

October 24, 1996

Introduced By: Greg Nickels

Proposed No.: 96-754

MOTION NO. **100011**

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A MOTION adopting standard funding policies for the distribution of Enhanced-911 excise tax revenue.

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WHEREAS, funding policies that continue to ensure stable funding of the E-911 network, database and equipment will ensure a standard level of service for all residents of King County, and

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WHEREAS, a mechanism for distribution of Enhanced-911 excise tax revenue that is predictable and easily understood will enable Public Safety Answering Points (PSAPs) in King County to plan and prepare for the level of funding available, and

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WHEREAS, routing a greater level of Enhanced-911 funding to the PSAPs, where service is directly provided, supports the intent of the excise tax, and

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WHEREAS, empowering PSAPs to make decisions about Enhanced-911 expenditures within a standard policy framework supports the collaboration and the standardization that makes possible a standard level of Enhanced-911 service for residents of King County, and

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WHEREAS, it is necessary to begin to plan and prepare for unknown Enhanced-911 funding obligations related to changing communications technology, and

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WHEREAS, it is possible to establish priorities for the distribution of E-911 funds that will encourage consolidation of PSAPs in King County.

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NOW, THEREFORE BE IT MOVED by the Council of King County:

1 The Enhanced-911 funding policies contained in the
2 attached "Study on Enhanced-911 Funding Policies" are hereby
3 approved and adopted. Because of the likely need for
4 additional revenue to meet the demands of operating the E-911
5 system, staff is directed to work with representatives of the
6 PSAPs and cities to prepare a preliminary assessment for the
7 County Council by December 1, 1996, regarding options for
8 securing additional revenue or taxing authority from the
9 state legislature in support of E-911 system needs.

10 PASSED by a vote of 13 to 0 this 25th day of
11 November, 1996.

12 KING COUNTY COUNCIL
13 KING COUNTY, WASHINGTON

14 Gene Hogue
15 Chair

16 ATTEST:

17 Donald A. Polster
18 Clerk of the Council

19 Attachments: Study on Enhanced-911 Funding Policies
20

M 10001

96-754

STUDY ON

ENHANCED 911

FUNDING POLICIES



PREPARED BY

STUDY ON ENHANCED 911 FUNDING POLICIES

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I. DESCRIPTION OF CURRENT E-911 SYSTEM

A. History

In 1981, the Washington State legislature enacted legislation which allowed counties to collect an excise tax on telephone access lines for the purposes of funding an emergency service communication system. Because of the complexity of the public safety environment in King County, with multiple police and fire jurisdictions, it was determined that an enhanced 911 telephone system, with the capability of selectively routing 911 calls to the appropriate response agency, would be required. In addition, public safety and county officials felt that it was extremely important for the system to be able to display the telephone number and location of the calling party at the public safety communications center, which is also a feature of an enhanced system. This allows for responses to emergency situations in which the caller is unable to give their location. As a result of these requirements, the decision was made to implement an enhanced 911 system in King County. The imposition of an excise tax for the purpose of paying for the implementation and operation of an enhanced 911 emergency telephone system was approved by the voters of King County in November, 1981 (Ordinance No. 5680).

Once the voters authorized the collection of the tax, work began on the design of the system and the selection of a vendor to implement the system. At that time, there were twenty-seven public safety communications centers operating in King County which answered and dispatched emergency calls. Due to the political climate, it became apparent that if County government attempted to force any of these communications centers to consolidate, it may not have been possible to implement an enhanced 911 (E-911) system. The state legislation required that emergency communication systems be established on a county-wide basis, so it was critical that all of the public safety agencies in the county work together as a team to implement our 911 system. As a result, it was determined that each of the existing public safety communications centers would be established as Public Safety Answering Points (PSAPs) within the E-911 system.

911 service at that time was not a service which was tariffed in Washington State by the Utilities and Transportation Commission. Therefore, it was necessary to sign a contract with a vendor for the implementation and operation of the system. Due to the fact that Pacific Northwest Bell, now known as US West Communications, was the telephone company which served the majority of access lines in King County, it was determined that they were the only vendor who could

supply a cost-effective, timely, efficient 911 system. A contract was signed with Pacific Northwest Bell in August, 1983. They in turn signed sub-contracts with General Telephone of the Northwest and Telephone Utilities, the other two telephone companies which provide service in King County. The County Council then passed Ordinance No. 6875, which established the 911 excise tax rate at \$.45 per telephone access line per month and set the effective date of the tax as September, 1984. King County's E-911 system was implemented one year later on September 4, 1985.

B. Configuration of E-911 System

The E-911 system is comprised of several components. These include:

1. Network

The E-911 network consists of dedicated 911 trunks from each telephone company central office into the 911 tandem switch, which is located at the US West Seattle Main central office in downtown Seattle. In addition, dedicated 911 trunks are also placed from the 911 tandem out to each of the PSAPs. The 911 tandem is the component in the system which is responsible for routing all 911 calls to the correct PSAP. The 911 trunks are ordered through and maintained by the telephone companies. Traffic data is collected on these trunks by the telephone companies and reported to the E-911 Program Office on a quarterly basis. This data is used to evaluate the network to ensure that there are sufficient 911 trunks available to provide the citizens served by each central office an acceptable level of access to 911. The 911 industry standard for an acceptable level of access has been established as a P.01 grade of service, which means that with an average call distribution, only one out of every one hundred callers should get a busy signal.

This year, trunks have also been installed from each of the Cellular companies' switches into the 911 tandem. This allows cellular 911 calls to be routed by cell site to various PSAPs.

2. Data base

The E-911 data base determines what automatic number and location information will be displayed at the PSAP and which PSAP the 911 call will be routed to when a citizen calls 911. The information which displays at the PSAP includes the caller's name,

telephone number, address, type of telephone service (residential, business, etc.), and the police and fire agencies who respond to the jurisdiction the caller's address is located in. The E-911 data base for King County is maintained by US West, with the other telephone companies feeding their customer information to US West to allow for one data base county wide. As citizens contact their telephone company to sign up for telephone service, they are asked for the address where their service is to be located. This address, along with the citizen's other information, is then entered into the E-911 data base. If the address falls within an existing address range, the new address is accepted into the system and is assigned the Emergency Service Number (ESN) of the address range it fits within. If the address does not fit within an existing range, it is sent to the E-911 Program Office. Program office staff then verify that the address is correct, assign the appropriate ESN, and send the information back to US West to be entered into the data base. The program office maintains their own copy of the 911 data base on the county's mainframe computer. In addition to sending the information to US West, a copy is also sent to the designated police or fire contact for the ESN area, who also checks the information for accuracy. This assures that the information in the 911 data base is correct, and also notifies the responding jurisdictions of new addresses within their response area.

An ESN is a routing code which is established for each unique combination of police and fire response agencies within the county, and routes the 911 calls to the PSAP which dispatches for the agencies. This is the system which allows 911 calls to be automatically routed to the appropriate PSAPs for handling. In King County, our system first routes the 911 call to the PSAP which dispatches for the police response agency, because it has been determined that approximately 85% of 911 calls are for police services. Some PSAPs dispatch for both police and fire agencies, so the call would be handled regardless of the nature of the emergency. Many PSAPs handle either police or fire/emergency medical emergencies, but not both. In this case, the police PSAP which answers the 911 call would immediately transfer the call to the fire PSAP upon determining that the caller needed fire or emergency medical services. To transfer the call to the appropriate fire PSAP, the call receiver simply needs to depress a "fire" button, and the E-911 system automatically routes the call to the correct fire PSAP based on the ESN which has been assigned to the caller's address.

3. Equipment

The equipment component of the E-911 system consists of E-911 controllers and automatic number identification/automatic location identification (ANI/ALI) displays. The E-911 controller is a unit at each PSAP which the 911 trunks are connected to. This unit receives and controls the 911 call by determining which position at the PSAP the caller's voice and ANI/ALI data are sent to, generating ringing notification, and providing disconnect supervision for the call. The E-911 controller is interfaced to the telephone equipment and the Computer Aided Dispatch (CAD) system at each PSAP.

ANI/ALI display units are located at each call answering position at each PSAP. In addition to displaying the caller's name, telephone number, address, and other information for each 911 call, these units also allow access to features provided by the E-911 controller. These include: dedicated fire and police transfer buttons, which automatically transfer the 911 call to the fire or police PSAP designated by the ESN; fixed transfer buttons, which can be programmed with any telephone number and allow the 911 call to be transferred with the push of one button; reverse ALI searches, which are used to search the ALI data base for an address when a caller reports an emergency at a different location in which they only know the telephone number; and last ten ALI look-up, which allows the call receiver to scroll back through the last ten ALI displays if they need information on a previous call.

4. PSAPS

The PSAPs are the public safety communications centers which participate in the King County E-911 system by answering and handling 911 calls. The County has signed a participation agreement with each PSAP, which establishes the policy under which the E-911 system is managed. In addition to the E-911 equipment which is provided to them through King County E-911 funds, each PSAP is responsible for providing the telephone system, CAD system, radio equipment, and recording equipment which is necessary for the handling of the 911 calls. They must also provide basic and emergency power for this equipment to ensure that the PSAP can continue to operate during power outages. The participation agreement establishes protocols for the answering of the 911 calls and the interviewing of the callers to ensure the most efficient handling of the calls as they are transferred between the PSAPs.

PSAPs are designated as either primary or secondary. Primary PSAPs receive 911 calls directly from the public. In our E-911 system, 911 calls are initially routed to the PSAP which dispatches for the police agency that responds to the caller's area, so all primary PSAPs are either police only or combined police/fire/EMS PSAPs. Secondary PSAPs only receive 911 calls that have been transferred to them by another PSAP. The secondary PSAPs in our E-911 system are all fire/EMS PSAPs, with the exception of the Lake Forest Park Police Department PSAP.

The chart on the following page describes each PSAP, including the number of access lines served, number of staff, call volume, types of services provided, total annual budget, E-911 funds they receive from King County, and the percent of their budget the E-911 funds support.

5. E-911 Program Office

The E-911 Program Office is responsible for coordinating and managing the operation and maintenance of the E-911 system for King County. This includes: coordinating the E-911 network, data base, and equipment purchase and maintenance with the telephone companies and other vendors; monitoring tariffs, contracts and agreements with the PSAPs and telephone companies; monitoring the collection and distribution of the E-911 excise tax; and keeping track of changing technologies and how they affect the E-911 system.

6. PSAP Committee

The PSAP Committee is chaired by the E-911 Program Manager and is composed of one representative appointed by each PSAP. The PSAP Committee makes recommendations to the County regarding the operation and management of the E-911 system.

PSAP DESCRIPTION-1995

PSAP Primary or Combined	# OF ACCESS LINES	# OF STAFF	CALL VOLUME		TYPES OF SERVICES									
			911	OTHER	POLICE	FIRE/EMS	NON-911 DISPATCH	RECORDS	ALARM MONITOR	ADMIN CALLS	PUBLIC RECEP	OFFICE SUPPORT	JAIL STAF	
Bellevue PD	152,881	46	129,582	76,875	X	X								
Secondary	351,258													
Bothell PD	21,629	12	14,256		X									
Enumclaw PD	5,485	7	4,095		X	X	X	X		X	X			X
Secondary	8,887													
Issaquah PD	12,130	9	9,033		X	X	X	X		X	X			X
Secondary	11,122													
King County DPS	350,138	101	418,929	367,718	X									
Kirkland PD	42,311	11	24,794		X		X	X	X	X	X	X	X	X
Mercer Island DPS	17,527	9	6,578		X	X	X	X		X	X			
Secondary	17,527													
Port of Seattle PD	9,400	11	12,811		X									
Redmond PD	40,918	13	23,671		X		X	X		X				
Seattle PD	720,527	112	587,563	220,680	X									
South Com	3,199	16	23,702	5,904	X	X	X			X	X			
Secondary	150,677													
Univ. of Wa. PD	24,926	29	6,471		X		X			X	X			
Valley Com	195,974	64	358,200		X	X								
Secondary	252,083													
Wa. State Patrol	6,327	25	245,244		X		X			X	X			
Secondary Only														
KCFD #10	43,824	12	4,095	2,436		X		X						
KCFD #13	6,106	9	799	21		X	X			X	X	X		
Lake For. Pk. PD	3,715	7			X			X		X	X			
Port of Seattle FD	5,239	22	2,146			X	X		X	X	X	X		
Seattle FD	751,270	33	78,993			X				X				
TOTAL	1,603,372	548												

NOTES: The total number of 911 calls in King County in 1995 was approximately 2.5 million. Not all PSAPS have the capability to track their call statistics & Primary access lines only are counted. Secondary access lines are a duplicate of the primary lines.
PSAP budgets are not comparable due to the fact that each PSAP's budget is unique in how it is structured within its sponsoring agency's budget.

II. DESCRIPTION OF E-911 REVENUES AND EXPENDITURES

A. E-911 Revenues

The 1981 state law authorized counties to impose a 911 excise tax on switched access lines up to fifty cents per month for each switched access line. Counties were required to obtain voter approval prior to initiating the tax. In 1991, a new state law was passed which established an additional twenty cent tax per switched access line for the purpose of funding the implementation of Enhanced 911 statewide. This law continued the local fifty cent tax, and removed the need to seek voter approval for this local tax.

In July, 1984, the King County Council passed an ordinance which established the 911 excise tax rate at forty-five cents per month to fund the implementation of the E-911 system. The system was implemented on September 4, 1985, and after this date it was determined that a lower tax rate could support the continuing operation of the system. As a result, in November, 1985, the Council lowered the tax to thirty cents per month. This tax rate continued until January, 1990, when it was raised to thirty-five cents per month, due to the need to replace the E-911 equipment at the PSAPs and in anticipation of changing telecommunications technology.

In addition to the 911 excise tax on switched access lines, in the 1994 legislative session, the state legislature passed a bill which establishes a 911 excise tax on radio access lines at a rate of 25 cents per month. This bill addressed the issue of wireless telecommunications, including cellular phones, which were exempted from the existing tax. The intent of this new tax is to reimburse PSAPs for the impact cellular 911 calls have on them, and to assist in funding the PSAP equipment upgrades which will be necessary when ALI from wireless devices becomes available. The King County Council passed an ordinance in December, 1994, establishing this tax in King County, and the tax became effective in March, 1995.

The following chart displays the amount of 911 excise tax collected in King County since 1986.

YEAR	REVENUE
1986	\$2,863,885
1987	\$2,962,616
1988	\$2,995,126
1989	\$3,078,260
1990	\$4,003,783
1991	\$3,871,098
1992	\$4,041,058
1993	\$4,183,702
1994	\$4,355,042
1995	\$5,250,413

Note: 1995 revenue includes cellular excise tax revenue

B. E-911 Expenditures and Revenue Distribution

(Based on Budgeted Amounts)

EXPENDITURE CATEGORY	YEAR									
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
E-911 Program Office Support	\$46,196	\$78,609	\$101,643	\$83,308	\$79,354	\$128,487	\$167,918	\$185,335	\$250,682	\$257,012
Telephone Company Payments	\$2,046,206	\$2,128,807	\$2,280,097	\$2,445,016	\$2,748,820	\$2,792,544	\$2,892,544	\$2,756,815	\$2,575,092	\$3,063,755
PSAP Revenue Distribution	\$274,420	\$288,036	\$244,995	\$285,197	\$340,281	\$300,000	\$324,000	\$339,000	\$354,255	\$840,000
PSAP Grant Program	\$0	\$0	\$0	\$0	\$0	\$100,000	\$196,496	\$153,319	\$199,176	\$186,411
PSAP Equipment Items	\$284,818	\$297,177	\$136,898	\$679,194	\$1,094,793	\$471,056	\$269,999	\$739,038	\$1,221,287	\$419,566
Publicity Program	\$2,000	\$15,000	\$44,857	\$55,108	\$55,449	\$55,859	\$90,850	\$90,850	\$95,393	\$169,690
PSAP Training Program	\$0	\$0	\$0	\$0	\$6,400	\$17,635	\$12,745	\$18,359	\$21,006	\$24,580
PSAP Network	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$118,260	\$0	\$0
TOTALS	\$2,653,640	\$2,807,629	\$2,808,490	\$3,547,823	\$4,325,097	\$3,865,581	\$3,954,552	\$4,400,976	\$4,716,891	\$4,961,014

C. Projected Five-Year Costs to Administer E-911 Program

(Based on current funding policies.)

Category	1995 Actual	1996 Projected	1997 Projected	1998 Projected	1999 Projected	2000 Projected
Beginning Fund Balance	\$4,610,110	\$5,485,887	\$3,493,893	\$4,052,350	\$4,898,927	\$4,354,982
Base Revenues:						
E-911 Telephone Excise Tax	\$4,572,300	\$4,722,043	\$4,900,826	\$5,094,259	\$5,295,568	\$5,482,083
Cellular 911 Excise Tax	\$678,113	\$762,624	\$959,526	\$1,055,479	\$1,161,026	\$1,277,129
Investment Interest	\$247,809	\$180,030	\$191,839	\$204,501	\$217,997	\$232,343
Miscellaneous Revenue	\$258					
TOTAL BASE REVENUES	\$5,498,480	\$5,664,697	\$6,052,191	\$6,354,239	\$6,674,591	\$6,991,555
Base Expenditures:						
Operating	(\$3,797,703)	(\$5,140,081)	(\$4,993,734)	(\$5,007,662)	(\$7,218,536)	(\$6,134,079)
Carryover Items		(\$1,566,610)				
TOTAL BASE EXPENDITURES	(\$3,797,703)	(\$6,706,691)	(\$4,993,734)	(\$5,007,662)	(\$7,218,536)	(\$6,134,079)
Equipment Reserve Fund (Target is \$3,000,000 in 1998)	(\$825,000)	(\$950,000)	(\$500,000)	(\$500,000)		
BASE UNDESIGNATED FUND BALANCE	\$5,485,887	\$3,493,893	\$4,052,350	\$4,898,927	\$4,354,982	\$5,212,458
TARGET FUND BALANCE	\$600,000	\$650,000	\$711,166	\$711,166	\$711,166	\$711,166

Note: 1995 Based on Actual Expenditures

III. STATE AND LOCAL LEGISLATION WHICH AUTHORIZES AND RESTRICTS THE COLLECTION AND EXPENDITURE OF E-911 FUNDS

A. Current State and Local Legislation

In 1981, the Washington State legislature enacted legislation which stated that counties should be provided with an additional revenue source to fund emergency service communication systems on a county-wide basis. The additional revenue source was to be derived from the imposition of an excise tax on the use of telephone access lines in an amount not exceeding fifty cents per month for each telephone access line, and the authority to collect this revenue was subject to voter approval. Emergency service communication system was defined as "a county-wide radio or landline communications network, 911 telephone system, which provides rapid public access for coordinated dispatching of services, personnel, equipment, and facilities for police, fire, medical, or other emergency services". In 1991, this law was amended to also allow the state to collect an excise tax to assist counties who did not have sufficient funding

through their local excise tax in implementing Enhanced 911. The amendment also changed "emergency service communication system" to "enhanced 911 emergency communication system", changed "telephone access line" to "switched access line", and eliminated the requirement for counties or the state to seek voter approval for the collection of the 911 excise tax.

In 1994, the Washington State legislature passed legislation which authorized counties to impose a 911 excise tax on the use of radio access lines in an amount not exceeding twenty-five cents per month for each radio access line. This tax will apply to all wireless communications devices, including cellular phones and future wireless technologies. The existing 911 excise tax was based on switched access lines and wireless communications do not use switched access lines, and were therefore exempt from the tax. This tax will ensure stable funding for 911 systems in the future as wireless devices become more popular.

Based on the state legislation, this issue was submitted to the voters of King County in November, 1981, and the imposition of an excise tax in an amount not to exceed forty-five cents per month for each line for the purpose of paying for the implementation and operation of an enhanced 911 emergency telephone system was approved. In December, 1994, Ordinance 11589 was passed which amended the previous ordinance by changing "telephone access line" to "switched access line", and changing the authority for the ordinance from the Laws of 1981 to the Laws of 1991. This eliminates the requirement to seek voter approval for the continuation of the 911 excise tax and raises the maximum tax rate from forty-five cents to fifty cents per month. In addition, this ordinance established the 911 excise tax on radio access lines in King County.

B. Legal Interpretations of Legislation

The language in the state legislation which authorizes the collection of a 911 excise tax is very vague. The original 1991 legislation stated that the tax could be used to fund an "emergency service communication system", which was defined as "a county-wide radio or landline communications network, 911 telephone system, which provides rapid public access for coordinated dispatching of services, personnel, equipment, and facilities for police, fire, medical, or other emergency services". Each county had its own interpretation of what this definition meant and of what could be funded with the 911 excise tax, and the interpretations varied greatly. There was no assistance from the state in interpreting the definition in the legislation. King County's interpretation of the language was that the 911 excise tax could only be used to fund "the implementation and operation

of an enhanced 911 emergency telephone system”, and this is the language that is used in the King County ordinance.

In 1991, the state legislation was amended from “emergency service communication system” to “enhanced 911 emergency communication system”. A new definition to match this amendment was not included in the legislation. However, a definition for “enhanced 911 telephone system” was included as “a public telephone system consisting of a network, data base, and on-premises equipment that is accessed by dialing 911 and that enables reporting police, fire, medical, or other emergency situations to a public safety answering point. The system includes the capability to selectively route incoming 911 calls to the appropriate public safety answering point that operates in a defined 911 service area and the capability to automatically display the name, address, and telephone number of incoming 911 calls at the appropriate public safety answering point”. This definition is consistent with King County’s interpretation of the state legislation.

In addition, the 1991 state legislation established a state E-911 Office and a state E-911 Advisory Committee. These agencies were responsible for developing the WAC which governs the expenditure of the state 911 funds. The WAC and the interpretation of the state legislation by these state agencies is also consistent with King County’s interpretation that the 911 excise tax revenues can only be used for funding an enhanced 911 telephone system.

C. State Revenue Department Study on E-911 Funding

In 1994, the Washington State legislature directed the state Department of Revenue to conduct a one-year study to examine the current state and county E-911 excise tax rate and base. The purpose of the study was to address concerns that changes in the telecommunications industry could affect the adequacy of future funding of enhanced 911 telephone systems. These changes include the growth of wireless telecommunications and the increasing number of telecommunications companies. The study was to examine this situation and make recommendations to ensure long-term stable funding for enhanced 911 telephone systems throughout the state.

The study concluded that the state definition of an “enhanced 911 telephone system” limits the telephone enhancement to call receiving only, and does not include any aspect of the dispatch of emergency response resources. It also concludes that the current tax base and rate is sufficient to fund enhanced 911 telephone systems under current telecommunications technology, but it is unknown if the current rate of taxation on

switched access lines and radio access lines will generate enough revenue to continue to fund enhanced 911 telephone systems in the future. Due to the lack of information to support changing the tax base or rate, no change is recommended at this time. However, it is recommended that the impacts of multiple telecommunications providers and emerging technologies be monitored and reviewed to assess the adequacy of E-911 expenses and revenues.

The study recommends that the county 911 excise tax rate on radio access lines remain at the twenty-five cent per month level until automatic location identification technology is commercially available to radio access line subscribers. At that time, counties should be authorized to impose the same rate for the county 911 excise tax on radio access lines as on switched access lines.

The study also concludes that there will be a cost impact to counties to interface to multiple service providers and wireless telecommunications companies and that the E-911 equipment may have to be reconfigured to receive automatic location information from the customers of wireless providers. Due to this anticipated cost impact, local governments are encouraged to consolidate PSAPs to reduce the amount of equipment that will have to be altered.

The Department of Revenue study has minimal impact on King County at this time. The study affirms King County's interpretation of the state enabling legislation, and provides evidence that the current tax rates for the switched access line and radio access line excise taxes are sufficient to fund our E-911 system at the present time. The study re-emphasizes the need to work with the various telecommunications vendors and track changing technology in the telecommunications industry to determine how these changes will affect the amount of revenue generated and the configuration of the E-911 system.

Since before the implementation of the King County E-911 system, King County government has encouraged the consolidation of PSAPs through funding incentives, and this study will investigate opportunities for consolidation within King County. However, as the study points out, even when the consolidation of PSAPs makes sense economically and operationally, consolidations may not be realized due to political and other concerns within local governments.

IV. CURRENT PROCEDURES FOR DISTRIBUTION OF E-911 REVENUE TO THE PSAPS

The procedures which govern the distribution of E-911 revenue to the PSAPs are established in the "Enhanced 911 Participation Agreement" which has been signed between the County and each of the PSAPs. Article 8, Section B, establishes the priority for the distribution of E-911 revenue. This article states that E-911 revenues shall be used in the following priority order:

1. To purchase and maintain E-911 PSAP equipment.
2. To defray all costs of operation payable to the telephone companies as defined in the 911 tariffs and service agreements.
3. To pay the costs incurred by the County to administer the E-911 program, to provide for the risks to the County of the E-911 program as determined by the King County agent responsible for risk management, and to pay the PSAPs' costs of naming the County as an additional insured as required by the Agreement.
4. To defray any costs associated with E-911 resulting from the consolidation of PSAPs.
5. To defray operational and/or equipment costs of the PSAPs directly attributable to and resulting from the operation of the E-911 system.

Any revenues not expended as described above and any interest which accrues is to be retained by the County to defray future costs of the E-911 system, including any costs associated with the termination of the system.

Article 8, Sections B and C, continue by stating that any PSAP which has incurred or will incur costs that are attributable to the E-911 system may submit a written request to the County for reimbursement for these costs. The E-911 Program Manager, with the assistance of the PSAP Committee, evaluates requests for reimbursement and prioritize the requests according to the following considerations:

1. Costs necessitated by a consolidation of PSAPs.
2. Equipment costs including costs of devices or components used for the functions of receiving, distributing, transferring, recording, producing statistical data about, or handling 911 calls, and/or costs of equipment used to support those functions.
3. Other costs attributable to the E-911 system.

Reimbursement for these items which has been distributed to the PSAPs since the implementation of the E-911 system is included in the "PSAP Equipment Items" in the chart in Section II. B. of this report.

In addition to specific PSAP requests for reimbursement, the County distributes an annual predetermined amount of revenue to the PSAPs based on the number of access lines served by each PSAP. 75% of the total amount is distributed to the primary PSAPs and 25% is distributed to the secondary PSAPs. This revenue is distributed on a quarterly basis. In addition to this revenue distribution, the cellular revenue, which has only been collected since March, 1995, is distributed to the five PSAPs who answer the cellular 911 calls. The amount of revenue which has been distributed to the PSAPs since the implementation of the E-911 system can be found in the chart in Section II. B. of this report.

The County also distributes revenue to the PSAPs in the form of a matching grant program. This program was initiated in 1991 as an incentive for PSAPs to meet the call answering standard which is established in the "Enhanced 911 Participation Agreement". PSAPs who meet or exceed the call answering standard can apply for grants for projects which will improve their ability to answer and handle the 911 calls. If the grant is awarded, the PSAP is required to supply funding for 50% of the project and the County funds 50%. The amount of revenue which has been distributed to the PSAPs under this program can be found in the "PSAP Grant Program" column of the chart in Section II. B. of this report.

The "King County Costs to Support PSAPs" charts on the following two pages shows the amount of funding King County has expended to support each PSAP.

KING COUNTY COSTS TO SUPPORT PSAPS - ANNUAL COSTS FOR 1995

PSAP Primary or Combined	# OF ACCESS LINES	# OF POSITIONS	# OF 911 TRUNKS	E-911 EQUIPMENT MAINT	E-911 NETWORK COST	AT&T LANGUAGE LINE	EXCISE TAX REVENUE DISTRIB.	CE R L
Bellevue PD	152,881	12	8	\$8,250	\$1,616	\$2,566	\$49,272	
Secondary	351,258							
Bothell PD	21,629	3	3	\$3,475	\$606	\$666	\$3,946	
Enumclaw PD	5,485	2	2	\$2,915	\$404	\$648	\$1,542	
Secondary	8,887							
Issaquah PD	12,130	2	2	\$2,915	\$404	\$648	\$2,890	
Secondary	11,122							
King County DPS	350,138	17	17	\$17,017	\$3,433	\$768	\$63,875	
Kirkland PD	42,311	3	3	\$3,475	\$606	\$690	\$7,719	
Mercer Island DPS	17,527	3	4	\$3,475	\$808	\$657	\$4,264	
Secondary	17,527							
Port of Seattle PD	9,400	3	3	\$3,475	\$606	\$1,187	\$1,715	
Redmond PD	40,918	4	4	\$4,516	\$808	\$743	\$7,465	
Seattle PD	720,527	19	19	\$19,000	\$3,837	\$16,866	\$131,444	
South Com	3,199	4	4	\$4,516	\$808	\$269	\$9,756	
Secondary	150,677							
Univ. of Wa. PD	24,926	2	3	\$2,915	\$606	\$648	\$4,547	
Valley Com	195,974	15	15	\$16,000	\$3,029	\$5,718	\$51,096	
Secondary	252,083							
Wa. State Patrol		8	8	\$8,555	\$1,616	\$1,488	\$1,154	
Secondary Only								
KCFD #10	43,824	3	2	\$4,047	\$404	\$269	\$2,668	
KCFD #13	6,106	2	2	\$2,915	\$404	\$269	\$372	
Lake For. Pk. PD	3,715	1	2	\$2,915	\$404	\$806	\$226	
Port of Seattle FD	5,239	2	2	\$2,915	\$404	\$269	\$319	
Seattle FD	751,270	7	6	\$0	\$1,212	\$269	\$45,732	
TOTAL	1,603,372	112	109	\$113,291	\$22,014	\$35,444	\$390,000	

NOTES: The 911 trunks at King County DPS were recently broken up into 4 separate trunk groups due to their back-up system. the number of trunks to 32. For purposes of comparison to other PSAPs, the 17 trunks in use in their previous configuration are used in this table.

KING COUNTY COSTS TO SUPPORT PSAPS - ONE-TIME EQUIPMENT COSTS 1992

PSAP Primary or Combined	# OF ACCESS LINES	# OF POSITIONS	# OF 911 TRUNKS	E-911 EQUIPMENT PURCHASE	OTHER EQUIPMENT PURCHASES	TOTAL E-911 EQUIPME COSTS
Bellevue PD	152,881	12	8	\$110,813	\$269,642	\$380,4
Secondary	351,258					
Bothell PD	21,629	3	3	\$49,413	\$13,496	\$62,9
Enumclaw PD	5,485	2	2	\$52,462	\$26,878	\$79,3
Secondary	8,887					
Issaquah PD	12,130	2	2	\$54,614	\$104,778	\$159,3
Secondary	11,122					
King County DPS	350,138	17	17	\$142,846	\$366,217	\$509,0
Kirkland PD	42,311	3	3	\$68,948	\$20,102	\$89,0
Mercer Island DPS	17,527	3	4	\$61,608	\$32,842	\$94,4
Secondary	17,527					
Port of Seattle PD	9,400	3	3	\$57,072	\$12,975	\$70,0
Redmond PD	40,918	4	4	\$69,249	\$20,347	\$89,5
Seattle PD	720,527	19	19	\$245,643	\$349,726	\$595,3
South Com	3,199	4	4	\$66,553	\$47,279	\$113,8
Secondary	150,677					
Univ. of Wa. PD	24,926	2	3	\$53,510	\$10,128	\$63,6
Valley Com	195,974	15	15	\$192,122	\$328,656	\$520,8
Secondary	252,083					
Wa. State Patrol	6,327	8	8	\$122,625	\$29,603	\$152,2
Secondary Only						
KCFD #10	43,824	3	2	\$59,032	\$94,081	\$153,1
KCFD #13	6,106	2	2	\$51,397	\$52,389	\$103,7
Lake For. Pk. PD	3,715	1	2	\$49,014	\$6,585	\$55,6
Port of Seattle FD	5,239	2	2	\$48,733	\$10,507	\$59,2
Seattle FD	751,270	7	6	\$0	\$33,406	\$33,4
TOTAL	1,603,372	112	109	\$1,555,654	\$1,829,638	\$3,385,2

NOTES: Other equipment costs include Spectracom Netclocks, Call Management Software, TDI CAD and telephone interface, and the Grant Program.

The 911 trunks at King County DPS were recently broken up into 4 separate trunk groups for their back-up system. This increased the number of trunks to 32. For purposes of comparison to other PSAPs, the 17 trunks in use in their previous configuration are used in this report.

V. ANALYZE OPPORTUNITIES FOR PSAP CONSOLIDATIONS

A. Outline Potential Benefits and Costs of PSAP Consolidation on E-911 System

1. Benefits

There are potential benefits to the overall King County E-911 system which would be realized if some PSAPs chose to consolidate, thereby reducing the total number of PSAPs in the system. These include:

Cost Effectiveness

Having multiple PSAPs requires that all of the equipment, buildings, and staffing be duplicated nineteen times, which is very costly. However, most of this cost is incurred by the PSAPs, not the E-911 program. The annual operating budget for the PSAPs is approximately \$28 million, while the E-911 tax revenue only provides support in the amount of approximately \$1 million, excluding equipment purchase costs. This accounts for under 4% of the total PSAPs' operating budgets. Consolidating PSAPs would be cost effective for the PSAPs' budgets, but would not significantly reduce the E-911 program's costs to support the E-911 system.

Improved Service to Citizens

Reducing the number of PSAPs may provide improved 911 service to the citizens of King County. Typically, the larger PSAPs are able to fund state-of-the-art Telephone, Computer Aided Dispatch, Recording, and Radio equipment that allows them to provide a high level of service to their citizens. In addition, they have extensive training programs to ensure that their staff are well-equipped to handle the demanding task of dealing with emergency situations. In addition, because they have a higher number of staff on duty at any one time, they are better able to handle peaks in call volume.

Small PSAPs many times do not have the funding available to purchase all of the equipment to allow them to efficiently answer and handle 911 calls. For example, many of the smaller PSAPs in King County do not have Computer Aided Dispatch systems to assist them with call processing. The smaller PSAPs do not have

the resources to conduct extensive, formal training programs for their staff. Many of the small PSAPs are staffed with only one person during several hours of each day, so they do not have the additional staff available to assist in handling peak call volumes.

In addition, fewer PSAPs in the E-911 system would reduce the number of 911 call transfers that take place. This would be especially true if police and fire/EMS dispatching for areas were combined, eliminating the tiered call processing which takes place today.

2. Costs

The costs of consolidating PSAPs would be the one-time costs associated with moving or merging PSAPs. These costs could include the purchase, construction, or expansion of buildings. They would also include the purchase of new equipment or the expansion of existing equipment. In the past, as an incentive to consolidation, the E-911 program has paid all of the equipment costs which are necessary to accomplish the consolidation. These costs vary greatly depending on the size and circumstances of the PSAPs who are consolidating. Once the consolidation is completed, the on-going operational costs of consolidated PSAPs would be less than those of stand-alone PSAPs. This would benefit the organizations participating in the consolidation.

B. Feasible Consolidations of PSAPs

There are several potential PSAP consolidations which might be feasible in King County. There are several small police PSAPs who serve only their own jurisdiction. These include the Bothell Police Department, Kirkland Police Department, Lake Forest Park Police Department, Port of Seattle Police Department, Redmond Police Department, and the University of Washington Police Department. It might be feasible for some of these PSAPs to either merge together or merge with large PSAPs who also dispatch police services. Since all of the large PSAPs are limited in space and few of the small PSAPs could accommodate a merger at their present location, it is probable that construction costs would be associated with any of these scenarios.

With the installation of the 800 MHz Regional Radio System, the PSAPs share a common radio system, so no significant changes would be required in radio equipment. Due to their low call volume, a merger by any of the

small PSAPs into a large PSAP would not require significant radio equipment expansion.

The real issue is that many of the small PSAPs perform other services for their agencies in addition to PSAP functions. These include records management, answering administrative calls, public reception, office support, or staffing a jail. As a result, eliminating their PSAP may not significantly reduce the number of staff employed by their agency or improve their efficiency.

In addition to the above mentioned PSAPs, the cities of Enumclaw, Issaquah, and Mercer Island support PSAPs which dispatch both police and fire/EMS services for their jurisdictions. Each of these agencies has a small call volume and it might be feasible for them to merge with another PSAP which serves police and fire/EMS agencies. However, the same issues discussed above also apply here.

There are also a few small fire/EMS PSAPs in King County. These include King County Fire District #10, King County Fire District #13, and the Port of Seattle Fire Department. The number of small fire/EMS PSAPs has significantly reduced over the past few years, as many of these PSAPs have made the decision to consolidate into other PSAPs which can more cost effectively provide call answering and dispatching services for them. Once again, each of these remaining fire/EMS PSAPs has a low 911 call volume and could consider consolidating with another PSAP.

VI. DEVELOP E-911 FUNDING GOALS, POLICIES, AND PROCEDURES

A. Develop a List of Items Which Are Appropriately Funded With the E-911 Excise Tax

The following is a list of items which are currently funded for the PSAPs and which would be appropriate to continue funding in the future.

- Purchase and Maintenance of E-911 Equipment, which includes Controllers and ANI/ALI Displays
- E-911 Equipment Interface to CAD Systems and Telephone Systems
- TDD Equipment and Interface to CAD Systems
- UPS to Support E-911 Equipment
- Environmental Support of E-911 Equipment
- AT&T Language Line
- Night Service Switches

- Call Management System, to Track Statistics and Call Answering Standard
- Synchronized Time
- Public Education Materials
- Pre-Screening of Call Receivers
- Training Courses for Call Receivers and their Supervisors to Reduce Turnover Rate
- PSAP Back-up- Support back-up sites for PSAPs when not appropriate to use another PSAP as back-up. Includes cost of phone lines and telephone equipment.
- Purchase and maintenance of additional E-911 ANI/ALI Displays necessary for providing back-up services to another King County PSAP

In addition to the above items, the following items will also be added to the list of items appropriate to fund with E-911 funds. These items will not be directly funded by the E-911 program, but it will be appropriate for PSAPs to use the E-911 revenue which is distributed to them to fund these items. The following items fit within the funding policies established in Article 8 of the "Enhanced 911 Participation Agreement", which are discussed in Section IV of this study.

- Telephone Systems - only the portion that supports the 911 call receivers.
- CAD System - only the portion of the CAD software necessary for call processing, including call status, call creation, type codes, auto-dial, call back, and duplicate call checking. Includes CAD terminals for call receivers.
- Recording Equipment - only the portion needed to record the 911 trunks.
- Call Checks - only the portion which monitors incoming 911 lines.
- Geo-file - basic upkeep of Geo-file/GIS information to allow PSAP to verify the location of 911 calls to determine if they are within their service area.
- 911 Call Receiver Staffing - only the portion of staff necessary to answer incoming 911 calls.
- Training of 911 Call Receivers.
- PSAP Consolidation Studies, with the participation of the E-911 Program Office.

B. Establish Priorities for the Distribution of E-911 Funds to the PSAPs Which Will Encourage PSAP Consolidations

The E-911 program will continue to fund the E-911 network, data base, and equipment costs that are currently funded for all existing PSAPs. This is essential to ensure a standard level of E-911 service to all citizens in King County. In addition, equipment and services necessary for the PSAPs to be able to meet ADA requirements, specifically TDD equipment and the AT&T Language Line, will also continue to be funded. All existing PSAPs will also continue to receive 911 revenue distributed from the E-911 excise tax under the new 911 Funding Policy outlined in the succeeding section of this study. All PSAPs must meet the standards established by the E-911 program before their revenue will be distributed to them.

The E-911 program will not require the consolidation or dissolution of any PSAPs. If two or more existing PSAPs choose to consolidate, the E-911 program will fund the consolidation of the equipment which is included in the list of items appropriate to fund with E-911 funds in the previous section. The E-911 Program Office has the option to require the re-use of existing equipment.

The E-911 program will not financially support the creation of new PSAPs. Any jurisdictions that chose to establish their own PSAP must fund the creation of the PSAP, including the purchase of the E-911 ANI/ALI controller and displays. If the jurisdiction coordinates the purchase of this equipment with the E-911 Program Office to ensure that it fits within the program's standardized equipment plan, once the equipment has been purchased and installed, the E-911 Program Office will assume responsibility for the maintenance of the equipment.

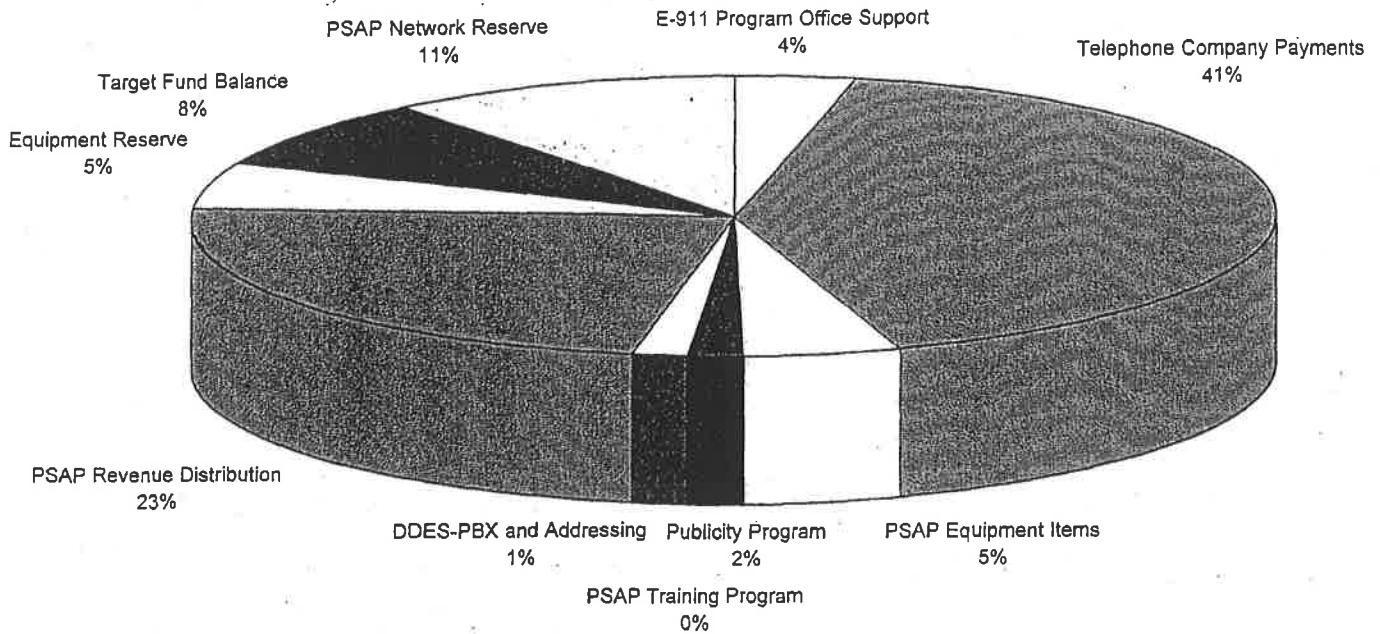
An equipment replacement cycle in which all PSAPs received updated E-911 Controllers and Displays was completed in 1995, so new equipment will not be needed for several years. However, when automatic location identification becomes available from wireless devices, significant upgrades to the Controllers will be necessary. The continuation of funding of E-911 equipment to all existing PSAPs will need to be re-evaluated at that time, as upgrading the equipment at all PSAPs may be cost prohibitive. It may become necessary for the E-911 program to only financially support the equipment upgrades at a limited number of PSAPs.

C. Establish Policies and Procedures Which Will Govern the Distribution of E-911 Funds in the Future

In addition to the E-911 funding policies established in the previous section, the following policies and procedures will also be established.

1. The E-911 program will continue to ensure the stable funding of the E-911 system as outlined in Article 8 of the "Enhanced 911 Participation Agreement". In addition, the E-911 Program Office will ensure that the targeted fund balance for the E-911 fund is maintained and that sufficient funding is held in reserve for equipment replacement. The E-911 Program Office may also designate funding for special projects which improve the performance of the E-911 system and/or increase the level of E-911 service provided to the citizens of King County. Once stable funding for these priorities has been ensured, the remainder of the revenue received from the E-911 excise taxes will be distributed to the PSAPs. The following chart and graph display what the new policy would look like for the 1997 Budget.

Beginning Fund Balance	\$3,493,893
1997 Revenue	\$5,860,352
TOTAL FUNDS	\$9,354,245
E-911 Program Office Support	\$346,806
Telephone Company Payments	\$3,866,422
PSAP Equipment Items	\$427,442
Publicity Program	\$150,000
DDES-PBX and Addressing	\$130,548
PSAP Training Program	\$29,350
PSAP Revenue Distribution	\$2,192,511 *
TOTAL EXPENDITURES	\$7,143,079
Contribution to Equipment Reserve	\$500,000
PSAP Network Reserve	\$1,000,000
Target Fund Balance	\$711,166
ACTUAL FUND BALANCE	\$711,166



2. An escrow account will be established with King County Finance for each PSAP. Revenue to be distributed to the PSAPs will be deposited into the escrow accounts on a quarterly basis. Any interest earned will remain in the escrow account. The funds in the escrow account can only be spent on the items listed in Section VI. A. of this study. A standard form will be developed by the E-911 Program Office which will be completed by PSAPs requesting distribution of funds from their escrow account. The PSAPs may request that the funds be distributed to their agency or directly to a vendor.

3. Revenue from the E-911 excise tax on switched access lines will be distributed to the PSAPs based on the percentage of access lines served by each PSAP. The report provided by US West each January detailing the number of access lines by ESN will be used to make this determination. Statistics will be gathered from the PSAPs each year detailing the percentage of 911 calls transferred to secondary PSAPs. The average percentage for January through December of each year will be used to determine the percentage of revenue distributed among primary and secondary PSAPs the succeeding year. For example, if 15% of the 911 calls in 1996 are transferred to secondary PSAPs, in 1997, 85% of the revenue will be distributed to primary PSAPs based on access lines served, and 15% of the revenue will be distributed to the secondary PSAPs.

4. Revenue from the E-911 excise tax on radio access lines will be distributed to the PSAPs according to the following formula: Since the five PSAPs who are the primary answering points for the cellular 911 calls provide service to 88% of the access lines in King County, 88% of the cellular revenue will be distributed to these PSAPs; the remaining 12% of the revenue will be distributed to the PSAPs who only receive transferred cellular 911 calls. If the ability to track the actual number of cellular calls that are transferred from the five primary answering points to the remaining PSAPs becomes available, the distribution of revenue will be based on the actual percentage.

The revenue will be distributed based on the percentage of cellular 911 calls answered by each PSAP. Statistics will be gathered by the E-911 Program Office by the PSAPs which will be used to make this determination. The percentage of cellular 911 calls answered by each PSAP for January through December of each year will be used to determine the percentage of revenue distributed to the PSAPs the succeeding year.

The E-911 Program will determine the portion of anticipated radio access line revenue which must be reserved for the funding of the equipment and network necessary for wireless ANI/ALI each year in the budget process. The remaining projected revenue not needed for this purpose will be budgeted for distribution to the PSAPs as outlined in the above paragraph. If the actual amount of radio access line revenue collected is less than the amount anticipated, the amount reserved for wireless ANI/ALI will remain the same, and the revenue which was budgeted to be distributed to the PSAPs will be reduced by the amount that the collected revenue has fallen short of projections. If the actual amount of radio access line revenue collected is more than the amount anticipated, the PSAP revenue distribution would remain the same and any excess revenue would be transferred to the wireless ANI/ALI reserve account rather than remaining in the E-911 Program undesignated fund balance.

The E-911 Program will commit to distributing cellular revenue to the PSAPs in 1997 and 1998 that is at least equal to the amount distributed in 1996 to allow PSAPs sufficient time to plan for the possible reduction in revenue due to the wireless issue. In addition, if state legislation is amended to raise the limit on the amount of cellular excise tax counties are allowed to collect, the PSAPs have requested that King County collect the maximum rate allowed by the state to provide additional funding for the wireless technology.

The following chart displays actual revenue distribution to the PSAPs for 1996 and projected revenue distribution for 1997 and 1998.

PSAP Primary or Combined	1996		1997 PROJECTED		1998 PROJECTED	
	EXCISE TAX REVENUE	CELLULAR REVENUE	EXCISE TAX REVENUE	CELLULAR REVENUE	EXCISE TAX REVENUE	CELLULAR REVENUE
Bellevue PD	\$51,826	\$80,274	\$158,282	\$74,304	\$82,485	\$70,641
Bothell PD	\$4,332	\$0	\$16,751	\$9,601	\$8,729	\$9,127
Enumclaw PD	\$1,619	\$0	\$5,238	\$2,472	\$2,729	\$2,350
Issaquah PD	\$3,136	\$0	\$10,791	\$5,493	\$5,624	\$5,222
King County DPS	\$65,914	\$115,046	\$254,845	\$106,489	\$132,806	\$101,240
Kirkland PD	\$8,849	\$0	\$34,212	\$19,609	\$17,829	\$18,642
Mercer Island DPS	\$4,373	\$0	\$14,924	\$7,525	\$7,777	\$7,154
Port of Seattle PD	\$1,853	\$0	\$7,165	\$4,106	\$3,734	\$3,904
Redmond PD	\$9,221	\$0	\$35,650	\$20,433	\$18,578	\$19,425
Seattle PD	\$136,176	\$135,686	\$526,500	\$125,594	\$274,373	\$119,404
South Com	\$9,464	\$0	\$20,489	\$3,398	\$10,677	\$3,231
Univ. of Wa. PD	\$5,313	\$0	\$20,541	\$11,773	\$10,705	\$11,193
Valley Com	\$54,039	\$67,951	\$179,678	\$62,897	\$93,635	\$59,797
Wa. State Patrol	\$0	\$363,667	\$0	\$336,619	\$0	\$320,027
Secondary Only						
KCFD #10	\$2,888	\$0	\$5,912	\$665	\$3,081	\$633
KCFD #13	\$400	\$0	\$818	\$92	\$427	\$88
Lake For. Pk. PD	\$400	\$0	\$819	\$92	\$427	\$88
Port of Seattle FD	\$320	\$0	\$665	\$74	\$342	\$70
Seattle FD	\$47,426	\$0	\$97,076	\$10,926	\$50,589	\$10,388
TOTAL	\$407,550	\$762,624	\$1,390,347	\$802,164	\$724,545	\$762,624

5. E-911 revenue will only be distributed into a PSAP's escrow account if the PSAP has met all of the standards established in Exhibit 3 of the "Enhanced 911 Participation Agreement". These standards include the Minimum Acceptable, Funded, and Operational standards listed in the exhibit. If a PSAP does not meet the standards for one quarter, they will still receive their revenue for the quarter, but they will also receive a notice from the E-911 Program Office informing them that the standards have not been met. If the PSAP has not brought their performance up to standard by the end of the quarter in which they received their notice from the program office, their revenue will be discontinued. If the PSAP then meets their quarterly standard within six months, they will begin receiving revenue for the quarter in which they met the standards as well as receive any revenue which was withheld. If the PSAP has still not met the quarterly standards after the six month period, they will once again receive revenue for the quarter in which they met the standards, but they will not receive any withheld revenue. The following timelines outline this revenue distribution policy.

EXAMPLE 1 - STANDARDS MET WITHIN SIX MONTHS

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Meets Standards, Revenue	Does not meet Standards, Revenue	Notice Sent, Does not meet Standards, No Revenue	Does not meet Standards, No Revenue	Meets Standards, Revenue plus missed Revenue for 3rd and 4th Quarters	Meets Standards, Revenue	Meets Standards, Revenue	Meets Standards, Revenue

EXAMPLE 2 - STANDARDS NOT MET WITHIN SIX MONTHS

1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Meets Standards, Revenue	Does not meet Standards, Revenue	Notice Sent, Does not meet Standards, No Revenue	Does not meet Standards, No Revenue	Does not meet Standards, No Revenue	Does not meet Standards, No Revenue	Meets Standards, Revenue for Current Quarter Only	Meets Standards, Revenue

6. The Call Answering Standard in the "Enhanced 911 Participation Agreement" is defined as "barring major disasters or other extraordinary events, during each hour of a calendar quarter a minimum of 90% of those 911 calls received by each PSAP shall be answered within ten (10) seconds." In the past, the equipment that monitored this standard was only capable of doing so on a daily basis. With the installation of a new Call Management System on June 1, 1996, we are now capable of tracking this standard on an hourly basis. When call answering speed was averaged over a 24 hour day, it appeared that most PSAPs were meeting the call answering standard. When each hour is tracked individually, it has become apparent that many PSAPs are not meeting the hourly standard in as many as 25% of the hours. While the goal of the call answering standard is to provide a consistent high level of service to all citizens in King County, we should not impose a standard that is impractical for the PSAPs to meet.

The E-911 Program Office will monitor the call answering standard at all PSAPs for the remainder of 1996. The PSAPs will monitor their own standard and make any adjustments in call receiver staffing and in the management of that staffing that are possible to improve their ability to meet the standard. At the end of 1996, the 911 Funding Policy Committee will make a determination as to what is a reasonable percentage of hours in each quarter that each PSAP is allowed to not meet the standard to account for the unpredictability of 911 calls and the limitations in sufficient call answering staff available at the PSAPs. A target goal for the percentage of hours PSAPs are allowed to not meet the standard will also be set, and the agreed upon percentage will be re-evaluated on an annual basis to work towards the target goal.

7. When state certification of call receivers has been established, the training standard in Exhibit 3 of the "Enhanced 911 Participation Agreement" will be amended to require that all call receivers who answer 911 calls will be state certified within one year of the institution of the state certification program.
8. PSAPs must submit to the E-911 Program Office all reports necessary for tracking the information which is used to calculate the revenue distribution funding formulas or for monitoring the performance standards. Reports must be received by the program office within ten days following the end of each month. For each quarter in which any report is not received, the E-911 Program Office will consider that PSAP to have not met their standards for that particular quarter.
9. The PSAP Grant Program will be discontinued.
10. Currently, when a PSAP has a desire to add call receiver answering stations at their location, they forward a written request to the E-911 Program Manager requesting that the E-911 program fund the expansion of the E-911 equipment. This request is then brought before the PSAP Committee for approved. There has been no formula used to determine how many answering positions equipped with ANI/ALI displays should be funded at each PSAP. The decision as to how many answering positions are needed has been made by each individual PSAP.

Statistical data is available from the telephone companies on how many 911 trunks are needed at each PSAP to meet industry standards for supporting their access lines without citizens getting busy signals when they call 911. The industry standard is a P.01 grade of service, which specifies that only one caller in one hundred can get a busy signal when they call 911. In the future, E-911 funds will only support a maximum of answering positions equipped with ANI/ALI displays equal to the number of 911 trunks required to meet the P.01 grade of service during peak hours. PSAPs who desire a greater number of ANI/ALI displays may use E-911 funds from their escrow account to fund this equipment. Once it has been purchased, the E-911 program assume responsibility for the maintenance of the additional E-911 equipment.

VII. CONCLUSION

Technically, the consolidation of any of the King County PSAPs with other PSAPs is feasible. Each of the agencies who operates a PSAP has made the decision to do so for a variety of reasons. Although the consolidation of PSAPs would significantly reduce the costs of operating a PSAP for those jurisdictions who support a PSAP, King County's E-911 system costs would not be significantly reduced. The recommendations proposed in this study offer a basic level of support to all PSAPs, but require them to meet E-911 system standards in order to receive funding from the E-911 program. This will ensure a standard level of 911 service to all citizens in King County, as well as ensuring that adequate funding is available to support the E-911 system in the future in the face of changing telecommunications technology.

Further, by establishing mechanisms for the PSAPs to receive and expend predictable cash flows from the E-911 program, their own goals for cost reductions and operational efficiencies will likely encourage further consolidations to occur.