PUBLIC SAFETY

PSWN PROGRAM

WIRELESS NETWORK

Saving Lives and Property Through Improved Interoperability

The Report Card on Funding Mechanisms for Public Safety Radio Communications

Final

August 2001

FOREWORD

This report takes a diagnostic look at the progress made since the publication of the *Report on Funding Mechanisms for Public Safety Radio Communications* in December 1997. It examines the previously identified funding shortfalls, assesses progress made against each shortfall, and provides insight into funding mechanisms identified since the publication of the original report. Because the states have been identified as the linchpins for improving interoperability in a national interoperability strategy and the costs for systems of this nature are so high, funding progress is focused at the state and federal levels. Portions of a system life cycle, of course, are the responsibility of local entities involved in using the system, and those responsibilities are pointed out where appropriate. As an aside to the progress diagnosis and report card creation, this report also identifies remaining needs and suggests an agenda for satisfying the unmet financial needs of public safety agencies associated with wireless communication systems. Further, this report should serve as a reference tool for agencies searching for financing ideas. It lists all previously covered mechanisms and newly created mechanisms and provides their funding levels.

For further information regarding the original *Report on Funding Mechanisms for Public Safety Radio Communications* or to obtain a copy of that full report, contact the PSWN Program Office at P.O. Box 3926 Fairfax, VA 22038, (800) 565-PSWN, or www.pswn.gov.

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EXECUTIVE SUMMARY

The challenges of funding any large-scale public sector project are always present. Walking the financial tightrope of balancing constituent desire with agency need and fiscal abilities has not gotten any easier since the publication of the *Report on Funding Mechanisms for Public Safety Radio Communications* in December 1997. Less visible infrastructure projects are often viewed as less necessary by the constituents of a particular governmental agency; therefore if the price tag is large, the value is often questioned not only by the taxpayers but by those with the authority to allocate project funding. The questioning by decision makers involves both the political viability of the expenditure and, more subtly, the lack of leverage such projects give to public sector executives when seeking reelection or appointment to higher office.

In the December 1997 report, two funding shortfalls were identified with regard to public safety radio communications systems. The first was the lack of a dedicated funding source specifically earmarked for public safety radio communications. The second was that the majority of available specialized federal and state money sources catered specifically to law enforcement agencies and were not available to the fire and emergency medical services (EMS) portion of the public safety community.

Although public safety is frequently exploited as a "winning" political theme, all too often it is the frontline crime-fighting, life-protecting expenditures that receive the attention and funding. These expenditures have typically gone toward increasing the number of public safety professionals in a given jurisdiction, instituting a new task force or prosecution program, or constructing physical facilities (e.g., fire stations and prisons). More recently, funding has expanded to include mobile data systems and tools using geographical information system (GIS) technology, based on the view that such technology would provide more efficient deployment, reduced response times, and increased criminal apprehension and fire suppression rates. All of these expenditures, while easily justifiable and often very effective, reduce significantly the funding available for expenditures on mission-critical infrastructures such as radio networks.

Physical facilities, like fire stations, are a clearly visible mission-critical infrastructure. If our Nation's firefighters are to have appropriate response times to fires and medical emergencies, they must have a network of station houses that expands with their jurisdictional responsibilities. This reasoning has inherently meant that an increase in service population and calls for service should result in an increase in the number of firefighters and the number of fire stations within that jurisdiction. Why then is this method of reasoning not applied to the radio infrastructures of the same public safety agencies? Radio communications infrastructures are among the most basic elements necessary to the successful completion of any public safety agency's mission, yet they are consistently overlooked or under prioritized at budget time. Capabilities and system life cycles are stretched, and funding allocations made on an as needed basis, where "needed" is defined as a catastrophic equipment failure or loss of service.

While the funding outlook has improved in some of the grading areas, the unmet needs continue to dominate the landscape. The two major shortcomings identified previously have both seen some improvement, but neither has been eliminated.

KEY FINDINGS FROM PROGRESS ASSESSMENT

Funding Level Findings

The "federal four" are the four major grant mechanisms available to the public safety community via the Federal Government. They include the Byrne Memorial Grant (BYRNE), the Local Law Enforcement Block Grant (LLEBG), the Department of Transportation (DOT) Highway and Community Safety Grant, and the National Telecommunications and Information Administration (NTIA) Grants.

- Federal four funding declined .49 percent between Fiscal Year 1998 (FY98) and FY01 after adjusting for inflation.

Federal Four Funding Adjusted for Inflation (in millions of dollars)

Fiscal Year	Federal Four Total (1997 dollars)
1998	$1,215
2001	$1,209
Percent Change	-.49%

Federal Four Funding Levels FY98—FY01 in Nominal Dollars (in millions)

Fiscal Year	BYRNE	LLEBG	DOT	NTIA	TOTAL
1998	$509	$523	$149.70	$33	$1,215
1999	$552	$523	$150	$18.5	$1,244
2000	$552	$523	$152.8	$15.5	$1,243
2001	$562	$523	$155	$42.5*	$1,283

- Department of Justice (DOJ) asset forfeiture equitable sharing disbursements rose 30.49 percent between FY94 and FY98 after adjusting for inflation. However, it is important to remember that this mechanism is not an appropriation or government expenditure because agencies generate their own forfeiture revenue through seizure and prosecution.

Fiscal Year	DOJ Asset Forfeiture Equitable Sharing Payments (in millions)
1994	$134.65(1993 dollars)
1998	$175.68 (1993 dollars)
Percent Change	30.49%

Other Key Findings

- The National Institute of Justice's (NIJ) Advanced Generation of Interoperability for Law Enforcement (AGILE) Program is limited to a small test bed and $2,500 Regional Planning Committee planning grants for 700 megahertz (MHz) efforts only.

- The Federal Government has made more money available to fire and EMS agencies through specialized mechanisms; however, these mechanisms are not specifically designed for communications needs.

- The number of states that have Enhanced 911 (E-911) fees in place has increased since the last report, which means more revenue is potentially available to public safety for communications needs in those states, once the Federal Communications Commission (FCC) requirements that allowed those fees are met.

- A few states have planned or procured statewide infrastructures with the intention of affording local and regional agencies access to the systems for a nominal fee. These efforts represent incremental successes in establishing dedicated funding mechanisms for public safety radio communications systems, in the sense that these individual states have had to establish (using a variety of methods) a dedicated funding stream to complete their systems. While this model is debatably the preferred approach for both ensuring sufficient infrastructure and facilitating wide-area wireless interoperability, the states that have successfully negotiated the funding obstacles are still in the minority.

- In accordance with the recommendations made by the Interagency Working Group on Funding (IWGF), DOJ specifically requested $80 million in its FY00 budget to begin specific assistance efforts for states focused on building new systems designed to improve wireless interoperability among public safety agencies. This money was cut from the final DOJ budget and was never requested again in subsequent years.

Report Card on Funding Mechanisms

FUNDING SHORTFALL	GRADE ISSUED		
	FEDERAL	STATE	LOCAL
Dedicated Planning Mechanisms	D	B	N/A
Dedicated System Design and Engineering Mechanisms	N/A	C	N/G
Dedicated Procurement and Installation Mechanisms	D	B	N/G
Dedicated Operations and Maintenance Mechanisms	N/A	B	N/G
Dedicated Test Site and Technology Development Mechanisms	D	C	N/A
Specialized Funding Sources for Fire and EMS Agencies	B	D	N/A

Legend: N/A—Not Applicable
N/G—No Grade Issued

Although certain portions of the funding landscape have improved, much more needs to be done to improve and protect this national security infrastructure. The funding recommendations of the IWGF must be resurrected and re-invigorated. The funding called for by this group of federal public safety executives will allow the development of wide-area public safety radio networks, sponsored by states, as well as stimulate continued development of new technologies and piloted solutions to technical issues.

More states should assert themselves as leaders in this national effort to build comprehensive regional public safety radio networks. Once the mission-critical value is realized by the state executives across the Nation, the financial mechanisms to make the needed infrastructure improvements a reality must be identified and dedicated to the complete life cycles of these mission-critical systems.

1. INTRODUCTION

Scarcity, wants, and needs are all basic economic elements that have historically driven decisions in public finance. Although everyone can agree that scarce resources are a reality for all government agencies even in the healthiest of economies, there are frequently disagreements at appropriation time regarding what is a need and what is a want. Those responsible for making these decisions are faced with a multitude of competing interests and projects, all managed by agencies convinced that theirs is the most needed and most important to fund. Unfortunately, the decision makers are forced to make decisions based on their impressions or interpretation of information given to them at budget time. This incomplete understanding can often lead to misdiagnosed funding priorities and unmet needs.

In recent independent surveys of both law enforcement agencies and fire and emergency medical service (EMS) agencies, funding was listed as a critical obstacle to interoperability by 69 percent and 68 percent of responding agencies, respectively.[1] Even more shocking is the fact that 47 percent of respondent agencies in the fire and EMS survey either did not respond or answered "don't know" to the question, "How does your agency plan to fund its next land mobile radio system?"[2]

Funding was found to be a problem by respondents in both surveys, regardless of agency type or size.[3] It seems as if a serious disconnect occurs between the planning effort for a new system and the determination of funding sources for the conceived system. This situation is exacerbated by the fact that although a substantial portion of law enforcement, fire, and EMS agencies had not identified funding sources for their next communications system, 49 percent of all responding agencies still indicated that they were planning on replacing their systems in the 5 years following the surveys.[4]

These findings clearly indicate that many public safety executives feel helpless to control the funding of their communications projects, yet feel they must plan for the replacement of aging, ill-equipped systems anyway. Often their behavior is reflective of the apathetic attitude commonly associated with unmet public safety needs. These executives will continue to plan for new systems and then leave it up to budgetary decision makers to decide the fate of the system. Public opinion will decide who is to blame if the project is not funded, and lives are lost as a result.

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1 As published in two independent surveys—the National Institute of Justice study *State and Local Law Enforcement Wireless Communications and Interoperability* and the Public Safety Wireless Network (PSWN) Program *Analysis of Fire and EMS Communications Interoperability*. Each study was based on nationwide surveys of public safety wireless communications and the interoperability issues facing the respective public safety communities.

2 PSWN Program, *Analysis of Fire and EMS Communications Interoperability, April 1999*.

3 Based on the combined results of two studies—the National Institute of Justice study on *State and Local Law Enforcement Wireless Communications and Interoperability* and the PSWN Program *Analysis of Fire and EMS Communications Interoperability*. Each study was based on nationwide surveys of public safety wireless communications and the interoperability issues facing the respective public safety communities.

4 *Ibid.*

1.1 Purpose

The purpose of this report is to provide executive-level decision makers with a progress report on the extent to which shortfalls in the funding of public safety radio communications systems have been addressed since the publication of the *Report on Funding Mechanisms for Public Safety Radio Communications* in December 1997. This assessment is intended to serve as a diagnostic report on the extent to which government leaders and budgetary authorities have addressed shortfalls in funding public safety wireless communication systems at all levels of government. Special attention and actual grading is focused on the state and federal levels of government due to the advocacy for states acting as the linchpins for improving wireless communication interoperability among public safety agencies nationwide. This strategy promotes the build-out and maintenance of wide-area (ideally statewide) radio networks; the size and complexity of these systems warrant sizeable fiscal resources that only the state and federal levels of government will be able to provide with any regularity. However, this does not exclude the local level of government from any funding responsibility. Under the wide-area system model, the local and regional entities are allowed access to the system and thus have a clearly defined responsibility during many phases of the process. Many times this responsibility requires commitment of significant fiscal resources to ensure the system in question will meet local and/or regional needs and that the local and/or regional participants fulfill their user-based obligations to all the other user entities on the system.

In all cases, funding should be adequate to ensure both the successful accomplishment of individual agencies' missions of protecting lives and the ability to seamlessly interoperate with other public safety agencies as needed to accomplish this mission collectively.

Despite the Nation's public safety communications infrastructures being valued at more than $18 billion,[5] funding for these critical national infrastructures has traditionally been a low priority. This problem becomes especially evident when funding the entire life cycle of a system. Instead of creating a funding flow designed to fund the needs of the current system based on its realistic useful life, while also ensuring that the next system will have necessary funding when the time comes, funding is provided with much shorter term outlooks. Many times these budgetary allocations focus on maintaining the current system only, without regard to its useful life. With many agencies remaining on legacy systems well beyond their intended life, funding for new systems remains a critical public safety policy issue. This report not only provides an assessment of progress made in the last 3 years, it highlights changes to previously identified funding mechanisms and sheds light on mechanisms developed since the publication of the previous report.

1.2 Mechanism Versus Strategy

In the period following the publication of several funding-related reports, the Public Safety Wireless Network (PSWN) Program has had to point out the difference between a *funding mechanism* and a *funding strategy* to eliminate confusion between the two terms. In this report, a

[5] PSWN Program, *Land Mobile Radio Replacement Cost Study,* June 1998.

mechanism is a source of funds to be used in a communications project (e.g., Local Law Enforcement Block Grant). By contrast, a *strategy* is a method of combining and/or securing one or more funding mechanisms to assure a system will be supported throughout its life cycle (e.g., using the Local Law Enforcement Block Grant funds to pay for certain equipment as a part of the total project). So while state technology grant monies is a *mechanism*, using the same monies in conjunction with those received by a neighboring jurisdiction for a regionally interoperative system would be a *strategy* for system build-out.

1.3 Scope and Shortcomings Identified

The *Report on Funding Mechanisms for Public Safety Radio Communications* identified and detailed government revenue sources and funding mechanisms at various levels of government and also discussed public–private partnerships. It focused on identifying potential mechanisms at the local, state, and federal levels suitable for funding public safety radio communications systems, while also providing some historical background and reporting on past funding levels on the mechanisms. As a result, that report was able to point out funding shortfalls as they related to public safety radio system needs. The report, published in December 1997, covered funding mechanisms and levels, in most cases, up to Fiscal Year 1998 (FY98).

This report examines the progress made by government officials toward eliminating those funding shortfalls during the 3 fiscal years that have passed since the publication of the original report. The result is a report card on funding mechanisms. The report card itself was completed through the methodical separation of the shortfalls into logical categories and the subsequent assignment of responsibility to appropriate level(s) of government for each shortfall based on potential impact and benefit. As a more functional tool, each of the mechanisms covered in the previous report has been researched and its funding level updated. In instances where mechanisms have undergone changes or are no longer in existence, updates are made. New mechanisms found that could potentially be used to fund radio-communications-related equipment are also identified and explained. Attempts have been made in this report to include mechanism and funding level data encompassing FY99 through FY01. In some cases funding level data from FY97 or FY98 are also presented for comparison purposes.

1.4 Organization

This report is composed of five sections, including this introduction. The remaining sections are organized as follows:

- Section 2 presents the methodology used to prepare this report.
- Section 3 presents the report card on funding mechanisms and discusses the methodology used to create the report card.
- Section 4 provides a suggested agenda for addressing the unmet funding needs.

- Section 5 updates previously identified funding mechanisms and presents data on new mechanisms.

2. REPORT METHODOLOGY

The methodology employed to prepare this report began with a review of literature published by the PSWN Program pertaining to funding. The specific publications reviewed included—

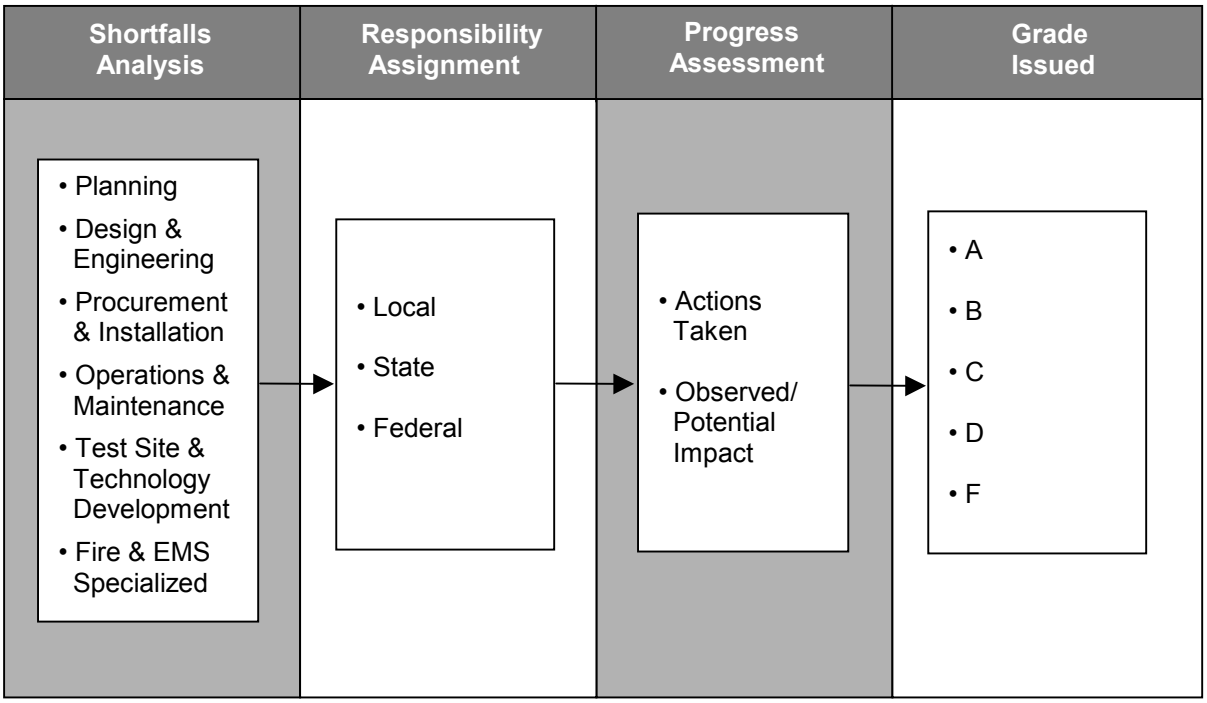
- *Report on Funding Mechanisms for Public Safety Radio Communications*, December 1997
- *Funding of Public Safety Wireless Communications Systems—Report of the Interagency Working Group*, June 1998
- *Report on Funding Strategies for Public Safety Radio Communications*, October 1998.

The literature review was followed by researching the previously covered federal, state, and local revenue sources and funding mechanisms. Special attention was paid to the funding levels of each mechanism during each budget year since the publication of the original report in December 1997. Focus then shifted to the ongoing trends for the previous mechanisms, and new funding developments were explored as they were discovered, including mechanisms not previously in existence.

The data collected during this phase of the research was then used to create the report card portion of the report. A separate methodology was used to create the report card itself, in order to specifically assess and report on progress made in critical funding areas of public safety radio communications systems.

This document refers to a system's lifecycle several times. A lifecycle is defined as the complete process of planning for, designing, funding, procuring, installing, maintaining, and retiring a public safety wireless communications system. For the purposes of this report, the lifecycle has been separated into four phases – planning, design/engineering, procurement/installation, and operations/maintenance – all centered around the need to constantly develop new technology and test innovative solutions. A complete lifecycle diagram is shown as figure 2 on page 13.

Figure 1
Report Card Process



As shown in Figure 1, the first step in creating the report card was to examine each of the previously identified funding shortfalls. Once those shortfalls were pieced into logical components, some analysis of responsibility was conducted. For each of the shortfalls, assignment of responsibility for addressing the shortfall was made to one or more levels of government based on ability to impact the shortfall and benefit gained from that shortfall area. The next step was to examine actions taken in each of the shortfall areas by each of the responsible levels of government. Once this was completed, a judgement was made regarding the actual or potential impact of action(s) taken in each of the shortfall areas. Based on that result, a grade was assigned for each of the responsible levels of government in each of the shortfall areas. The grades are based on the standard scholastic grading system; but rather than being based on percentile criteria, they are based on qualitative achievement or impact level. For a detailed description of the methodology used to create the report card itself, refer to Section 3.3.

3. REPORT CARD ON FUNDING MECHANISMS AND SUMMARY OF PROGRESS MADE

Table 1 summarizes the report card on funding mechanisms. This section describes the progress made, if any, explains the reasoning used to assign the grades shown, and describes the methodology used to arrive at those grades.

Table 1
Report Card on Funding Mechanisms

FUNDING SHORTFALL	GRADE ISSUED		
	FEDERAL	STATE	LOCAL
Dedicated Planning Mechanisms	D	B	N/A
Dedicated System Design and Engineering Mechanisms	N/A	C	N/G
Dedicated Procurement and Installation Mechanisms	D	B	N/G
Dedicated Operations and Maintenance Mechanisms	N/A	B	N/G
Dedicated Test Site and Technology Development Mechanisms	D	C	N/A
Specialized Funding Sources for Fire and EMS Agencies	B	D	N/A

Legend: N/A—Not Applicable
N/G—No Grade Issued

3.1 Grading Criteria

The following grading criteria and qualitative assessment measurements were used when assigning grades to the levels of government responsible for addressing each of the shortfall areas.

A—ACTION TAKEN TO ELIMINATE SHORTFALL

To earn an "A," a shortfall must have been addressed through actions that would likely lead to the eventual elimination of that particular shortfall within that responsibility category. This does not mean that the shortfall was eliminated at the time of this report; however, the actions taken must have been significant and directed at a particular shortfall.

B—ACTION TAKEN RESULTED IN IMPACT ON PROBLEM

Although some well-intentioned action may have taken place, and it may have been enough to have some significant level of impact on the shortfall, it does not necessarily mean that the shortfall would be eliminated as a result. These cases were graded as a "B."

C—ACTION TAKEN BEGINS TO ADDRESS SHORTFALL

A grade of "C" was issued in cases where some action was taken to address a shortfall, however the action was insufficient to result in any significant impact on the shortfall.

D—ACTION TAKEN IS INSUFFICIENT TO HAVE MEANINGFUL IMPACT

In cases where action was taken that was clearly not enough to have any impact on a shortfall, a grade of "D" was issued.

F—NO ACTION TAKEN

3.2 Discussion of the Progress Made and the Grades Issued

Progress must be evaluated in the context of individual shortfall areas and the corresponding responsibility assignment. The level of government assigned responsibility for that shortfall area was evaluated for its attention to the shortfall and the observed or likely results from any actions taken. Based on that evaluation, a grade has been issued. For the grading of state efforts, all states have been considered together as one decision making body.

3.2.1 Dedicated Funding Mechanism for Planning

Federal—The Advanced Generation of Interoperability for Law Enforcement (AGILE) Program within the National Institute of Justice (NIJ) has a component within it to support the planning efforts of regional planning committees focused on 700 megahertz (MHz) spectrum by funding an unspecified number of $2,500 planning grants. While this grant is aimed at supporting and even promoting system planning, the amount is insufficient to allow for any long-term planning or to fund the development of real strategy-based plans. The Department of Transportation State and Community Highway Safety Grants could also be used to plan for a new system, but the funding levels have not increased notably in the last 4 years. The suggested funding recommended by the Interagency Working Group on Funding (IWGF) would have provided for substantial planning support, but it was cut from the FY00 Department of Justice (DOJ) budget and never re-requested. The actions taken by the Federal Government in this funding area have begun to address the need for planning support but are not sufficient to have any meaningful impact on the problem as a whole.

Grade issued: D

State—Many states placed themselves in the "planning stages" of their next radio system when responding to a recent interoperability survey.[6] The increased activity in 9-1-1 related fees authorized by law in a large number of states since the original report is a favorable development for the funding of system planning. Once the states have used the new revenue streams to pay for the required upgrades to their dispatch and emergency call receiving capabilities, they can reallocate the revenues to overall radio system enhancement. The fact that, as recently as a year ago, 24 percent of states responding to an interoperability survey indicated that they were in the planning stages of a new shared radio system indicates that each of these states is financing the planning efforts to some degree. The actions taken in this area by the states have begun to

6 According to the *PSWN Interoperability Index Survey, 2000*, 12 out of 49 responding states placed themselves in the "planning" category.

address the shortfall but will not necessarily eliminate the shortfall entirely unless more states follow suit.

Grade Issued: B

3.2.2 Dedicated Funding Mechanism for System Design and Engineering

State—Because states are the owners of these new wide-area radio networks, it is incumbent upon them to properly design and engineer them. This, of course, is a substantial challenge in the absence of adequate funding for this portion of the life cycle. Five out of 49 states responding to a recent interoperability survey indicated they were currently in the design phase of their new systems.[7] It is assumed that these efforts are being funded at the state level. In most cases, the states are financing these efforts through the operating budget of their current system or through the proceeds of whatever mechanism they are using for overall system financing in a more comprehensive system effort. Again, the new streams of revenue many states are realizing through the enactment of 9-1-1 related service fees could be reallocated to the design phase of a life cycle, once Federal Communications Commission (FCC) requirements[8], which allowed the fees have been met. While five states is better than none, there are still plenty of states whose system projects have not moved out of the planning phase simply because sufficient money has not been allocated to the project. The action observed thus far is sufficient to begin to address the shortfall but does not seem vigorous enough to have any meaningful impact on the problem nationally.

Grade issued: C

Local—Local public safety entities that have chosen to use a shared system for their communication needs should be actively involved in the design phase of the system to ensure that their needs are met. This involvement may not necessarily include financing a portion of the design itself but should be supported through the normal operating budget of the involved or affected agencies by contributing personnel time, etc. to assist during the design phase.

Grade issued: N/G

3.2.3 Dedicated Funding for Procurement and Installation

Federal—The Federal Government can help state and local entities defray the enormous costs usually associated with this step of the life cycle by awarding grant monies and by timely disbursement of asset forfeiture funds to the sharing law enforcement agencies. In the past 4 years, the amount of money available to agencies for this purpose, via grants, has actually declined when adjusted for inflation. While asset forfeiture disbursements have increased, it is important to remember that these are not actually government appropriations but are equitable

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7 *PSWN Interoperability Index Survey, 2000.*

8 *FCC Final Order, Revision of the Commission's Rules To Ensure Compatibility with Enhanced 9-1-1 Emergency Calling Systems; DA 94–102, rel. December 23, 1997.*

distributions of monies seized by the state and local entities in the first place. The only mitigating circumstances are that the newly created fire grant mechanisms do have latitude sufficient to allow for the purchase of some communications equipment should the applying agency be approved. However, the amount of money available is not sufficient to finance any comprehensive communications solution. The actions taken in this area have been insufficient to have any impact on the shortfall.

Grade Issued: D

State—The states that are constructing wide-area public safety radio networks bear the brunt of responsibility for the procurement and installation expenses. After all, it is their system, and they will get the most benefit out of this portion of the life cycle. The funding methods usually employed for this phase include a multiyear budget appropriation from a state's general fund or the issuance of a general obligation or revenue bond sufficient to pay for the system. The amount of activity observed in this area has been directly related to the number of states that have committed to constructing a new system. Twenty out of 49 states responding to a recent interoperability survey said they were either procuring or installing a new, shared system.[9] This result indicates substantial funding commitments from almost half of all states. This is measurable progress by almost any standard. If this trend were to continue, it would have a significant impact on the shortfall.

Grade Issued: B

Local—The funding of procurement and installation by local entities is primarily restricted to the new equipment necessary to function on the new wide-area radio network. Because these new networks are often in completely different frequency ranges than the previous systems, many local agencies must invest in totally new radio complements for their public safety personnel. This procurement can represent a sizeable amount of money for many agencies, but the costs savings inherent in a shared infrastructure system should help offset the new expense, and the new equipment should provide increased user advantages for the long term.

Grade Issued: N/G

3.2.4 Dedicated Funding for Operations and Maintenance

State—Once the system installation is complete, funding emphasis must shift to operations and maintenance needs. These expenses can be very low in the first years following the installation, due to equipment warranties and the overall newness of the system itself. A dedicated mechanism is needed nonetheless because of the somewhat unpredictable nature of these funding requirements. Seven out of 49 states responding to a recent interoperability survey indicated that they were in the "system enhancement" phase of their system life cycle. Only three of these seven indicated that they had a dedicated funding mechanism for their system. We must assume then that the other four states must acquire funding for their needed upgrades as the need

[9] Ibid.

arises. State decision makers must adjust their thinking to accept that the financial needs for a system do not end when the system is installed. The surge in the number of states enacting E-911 fee legislation signals a large amount of new revenue available for system operation and maintenance use. If this newly realized revenue stream is utilized prudently it could have a substantial impact on the shortfall in the area.

Grade Issued: B

Local—Funding in this area is again usually restricted to the equipment related needs of the local agencies using the wide-area network. These agencies too must dedicate funding for equipment replacement, upgrade, or expansion based on good-faith estimates of the new system's useful life span and the agency's growth projections during the same time period.

Grade Issued: N/G

3.2.5 Dedicated Funding for Test Sites and Technology Development

Federal—In the interest of the continued enhancement of national public safety, the Federal Government should be largely responsible for funding new test sites and supporting technology development. These investments should be made with an eye toward nationwide use and benefit. With the exception of a small-scale test bed supported to some extent by NIJ's AGILE Program, this need has gone unmet at the federal level. Again, the IWGF's recommendation for funding included a large test-site support component, which was never funded and never re-requested. Although some valuable lessons may be learned from the current AGILE efforts, they are clearly not enough to have any significant impact on the problem nationwide.

Grade Issued: D

State—In cases in which a totally new system is not going to be built, states must support and fund the testing of regional approaches that could have a wider impact if successful. They should also support the development of new technological approaches in areas of the state that have traditionally presented public safety coverage or interoperability challenges. Pennsylvania is currently testing a new technology that could have widespread application if it is successful. Similarly, California has committed significant financial resources to a multiyear test case while trying to decide which approach is best for their statewide needs, and Idaho is exploring the possibility of sharing microwave infrastructure with adjoining states. These are examples of what should be done at the state level. These efforts have begun to address the shortfall area, but unless a significant number of additional states follow the lead, the shortfall will not be impacted in any meaningful way.

Grade Issued: C

3.2.6 Specialized Funding for Fire and EMS

Federal—The addition of the Federal Emergency Management Agency (FEMA) based Fire Investment and Response Enhancement (FIRE) grant and the Department of the Interior (DOI) rural fire agency grant are both positive steps toward meeting a demonstrated need in this area. Although the funding levels for these programs are not nearly enough to meet demand, the vigorous pace at which agencies are applying for the money should bolster future funding requests at appropriations time. These programs will certainly have an impact on some of the previous funding shortfall, although neither specifically addresses communications equipment.

Grade Issued: B

State—Some states are beginning to establish specialized grant mechanisms specifically for fire agencies. Only a couple of examples have been found during this research. At the present, the actions taken by the states have been insufficient to have any impact on the shortfall.

Grade Issued: D

3.3 Report Card Methodology

To best evaluate the progress made in response to the previously identified shortfalls, a comprehensive review of the shortfalls themselves was conducted. In the first case, *no dedicated funding mechanisms for public safety radio communications*, it does not seem prudent to expect the responsibility to lie wholly with one level of government. The argument could easily be made that most responsibility for this area should lie at the federal level. Because these systems are so large (and expensive) and the Federal Government is making the case for statewide infrastructures comprehensive enough to allow all public safety agencies within the state to use them, the states should bear the brunt of the financial responsibility for them. Another argument could easily have the states assume the responsibility for the construction of a statewide system designed to support all public safety agencies within that state.

Deferring to an earlier document examining funding strategies for public safety radio communications systems,[10] the complete life cycle of a system should be considered in these situations. A system's life cycle has distinct phases, all equally important, yet each affecting funding in different ways. This report card methodology separates the life cycle into four phases (see Figure 2):

- Planning
- Design/Engineering
- Procurement/Installation
- Operations/Maintenance.[11]

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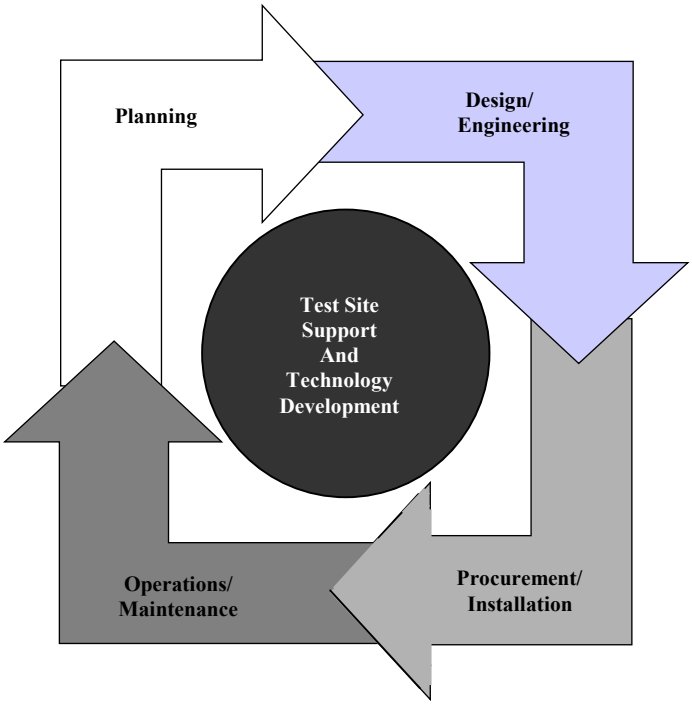
10 PSWN Program, *Report on Funding Strategies for Public Safety Radio Communications,* October 1998.

11 This approach differs slightly from the life-cycle separation in the *Report on Funding Strategies for Public Safety Radio Communications*. Planning and Design are considered separate components for funding purposes on the assumption that

Also included in the life-cycle approach is the need to constantly develop new technology and test innovative approaches to interoperability issues through test-site support. This "fifth phase" of the life cycle encompasses all the other four phases and should be ongoing.

Figure 2
Dedicated Funding Mechanisms for System Life Cycles



Therefore, it makes sense to examine each phase of the life cycle to determine at which level of government responsibility should reside for funding that phase. This assignment should be made in accordance with the overall purpose of the phase and the potential benefit to each level of government. The following sections outline each phase of the life cycle and the assignment of funding responsibility for that phase. This approach is a hybrid of the approach outlined in the *Report on Funding Strategies for Public Safety Radio Communications* and the recommendations for funding made by the IWGF as outlined in their summary report[12]

3.3.1 Planning

Planning for a new system and planning the actual systems are two different things. For this report the planning of an actual system is relegated to the design phase of the life cycle. Planning for a new system, however, is a crucial period of time. It is during this phase that partnerships are formed, shared systems conceptualized, and agency agreements formalized. The

planning to acquire a new system and then actually designing the new system are very different pieces of the life cycle, and therefore should be funded differently.

12 *PSWN Program* Report on Funding Strategies for Public Safety Radio Communications*, October 1997 and* Funding of Public Safety Wireless Communications Systems – Report of the Interagency Working Group*, June 1998.*

exploration of sharing resources and thinking about interoperability are a must at this stage of the process. This kind of system planning has been recommended by the FCC through its sub-group, the National Coordination Committee (NCC) for the use of the spectrum in the 700 MHz frequencies currently available for state licensing. The formulation of regional planning committees (RPC) has been strongly encouraged to facilitate shared systems development and resource sharing among the agencies in each FCC region. Refer to Section 5.6.2 for details on planning grants available for RPCs through the NIJ.

Because all planning efforts should maximize potential for partnerships in a large area and promote shared systems development, it makes sense for these efforts to be supported at the state and federal levels. As the federal level has demonstrated through the RPC grant model, funding should not be an obstacle to groups of government agencies coming together to plan for a wide-area approach to system development. Dedicated funding for planning support should be, at a minimum, sufficient to allow for the formulation of statewide or regional coordination committees, completion of strategic planning efforts, and formalization of partnership agreements between involved agencies.

3.3.2 System Design

The responsibility for designing a new communications infrastructure capable of serving all agencies within its effective area should lie with those entities overseeing the construction of the infrastructure. For this reason, most of the responsibility should lie with state agencies. A statewide infrastructure is an effective approach to comprehensive wide-area interoperability, as demonstrated by systems built in Michigan and Pennsylvania. Some responsibility for system design could lie with local agencies if they anticipate migrating to the new system once it has been constructed. It would then behoove that agency to contribute to the design efforts to ensure they will meet the agency's anticipated needs. Dedicated funding for system design should, at a minimum, include funding for needs assessments, cost model development, system engineering, and small-scale test sites if a new technology is to be utilized.

3.3.4 Procurement/Installation

The responsibility for procurement and installation of the system and its components lies with those agencies building and using the system. Under the model of a statewide system, this financial responsibility for infrastructure procurement would lie with the state building the system. Some of the costs could be offset through federal grants or a future revenue stream based on anticipated or agreed upon user fees, but the majority of the funding must come from the state building the system. In the cases of local agencies planning on using a larger area's infrastructure for their communications needs, responsibility for funding the necessary equipment to operate on that system lies with those individual agencies. Dedicated funding for system procurement and installation should, at a minimum, include funding for initial system acquisition and installation, additional equipment for new users, and complete build-out of a phased system design.

3.3.5 Operations/Maintenance

The responsibility for operational and maintenance costs associated with the infrastructure itself lies wholly with the state. Again, some of these costs can be offset through user fees, but the builder of the system has the financial responsibility to dedicate funding to the continued operation and upkeep of the system itself. This funding should also include anticipated equipment replacement or upgrades over the anticipated useful life of the system. Again, in the cases of local agencies using the infrastructure for their communications needs, the responsibility for the maintenance of their individual agencies radio equipment lies wholly with them unless they arrange an alternate use agreement for their equipment.[13] Dedicated funding mechanisms for system operations and maintenance should, at a minimum, include funding for anticipated equipment replacements and system upgrades, emergency reserve funds, and interagency operational training exercises and ongoing interoperability testing.

3.3.6 Test Sites and Technology Development

The support of test sites and development of new technologies is an area that will benefit all of public safety. Responsibility for funding these efforts falls largely on the federal level because these developments stand to benefit the Nation's citizenry as a whole through the increased capabilities of the public safety community. Some support of test sites must occur at the state level as well though, because states will use these sitesto determine the best approach to their wide-area communications needs. Dedicated funding for technology development and test sites should, at a minimum, include funding for seed monies to encourage strategic pilot and proof-of-concept projects and for partnered development of new wireless technologies applicable to public safety use and standards-based equipment.

In the case of the second shortfall, *a lack of specialized funding for fire and EMS agencies*, responsibility clearly falls on the state and federal levels of government. This assignment is based on the premise that most fire and EMS agencies exist at the local or regional level of government and are therefore funded out of those entities' budgets. It is impractical to ask the funding entity to also fund "specialized mechanisms" because any additional funding of the agency at that level would simply constitute a larger operating budget. Therefore, specialized funding for Fire and EMS agencies designed to allow them to address their communications needs must originate from the state and federal levels of government through grant programs and other assistance vehicles.

Table 2 summarizes the recommended funding mechanism responsibilities for the three levels of government, broken out by the type of mechanism.

[13] Some local agencies lease their equipment from the agency responsible for the system infrastructure that they use. This arrangement allows for centralized equipment procurement, upkeep, and replacement, and reduces the need for the local agency to maintain their own equipment.

Table 2
Funding Mechanism Responsibility

DEDICATED FUNDING MECHANISM	RESPONSIBILITY FOR FUNDING		
	FEDERAL	STATE	LOCAL
Planning	✓	✓	
System Design and Engineering		✓	✓
Procurement and Installation	✓	✓	✓
Operations and Maintenance		✓	✓
Test Sites and Technology Development	✓	✓	
Specialized for Fire and EMS	✓	✓	

4. RECOMMENDED ACTIONS AND SUGGESTED AGENDA FOR IMPROVEMENT

An agenda for action is suggested here as a way to continue progress in providing funding for public safety radio communications systems. The recommendations are directly related to the two main shortfalls previously identified in the *Report on Funding Mechanisms for Public Safety Radio Communications* and the extent to which each of these shortfalls has been addressed by policy makers and budgetary executives.

1. Dedicated funding mechanisms for public safety radio communications must be developed in accordance with the life cycle of a system—

Dedicated mechanisms to fund each phase of the life cycle must be identified and committed. The federal grant program originally recommended by the IWGF could have a substantial impact on both the planning and test site and technology development phases of the life cycle. This program should be resurrected and re-requested by DOJ.

These mechanisms should, of course, be aimed at encouraging states to accept responsibility for the development of wide-area public safety radio networks meeting the following criteria:[14]

- Full interoperability
- Spectrum efficiency
- System coverage
- Inclusion of all levels of government
- System security
- Fiscal responsibility.

It is imperative that more states recognize the critical nature of our Nation's aging and inadequate public safety wireless communication infrastructure and take immediate steps to make its improvement a priority. Dedicated funding mechanisms for every shortfall area must be established or the problem will worsen. Many states would like to provide their residents and public safety professionals with a seamless, statewide radio system but simply cannot afford it. For these cases new sources of revenue, such as E-911 fees or highway user fees, should be explored and employed efficiently, and federal assistance should be sought through the mechanisms described in this report.

2. Increase the types of mechanisms available to fire and EMS agencies for use in communications-related projects—

Although noticeable progress has been made in this area, more action is needed. Some grants have been developed and more are pending legislation. Although these new funds will allow many fire and EMS agencies to begin the process of updating their equipment, they are

[14] Abbreviated from the *Report of the Interagency Working Group on Funding (IWGF) on Public Safety Wireless Communications Systems,* 1998.

not comprehensive or substantial enough to allow for the construction of communications systems. New mechanisms are needed specifically for this purpose.

At a minimum, these new mechanisms should allow for the purchase of radio equipment and system upgrades. More ideally, they should be increased substantially and constructed so that they encourage the fire and EMS agencies to participate in shared system development projects. Just as many law enforcement agencies have been able to combine their collective grant soliciting rights to finance regional mobile data systems, fire and EMS agencies should be allowed and encouraged to seek and use special funding for the development of a wide-area radio network or to buy in to larger regional or statewide infrastructures. The responsibility for creating these funding mechanisms and communications incentives should be shared between the federal and state governments.

5. FUNDING MECHANISM RESEARCH FINDINGS

The mechanisms previously covered in the *Report on Funding Mechanisms for Public Safety Radio Communications* are presented here according to the level of government with which they are associated. Each is included for the purpose of updating its annual funding level since the publication of the last report or to report changes in its applicability as a financing vehicle for public safety radio systems. Mechanisms not in existence at the time of the previous report are covered as "new mechanisms."

5.1 Update on Existing Federal Funding Mechanisms

Federal funding mechanisms are usually used to transfer federal revenues to state and local government entities. These mechanisms advance national interests and national policy goals for the citizenry. They also help meet otherwise unfulfilled needs at the state and local levels.

5.1.1 Federal Budget Appropriations

Federal appropriations continue to be a significant source of potential funding. Although growth in non-defense discretionary spending has slowed in recent years, the Bush administration estimates that this kind of spending will total $373 billion in FY02. Overall, the Congress appropriated more than $4.7 billion in FY01 to enhance assistance to state and local law enforcement agencies through grants and other mechanisms. Specific appropriations to law enforcement programs and public safety agencies will continue to come under some scrutiny but should still show modest growth under the Bush administration.

Earmark Aids New Hampshire Search and Rescue

New Hampshire public safety secured $100,000 in FY01 House Interior Appropriations funding for White Mountain National Forest search and rescue programs to upgrade radio equipment for Tuckerman's Ravine and other National Forest search and rescue efforts. This funding was not part of any grant program or other funding mechanism but was a direct earmark included in a spending bill by a member of Congress representing the affected district.

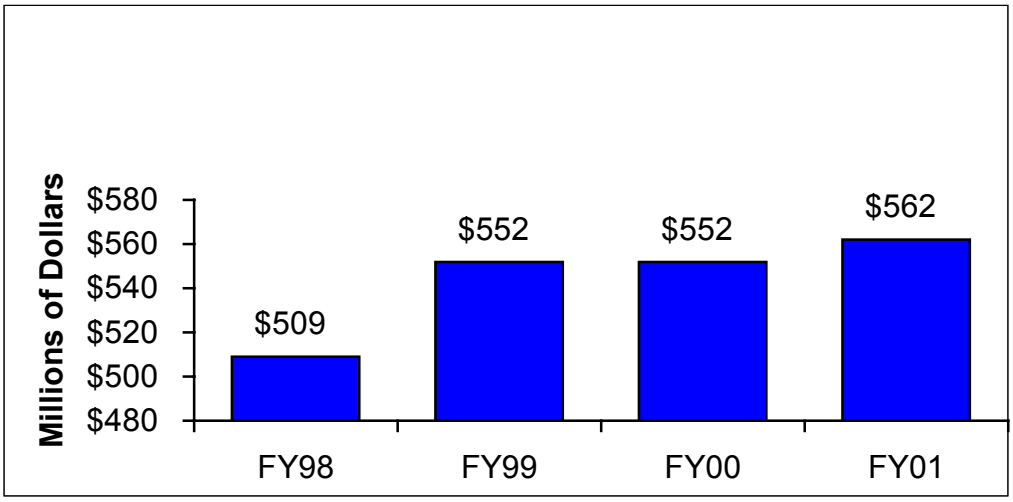
Community Oriented Policing Services Making Officer Redeployment Effective Grant. Overall, funding for the Community Oriented Policing Services (COPS) program has remained static. While the program received as much as $1.4 billion in FY98, spending for FY01 was limited to slightly more than $1 billion. Between FY95 and FY00, the COPS program received more than $7.6 billion to aid law enforcement with community policing. Under COPS Making Officer Redeployment Effective (MORE) 2001, up to $81 million in grant funding is available to U.S. law enforcement agencies for the purchase of information technology systems.[15] However, rather than a 15-percent match as in the past, the program now requires that local jurisdictions provide at least a 25-percent cash match for all grant funds sought for

15 U.S. Department of Justice, *COPS MORE Fact Sheet,* May 1, 2001.

technology and certain equipment. In addition, it is also important to note that funding for this program has gradually declined, and the FY02 budget proposal by the Bush administration includes a $270 million reduction in grants to the COPS programs.

Edward Byrne Memorial State and Local Law Enforcement Assistance. There have been no major changes to the Byrne discretionary and non-discretionary programs since publication of the original report. In FY98, Byrne programs received $509 million from direct appropriations (i.e., $462.5 million for formula grants and $46.5 million for discretionary grants). In FY01, the Congress provided $562 million in total funding, including $498.9 million in formula grants and $63.39 million in discretionary grants. In FY01, as was the case in FY00, the Byrne discretionary grants program funding is highly earmarked. Of the $63.39 million appropriated specifically for discretionary grants, more than $62 million is set aside to fund 49 specific programs. Figure 3 shows funding levels for the Byrne grant for the past 4 fiscal years.

Figure 3
Byrne Grant Funding Levels



Federal Emergency Management Agency Grants. Although funding for FEMA grants has been relatively constant, the majority of funds have been allocated to risk and capability assessment, planning, mitigation, and preparedness activities rather than public safety radio systems. FEMA grants are administered on the basis of actual emergencies or emergency preparedness and require that the agency in need match 50 percent of the donated funds. FEMA is requesting $135 million in the FY02 Budget for emergency management performance grants. These funds are used by state emergency management agencies to improve and maintain state and local capabilities for addressing all hazards. In FY01, grant assistance awards for this program ranged from $400,000 to $10.7 million, and the average grant award was $2.4 million. The agency estimates it made awards totaling $137 million in each of the last 2 fiscal years, FY00 and FY01. Until FY01, FEMA did not allocate any money specifically to improve the quality of public safety agencies themselves; however, a new mechanism has emerged through

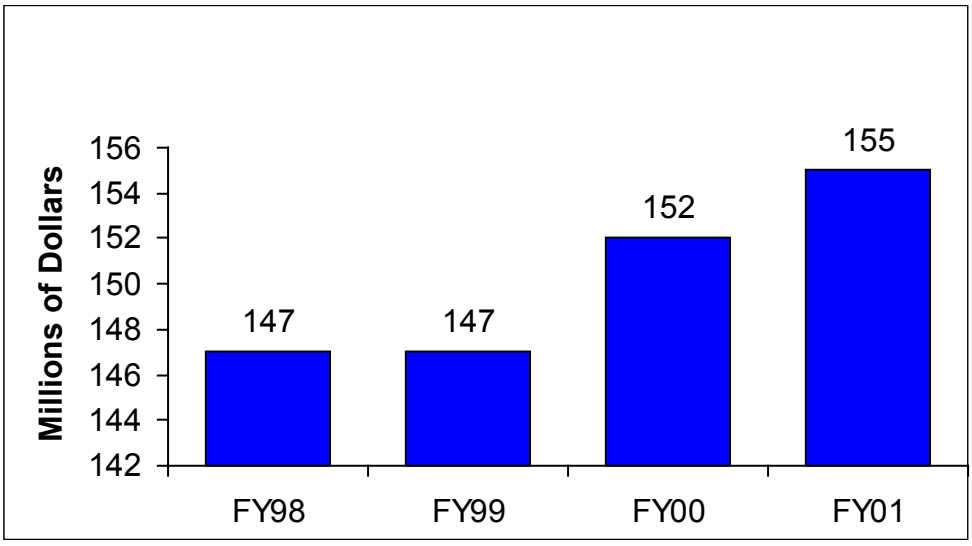
FEMA for FY01 that helps fire agencies. For further information, see Section 5.1.1, FEMA FIRE Grant.

Local Law Enforcement Block Grants. The Congress provided the Local Law Enforcement Block Grants (LLEBG) Program $523 million in FY00 and FY01. In addition, each state receives a minimum award of 0.25 percent of the total amount available for formula distribution under the Block Grants Program. Most recently, direct awards based on formula calculations ranged from a minimum of $10,000 to more than $25 million. Funding has been stable in nominal dollars for this mechanism for 4 consecutive years.

National Telecommunications and Information Administration of the U.S. Department of Commerce Grants. In FY99 and FY00, the National Telecommunications and Information Administration (NTIA) received an average of more than 700 grant applications each year requesting a total of $500 million. NTIA awarded approximately $18.5 million in grant funding in FY99 and $15.5 million in FY00. In FY00, the range of financial assistance awards was $56,625 to $600,000, and the average amount was $409,400. The NTIA estimates that its FY01 grant disbursements will be $42.5 million.

State and Community Highway Safety Grants (administered by the Department of Transportation). Disbursements from this program in FY00 were approximately $150 million, and FY01 disbursements are estimated at $153 million. In FY00, the range of financial assistance was $340,000 to $13 million, and the average amount was $2.2 million. Figure 4 shows the funding levels for this mechanism for the past 4 fiscal years.

Figure 4
State and Community Highway Safety Grant Funding Levels



5.1.2 Federal Asset Forfeiture Funds

The Department of Justice Assets Forfeiture Fund. Following a decade of rapid growth in which the use of asset forfeiture as a significant sanction against criminal conduct was

first embraced on a widespread basis, the level of asset seizures and forfeitures has stabilized in recent years. After peaking at more than $644 million in FY91, DOJ's asset forfeiture fund deposits declined to $445 million in FY97 and $448 million FY98. In FY91, DOJ's equitable sharing payments peaked at $283.3 million but recently have only been as high as $196 million (FY98). Table 3 demonstrates the fluctuation of equitable sharing payments made by DOJ between 1991 and 1998.

Table 3
DOJ Asset Forfeiture Equitable Sharing Payments

Fiscal Year	Payment
1991	$283.3 million
1994	$134.63 million
1998	$196 million

The Department of the Treasury Forfeiture Fund. Forfeiture fund deposits for the Treasury have fluctuated in recent years, after reaching a high of $271.7 million in FY95. The most recent reports released by the Treasury indicate that $248 million was deposited in FY98.

Table 4 lists all applicable federal funding mechanisms and their corresponding web site addresses.

Table 4
Federal Funding Mechanism Internet Resources

Grant Program	Applicable Web Site
Bureau of Justice Assistance	http://www.ojp.usdoj.gov/BJA
Byrne Memorial Grant	http://www.ojp.usdoj.gov/BJA/html/byrnef.htm
Community Oriented Policing Services (COPS) program	http://www.usdoj.gov/cops/
Council on Foundations	http://www.cof.org
Department of Justice Assets Forfeiture Fund	http://www.usdoj.gov/jmd/afp/06fund/indextxt.html
Department of the Treasury Forfeiture Fund	http://www.ncjrs.org/htm/tff.htm
Department of Transportation (DOT) Highway and Community Safety Grant	http://www.dot.gov/ost/m60/grant/
Federal Domestic Assistance Catalog	http://www.gsa.gov/fdac/queryfadac.html
Federal Emergency Management Agency Grants	http://www.usfa.fema.gov/grants/
Local Law Enforcement Block Grant	http://www.ojp.usdoj.gov/BJA/html/llelig.htm
National Criminal Justice Reference Service	http://www.look@ncjrs.aspensys.com
National Institute of Justice's Advance Generation of Interoperability for Law Enforcement Program (AGILE)	http://www.ojp.usdoj.gov/cita/
National Public Safety Telecommunications Council (NPSTC)	http://npstc.du.edu/rpcfunding/rpcfunding.html
National Telecommunications and Information Administration (NTIA) Telecommunications and Information Assistance Program (TIIAP)	http://www.ntia.doc.gov

5.2 Update on Existing State Funding Sources

Similar to the Federal Government, state governments support the development, deployment, and maintenance of public infrastructure projects, such as public safety radio communications, through a variety of funding mechanisms. Recently, several states have overseen the acquisition of statewide public safety radio networks without federal funding assistance, funding these very expensive infrastructures through a variety of means.

5.2.1 Surcharges

911 and E-911 Surcharges. According to the FCC Web site, wireless 911 rules seek to improve the reliability of wireless 911 services and to provide emergency services personnel with location information to enable them to locate and provide assistance to wireless 911 callers much more quickly.[16]

In a series of orders issued since 1996, the FCC has taken action to improve the quality and reliability of 911 emergency services for wireless phone users by adopting rules to govern the availability of basic 911 services and the implementation of E-911 for wireless services. In May 1999, the FCC adopted requirements to improve the ability of cellular phone users to complete wireless 911 calls. The 911 call completion rules are intended to improve the security and safety of analog cellular users, especially in rural and suburban areas. To further these goals, the FCC has required wireless carriers to implement the E-911 service. In turn, a wireless service surcharge was created to generate the revenue needed to meet the FCC requirements.

In 1995, only a handful of states assessed some form of surcharge on wireless customers for 911 services. At that time, the fees ranged from $0.10 to $1.00 per month, per customer. By the 2001 legislative cycle, 42 states had passed laws funding wireless 911 service by charging monthly user fees, otherwise known as E-911 surcharges. Table 5 lists all states with surcharges and their amounts.

Table 5
FY2001 State Surcharges on Wireless 911 Service

State	Surcharge ($)
Alabama	0.70/month
Alaska	0.50–0.75/month local surcharge depending on population
Arizona*	0.20/month
Arkansas*	0.50/month per subscriber
California	Currently Undecided
Colorado*	0.70/month
Connecticut	0.50/month
Delaware	0.50/month local surcharge
Florida	0.50/month
Georgia	1.50/month
Idaho	1.00/month

16 http://www.fcc.gov/e911/factsheet

State	Surcharge ($)
Illinois	1.25/month local surcharge
Indiana*	1.00/month
Iowa	0.50/month
Kansas	0.75/month local surcharge
Kentucky*	Undecided Increase
Louisiana	1.00/month for private; 2.00/month for business
Maine*	0.32/month
Maryland*	Increase from 0.32 to 0.50
Massachusetts	0.75/month
Minnesota*	Increase from 0.30 to 0.50
Missouri	0.50/month pending voter approval
Montana*	0.15/month
Nebraska	0.50/month
New Mexico	0.51/month
New York	Undecided
North Carolina	0.80/month
North Dakota	$1.00/month
Ohio	0.65/month
Oklahoma	0.50/month pending voter approval
Oregon	0.75/month
Pennsylvania	1.00/month local surcharge
Rhode Island*	0.47/month
South Carolina	0.75/month per subscriber
South Dakota	0.75/month local surcharge
Texas*	0.50/month per subscriber
Utah	0.50/month
Virginia*	0.75/month
Washington	0.45/month
West Virginia*	0.75/month per subscriber
Wisconsin	0.25–1.00/month local surcharge depending on population
Wyoming	0.50/month local surcharge

*Denotes states that have designated at least some money specifically for public safety communications equipment.

The current trend for the revenues generated by E-911 surcharges is to use them to pay for 911 system upgrades required in each jurisdiction to meet the FCC requirements. Once the system upgrades are paid for, the states can use the money to maintain and create more interoperable radio systems. Currently, 13 states have specifically designated some monies from this revenue stream for communications interoperability as part of the normal maintenance of their current wireless radio systems. For example, according to the Iowa Emergency Management Division, the State of Iowa has generated more than $1.1 million a quarter to comply with FCC cellular regulations. After the State of Iowa has complied with the FCC regulations, it will be in a position to continue to use the surcharge revenue to meet other public safety wireless communications needs.

5.2.2 State User Fees

Motor-Vehicle Related User Fees. States continue to fund their public safety needs by imposing user fees on motor-vehicle and highway related activities. Such user fees can include license plate registration fees, fees charged for issuing drivers' licenses, highway and bridge tolls, transit taxes, etc. According to Department of Commerce statistics, all 51 states report collecting this type of revenue, and 47 states report using at least a portion of these revenues to fund highway and/or public safety operations. Although this ratio is high, of the nearly $22 billion dollars distributed by states from this revenue source during FY00, roughly $2.3 billion was specifically designated for highway and/or public safety operations in those 47 states. Refer to table 6 for a detailed list of motor vehicle related revenues by state.

Table 6
State Motor Vehicle Fee Revenue

DISPOSITION OF STATE MOTOR-VEHICLE AND MOTOR-CARRIER TAX RECEIPTS				
November 2000				In thousands of dollars
STATE	GROSS RECEIPTS AVAILABLE FOR PUBLIC FOR DISTRIBUTION	NET FUNDS DISTRIBUTED	REVENUE SPECIFICALLY FOR HIGHWAY/ LAW ENFORCEMENT & PUBLIC SAFETY	STATE GENERAL PURPOSES
Alabama	197,852	157,172	14,851	-
Alaska	33,151	31,875	50	29,079
Arizona	248,769	192,081	2,970	-
Arkansas	134,927	117,108	11,966	-
California	5,070,119	4,514,395	823,854	35,298
Colorado	224,342	195,068	16,003	-
Connecticut	272,829	232,344	15,258	4,418
Delaware	85,092	85,092	-	-
Dist. of Col.	54,220	49,558	-	-
Florida	994,190	884,426	138,728	68,147
Georgia	277,228	219,682	-	205,337
Hawaii	89,340	84,030	2,534	2,505
Idaho	114,914	107,154	8,933	-
Illinois	835,529	709,289	29,238	-
Indiana	365,043	272,458	15,356	-
Iowa	353,640	338,307	14,830	-
Kansas	156,715	117,098	20,074	-
Kentucky	588,573	551,718	42,547	464
Louisiana	184,936	149,428	40,552	-
Maine	70,888	56,622	5,278	-
Maryland	838,835	696,963	86,083	311,179
Massachusetts	307,674	261,291	20,315	1,691
Michigan	815,431	753,472	7,532	-
Minnesota	585,967	571,312	39,566	6,542
Mississippi	140,308	133,328	10,082	65
Missouri	266,624	220,867	27,674	1,728
Montana	57,340	53,180	7,260	3,265
Nebraska	89,244	82,152	3,065	17,135
Nevada	136,022	92,067	14,039	-
New Hampshire	94,936	78,223	16,629	8,413
New Jersey	631,506	532,306	96,381	401,467
New Mexico	244,563	220,413	27,765	66,358
New York	770,589	602,301	101,728	312,054
North Carolina	230,738	170,586	23,711	-
North Dakota	53,998	49,948	87	5
Ohio	680,980	577,937	29,760	-
Oklahoma	463,330	425,456	43,266	113,793
Oregon	367,546	293,221	13,555	-
Pennsylvania	838,121	767,526	77,108	-
Rhode Island	59,312	46,214	-	46,214
South Carolina	117,888	65,474	11,082	63,477
South Dakota	56,141	49,191	988	-
Tennessee	244,706	224,956	67,050	-
Texas	3,374,290	3,184,273	120,939	2,074,657
Utah	99,482	81,397	9,351	-
Vermont	91,509	79,039	13,396	-
Virginia	821,435	686,093	59,744	-
Washington	1,184,238	1,100,977	123,183	142,100
West Virginia	227,969	204,484	628	-
Wisconsin	371,215	305,350	14,677	-
Wyoming	49,662	38,692	4,481	-
Total	24,663,896	21,713,594	2,274,147	3,915,391
This table summarizes local governments' receipts from motor-fuel taxes, motor-vehicle fees, special imposts on motor carriers, and tolls. This tableincludes receipts from State imposts that are transferred to local governments for distribution. Local government reporting is on a biennial basis with even-numbered years optional. This table is compiled from reports of state and local governments. Estimated by the United States Department ofTransportation Federal Highway Administration (FHWA). November 2000.				

5.2.3 Bonds and Certificates of Participation

Several states have approved bonding authority to upgrade their statewide telecommunication systems. In cases where costs have risen because of inflation or other unforeseen circumstances, state legislatures have generally authorized additional bonding authority. However, because voter approval is required for most bond issues, many times these

proposed financing plans do not materialize as hoped. Issuing certificates of participation (COP) is one method of bond-type financing that does not require voter approval.

Bonds Bring Statewide System to Massachusetts

Massachusetts constructed a statewide 800 MHz system with both voice and data components. This wireless network, which uses trunking technology, was begun in 1994 and is now complete. The network is open to all public safety agencies. Two funding mechanisms were used to finance the project, the State Police General Fund and the Capital Fund, with funds originating from the Secretary of Public Safety who was the primary source for this effort. The Capital Fund used the 1994 Transportation Bill as a vehicle for funding, and the fund was tied to a general obligation bond from that bill.

Some states have also used COPs to purchase equipment. For example, Utah issued Utah Communications Agency Network Communications Equipment Lease Purchase COPs to finance the construction and acquisition of an 800 MHz public safety communications infrastructure system. The certificates are secured by the equipment being financed. The certificates were issued on March 31, 1999, for almost $18 million, with interest rates of 4.55 to 4.85 percent for a period of 15 years.

Phoenix in Progress

Voters in Phoenix, Arizona, approved a $753.9 million bond package for city cultural improvement that includes funds for additional fire and police stations on the outskirts of the city. The bond also will pay for a digital public safety radio system.

5.2.4 State Budget Appropriations

A critical funding mechanism available at the state level is a direct appropriation from the state budget. However, the allocation of funds has varied depending on the constructs of the state's communications and organizational system. For example, the New York state legislature is proposing to alter the Statewide Wireless Network in FY02 from a centralized system funded at $47 million to a smaller system funded at $10 million. The balance of $37 million will be distributed to local governments that provide emergency wireless services within the state.

Exploring a Statewide System in California

California Governor Gray Davis' 2000–2001 budget included $1.8 million for the first year of a 2-year, $3.4 million effort to engineer and design the Public Safety Radio Integrated Systems Management (PRISM) public safety radio system. This project is a precursor to a potential $90 million, 3-year pilot project in the six-county Sacramento area. If the pilot is successful, a multibillion dollar project to construct a statewide, integrated system facilitating interagency communications would follow.

5.2.5 State Grants

To date, grant programs originating solely from states have provided significantly less revenue to public safety agencies via grants than federal programs because of differences in budget size. However, several states do have active grant programs specifically aimed at public safety or general infrastructure improvements. Maryland has several state programs, including the Governor's HotSpot Communities Initiative, initially funded for 5 years at $10.5 million, which has recently been allocated another $3.5 million over the next several years.

In the 2001 legislative session, the California legislature is considering the Supplemental Firefighting Services Fund (SFSF) to offer a $100 million grant package for all fire agencies within the state. This initiative was prompted by the congressional Fire Investment and Response Enhancement Act (see Section 5.1.1 for details), as well as the implementation of a similar state program within California, the Supplemental Law Enforcement Fund (SLEF), for police training and equipment. The bill would give state fire and emergency agencies access to money for training and communications equipment.

The California legislature is also considering legislation that would appropriate $75 million from the state's General Fund for continuing a police technology grant program. The grant would continue to provide county sheriffs, city police chiefs, and certain special districts providing police protection services, with funding for technology-related acquisitions and programs to enhance public safety. Recipients would receive a minimum award of $100,000 under the legislation.

5.2.6 State Targeted Taxes

Many states continue to collect revenue from motor-vehicle-related fees and taxes and from targeted sales taxes to establish special revenue funds. California has retained its half-cent sales tax for public safety purposes, namely, for the sheriff, the district attorney, and the probation department in each county of the state. In FY98–99, this Public Safety Sales Tax generated more than $1.88 billion for local public safety agencies, with 95 percent of this revenue awarded to counties for distribution within their region.

Illinois Fund for Infrastructure, Roads, Schools, and Transit Program

The Illinois Fund for Infrastructure, Roads, Schools, and Transit (FIRST) program is a 5-year, $12 billion program designed by Governor George Ryan to build, repair, and upgrade Illinois' critical infrastructure. The program will provide $25 million for a new statewide police radio communications system to improve public safety. The police radio program is one of Illinois FIRST's "pay-as-you-go" projects funded through increases in the state's liquor taxes, motor vehicle registration and title fees, and several other fees. Overall, these tax and fee increases will net the state approximately $571 million annually for certain public works and public-safety-related infrastructure projects.

5.2.7 Fire Program Funds

Many states have begun or are maintaining targeted funds such as fire program funds. These funds are generally financed through fees on certain insurance premiums. In Virginia, counties and eligible cities can now receive a minimum of $10,000 and towns a minimum of $4,000 in assistance for public safety activities relating to fire and emergency services.

5.3 Existing Local Funding Sources

Local governments use the revenue collected from taxation, bonds, surcharges, and fees to create funding mechanisms for local operations.

5.3.1 Lease-Purchase Financing Bonds and Certificates of Participation

Lease revenue bonds (LRB) and COPs continue to be effective financing tools for local public agencies. For example, in February 1999, the city of Mill Valley, California, issued COPs for a total of $1.15 million, at interest rates ranging from 3.45 to 4.75 percent, that mature in 20 years. However, in recent years the majority of these funds have been allocated for non-public-safety ventures such as schools and water works.

5.3.2 Local General Funds

Funding of public safety communication systems through general funds continues to vary depending on the size of the locality. For example, the Village of Gurnee, Illinois, used more than $70,000 in general funds to maintain radio equipment and information systems. In contrast, the general fund of Arlington County, Virginia, was large enough to permit the county to buy an 800 MHz system using $7.6 million.

5.3.3 Local Capital Improvement Plans

Although some local governments are able to use capital improvement plans for public radio systems, most funding from this kind of vehicle continues to be allocated to projects such as roads, sewers, and public water systems.

5.4 Update on Public and Private Partnerships

Many volunteer fire and EMS companies continue raise funds from the private sector. Occasionally, revenue collection is encouraged by setting up nonprofit foundations. Favorable consideration of these sources is influenced by the benefit private sector input can provide in the form of state-of-the-art equipment, training, and market research indicating the best techniques. Another factor that must be considered when engaging the private sector is the potential need for expertise in preparing the tailored proposals necessary to obtain corporate donations and foundation grants. Foundations, endowments, direct solicitation, fund-raising events, and corporate donations continue to provide assistance for public safety agencies; however, funding in this area has remained stagnant.

Public/Private Partnership Benefits Fairfax County, Virginia

An innovative and multifaceted public–private partnership was created in Fairfax County, Virginia, by a commercial wireless carrier, a local volunteer fire department, and the County of Fairfax. The volunteer fire department leased land to the commercial carrier to construct a radio tower and equipment shelter. In exchange, the volunteer fire department received an income stream from both the land lease and the revenues generated by the commercial wireless carrier, while also leasing out the excess capacity of the tower to other commercial carriers under a revenue sharing agreement. The county not only endorsed the partnership and the zoning and permit process, but received tower and shelter space for public safety radio equipment as well. The historically cash-strapped volunteer fire department has been able to begin planning for much-needed equipment and facility enhancements with the newly realized revenue stream, and the county saved the costs of construction for a tower that otherwise would have had to be built at taxpayers' expense.

5.5 Previous Mechanisms No Longer in Existence or Applicable

Some mechanisms covered in the December 1997 report either no longer exist or are no longer applicable to financing public safety radio communications systems.

5.5.1 Federal Off-Budget Funds

Off-budget funds are congressionally imposed taxes and payments, "withheld" from the federal budget's general revenue fund, used to pay for various services and specific projects. Two entities with portions of their budgets in off-budget funds are the Social Security Administration (SSA) and the United States Postal Service (USPS). SSA, which was removed from the budget in 1985, has two social security trust funds that are off budget: old age and survivors insurance, and disability insurance. USPS's fund was removed from the Federal General Revenue Fund in 1989.

Currently, no off-budget funding vehicles or trust funds exist for law enforcement funding.

5.5.2 Federal Trust Funds

Federal trust funds contain tax and user fee revenue earmarked for specific purposes or programs. In 1996, the Federal Budget supported the following major trust funds: airport and airway, federal employees retirement, federal old-age, survivors and disability insurance, foreign military sales, health insurance, transportation, federal employees health benefits, military retirement, unemployment, and veterans life.

Currently, there is no federal trust fund for law enforcement activities, although a trust fund would be an excellent source of dedicated funding for public safety radio communications.

5.5.3 State Infrastructure Technology Investment Funds

Currently, there are no state infrastructure technology investment funds (ITIF) providing funding for radio systems.

The Wisconsin ITIF was created to augment funding for state agencies (primarily General Purpose Revenue [GPR] funded agencies) that lack sufficient base funding to invest in technology. The long-term goal of the fund was to provide seed capital for development and implementation of innovative projects to redesign and reengineer the operation of state agencies. Funding for the ITIF came from an annual user fee paid by vendors seeking to do business with the state as well as from the GPR. However, because of insufficient revenues, Wisconsin eliminated funding for the ITIF grants program in FY99–01 and has no immediate intention to reinitiate the program.

Maryland, which also has an ITIF, will continue its program, but has limited its funding for law enforcement to information technology upgrades within the Department of Public Safety (but not for radio systems).

5.6 New Funding Mechanisms

In the course of researching changes to previously existing funding mechanisms, new mechanisms appropriate for financing public safety radio communications systems or equipment were identified.

5.6.1 FEMA Firefighter Investment and Response Enhancement Grant

According to the Congressional Fire Service Institute (CFSI) Web site, the FIRE Act for FY01 is unique because "for the first time, [the] Congress has recognized that a need exists to provide major federal support to the 1.2 million first responders in the fire service."[17] Within the act, the fire service grant program was established.

[17] www.cfsi.org

This grant authorizes $100 million for FY01. As a result of extensive lobbying by the CFSI, the International Association of Fire Chiefs, the International Association of Fire Fighters, and others, $134.5 million of the original appropriated $300 million for FY02 was restored after initially being slated for elimination. The grant itself is classified into six categories (including money for communications equipment) for state, local, volunteer, and tribal, fire, and emergency agencies.

According to the FEMA grant information office, communication technology falls under the firefighting equipment category.[18] Although the grant offers minor information technology assistance for projects, such the upgrading of portables and pager systems, funding for entire radio systems is not included at this time. Also, the fire service grant requires that agencies match up to 30 percent of the funds requested. As a result, many smaller fire departments could be discouraged from applying for funding. However, it is unknown whether FEMA sees communications interoperability as a critical need given the current context of firefighters who have insufficient gear and vehicles.

5.6.2 The National Institute of Justice's Advanced Generation of Interoperability for Law Enforcement Program

The AGILE Program was created in 1998 to pull together all the interoperability projects currently under way at the NIJ. The AGILE Program approach addresses both short-term (interim) interoperability solutions and long-term interoperability implemented through standardization encompassing wireless telecommunications and information technology applications. In FY00, the AGILE Program began a grant program that will award $450,000 for research and development.

The AGILE Program is also distributing modest planning grants (i.e., $2,500) to promote the efforts of regional planning committees convened to plan for the use of the newly allocated 700 MHz public safety spectrum. Funds are distributed through the National Public Safety Telecommunications Council (NPSTC) Support Office, which is hosted by the University of Denver.

5.6.3 Department of Interior Fire Agency Grant

The Congress allocated $10 million in FY01 to the Department of the Interior's fire agencies to distribute throughout their surrounding rural jurisdictions in an effort to enhance the fire protection capability in those areas. The funds will be used for training, equipment, and fire prevention work. Although funding for radio communications gear is minimal, this pilot program is a part of a larger national fire plan to reduce wildfire risks in communities in the wildland urban interface areas. The Congress has left open the option to allocate further funding to rural fire departments in the future.

[18] Telephone interview conducted March 19, 2001.

5.6.4 Rural EMS Grant (Pending U.S. Congressional Action)

Sen. Tom Daschle (D-SD) sponsored a bill (S 587.IS—Sustaining Access to Vital Emergency Medical Services Act of 2001) that would authorize $50 million in grants each year for 6 years starting in 2002. Unlike other grant programs, this program would require recipient EMS units to match only 5 percent of the amount requested. The bill was prompted by a June 2000 survey by the National Association of State EMS Directors. The study found that the biggest capital need for rural EMS units is for communications equipment. The bill also appropriates money for training and safety equipment.

5.6.5 State Gaming Taxes

As the gaming industry has expanded throughout the United States, the subsequent tax revenues available for state use have steadily increased. In the 11 states with commercial casinos in operation in 1999, casinos contributed more than $2.7 billion in tax revenue to state and local governments. This figure is a $500 million increase from the previous year and can be expected to grow in the coming years. The tax rate for the casino industry ranges from a low of 6.25 percent in Nevada to a high of 35 percent in Illinois. The revenue from these taxes benefits education, public safety, economic development and infrastructure improvements, and other state and local programs.[19] Table 7 provides a synopsis of gaming-related tax revenues received by states.

Table 7
1999 Calendar Year Gaming Tax Revenue

State	Revenue
Colorado	$72.8 million
Illinois	$419 million
Indiana	$425 million
Iowa	$103 million
Louisiana	$253 million*
Mississippi	$302 million
Missouri	$275 million
Nevada	$535 million
New Jersey	$330 million
South Dakota	$ 3.7 million

*The Town of Kenner, Louisiana, has received more than $32 million from the Treasure Chest riverboat casino for town improvements. Revenue benefited the fire and police departments and significantly reduced Kenner's budget deficit.

19 American Gaming Association, *Fact Sheet, Tax Contributions, 1999.*

APPENDIX A—ACRONYMS

AGILE	Advanced Generation of Interoperability for Law Enforcement
CFSI	Congressional Fire Service Institute
COP	Certificate of Participation
COPS MORE	Community Oriented Policing Services Making Officer Redeployment Effective
DOJ	Department of Justice
E-911	Enhanced 911
EMS	Emergency Medical Services
FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FIRE	Fire Investment and Response Enhancement
FIRST	Fund for Infrastructure, Roads, Schools, and Transit
FY	Fiscal Year
GIS	Geographical Information System
GPR	General Purpose Revenue
ITIF	State Infrastructure Technology Investment Fund
IWGF	Interagency Working Group on Funding
LLEB	Local Law Enforcement Block Grants
LRB	Lease Revenue Bond
MHz	Megahertz
NENA	National Emergency Number Association
NPSTC	National Public Safety Telecommunications Council
NTIA	National Telecommunications and Information Administration
PRISM	Public Safety Radio Integrated Systems Management
PSWN	Public Safety Wireless Network Program
SFSF	Supplemental Firefighting Services Fund
SLEF	Supplemental Law Enforcement Fund
SSA	Social Security Administration
USPS	United States Postal Service