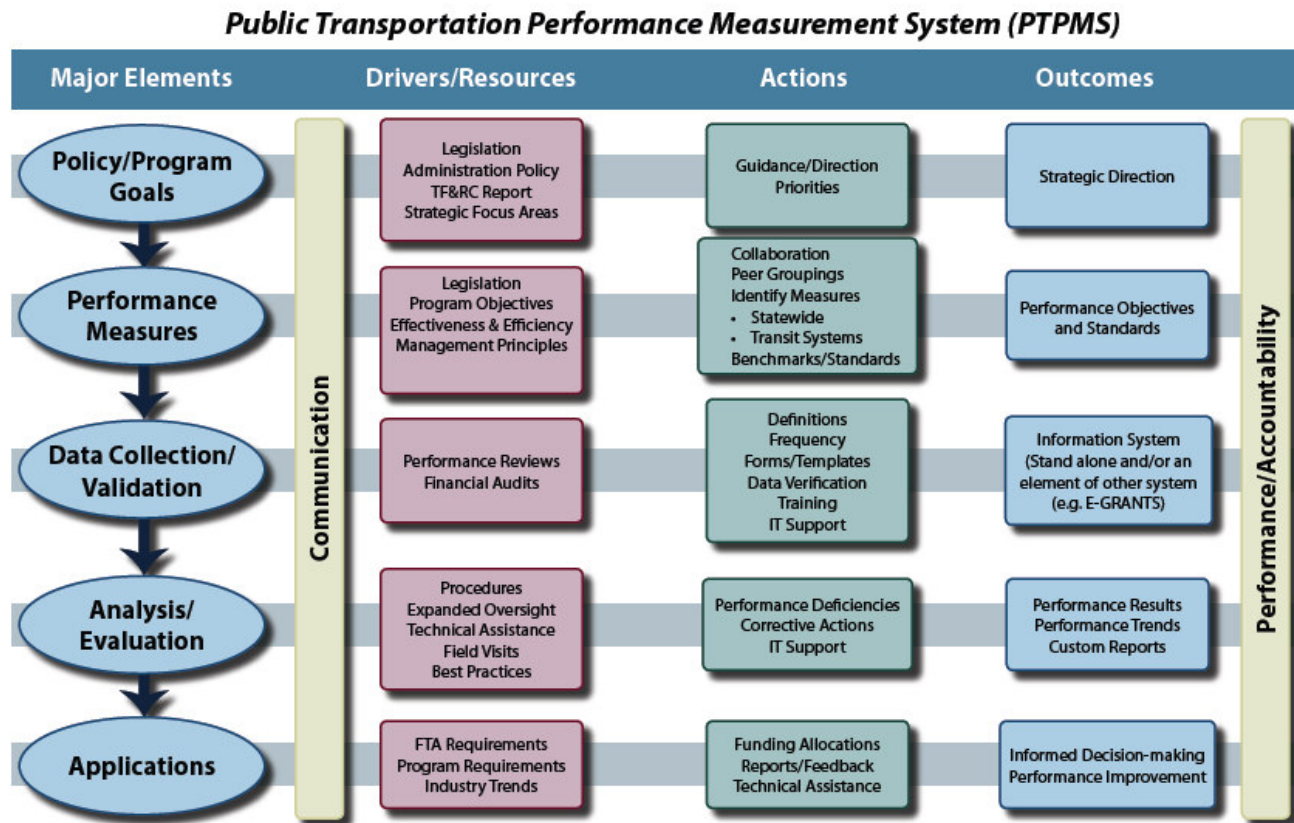




1. A Systematic Approach to Performance Enhancements

Figure A illustrates a comprehensive public transportation performance measurement system (PTPMS). It shows how performance measures should be driven by overall policy goals and objectives. The PTPMS provides the overall framework for performance measurement and corrective actions, and represents one of the key tools used to assure that the desired outcomes of performance improvement and enhanced accountability are attained.

Figure A





Success factors for an effective performance measurement system are listed below:

- The system should be primarily **positive rather than punitive** -- the goal is to improve performance rather than identify and punish shortfalls, particularly in the short term.
- **Collaboration** occurs at all levels and all phases to achieve the maximum degree of buy-in by stakeholders.
- **Maximizes the use of existing data systems.**
- The selected **measures should be intuitive** and clear in purpose.
- A **modular design** should be employed that recognizes both the unique requirements of individual programs, as well as the need to produce compilations across programs.
- The system is **expandable** to permit incremental system development and enhancement.

2. Grants Management Process - Performance and Accountability Enhancements

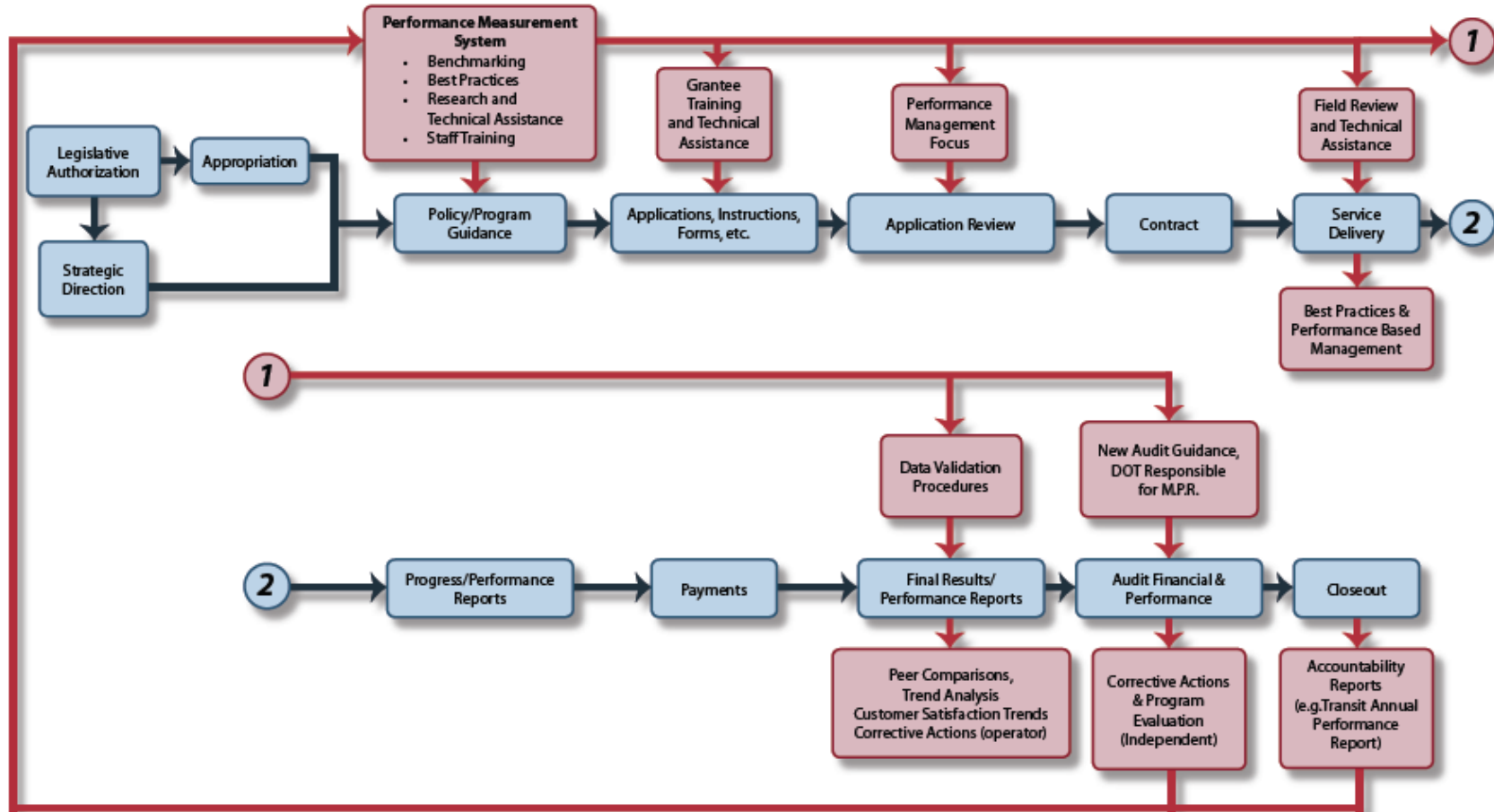
Figure B takes this conceptual system framework to the next level by overlaying opportunities for performance and accountability enhancements on the high-level process flow for a typical transit grant program currently administered by the Bureau of Public Transportation. The blue boxes represent standard grants management processes that are currently in place, while the information shown in red depicts how various new or enhanced actions can be overlaid on the existing process to achieve the desired focus on improving performance. Figure B is a particularly useful starting point for determining how existing state grant management processes can be enhanced for a greater consideration of performance and accountability.



Figure B

Transit Grant Management Process Performance and Accountability Overlay

Legend: Existing Process (blue box), New or Enhanced Actions (red box)





3. Peer Grouping and Performance Measures Recommendations

TAC recommends a two-tiered approach to peer grouping for funding allocation and performance assessment purposes. The first tier would group transit providers for purposes of a basic funding allocation that recognizes the number one priority of providing mobility, and also the desire to provide sufficient funding predictability and stability so as not to disrupt day-to-day transit operations. The majority of funding would be distributed according to tier one. The second tier would identify relevant peer groups for individual providers. These groupings would be used for purposes of performance measurement and incentive funding decisions. Recommendations for each tier are presented below.

Tier One Peer Group Recommendation - For Basic Funding Allocations

This first tier would be most useful for purposes of allocating available resources to the selected grouping to reflect current levels of service, the current structure of federal programs, and the relative scale and “needs” of the various providers. Pennsylvania’s current peer groupings (classes 1, 2, 3, 4, and 5) are generally consistent with what is in place among peer states, and represents a sound basis for the “first cut” in establishing peer groups. Should these classes change, the principle of comparing within like categories still remains valid.

Tier Two Peer Selection - For Performance Comparisons and Funding Incentives/Sanctions

The recommended approach for tier two peer grouping, which would be used for performance comparison purposes, is based largely on the approach used by the Reform Commission as part of their study, but with several suggested modifications. The Reform Commission’s approach was to first identify a pool of approximately 10 systems from the Federal Transit Administration’s National Transit Database based on the size of the annual operating budget. The next step narrowed the initial list down to three peer systems using eight factors that encompassed demographics (population and population-driven variables), annual ridership per capita, annual vehicle miles of service, number of employees, and fleet size. Performance comparisons would be done at this level, and would serve as the basis for the department to offer incentive funding, or to require operators to implement corrective actions to address areas of weak performance. After a reasonable grace period, funding sanctions could be applied if performance does not improve to acceptable standards.

**TAC
recommends a
two-tiered
approach to
peer grouping
for funding
allocation and
performance
assessment
purposes**



Tier Two Peer Grouping Recommendations for Performance Comparisons and Funding Incentives/Sanctions

Southeastern Pennsylvania Transportation Authority (SEPTA)

- Reform Commission Approach, modified to reflect relative growth trends and local financial commitment

Port Authority of Allegheny County (PAAC)

- Reform Commission approach, modified to reflect relative growth trends and local financial commitment

Other Urbanized

- Reform Commission approach, modified to require that approximately half of the peers be in-state providers

Small Urban & Rural

- Reform Commission approach, modified to require that approximately half of the peers be in-state providers
 - Peer groups based on factors such as service area square miles, total service area population, population or percent of population in various target groups, number of vehicles, total budget, agency-operated versus contracted service, and total system expenses
-

Community Transportation

Recommended Performance Measures

Ideally, a performance measurement system should reflect a balance that addresses efficiency in the use of resources, utility to the local population as measured by ridership and revenue, and support for broader policy goals that may suggest priorities other than purely economic factors.

Statewide Measures

Drawing upon the recently-released Pennsylvania Mobility Plan and the draft list of transit indicators being considered by the Department for a “State of The System Report,” TAC recommends that the Department track the following three key transit performance indicators on a statewide basis:

- total transit boardings
- operating expense per vehicle mile
- total boardings per revenue vehicle mile



The three recommended statewide measures were chosen based on the fact that they encompass both efficiency and effectiveness, they are not duplicative of one another, the data should be readily available, and the data should be accurate

Transit Provider Performance Measures for Fixed Route

When selecting performance measures for transit providers, candidate measures that were either (a) recommended by the Funding and Reform Commission, or (b) included in pending legislation, are evaluated below along with several others gleaned from the research, and recommendations follow. TAC recommends that the number of adopted measures should be kept to five to minimize the administrative burden on both providers and the Bureau of Public Transportation (BPT), and to keep the focus on the most important indicators. The expansion of these performance measures over time may be desirable and beneficial. PennDOT, for example, should assess the opportunity to more fully evaluate transit's broader benefits and impacts in areas such as land use, energy conservation, the environment, tourism, economic development, and adaptation to changing demographics.

The expansion of these performance measures over time may be desirable and beneficial





Figure C – Performance Measure Recommendations for Fixed Route Systems

Measure	Source		Comment	Recommendation
	Reform Commission	Draft Legislation		
Cost per hour	X	X	efficiency measure used by 2 of 11 states	Yes
Passengers per hour	X	X	effectiveness measure used by 5 of 11 states	Yes
Cost per passenger	X	X	efficiency measure used by 3 of 11 states	Yes
Subsidy per passenger	X		effectiveness measure used by none of 11 states	No This measure would be redundant given that cost per hour and revenue per hour are already being evaluated.
Operating Revenue per hour		X	effectiveness measure used by none of 11 states	Yes
(Operating Revenue + Local Funding) ÷ Total Expense	From research		local commitment measure used by 4 of 11 states	Recommend choosing one
Revenue ÷ expense	From research		common throughout transit industry	



Performance Measure Recommendations for Demand-Responsive Transit Services

For the Community Transportation Programs, which provide demand responsive services primarily to designated target groups such as the elderly or persons with disabilities, the following measures are recommended for consideration:

- passenger trips per revenue hour
- operating cost per revenue hour
- operating cost per passenger trip.

Policy Implications and Implementation Issues

Since the recommendations contained in this report represent a significant departure from past practice in both the way transit grants are administered, and the Department's expectations of transit providers, there are a number of policy implications and implementation issues that merit further discussion.

Policy Implications

1. **Performance Measurement Should Reflect a Balance Between Higher Level Departmental Goals, and Productivity and Efficiency Goals.** It is necessary to evaluate Transit on a wider range of factors than efficiency.
2. **State-Local Partnership** – The TAC views the recommendations contained in this report as steps to help strengthen the state-local partnership.
3. **Positive Approach to Performance Measurement and Accountability** - Performance measurement activities should be viewed as positive steps rather than mechanisms to punish operators that fall below certain performance targets.
4. **Recognizing the Full Spectrum of Benefits Derived From Public Transportation Services** –The broader benefits of public transportation such as air quality, sustainable land use practices, and economic development, should be kept in view as the shift to a stronger performance and accountability strategy is advanced.





Implementation Issues

There are a host of implementation issues that will have to be addressed as the provisions of new legislation and program procedures are rolled out

1. **Transition Period** – A reasonable transition period with defined milestones should be provided to allow both the Department and the transit providers to adapt to the new performance and accountability features. The TAC envisions a 3-4 year period before all new features are fully operational.
2. **Communication** – The TAC recommends a collaborative process between the Department and all stakeholders that allows for input at the outset as program enhancement steps are developed, during implementation, and during program reviews designed to identify ongoing program improvements.
3. **Maximize Use of Existing Data and Systems** – The TAC recommends that the Department strive to make full use of existing data systems before expanding data collection and reporting requirements.
4. **Data Verification** – Any performance measurement system can only be effective if there is a reasonable degree of confidence in the data. Several states have addressed this issue by devoting additional staff resources to data verification, or hiring consultants to assist providers with compilation/submission of the data and/or assist Department staff with the review and correction of the data. TAC recommends that the Department explore the advantages and disadvantages of using FTA's National Transit Database as a source of data for performance monitoring.
5. **Time Lag in Availability of Data** – On average, the 11 states surveyed reported approximately a two-year time lag between the year of the data, and the year in which the data is actually used to calculate grants. The Department should assess the implications of using more current data, and adopt an approach which appropriately balances the desire to have performance assessments and impacts occur as close to the actual service delivery as practical, with the associated objective of having a level of data integrity that engenders confidence in the results that support decision making.

A reasonable transition period with defined milestones should be provided



6. **Corrective Action Period** – Consistent with the view that the overriding goal of the performance and accountability mechanisms is to positively influence performance outcomes rather than be punitive by cutting funding allocations, service providers must be given a reasonable period of time to implement corrective actions and demonstrate that they are being effective.

7. **Information Technology Support** – The TAC recommends that the Department move in the direction of developing information technology systems that feature on-line data submission, automated edit check functions, standard compilations, and both standard and customized reporting capabilities.

